Final Phase 1A-B Remedial Investigation Data Report

US Magnesium RI/FS
Rowley, Utah

October 2016

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Region 8

US Magnesium

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TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

(Figures immediately follow the text)

LIST OF TABLES

(Tables immediately follow the figures)

LIST OF ACRONYMS

µm	Micrometer(s)
amsl	Above mean sea level
AOC	Administrative Settlement Agreement and Order on Consent
ASTM	ASTM International
BG	Background
bgs	Below ground surface
BLM	Bureau of Land Management
BRMBR	Bear River Migratory Bird Refuge
CAR	Corrective action report
CAT	Cable Avoidance Tool
COPC	Chemical of potential concern
Cr VI	Hexavalent chromium
CV	Coefficient of Variation
D/F	Dioxin/furan
DMA	Demonstration of Method Applicability
DMP	Data Management Plan
DQO	Data Quality Objective
EBK	Empirical Bayesian Kriging method
ERM	ERM-West, Inc.
FS	Feasibility study
GIS	Geographic Information System
GPC	Gel Permeation Cleanup
GPR	Ground Penetrating Radar
GPS	Global Positioning System
GSL	Great Salt Lake
HCB	Hexachlorobenzene
HRMS	High-resolution mass spectroscopy
IDW	Inverse distance weighting method
kg	Kilogram

LBSE	Lake Bed Southeast
LDC	Laboratory Data Consultants
LRMS	Low-resolution mass spectrometry
MDL	Method detection limit
mm	Millimeter
MQO	Method quality objective
MS	Matrix spike
MSD	Matrix spike duplicate
NCR	Nonconformance
ND	Non-detect
N&E	Nature and Extent
NELAP	National Environmental Laboratory Accreditation Program
OU	Operable Unit
OWP	Old Waste Pond
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PRI	Preliminary Remedial Investigation
QA/QC	Quality assurance/quality control
RI	Remedial investigation
SAP	Sampling and Analysis Plan
SDG	Sample delivery group
SE	Standard error
SLRA	Screening-level risk assessment
SOP	Standard Operating Procedure
SSC	Subsurface clearance
SVOC	Semi-volatile organic compound
TCDD TEQ	2,3,7,8-tetrachlorodibenzo-p-dioxin toxicity equivalence concentration
TEQ	Toxicity equivalency
TOC	Total organic carbon
USEPA	United States Environmental Protection Agency

USFWS	United States Fish and Wildlife Service
VOC	Volatile organic compound
WHO	World Health Organization

1.0 INTRODUCTION

US Magnesium LLC (US Magnesium) is a commercial producer of magnesium and magnesium alloys and operates a facility in Rowley, Tooele County, Utah (Figure 1-1). On 4 August 2011, an Administrative Settlement Agreement and Order on Consent (AOC) for a remedial investigation and feasibility study (RI/FS) was entered into by US Magnesium and the United States Environmental Protection Agency (USEPA) Region 8. The AOC (Comprehensive Environmental Response, Compensation, and Liability Act Docket No. CERCLA-08-2011-0013) requires US Magnesium to complete an RI/FS for the US Magnesium Site (Site) and defines the roles, responsibilities, schedule, and administration of the RI/FS to be performed. ERM-West, Inc. (ERM) has been retained by US Magnesium to perform RI/FS services at the Site.

The RI/FS Area Boundary has been preliminarily defined by USEPA as a 5-mile radius around the US Magnesium facility. For purposes of project planning during the initial phases of the RI, USEPA initially divided the Site into Preliminary Remedial Investigation (PRI) Areas (Figure 1-2), with the "Inner PRI areas" defined as PRI Areas 1 and 3 through 7, the "Outer PRI areas" defined as PRI Areas 2 and 8 through 17, and PRI Area 18 being ambient air. The Site was subsequently divided into Operable Units (OUs) by USEPA, with OU-1 including PRI Areas 1 through 17 and OU-2 being defined as PRI Area 18.

This *Phase 1A-B Remedial Investigation Data Report* (Phase 1A-B Data Report) presents the results of field sampling activities and laboratory analyses performed as required by the September 2015 ERM *Phase 1A-B Remedial Investigation Sampling and Analysis Plan for 1) Chemicals of Potential Concern in Soil, Sediment, and Solid Wastes in PRI Areas 1 and 3 through 7; 2) Preliminary Site Characterization Mapping of PRI Areas 1 and 3 through 7; and 3) Background Chemical Assessment of Biotic Reference Areas for Sitewide Ecological Risk Assessment* (hereafter referred to as the Sampling Analysis Plan or "SAP").

1.1 PHASE 1A-B RI REMEDIAL INVESTIGATION OBJECTIVES

Per the SAP (ERM 2105a), the objective of the Phase 1A-B RI is to obtain sufficient data to support:

1. Reliable identification of chemicals of potential concern (COPCs) for human and ecological receptors within PRI Areas 1 and 3 through 7.

2. Initial risk calculations to evaluate whether sufficient data have been collected within PRI Areas 1 and 3 through 7 to support confident risk characterization.
3. Preliminary evaluation of the nature and extent (N&E) of Site-related impacts within PRI Areas 1 and 3 through 7.
4. Estimation of background (ambient) concentrations for metals and organics including dioxins/furans (D/Fs), total polychlorinated biphenyls (PCBs) and World Health Organization (WHO) congeners, and hexachlorobenzene (HCB).
5. Identification of suitable reference areas (i.e., non-impacted areas) for biota sampling that may be conducted during 2016 Phase 2 RI activities.

Broadly, these objectives are combined into two principal data quality objectives (DQOs) of "COPC Selection and Preliminary N&E at Inner PRI Areas," and "Evaluation of Background."

1.2 PHASE 1A-B RI SAMPLING AND ANALYSIS PLAN AND FIELD MODIFICATIONS

A total of three modifications to the SAP were approved by USEPA during the Phase 1A-B RI sampling event. These SAP modifications are provided in Appendix A and are summarized in Table 1-1.

As provided for in the SAP, changes that were relatively "minor" (e.g., relocating a sampling station a short distance away from the SAP target location) were documented by completing a field modification form. A total of 10 field modifications were approved during the Phase 1A-B RI. Completed field modification forms are provided in Appendix B. Field modifications are summarized in Table 1-2.

1.3 REPORT ORGANIZATION

This Phase 1A-B RI is organized as follows:

- Section 1: Introduction;
- Section 2: Pre-Phase 1A-B RI Reconnaissance Activities;
- Section 3: Phase 1A-B RI Field Investigation Activities;
- Section 4: Phase 1A-B RI Sample Analysis and Data Management;

- Section 5: Phase 1A-B RI Investigation Results;
- Section 6: Quality Control Activities;
- Section 7: Preliminary Nature and Extent Mapping at Inner PRI Areas; and
- Section 8: References.

2.0 PRE-PHASE 1A-B RI RECONNAISSANCE ACTIVITIES

Field reconnaissance activities were performed in August and September 2015, prior to mobilization for Phase 1A-B RI sampling activities. These reconnaissance activities included cultural resources surveys of background sample locations located on federal and state public lands and clearance of sampling locations for subsurface utilities, as described below. In addition, a reconnaissance of sub-surface sampling locations with the Inner PRI areas was performed by ERM on 10 August 2015 to collect information on drill rig access options and constraints.

2.1 CULTURAL RESOURCES SURVEY

Pursuant to Title 36, Section 800 of the Code of Federal Regulations, a cultural resources survey was completed at sample locations located on United States Bureau of Land Management (BLM) lands prior to performing ground disturbance activities. An archaeological literature search and Class III inventory were conducted by a BLM-certified professional archaeologist from Logan Simpson Design, Inc., under subcontract to ERM. The archaeologist was accompanied by ERM during the cultural resources surveying field activities.

The cultural resources survey field activities were conducted 1 September 2015. Twenty sample locations on BLM lands were surveyed in association with Upland South and Upland North background/reference sampling areas[1]. At each sample location, a 15 to 100-square-meter area was inventoried and inspected for cultural resources. A draft report documenting the cultural resources survey was submitted to the BLM on 12 September 2015. The BLM's approval to proceed with sampling in the surveyed locations was provided on 9 October 2015.

As per agreement with the State of Utah Department of Natural Resources, the 30 background/reference sample locations on state-managed lands (Lakebed North, Lakebed Southeast, and Lakebed Southeast – Badger Island) are within the lake bed of Great Salt Lake

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[1] Background sampling locations are described in Section 3.2.

(GSL) and did not require formal Class III inventory. Instead, a reconnaissance-level (visual) exam was performed by slowly driving alongside each area and visually examining for exposed cultural material. No cultural material was observed at any background sample location in the GSL lakebed.

A cultural resources survey was not required by the US Fish and Wildlife Service (USFWS) for soil/sediment sampling conducted at the Bear River Migratory Bird Refuge (BRMBR). Sampling at the BRMBR was conducted under a Special Use Permit #15-011 issued by USFWS.

2.2 *SAMPLE LOCATION RECONNAISSANCE*

Sample locations were investigated for public and private utilities in accordance with ERM's Global Subsurface Clearance (SSC) procedures and local regulations prior to sample collection activities. The only exceptions to this were the background sample locations within the BRMBR where the requirement to locate private underground utilities was waived. SSC activities were performed in August and September 2015. In addition to visual inspection of locations for indications of subsurface utilities, ERM retained Direct Push Services, LLC of Salt Lake City, Utah to conduct an underground survey using detection equipment. Equipment used to perform the underground survey included: Geophysical Survey Systems Inc. SIR-3000 ground penetrating radar (GPR) fitted with a 400 MHz antenna calibrated to 0-10 feet; Rycom 8878 cable avoidance tool (CAT) set to “passive sweep” setting; and a Fisher Gemini 3 magnetometer.

The location of the Former Boron Ditch was confirmed using GPR technology on 2 September 2015. Radar images of the location of the former ditch delineated an elongated feature, running north-south, with a radar signature that differed from the underlying material. The sub-surface feature was a shape and size consistent with the suspected ditch and filled with a non-uniform material indicative of imported fill.

3.0 PHASE 1A-B RI FIELD INVESTIGATION ACTIVITIES

The Phase 1A-B RI field investigation activities described in this report were conducted between 16 September and 10 December, 2015 in accordance with procedures described in the SAP.

During the Phase 1A-B RI field investigation and throughout this Phase 1A-B Data Report, the term "solids" is used to refer to soil, sediment, or solid waste (i.e., any non-aqueous sample). This generic classification is consistent with SAP Worksheet 11, Section 11.2 which states that all soil, sediment, and waste will be classified as "solids."

3.1 INNER PRI AREA SAMPLING

Sampling at Inner PRI areas included collection of surface solids and subsurface solids samples. Sampling activities are summarized by PRI area in Sections 3.1.1 through 3.1.6.

Surface solids samples were collected at sampling locations specified in SAP Worksheet 18 unless adjusted via a USEPA-approved field modification. Field modification forms were approved to adjust the surface sample locations at 1-04 and 1-12 (Field Modification 9), 4-14 (Field Modification 6), and 5-04 (Field Modification 1).

Surface solids sampling was performed in accordance with the following Standard Operating Procedures (SOPs) provided in Attachment 20 of the SAP:

- *USM-01 Surface Soil, Sediment, and Waste Sampling Standard Operating Procedure.*
- *USM-12 Surface Solids Sampling Within Current Wastewater Ponds Standard Operating Procedure.*

Surface solid samples collected during Phase 1A-B RI field activities are summarized in Table 3-1.

Subsurface solids samples were collected at sampling locations specified in SAP Worksheet 18 unless adjusted via a USEPA-approved SAP or field modification form. An alternate sampling location for the PRI Area 5 waste lagoon inlet (location 5-14SB) was approved as SAP Modification 3. Field Modification 8 was approved to adjust the subsurface sample location at 7-04SB based on drill rig access limitation within the bed of the Old Waste Pond (OWP) (PRI Area 7).

Subsurface solids sampling procedures were performed in accordance with *SOP USM-09 Subsurface Soil, Sediment, and Waste Sampling Standard Operating Procedure.* Subsurface samples collected during Phase 1A-B RI field activities are summarized in Table 3-2. Field forms for Phase 1A-B RI sampling activities are included in Appendix C and subsurface sample borehole logs are included in Appendix D.

3.1.1 PRI Area 1

PRI Area 1 includes the following wastewater ditches and related features:

- Western Ditch;
- Central Ditch;
- Chlorine Ditch;
- Main Ditch;
- Former Boron Ditch; and
- Dredge Spoil Areas.

The Phase 1A-B RI SAP includes sample locations in each of these features except the dredge spoil areas.

Fourteen surface solid samples were collected in PRI Area 1 between 19 November and 3 December, 2015. Sample locations are shown on Figure 3-1 and are listed in Table 3-1. Twelve locations are within active wastewater ditches, one location (1-13) is within an inactive reach of the Main Ditch, and one location (1-14) is within the alignment of the Former Boron Ditch. Because the wastewater ditches are linear features, all sampling locations in PRI Area 1 were judgmentally selected instead of using a systematic grid.

Surface samples at 10 locations were collected using a hand auger. At the other four locations, surface samples were collected using a Ponar sampler deployed from an excavator bucket due to access and personnel safety issues. These sampling locations either met the definition of permit-required confined spaces or could not be safely accessed by foot for sampling. The use of a Ponar sampler for sampling within wastewater ditches was approved by USEPA on 24 November 2015 as part of SAP Modification 3.

Subsurface sampling was conducted at five locations in PRI Area 1 between 3 and 10 November 2015 using a sonic drill rig. Poor recovery of saturated wastes was obtained using sonic drilling at location 1-08; therefore, a second subsurface sampling attempt was performed at location 1-08 on 2 December 2015 using a Lexan tube mounted to an excavator bucket. The alternate sampling method at location 1-08 was approved by USEPA on 24 November 2015 as part of SAP Modification No. 3. Acceptable recovery of saturated wastes at location 1-08 was achieved using the Lexan tube method. Table 3-2 identifies the subsurface samples obtained at location 1-08 by both methods and which samples were analyzed.

Sonic drilling borings at locations 1-03, 1-07, and 1-08 were advanced at an angle based on drill rig access. Due to a math error in the field at the time of sampling, the depth intervals included in subsurface sample IDs at these locations were not equal to the true corrected-to-vertical depths. The sample core intervals, corrected-to-vertical depths, and sample IDs for samples from these borings are summarized below. The sample depths shown in Table 3-2 are corrected to vertical.

Location	*Drilling Angle (degrees from vertical)*	*Sample Interval, Uncorrected (feet)*	*Sample Interval, Corrected to Vertical (feet bgs)*	*Sample ID*
1-03	52	0.5 to 1.5	0.3 to 0.9	1-03-SB-01-0.5-1.5-110415
		1.5 to 3.5	0.9 to 2.2	1-03-SB-01-1.5-3.5-110415
		3.5 to 5.5	2.2 to 3.4	1-03-SB-01-3.5-5.5-110415
1-07	45	0.5 to 3	0.5 to 2.1	1-07-SB-01-0.5-1.5-110415
		3 to 6	2.1 to 4.2	1-07-SB-01-1.5-3-110415
		6 to 10	4.2 to 7.1	1-07-SB-01-3-5-110415
		10 to 14	7.1 to 9.9	1-07-SB-01-5-7-110415
1-08	45	0.5 to 7	0.4 to 5	1-08-SB-01-0.5-7-110515
		7 to 8.5	5 to 6	1-08-SB-01-7-8.5-110515
		8.5 to 10	6 to 7	1-08-SB-01-8.5-10-110515

Note: *bgs = below ground surface*

At the time of drilling, there was some uncertainty in the field regarding the depth of waste/native soil contact. To ensure that boreholes were advanced below the waste/native soil contact as required by the SAP, some locations were drilled deeper than required. After reviewing field screening results and lithology encountered and historical boring logs for nearby monitoring wells and/or test pits, it was determined that some samples were collected from deeper than 2 feet below the first native soil interval in borings at locations 1-07, 1-13, and 1-14. To be consistent with SAP, which specifies "the final sample interval extending to 2 feet below the waste/native soil interface," laboratory analyses were cancelled for the following samples collected below the first native soil interval:

- Location 1-07 - 4.2 to 7.1 feet below ground surface (feet bgs), 7.1 to 9.9 feet bgs;
- Location 1-13 - 11 to 13 feet bgs, 13 to 15 feet bgs, 15 to 17 feet bgs; and
- Location 1-14 - 10 to 11 feet bgs, 15 to 17 feet bgs.

Waste thickness was measured by advancing a hand auger at surface sample locations accessible by foot or by using a Lexan tube at surface sample locations where a Ponar sampler was used. Drilling equipment (i.e., sonic drill rig, Lexan tube) was used to measure waste thickness at subsurface sample locations. Waste thicknesses in PRI Area 1 are listed in Table 3-1 and ranged from no waste present at sample locations 1-01 and 1-02 to 9 feet bgs at 1-13.

Two field modifications were approved by USEPA for samples collected in PRI Area 1 during Phase 1A-B RI sampling activities:

- Field Modification Form 9 approved adjusted sample locations for samples 1-04 and 1-12 to provide access by foot.
- Field Modification Form 10 approved the decision regarding analysis of subsurface samples collected at location 1-08 on 5 November 2015 (via sonic drill rig) and 2 December 2015 (via Lexan tube). Analysis of the three samples composed of waste material collected on 2 December 2015 and one sample of underlying native material collected on 5 November were determined to provide a complete vertical characterization of the sample location.

3.1.2 PRI Area 3

PRI Area 3, the Sanitary Lagoon, has an area of approximately 2 acres with steep side slopes and a relatively flat bottom covered by vegetation. The lagoon, which functions as a leach field, receives sanitary wastewater from plant operations following treatment by a bacteriological process.

Fourteen surface solid samples were collected in PRI Area 3 between 16 and 19 November 2015. Sample locations are shown on Figure 3-2 and summarized in Table 3-1. Surface solids sampling included 13 evenly distributed grid sampling locations (3-01 through 3-13) and one biased/judgmental sampling location (3-14) to characterize conditions at the presumed inlet to lagoon. All surface samples were collected using a hand auger. Waste thickness in PRI Area 3 is summarized in Table 3-1 and ranged from no waste present at most sample locations to 14 inches bgs at sample location 3-01.

Two subsurface solid samples were collected on 3 November 2015 at sample location 3-14 using a sonic drill rig. Subsurface samples were collected from intervals of 0.5 to 3.5 feet bgs and 3.5 to 5 feet bgs (Table 3-2). The 0.5 to 3.5 feet bgs sample interval contained a mixture of waste and soil and continuous native soil was encountered beginning at 3.5 feet bgs. These sample intervals were identified based on field conditions.

3.1.3 PRI Area 4

PRI Area 4, the gypsum pile, consists of calcium sulfate (gypsum) derived as a byproduct of the magnesium production process. A gypsum/water slurry is discharged to an area with a current footprint bounded by PRI Areas 1, 6, and PRI Area 9.

Surface solids were collected from PRI Area 4 between 19 and 29 October, 2015 at 14 evenly distributed grid sampling locations. Sample locations are shown on Figure 3-3 and are summarized in Table 3-1. All surface samples were collected using a hand auger. Waste thickness varied across PRI Area 4 from 12 inches bgs at sample location 4-08 to 7 feet bgs at location 4-05.

Four subsurface samples were collected at sample location 4-05 on 9 November, 2015 using a sonic drill rig. Subsurface sample intervals were 0.5 to 3 feet bgs, 3 to 5 feet bgs, 5 to 7 feet bgs, and 7 to 9 feet bgs (Table 3-2). Native soil was encountered at 7 feet bgs. These subsurface intervals were identified based on field conditions.

A Field Modification Form was required to adjust sample location 4-14 approximately 50 feet south of the SAP location, out of wastewater, and to a location accessible by foot.

3.1.4 *PRI Area 5*

PRI Area 5 primarily includes an active wastewater impoundment, covering approximately 330 acres that receives acidic wastewater from the Main Ditch. A connection between Inner PRI Areas 5 and 6 and allows co-mingling of wastewater between the PRIs. A former wastewater diversion ditch traverses PRI Area 5. This ditch spurred from the Main Ditch and discharged into the former Solar Evaporation Pond 1 West in PRI Area 14. Another former ditch is present on the PRI Area 5 southwest border that conveys storm water/overflow discharges from the brine holding pond (the "Star Pond") to the PRI Area 5 wastewater pond.

Surface samples were collected at 20 locations within PRI Area 5 from 17 September to 27 October 2015 (Table 3-1). Sample locations are shown on Figure 3-4. Sampling locations include 15 evenly distributed grid locations (5-01 through 5-15) and five biased/judgmental sampling locations (5-16 through 5-20). Thirteen samples that were accessible by foot were collected using a hand auger. Seven samples were not accessible on foot due to waste water inundation and were collected using a Ponar sampler deployed from a helicopter. Waste thickness measurements in PRI Area 5 ranged from no waste present at 13 sample locations to 6 feet bgs at sample location 5-14SB and 6.5 feet bgs at sample location 5-16.

Subsurface samples from two sample locations were collected from PRI Area 5 between 5 November and 2 December, 2015. Subsurface samples were collected at locations 5-16 and 5-14SB as follows:

- Lexan tubes deployed by a long-reach excavator were used to collect four samples at locations 5-14SB on 1 December 2015. The SAP identified that subsurface sampling at location 5-14 would be collected using a drilling rig with access provided via an earthen berm/road to be constructed into the wastewater pond. After inspecting the surface sediment sample collected at location 5-14 via helicopter-deployed samplers and observing the waste deposition zone at the outlet of the Main Ditch on 27 October 2015, USEPA, ERM, and US Magnesium collectively agreed that constructing an earthen berm/road into the PRI Area 5 wastewater pond for drill rig access, as described in the SAP, was unlikely to be successful. The USEPA and ERM agreed that an alternate method of collecting the subsurface sample at location 5-14 could be attempted using a Vibracore or similar sampling device deployed by a long-reach excavator from the gypsum pile adjacent to the north of the Main Ditch. SAP Modification 3, approved by USEPA on 24 November 2015, adjusted the subsurface sampling location at the inlet area of PRI Area 5 and described the use of an extended-reach excavator and coring device for sampling.

- Two subsurface sampling events were conducted at location 5-16. On 5 November 2015, a sonic drill rig was used; however, little to no recovery of the waste interval was obtained by sonic drilling, and the only samples obtained were of native material from 6.5 to 8 feet bgs and 8 to 10 feet bgs. A second attempt at drilling location 5-16 was performed 2 December 2015 using a Lexan tube deployed by an excavator, as described in SAP Modification 3. The Lexan tube methods successfully obtained samples of the waste interval from 0.5 to 2 feet bgs, 2 to 4 feet bgs, and 4 to 5 feet bgs. The selection of subsurface sample intervals for analysis for location 5-16 was approved by USEPA as Field Modification 10. All waste intervals obtained via the Lexan tube method were analyzed. Because the sample for 8 to 10 feet bgs was below the first native soil interval (6.5 to 8 feet bgs), the sample from 8 to 10 feet bgs was not analyzed.

In addition to the field modification described above for subsurface sample analysis from location 5-16, two Field Modification Forms were required for surface samples collected in PRI Area 5. Field Modification 1 allowed ERM to move sample location 5-04 approximately 100 feet northeast to move the SAP location off a man-made road and onto a native lakebed playa. Field Modification 5 allowed for compositing of multiple Ponar sample grabs at locations 5-07, 5-08, and 5-12. This modification allowed ERM to composite multiple grab aliquots from a Ponar sampler even though recoveries from the individual grabs did not meet depth requirements specified in SOP USM-12.

3.1.5 PRI Area 6

PRI Area 6 primarily includes an active wastewater impoundment, covering approximately 174 acres that receives wastewater from PRI Area 5 and runoff from the gypsum pile.

Fifteen surface samples were collected in PRI Area 6 between 16 September and 28 October, 2015. Sample locations are shown on Figure 3-5 and summarized in Table 3-1. Seven samples were collected using a hand auger and eight samples at locations inundated with wastewater were collected with a Ponar sampler deployed from a helicopter. One subsurface soil sample was collected at location 6-16 using a sonic drill rig.

Waste thickness in PRI Area 6 ranged from no waste present at nine sample locations to 4.5 feet bgs at subsurface sample location 6-16. Subsurface sampling location 6-16, targeting wastes historically deposited in the PRI Area 6 wastewater impoundment, is located on the Gypsum Pile (PRI Area 4) and co-located with surface sample 4-11.

Field Modification 5 was required for surface samples collected at locations 6-09, 6-11, and 6-13. This modification allowed ERM to composite multiple grab aliquots from a Ponar sampler even though recoveries from individual grabs did not meet requirements in SOP USM-12.

3.1.6 PRI Area 7

PRI Area 7, or the OWP, covers an area of approximately 800 acres. The OWP was used as an evaporation pond for process wastewater until it was inundated by the GSL in 1984 and its use as a wastewater containment area was discontinued.

Seventeen surface samples were collected at PRI Area 7 using a hand auger between 21 and 29 September, 2015. Sample locations are shown on Figure 3-6 and summarized in Table 3-1. Waste thickness in PRI Area 7 ranged from no waste present at four surface sample locations to approximately 2.5 feet bgs at 7-04SB, which is located at the historic inlet to the OWP.

Subsurface sampling at PRI Area 7 was performed at one location, 7-04SB. Field Modification 8 was approved to allow ERM to adjust the 7-04SB subsurface sample location approximately 200 feet to the west of location 7-04 to an area accessible by a track-mounted sonic drill rig. Subsurface sampling to a total depth of 12 feet bgs was performed using a sonic drill rig on 10 November 2015. There was no recovery of the waste interval from 0 to 2.5 feet bgs. Samples were obtained from 2.5 to 4.5 feet bgs, 4.5 to 6.5 feet bgs, 6. to 8.5 feet bgs, 8.5 to 9.5 feet bgs, and 9.5 to 11.5 feet bgs. Upon review of the boring log and other (historic) borings and test pits competed in the area, ERM determined the following:

- Native soil was encountered at 2.5 feet bgs; and
- A zone of olive green silt at a depth of 8.5 to 9.5 feet bgs appeared anomalous (based on color) and consistent with lake deposits that pre-date magnesium plant operations and therefore was not considered an "anomalous waste/sediment layer" requiring sampling per the SAP.

Because SAP Worksheet 11, Section 11.2.7.2, Subsurface Solids Sampling, specifies that the final sample interval at a boring will be to 2 feet below the waste/native soil interface, ERM proposed that analysis of samples from location 7-04SB be limited to the interval from 2.5 to 4.5 feet bgs.

Due to poor recovery of the waste interval using sonic drilling, a second subsurface sampling attempt was performed at 7-04SB on 10 December

2015 using a hand driven Lexan tube, as described in SAP Modification 3. Using the tube-coring method, successful recovery of the waste interval from 0.5 to 2.5 feet bgs was achieved.

3.1.7 Inner PRI Area Field QC Samples

Field QC samples associated with Inner PRI Area solids sampling were collected in general accordance with requirements provided in SAP Worksheets 12 and 20. Table 3-3 provides a summary of QC samples, which included field duplicates, equipment blanks, and trip blanks.

Ten field duplicate samples were collected in association with 122 solids samples, which included 94 surface and 28 subsurface samples. The number of field duplicates collected per Inner PRI Area was as follows:

Inner PRI Area	*Number of Sample Locations*	*Number of Primary Samples*	*Number of Field Duplicates*
PRI Area 1	14	23	2
PRI Area 3	14	16	1
PRI Area 4	14	18	2
PRI Area 5	20	28	1
PRI Area 6	15	18	2
PRI Area 7	17	19	2
All Inner PRI Areas	94	122	10

The overall frequency of field duplicate samples for solids samples was 10 out of 122, or 8 percent. This frequency was below the field duplicate sample frequency of 10 percent requirement in SAP Worksheet 12. However, field duplicates were collected from 10 out of 94 sample locations, or approximately 11 percent of sample locations.

At a rate of one blank sample per week, eight equipment blank samples were collected during solids sampling activities. These equipment blanks were collected in association with primary solids samples from PRI Areas 1, 3, 4, 6, and 7. Surface and subsurface solids samples for volatile organic compound (VOC) analyses were collected from every PRI from 17 September to 10 December, 2015. A trip blank field QC sample accompanied all but one of the shipments that included samples for VOC analysis. A trip blank was accidentally omitted from the 15 October 2015 shipment that included five surface solids samples (four primary samples and one field duplicate sample) from PRI Area 5 for VOC analysis.

3.2 BACKGROUND AREAS SAMPLING

3.2.1 Sampling Activities

Solids samples were collected from six candidate background (BG) areas and one contingency area at the BRMBR outside the 5-mile RI/FS Area radius to provide insight to the levels of COPCs potentially present. Background samples were collected in areas representative of different PRI areas throughout OU-1 and were classified as upland or lakebed habitat. Background areas are shown on Figure 3-7 and sample locations are shown on Figures 3-8 through 3-12. Background areas include:

- Upland North;
- Upland South;
- Upland Southeast;
- Lakebed North;
- Lakebed Southeast;
- Lakebed Southeast at Badger Island; and
- BRMBR.

Background samples were collected between 30 September and 22 October 2015. A field modification form was approved to adjust the surface sample location at Lakebed Southeast (LBSE) location LBSE-10. Ten surface samples were collected in each background location, except for BRMBR where five surface samples were collected. A total of 65 surface samples were collected across all background areas and are summarized in Table 3-1. Surface samples were collected following SOP USM-01 *Surface Soil, Sediment, and Waste Sampling* from a depth of 0-2 inches bgs using a flat bottom scoop.

Seven subsurface samples, one sample from each background area, were collected during Phase 1A-B RI background sampling activities and are summarized in Table 3-2. The subsurface solids samples were collected following SOP USM-09 *Subsurface Soil, Sediment, and Waste Sampling* from a depth of 2-36 inches bgs using a 4 inch diameter hand auger or post hole digger.

One SAP Modification was approved by USEPA in association with background areas sampling. SAP Modification 1 revised the subsurface sample collection method for background/reference areas in SOP USM-09 to include a hand auger. Three field modification forms were approved during background sampling activities. Field modification number 2 was approved and allowed ERM to abandon boreholes from subsurface sampling at background locations using soil cuttings instead of hydrated bentonite chips. Field modification number 3 approved an adjusted sample location for LBSE-10 approximately 25 feet north due to the presence of a hard salt crust layer covering the original SAP location. A hand auger was not available for use at the BRMBR subsurface location, therefore field modification number 4 approved the use of a new, decontaminated posthole digger to collect subsurface solids.

3.2.2 Background Areas Field Quality Control Samples

QC samples associated with background sampling activities included field duplicate and equipment blank samples (Table 3-3). Eight field duplicate samples, corresponding to 11 percent of the 72 primary samples, were collected and three equipment blank samples were collected. These QC samples were collected in accordance with SAP Worksheets 12 and 20. All QC samples collected from background sample areas corresponded to primary surface samples. VOCs were not collected in background areas and therefore no trip blank samples were collected.

4.0 PHASE 1A-B RI SAMPLE ANALYSIS AND DATA MANAGEMENT

Laboratory analyses of Phase 1A-B RI samples were performed in accordance with SAP Worksheets 18, 23, and 30 and following the analytical SOPs and project-specific work instructions listed in SAP Worksheet 23. All data generated during the Phase 1A-B RI was managed in accordance with the Final Data Management Plan (DMP) (ERM 2013a).

4.1 LABORATORY ANALYSES

All Phase 1A-B RI surface and subsurface solid samples from Inner PRI areas were analyzed for the target analytes listed in SAP Worksheet 15, which include:

- PCBs;
- D/Fs;
- Semi-volatile organic compounds (SVOCs);
- Polycyclic aromatic hydrocarbons (PAHs)
- VOCs;
- Metals
- Cyanide
- Perchlorate
- Total organic carbon (TOC);
- pH; and
- Grain size.

For all Inner PRI surface solids samples, three splits were collected to facilitate an evaluation of chemical concentrations in bulk and fines fractions. Each split was composed of the bulk sample (passing 0.25-inch mesh) after homogenization. Laboratory analyses of the splits proceeded as follows:

1. Split sample 1 was analyzed as a bulk fraction sample for the full-list of analytes listed above.
2. Split sample 2 was analyzed for grain size. The result from the grain size analysis of split sample 2 was used to determine whether to analyze split sample 3 as a fines fraction sample.

3. If the percent passing 0.25 millimeter (mm) in split sample 2 was greater than 75, then no analysis for fines was performed.
4. If the percent passing 0.25 mm in split sample 2 was less than 75, then split sample 3 was dried, sieved through a 0.25 mm mesh, and the fines-fraction material (passing 0.25 mm) was analyzed for PCBs, D/Fs, SVOCs, PAHs, metals, and TOC.

All surface solids samples from background/reference areas were analyzed for metals target analytes listed in SAP Worksheet 15. A subset of samples from background sampling locations were also analyzed for the following subset of target organics analytes listed in SAP Worksheet 15:

- PCBs;
- D/Fs;
- HCB; and
- TOC.

Chemical analyses were performed by TestAmerica and Alpha Analytical according to the laboratory methods and applicable USEPA method references listed in SAP Worksheet 30.

Most chemical analyses were performed by the TestAmerica laboratory located in West Sacramento, California, with selected analyses subcontracted to TestAmerica laboratories located in Denver, Colorado (TOC) and Savannah, Georgia (cyanide). TestAmerica is accredited by the National Environmental Laboratory Accreditation Program and is certified by the Utah Department of Health to perform these analyses, where possible. Analysis for PCBs by low-resolution mass spectrometry (LRMS) was performed by Alpha Analytical located in Mansfield, New York. Alpha Analytical is accredited under the US Department of Defense Environmental Laboratory Accreditation Program, which is recognized by the National Cooperation for Laboratory Accreditation. Grain size analysis for Phase 1A-B RI samples was performed by GeoStrata at their geotechnical laboratory in Bluffdale, Utah. All grain size results were reviewed and approved by a Professional Engineer licensed by the State of Utah.

Laboratory analytical reports are included in Appendix E. Table 4-1 provides a cross-reference between sample dates, sample types, analytical laboratories, and the associated laboratory Sample Delivery Groups.

4.1.1 *High-Level/Low-Level Analyses and Low-Resolution Analytical Methods*

The project-specific work instructions identified in SAP Worksheet 23 were developed based on the results of the *Draft Phase 1A Laboratory Demonstration of Method Applicability Technical Memorandum for Soil, Sediment, Waste, and Water* (ERM 2013b) and were updated based on results and lessons learned from the Phase 1A RI (ERM 2015b) and the objectives of the Phase 1A-B RI. These work instructions identify specific sample preparation and analysis procedures that are appropriate to the specific sample matrices associated with the Site. A key component of the work instructions is the identification of samples as either "high level" or "low level" based on their location or the presence of waste. Sample preparation and/or analytical procedures differ for high-level versus low-level samples. Tables 3-1 and 3-2 provide surface and subsurface sample classification as high-level or low-level.

Due to the very high levels of PCBs and D/Fs expected to be present within some areas in the Inner PRI areas, analysis of Phase 1A-B RI solids samples from the Inner PRI areas for PCBs and D/Fs was performed using a combination of high-resolution mass spectroscopy (HRMS) and LRMS methods. The protocol for HRMS versus LRMS analysis for PCBs and D/Fs for Inner PRI samples was as follows:

- PCBs – The default method for PCB analysis was HRMS. If the PCB concentration in samples was greater than upper calibration range (2 micrograms/kilogram [µg/kg]) at max dilution (25X) during initial HRMS analysis, then re-extraction was performed at 10X dilution for HRMS analysis. Samples anticipated to have high concentrations of PCBs due to their location or known presence of waste were analyzed by LRMS. If no PCB congener was detected above 50 µg/kg, then the sample was re-analyzed using HRMS.
- D/Fs - All samples were analyzed with HRMS following high-level or low-level protocol included in the project-specific work instructions. If the D/F concentrations are greater than max calibration level (40 µg/kg) at max dilution (10X), then a sample was re-extracted for LRMS analysis.

The combination of high-level/low-level protocols and the use of LRMS analytical methods provided reliable results for the Inner PRI samples. Only three surface samples from PRI Area 5 required analysis for D/Fs using the LRMS analytical method (SW-846 Method 8280). These samples were from locations 5-02, 5-13, and 5-14. For PCBs, a total of 84 samples were submitted for LRMS analysis. Of these samples, a total of 12 samples did not contain any PCB congener at 50 µg/kg or greater and required re-analysis using the HRMS method.

4.1.2 *Deviations from Phase 1A-B RI Sampling and Analysis Plan*

Laboratory analytical deviations from the SAP included the following:

- Laboratory analytical deviations from the SAP included the following:
- All samples with less than 75 percent fines content, as identified by grain size analysis at GeoStrata, were sieved at TestAmerica for chemical analysis of the fine fraction (<250 micrometers [µm]). Grain size analysis at GeoStrata included a washing step; TestAmerica used a sieve and shaker to isolate the fraction of interest with minimal effect on sample integrity. Two samples with less than 75 percent fines could not be sieved at TestAmerica due to the nature of the matrix (7-10-SS-01-092815 and 7-17-SS-01-092915). The samples appeared oily and formed balls of soil that would not pass through the sieve. Consequently, the fine fraction was not analyzed in these samples.
- Because of instrumentation failure at the TestAmerica West Sacramento laboratory, VOC analyses (8260) for two aqueous samples (trip blanks) were performed at an alternate TestAmerica laboratory (Pittsburgh, Pennsylvania). This laboratory is accredited under National Environmental Laboratory Accreditation Program (NELAP) and the State of Utah for USEPA Method 8260.
- The Gel Permeation Cleanup (GPC) instrument at the West Sacramento laboratory frequently did not meet method quality objectives (MQOs) for laboratory control samples. After several delays, some sample extracts were sent to the TestAmerica laboratory in Burlington, Vermont, for GPC and then returned to the West Sacramento laboratory for analysis.
- The TOC instrument at TestAmerica's Denver lab went out of service shortly before the end of December 2015, and several samples were close to hold time. A total of eight samples were sent to the TestAmerica St. Louis laboratory for analysis to meet method hold times. This laboratory is accredited under NELAP but not the State of Utah.

4.1.3 *Laboratory Analytical Issues*

While not deviations from the SAP, there were several laboratory incidents that impacted the schedule/turnaround time for results, required special attention by the laboratory, or are otherwise noteworthy. These items are summarized below.

- Holding times were missed for some analyses (methods 314.0 - perchlorate, 8290 – D/F, 7471A - mercury, 9012B - cyanide, and 9060A - TOC) for sample 1-08-SB-01-5-6-120215. This sample was placed on hold temporarily along with a number of other samples. Due to a communication lapse, these methods were not logged in prior to the hold times for this sample. Data were reported by the laboratory and validated by a third-party data validation contractor. Due to the hold time exceedances, results for four analytes were rejected: perchlorate, mercury, cyanide, and TOC.
- As noted in the previous section, there were two samples with less than 75 percent fines that were not able to be sieved at TestAmerica due to matrix issues (7-10-SS-01-092815 and 7-17-SS-01-092915).
- On Friday, 5 February 2016, TestAmerica experienced a sophisticated cyber-attack on their computer systems. No client data were compromised, but significant downtime was experienced on all instruments at all labs in the system. A significant number of Phase 1AB samples were still in process. The cyber-attack caused a delay of more than one month in reporting for several TestAmerica sample delivery groups (SDGs).
- As noted in the previous section, throughout processing of Phase 1AB samples, TestAmerica experienced problems with their GPC in West Sacramento. This resulted in delays in analyses of SVOCs (Method 8270C), including the need for re-extraction of some samples when the extract hold time expired while waiting for the problems to be resolved. Because hold time for extraction of frozen samples for 8270C is one year, all samples were extracted (and re-extracted if necessary) and analyzed within hold time. Additionally, instrumentation issues caused eight TOC analyses to be conducted at the St. Louis facility and two VOC analyses to be conducted at the Pittsburgh facility.
- HCB background samples were analyzed at dilution due to characteristics of the extracts that indicated they would damage the gas chromatograph column, based on lab experience with Site samples. As noted by the analyst: *"Dilutions were made based on color and acrid odor to the sample extracts. Even with the dilutions, we barely passed CCV's [continuing calibration verifications] for affected analytes after maintenance the following day."* After reviewing the overall background dataset in March 2016, it was noted that most HCB analyses were run at dilution, which resulted in elevated reporting limits for non-detects. Because the data were not useful for evaluation of background conditions, ERM requested the samples be rerun without dilution. The lab reran the extracts, which had been stored in the freezer, without dilution and with extra blank runs to reduce column damage and improve QC

results. This was conducted in March 2016 and took close to a month to complete. Third-party validation of the reanalysis was completed in early May 2016.

4.2 DATA VALIDATION

Data validation criteria are presented in SAP Worksheet 36 of the SAP. As required, cursory (Stage 2B) data validation was conducted on 90 percent of the data, and full Stage 4 data validation was conducted on 10 percent of the data by a third-party data validation contractor. SAP Worksheets 12, 24, 25, 28, and 36, along with the analytical methods and laboratory SOPs, list the QC checks and criteria that were reviewed for both cursory and full data validation. The data validation criteria were consistent with the project-specific analytical methods referenced in SAP Worksheet 19 and SAP modifications. The laboratories submitted a case narrative with every data package listing any QC criteria that were not met or other issues potentially affecting data quality.

Laboratory Data Consultants (LDC), an independent third-party subcontractor, was subcontracted to conduct all the data validation. All data validation reports can be found in Appendix F. Table 4-1 includes cross-reference information to identify the data validation report associated with specific sample dates or laboratory sample delivery groups.

Based on data validation and review, data qualifiers were placed in the electronic database to signify whether the data were acceptable, acceptable with qualification, or rejected. Validation qualifiers and definitions are based on those used by USEPA in the validation guidelines (USEPA 2005; 2008; 2010; 2011). The validated results are contained in the project database and are summarized in the analytical results and prevalence tables in Section 5.0 (Tables 5-1 through 5-15).

4.3 DATA MANAGEMENT

Data management was conducted according to the final DMP (ERM 2013). All analytical results are available in the project database (EQuIS).

Summations for certain chemical classes were performed as described in the SLRA Technical Memorandum (ERM 2014a). In order to allow comparison to risk-based concentrations during the SLRA, some compounds will be evaluated as a class and concentrations will be calculated by summing the results from individual compounds within the chemical class, including:

- 2,3,7,8-tetrachlorodibenzo-p-dioxin toxicity equivalence concentration (TCDD TEQ) for D/F and dioxin-like co-planar PCB congeners; and
- Total PCBs.

The methodology used to calculate the sums and address non-detected (ND) constituents is described below for each class.

- *TCDD TEQ* is calculated using concentrations for D/F congeners and WHO coplanar PCBs as follows:

  $$\text{TCDD TEQ} = \Sigma\ \text{TEF}_i \times C_i$$

  …where C_i is the concentration of the i^{th} dioxin congener, furan congener, or coplanar PCB congener. HCB is also included in the calculation of the TCDD TEQ for birds. To bracket the potential ranges of TCDD TEQs when one or more contributing species is ND, NDs are assigned a surrogate value of either zero or one-half of the detection limit.

- *Total PCBs* is calculated and reported by the laboratory using concentrations for PCB homologues as follows:

  $$\text{Total PCBs} = \Sigma\ C_j$$

  …where C_j is the concentration of the j^{th} PCB homologue. NDs are assigned the value of zero.

5.0 PHASE 1A-B RI INVESTIGATION RESULTS

5.1 INNER PRI AREA SURFACE AND SUBSURFACE SOLIDS

Phase 1A-B RI analytical results for Inner PRI area solids samples are presented in the following three formats for each Inner PRI area:

1. Analytical results summary tables, which provide all analytical results;
2. Prevalence tables, which provide statistical summaries for each constituent per PRI area, including surface and subsurface samples. The statistical summaries listed in the prevalence tables are:
    - The number of samples and number of detections;
    - The minimum and maximum detected concentrations;
    - The average, standard deviation, and coefficient of variation for detected results;
    - The minimum and maximum detection limits for ND results; and
    - The sample location corresponding to the maximum detected concentration.
3. Point concentration maps, which include concentrations of expected risk drivers (HCB, Total PCBs, and dioxin/furan TEQ) as labels adjacent to sample locations.

These result summaries are found in the following tables and figures:

Inner PRI Area	*Analytical Results Summary*	*Prevalence Table*	*Point Concentration Map*
PRI Area 1	Table 5-1	Table 5-2	Figure 5-1
PRI Area 3	Table 5-3	Table 5-4	Figure 5-2
PRI Area 4	Table 5-5	Table 5-6	Figure 5-3
PRI Area 5	Table 5-7	Table 5-8	Figure 5-4
PRI Area 6	Table 5-9	Table 5-10	Figure 5-5
PRI Area 7	Table 5-11	Table 5-12	Figure 5-6

5.2 *FINES ANALYSES OF INNER PRI AREA SURFACE SOLIDS*

As described in SAP Worksheet 11, Section 11.2.7.5, the Phase 1A-B RI included collection of samples from the Inner PRI areas to investigate (1) if constituent concentrations significantly differ between bulk and fine fractions, and (2) whether a large-enough proportion of coarse material is present in bulk samples to result in a substantial difference between the constituent concentrations measured in the bulk and the fine fractions. For the purpose of this study, "bulk fraction" is defined as all material passing a 0.25-inch mesh sieve and "fine fraction" is defined as material passing a 0.25-millimeter (mm) (60 US Mesh) sieve.

To facilitate the bulk versus fines evaluation, three splits were collected for each Phase 1A-B RI surface solids sample. Each split was prepared as a bulk sample (passing 0.25-inch mesh) after homogenization. The splits were analyzed as follows:

1. Split sample 1 was analyzed as a bulk fraction sample.
2. Split sample 2 was analyzed for grain size by ASTM International (ASTM) Method C-136 (ASTM 2006). The result from the grain size analysis of split sample 2 was used to determine whether to analyze split sample 3 as a fines fraction sample.
3. If the percent passing 0.25 mm in split sample 2 was greater than 75, then no analysis for fines is required.
4. If the percent passing 0.25 mm in split sample 2 was less than 75, then split sample 3 was dried, sieved through a 0.25 mm mesh, and the fines-fraction material (passing 0.25 mm) was analyzed for PCBs, D/Fs, SVOCs, PAHs, metals, and TOC.

The number of samples which required analysis of fines-fraction material based on grain size analysis results ranged from zero samples at PRI Area 4 to 10 samples at PRI Areas 5 and 7. Overall, 36 percent of the Inner PRI surface solids sample locations were found to have less than 75 percent fines-fraction material. The number and percent of surface samples in each Inner PRI area with less than 75 percent fines-fraction material is summarized below.

Inner PRI Area	*Number of Surface Sample Locations*	*Number of Surface Samples with < 75 Percent Fines*	*Percent of Surface Samples with < 75 Percent Fines*
PRI Area 1	14	4	29
PRI Area 3	14	3	21
PRI Area 4	14	0	0
PRI Area 5	20	10	50
PRI Area 6	15	7	47
PRI Area 7	17	10	59
All Inner PRI Area	94	34	36

Fines-fraction analytical results are provided in Table 5-13. As described in Section 4.1.2, fines analysis of two samples from PRI Area 7 was not possible due to the sample forming balls on the sieve with no appreciable fines material passing through the mesh. Therefore, analytical results are only available for eight samples from PRI Area 7. The relationship between the paired results of the bulk and corresponding fine fractions for surface solids samples is evaluated using regression analysis included in Appendix G.

Subsurface samples were also analyzed for fines content; however, analyses of fines-fraction aliquots was not performed for subsurface samples regardless of fines content.

5.3 *BACKGROUND AREA SURFACE AND SUBSURFACE SOLIDS*

Phase 1A-B RI analytical results for background surface and subsurface solids samples are presented in the following analytical results summary tables and prevalence tables:

Table 5-14	Analytical Results for Lakebed Background Areas
Table 5-15	Prevalence Table for Lakebed Background Areas
Table 5-16	Analytical Results for Upland Background Areas

Table 5-17 Prevalence Table for Upland Background Areas

Table 5-18 Analytical Results for BRMBR

Table 5-19 Prevalence Table for BRMBR

6.0 QUALITY CONTROL ACTIVITIES

QC activities were conducted during field activities and laboratory sample preparation and analysis. These activities included collection and analysis of field QC samples, analysis of laboratory QC samples, and field and laboratory surveillance.

6.1 FIELD AND LABORATORY QC SAMPLE RESULTS

Field QC samples collected and analyzed during the Phase 1A-B RI included field duplicates, trip blanks, and equipment blanks. These field QC samples were collected and analyzed in general accordance with the requirements provided in SAP Worksheets 12 and 20. Results for field duplicate, trip blank, and equipment blank QC samples are provided in Tables 6-1, 6-2, and 6-3, respectively.

Laboratory QC samples were analyzed in accordance with the requirements of SAP Worksheets 12 and 28. The project-specific laboratory QC sample requirements in SAP Worksheet 12 included method blanks, matrix spikes, matrix spike duplicates, laboratory control samples, and laboratory duplicates.

Field and laboratory QC sample results were evaluated during data validation, as described in Section 4.2. Data validation reports are provided in Appendix F.

6.2 PROJECT ASSESSMENTS AND CORRECTIVE ACTIONS

Field surveillance audits were performed by the ERM project coordinator and ERM field team leader, and laboratory surveillance was performed by the ERM quality assurance manager. The findings from these assessments are described in the following sections.

6.2.1 Field Surveillance

Field surveillance visits were performed by the ERM field team leader on 12 October 2015 and by the ERM project coordinator on 26 October 2015. The field surveillance included a review of field sampling procedures, field documentation, field QC activities, and health and safety. No corrective actions were identified during the ERM field surveillance activities.

Field surveillance was performed by USEPA throughout the Phase 1A-B RI sampling program.

6.2.2 *Laboratory Surveillance*

The TestAmerica West Sacramento laboratory was visited by the ERM quality assurance manager on 9 December 2015, in accordance with the laboratory surveillance requirement in SAP Worksheets 31 and 32 of the SAP. The surveillance began with a discussion of objectives with TestAmerica staff, including Robert Hrabak – Technical Director and Manager of Dioxin and Liquid Chromatography/Mass Spectrometry operation, David Allameh – Manager of Operations, Crystal Pollock – Lab Director, Karla Beuchler – Corporate, Lisa Stafford – Quality Assurance (QA) Manager, and David Alltucker – Project Manager for the US Magnesium project. Representatives for USEPA were not present for this lab visit.

During the lab visit, the ERM quality assurance manager filled out a checklist, toured the lab, and reviewed new procedures. The checklist was supplied to the laboratory beforehand. The checklist and the laboratory organizational chart are attached to the summary memo, included in Appendix E. There were no findings requiring notification of the laboratory or corrective actions.

6.2.3 *Corrective Actions*

One corrective action report was issued during Phase 1A-B. Alpha Analytical made an error in calculating Total PCBs when there were multiple analytical runs at different dilutions for the same sample. The error was noted early in Phase 1A-B RI analytical program. The laboratory corrected the calculations and re-issued the analytical reports for SDGs L1527831, L1526948, L1524487, and L1523854. Alpha issued a nonconformance (NCR) report, which is included in Appendix E.

6.3 *DATA USABILITY ASSESSMENT*

Data usability assessments for the Inner PRI areas and background areas datasets are provided in Appendix H and Appendix I, respectively.

- Appendix H presents the data usability assessment for Inner PRI area samples, including comparisons to measurement quality objectives (MQOs) and an evaluation of data adequacy for COPC selection.

- Appendix I presents the data usability assessment for background/reference samples, including (1) comparisons to MQOs; (2) the identification and rationale of selected datasets for potential use in identifying elevated (Site-related) metals and organics (D/Fs, Total PCBs, and HCB); (3) an evaluation of data adequacy; and (4) the identification of non-impacted background soil/sediment reference locations that may be suitable for subsequent sampling (during a subsequent RI phase) to characterize tissue burdens at reference locations.

7.0 PRELIMINARY NATURE AND EXTENT MAPPING AT INNER PRI AREAS

One objective of the Phase 1A-B RI is to obtain sufficient data to support preliminary evaluation of the N&E of Site-related impacts within Inner PRI Areas 1 and 3 through 7 (Section 1.1). To date, the N&E of impacts have not been completely characterized in the Inner PRI areas. This is due in part to the fact that the historical data for the Inner PRI areas in most cases did not include analyses for all current target analytes and there was either an insufficient number of samples collected or the sampling locations were not based on a suitable sample design (e.g., locations were not based on an unbiased approach and only targeted selected portions of the Site). USEPA has also identified that "vertical profile waste stratification and contaminant data are needed at key release locations and within areas where wastes have been discharged continually" (USEPA 2013).

Therefore, one study goal of the Phase 1A-B RI is to perform initial Site characterization of the N&E of impacts distributed within the Inner PRI areas to support initial chemical mapping and guide subsequent Site characterization sampling designs. Based on historical data and Site processes, the primary constituents of interest in solid media have historically been considered to be PCBs, D/Fs, and HCB, and these contaminants represent the expected primary risk drivers for the Inner PRI areas. The N&E mapping and interpretations described in this section focus on the expected risk drivers only and are limited to the Inner PRI areas.

The N&E evaluations presented in this section are organized as follows:

- Section 7.1 describes geostatistical interpolations and interpretations to evaluate the representativeness of historical data to current Site conditions and identifies the preliminary N&E mapping dataset for expected risk drivers at Inner PRI areas.
- Section 7.2 presents the results of preliminary N&E mapping of expected risk drivers, including results from two interpolation methods and a spatial representation of the interpolation uncertainty.
- Section 7.3 presents statistical evaluations of the preliminary N&E mapping datasets, including descriptive statistics, box plots, Q-Q plots, and scatter plots.

- Section 7.4 provides an evaluation of the vertical N&E of waste and expected risk drivers based on waste thickness screening and Phase 1A-B RI subsurface investigation results.

The preliminary N&E characterization will be used for planning additional Site characterization data collection for Phase 2, as needed. The need for additional sampling to delineate N&E at the Site will be determined for OU-1 during the Phase 2 RI scoping process. The chemical concentration maps, geostatistical modeling output, and statistical evaluations provided here for D/F TEQs, HCB, and Total PCBs will be used to support the Phase 2 RI scoping process and associated DQO development. Additional chemical constituent maps for Phase 2 RI scoping will be prepared for Outer PRI areas and for other Inner PRI area risk drivers, if appropriate, based on the results of the OU-1 SLRA. Site-characterization DQOs for the Phase 2 RI may be identified based on waste types and expected thickness, PRI Area boundaries or other important spatial boundaries (e.g., geologic, hydrologic, waste, etc.) and/or remedy-scoping considerations (e.g., decision units).

7.1 DEVELOPMENT OF NATURE AND EXTENT MAPPING DATA SET

Historical data obtained at the Site in earlier (pre-2012) investigations provide insight into the chemicals likely to be of primary concern in soil/sediment and solid wastes (solid media or "solids") at the Site; however, these data may not accurately reflect current, near-surface Site conditions. The SAP specifies that chemical mapping for N&E will include data from the Phase 1A-B RI and representative historical/Phase 1 Demonstration of Method Applicability (DMA) data described in the Final Inner PRI Data Report (ERM 2014b).

The relevance of historical/DMA data for use in N&E mapping is determined based on the degree to which historical data are deemed to be representative of current Site conditions (SAP Section 11.2.5.3 and 11.2.6.3). To make this determination, three maps were developed for expected risk drivers: 1) a map based on the current (2012 Phase 1 DMA and 2015 Phase 1A-B) results, 2) a map based on historical (2001 - 2006) validated data, and 3) a map based on the combined current and historical data.

The degree to which historical data are representative of current Site conditions was determined qualitatively by comparing these three maps for each expected risk driver in each Inner PRI area. Upon completion of this comparison, the validated historical data deemed representative of current Site conditions was combined with current data to comprise the N&E mapping data set that was used to prepare preliminary N&E maps described in Section 7.2 and to perform the statistical evaluations described in Section 7.3.

7.1.1 *Historical Results*

The historical results considered for use in N&E mapping are a subset of the results described in the Final Inner PRI Data Report (ERM 2014b). The selection criteria for historical results included the following:

- Only validated data were used. This limited historical results to sampling events conducted between 2001 and 2006.
- To capture surface samples, only samples with a starting depth of 0 inches were included. There were two exceptions: one sample within PRI Area 3 from 2003 was collected with a starting depth of 0.25 inches and four samples within PRI Area 7 from 2001 were described as being collected from 6 inches below ground surface. There were no shallower samples collected at these five locations.
- If multiple depth intervals were sampled, then the depth interval most similar to 0 to 6 inches bgs was selected to encourage consistency with the target sample interval for surface solids samples from the Phase 1 DMA and Phase 1A-B RI.
- To help ensure independent results and consistent with treatment of QC samples in the *Final Phase 1A RI Data Report for PRI Areas 2 and 8 through 17* (ERM 2015b) and this Phase 1A-B RI , results from QC samples including field duplicates and oversight spilt samples were excluded.
- If calculated TEQs were available based on D/F by both HRMS (USEPA Method 8290 or 1613) and LRMS (USEPA Method 8280) analyses, then the result based on HRMS analysis was selected. The TEQ based on HRMS analysis was selected because most samples from the Phase 1 DMA and Phase 1A-B RI were analyzed for D/F by HRMS only.

7.1.2 *Geostatistical Modeling*

As described above, three maps were developed for each expected risk driver for each Inner PRI area:

1. A map based on the current (2012 Phase 1 DMA and 2015 Phase 1A-B RI) results;
2. A map based on historical (2001 - 2006) validated data; and

3. A map based on the combined current and historical data.

The surface concentrations of expected risk drivers were geostatistically modeled in each map using the inverse distance weighting (IDW) method. All geostatistical modeling was performed in a geographic information system (GIS) (ArcMap) using the Geostatistical Analyst extension. The IDW method assumes that the variable being mapped (concentration) decreases in influence with distance from its sampled location. IDW was selected for these interpolations since it honors measured point concentration data compared to other interpolation methods (e.g., Kriging) which rely on a best fit of a model derived from numerous measured concentrations. The IDW interpolation maps for each expected risk driver in each PRI area were developed iteratively by adjusting IDW parameters to achieve a satisfactory fit of the modeled output to the sample concentration data. Goodness of fit was assessed based on professional judgement. Parameters adjusted during the geostatistical modeling included: the power to which the inverse of distance was raised, the smoothing factor, and the search radius for points used in interpolation.

The three maps listed above are presented side-by-side within single figures to help facilitate comparison between the data sets. Geostatical modeling results are presented on Figures 7-1 through 7-18 for each expected risk driver in each Inner PRI area as follows:

Inner PRI Area	***HCB***	***Mammal TEQ***	***Total PCBs***
PRI Area 1	Figure 7-1	Figure 7-2	Figure 7-3
PRI Area 3	Figure 7-4	Figure 7-5	Figure 7-6
PRI Area 4	Figure 7-7	Figure 7-8	Figure 7-9
PRI Area 5	Figure 7-10	Figure 7-11	Figure 7-12
PRI Area 6	Figure 7-13	Figure 7-14	Figure 7-15
PRI Area 7	Figure 7-16	Figure 7-17	Figure 7-18

The three maps included on each of these figures include point concentration labels and isoconcentration contour intervals for the interpolated surface concentration. To facilitate comparison between PRI areas, the symbology for coloring sample location markers and contour intervals was based on the combined (historical plus current) data sets for each expected risk driver in either 1) PRI Areas 1 and 3 combined, or 2) PRI Areas 4 through 7 combined. This approach results in the same symbology for a given expected risk driver in all respective figures for PRI Areas 1 and 3 or for PRI Areas 4 through 7. The contour intervals were selected using a quantile approach, with $n = 10$ quantiles. This is analogous to dividing the range of data up using every 10th percentile, where there are the same number of sample results in each of the 10 quantile bins.

7.1.3 Historical Data Representativeness Determination

As specified in the SAP, the degree to which historical data are representative of current Site conditions was determined qualitatively by comparing maps for each expected risk driver in each Inner PRI Area. These maps are presented on Figures 7-1 through 7-18. Historical sample locations where results for one or more expected risk drivers were determined to be not representative of current Site conditions are listed in Table 7-1. The locations are labeled on the respective geostatistical modeling figure and indicated by a purple "X" over the sample location. Point concentrations from locations determined to be not representative were used in interpolations on Figures 7-1 through 7-18 but are excluded from nature and extent mapping figures presented in Section 7.2.

In general, historical sample results were determined to be non-representative if the historical concentration differed by a factor of 5 or more from a nearby current sample concentration. The number of historical sample results determined to be non-representative, and thereby eliminated from the N&E mapping data set, varied by PRI area as follows:

- No historical results were eliminated within PRI Area 3 (Figures 7-4 through 7-6) or PRI Area 5 (Figures 7-10 through 7-12).
- A total of 35 historical sample results were eliminated for expected risk drivers across 20 locations in PRI Area 1 (Figures 7-1 through 7-3). This includes most historical results for samples from the Western Ditch.
- A total of 25 historical results were eliminated across 14 locations within PRI Area 4 (Figures 7-7 through 7-9).
- A total of 21 historical results were eliminated from nine locations within PRI Area 6. This includes most of the historical sample locations located within the current wastewater footprint in PRI Area 6 (Figures 7-13 through 7-15).
- A total of 16 historical results were eliminated from 10 locations within PRI Area 7 (Figures 7-16 through 7-18).

After elimination of the sample results identified in Table 7-1 and discussed, the remaining historical data (deemed representative of current Site conditions) was combined with current data to comprise the N&E mapping data set. Table 7-2 provides the N&E mapping data set that was used to prepare preliminary N&E maps and to perform the statistical evaluations described in the following sections.

7.2 *PRELIMINARY NATURE AND EXTENT MAPPING*

Preliminary N&E maps for expected risk drivers in Inner PRI areas are included on Figures 7-19 through 7-36 as follows:

Inner PRI Area	*HCB*	*Mammal TEQ*	*Total PCBs*
PRI Area 1	Figure 7-19	Figure 7-20	Figure 7-21
PRI Area 3	Figure 7-22	Figure 7-23	Figure 7-24
PRI Area 4	Figure 7-25	Figure 7-26	Figure 7-27
PRI Area 5	Figure 7-28	Figure 7-29	Figure 7-30
PRI Area 6	Figure 7-31	Figure 7-32	Figure 7-33
PRI Area 7	Figure 7-34	Figure 7-35	Figure 7-36

On each of these figures, sample point chemical concentrations are supplemented with geostatistical modeling to provide a spatial depiction of the data used to predict concentrations of expected risk drivers in surface solids throughout a particular PRI area. The N&E mapping data set (Table 7-2), which has had non-representative historical results removed, was used to prepare these maps. The geostatistical modeling also provides a spatial description of the level of uncertainty associated with unsampled locations, which will aid in understanding the spatial variability in HCB, Total PCBs, and mammal TEQs. These spatial descriptions provide a fuller view of the extent of impacts and may help determine areas requiring additional sampling for Site-characterization evaluation and remedy-scoping considerations.

Each of the N&E mapping figures listed above includes three panels. The left panel presents point concentrations and an interpolated concentration map using the IDW method. The center panel presents point concentrations and an interpolated concentration using an Empirical Bayesian Kriging (EBK) method, and the right panel presents point concentrations and the standard error (or uncertainty) map associated with the EBK method. These three panels provide for the following evaluations relative to N&E mapping:

- The influence of interpolation method is illustrated by comparing the left and center panels, which present interpolated concentration maps using IDW and EBK methods, respectively.
- The relative uncertainty associated with a predicted concentration, which considers the magnitude of the uncertainty relative to the magnitude of predicted concentration, may be evaluated by comparing the Kriging prediction map (center panel) with the Kriging prediction standard error (right panel).

Each of the map types are described in the subsections that follow.

7.2.1 Inverse Distance Weighting Interpolation

Interpolation maps using IDW method were developed for each expected risk driver in each Inner PRI area as described in Section 7.1.2. This included iterative adjustments by IDW parameters to achieve a satisfactory fit of the modeled output to the sample concentration data. The symbology used for sample location markers and contour intervals was also developed as described in Section 7.1.2, where the contour intervals/sample location identifier colors were determined using n =10 quantiles per analyte based on the N&E mapping data sets for either Inner PRI Areas 1 and 3 combined or for Inner PRI Areas 4 through 7 combined.

7.2.2 Empirical Bayesian Kriging Interpolation

The Kriging interpolation method is based on statistical models that include autocorrelation, i.e., Kriging accounts for statistical relationships among the measured points. Because of this, the Kriging geostatistical method has the capability to produce both a prediction surface (in this case, an interpolated concentration map) and a spatial measure of the uncertainty associated with predictions (ESRI 2016).

Kriging interpolations, specifically EBK as described below, were performed in GIS (ArcMap) using the Geostatistical Analyst extension. The Kriging interpolation method is summarized generally as follows:

> "Kriging assumes that the distance or direction between sample points reflects a spatial correlation that can be used

> to explain variation in the surface. The Kriging tool fits a mathematical function to a specified number of points, or all points within a specified radius, to determine the output value for each location. Kriging is a multistep process; it includes exploratory statistical analysis of the data, variogram modeling, creating the surface, and (optionally) exploring a variance surface. Kriging is most appropriate when you know there is a spatially correlated distance or directional bias in the data. It is often used in soil science and geology." (ESRI 2016)

A subcategory of Kriging, EBK was used to perform interpolation shown in the center panel of the preliminary N&E map figures. EBK uses a process of subsetting and simulations to automate the development of a valid Kriging model. The key advantages of EBK for use in preliminary N&E mapping include:

- A reduced number of manual iterations and minimal interactive modeling compared to other Kriging methods;
- More accurate standard errors than other Kriging methods; and
- More accurate than other Kriging methods for small datasets.

The principal disadvantage associated with EBK is that it relies on the developed statistical model to predict values where samples exist and does not necessarily honor the measured concentrations like IDW does. Additionally, the kriging models tend to bias toward a mean value of the dataset and are better at interpolating normally distributed datasets[2].

The same symbology was used for sample location markers and contour intervals in kriging interpolation maps as for IDW maps, as described in Section 7.2.1.

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[2] During EBK modeling, a log transformation was used if the transformation resulted in a better semivariogram model fit.

7.2.3 *Kriging Prediction Standard Error*

The prediction Standard Error (SE) maps included as the right panel of Figures 7-19 through 7-36 describe the level of uncertainty associated with unsampled locations using the EBK interpolation method. A spatial uncertainty map is only provided for the EBK method because the IDW interpolation method does not yield a spatial uncertainty distribution. The prediction SE quantifies the uncertainty of the prediction and is equal to the square-root of the prediction variance, which is the variance associated with the difference between the true and predicted value. As a rule of thumb, for normally distributed data, the 95 percent confidence interval for the true value is formed by the predicted value plus or minus two times the prediction SE (ESRI 2003).

The symbology for the SE mapping was an n=10 quantile distribution of all of the SE value results in the interpolation cells for the specific PRI. Since SE values are dependent on absolute concentrations of the analytes, the variation in SE between PRI areas was significant. Therefore, the quantile breaks were not normalized across PRI areas in order to maintain optimum resolution of the uncertainty within a specific PRI area.

7.3 *STATISTICAL EVALUATIONS*

Statistical evaluations to analyze N&E of expected risk drivers in Inner PRI areas were performed using the N&E mapping data set. These evaluations are discussed in the following subsections and include:

- Descriptive statistics;
- Box plots;
- Quantile-quantile (Q-Q) plots; and
- Scatter plots.

7.3.1 *Descriptive Statistics*

Descriptive statistics for expected risk drivers in Inner PRI areas are presented in Table 7-3. Descriptive statistics include:

- Number of samples;
- Number of detections;
- Percent detected (or detection frequency);
- Minimum and maximum non-detect results;

- Minimum, mean, median, and maximum detected results;
- Standard deviation;
- Coefficient of variation; and
- Distribution (normal, lognormal, or no discernable distribution) based on the Shaprio-Wilks test for normality.

The variability in concentrations, as expressed by the CV, is highest for mammal TEQ in PRI Areas 6 and 7 and is highest for HCB and Total PCBs in PRI Areas 3 and 5. Variability was lowest in PRI Area 4 for all expected risk drivers. Most sample sets (12 out of 18) indicated a lognormal distribution, with the remainder indicating no discernable distribution.

7.3.2 *Box Plots*

Box plots for HCB, mammal TEQ, and Total PCBs in Inner PRI Areas are presented on Figures 7-37, 7-38, and 7-39, respectively.

In the box plots for PRI Areas 5 and 6, samples were identified as either "Inundated" or "Not Inundated" based on their location relative to the current wastewater pond footprint. Sample locations falling inside the pond footprint were classified as "Inundated" and locations falling outside the pond footprint were classified as "Not Inundated." The wastewater pond footprint was identified based on Lidar data and high-resolution ortho-rectified photographs captured at the Site on 18 November 2016 (ERM 2016). The Inundated/Not Inundated classification was used to assess whether locations inside and outside the wastewater pond footprint represent separate populations. The box plots for PRI Areas 5 and 6 suggest that Inundated locations appear to belong to separate populations than Not Inundated locations for all expected risk drivers.

7.3.3 *Quantile-Quantile Plots*

Quantile-quantile plots for expected risk drivers in Inner PRI areas are presented on the following figures:

Inner PRI Area	*HCB*	*Mammal TEQ*	*Total PCBs*
PRI Area 1	Figure 7-40	Figure 7-41	Figure 7-42
PRI Area 3	Figure 7-43	Figure 7-44	Figure 7-45

Inner PRI Area	*HCB*	*Mammal TEQ*	*Total PCBs*
PRI Area 4	Figure 7-46	Figure 7-47	Figure 7-48
PRI Area 5	Figure 7-49	Figure 7-50	Figure 7-51
PRI Area 6	Figure 7-52	Figure 7-53	Figure 7-54
PRI Area 7	Figure 7-55	Figure 7-56	Figure 7-57

Consistent with the box plots, sample locations within PRI Areas 5 and 6 were classified as either Inundated or Not Inundated for the Q-Q plots. General observations from the Q-Q plots include the following:

- Inundated locations appear to belong to separate populations than locations that are not inundated (PRI Areas 5 and 6). This is true for all expected risk drivers and also illustrated by the box plots.
- The following analytes/PRIs may also have multiple populations present based on breaks in the Q-Q plots:
  - PRI Area 1 - HCB, mammal TEQ, and Total PCB
  - PRI Area 3 - Mammal TEQ
  - PRI Area 7 - Total PCBs

7.3.4 *Scatter Plots*

Scatter plots of expected risk driver concentration versus ground surface elevation are provided for PRI Areas 4 and 7 on Figures 7-58 and 7-59, respectively. These PRI areas were selected for evaluating possible correlation between expected risk driver concentrations and ground surface elevations due their generally sloped surfaces and the presence of current or historical waste release points at high elevations with subsequent transport by gravity flow to lower areas.

Based on the November 2015 Lidar data, ground surface elevations within the OWP footprint (in PRI Area 7) range from about 4,211 to 4,205.5 feet above mean sea level (amsl) and ground surface elevations on the gypsum pile (PRI Area 4) range from about 4,245 to 4,215 feet amsl. In the OWP, the highest elevations are at the northwest corner and along the west edge of the pond and the lowest elevations are along the east edge of the pond. At the gypsum pile, the highest elevations are located at the south-central portion of the pile, near the gypsum slurry discharge point and the lowest elevations are adjacent to the PRI Area 6 wastewater pond.

The scatter plots suggest increasing trends with elevation in PRI Area 7, and decreasing trends with elevation in PRI Area 4. The large scatter of the data indicates that correlation with elevation is weak. Interpretations based on these scatter plots should be qualified where historical data are included, especially within PRI Area 4. It is not known whether current (November 2015) ground surface elevations are consistent with ground surface elevations when historical samples were collected (circa 2001 to 2006). Based on the continuous discharge of gypsum slurry and as evident in aerial photographs, the gypsum pile is expanding and waste thickness and ground surface elevation are likely increasing over time.

7.4 VERTICAL NATURE AND EXTENT

As specified in the SAP, the information needed to support preliminary vertical N&E characterization includes chemical concentration data from surface and subsurface samples at key waste release locations and waste thickness profiles. This section summarizes results for waste profile thickness screening and subsurface sampling activities completed during the Phase 1A-B RI.

7.4.1 Waste Thickness Screening

The presence/absence of visible waste was noted on sampling forms at all Phase 1A-B RI sampling locations, and waste thickness screening (or measuring the depth of waste) was performed using a variety of methods. These included:

- Measuring waste thickness in cores obtained by sonic drilling or from Lexan tubes;
- Measuring the thickness of waste from surface samples collected using a hand auger or Ponar sampler; and
- Advancing a hand auger to either the waste/native soil interface or a maximum depth of 5 feet bgs (60 inches) if waste was present at the bottom of a surface sample location (6 inches bgs) outside of the inundated areas of PRI Areas 5 and 6.

With few exceptions, these field screening methods successfully delimited waste thickness at Phase 1A-B RI sample locations. Waste thickness screening results are presented in Tables 3-1 and 3-2 and shown on Figures 3-1 through 3-6.

<u>PRI Area 1</u> – Waste was observed at 12 of 14 sample locations, with thicknesses ranging from 4 inches at location 1-05 in the Central Ditch to

greater than 60 inches at location 1-04 in the Central Ditch and locations 1-09 and 1-10 in the Main Ditch (Figure 3-1). Total waste thickness was not determined by field screening at locations 1-04, 1-09, and 1-10 because waste thickness exceeded the maximum practical depth of hand augering (60 inches). Field screening measurements indicate that waste thicknesses within active wastewater ditches are quite variable. For locations where only surface sampling was performed, waste thickness exceeded the 6-inch surface sample depth at 1-04, 1-05, 1-06, 1-09, 1-10, 1-11, and 1-12. Waste was encountered below the surface during drilling from 8 to 9 feet bgs at location 1-13 (former Main Ditch near former outlet to Old Waste Pond) and from 7 to 8 feet bgs at location 1-14 (former Boron Ditch).

PRI Area 3 – Waste was observed in 7 of sample locations, with waste thickness ranging from 1 to 14 inches (Figure 3-2). Waste tended to be present along the west and south banks of the lagoon, with the greatest thicknesses of waste being encountered at the southwest and southwest corners (14 inches at location 3-01 and 12 inches at location 3-03). At location 3-14, along the south bank near the presumed historical inlet, the interval from ground surface to 3.5 feet bgs was a mixture of clayey silt soil and dark brown organic (sanitary) waste. Waste resembled ditch spoils at all other locations in PRI Area 3 where waste was encountered. Waste thickness exceeded 6 inches depth at four surface solids sample locations: 3-01, 3-03, 3-06, and 3-11.

PRI Area 4 – Waste was observed at all 14 sample locations at the gypsum pile (Figure 3-3). The minimum waste thickness observed was 12 inches at location 4-08; waste thickness at the gypsum pile exceeded 6 inches at all surface solids sample locations. The maximum waste thickness of 84 inches was measured during sonic drilling at location 4-05. At the four locations 4-01, 4-02, 4-03, and 4-10, waste thickness was greater than 60 inches, therefore the total waste thickness was not determined by field screening at these locations.

PRI Area 5 – Waste was observed at eight of the 21 sample locations in PRI Area 5 (Figure 3-4), with thickness ranging from 0.125 inch at location 5-11 to 72 inches at location 5-14 SB[3]. In the former wastewater ditch area,

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[3] Location 5-14SB is within PRI Area 1; however, this location was determined to be representative of the inlet to the PRI Area 5 waste lagoon.

location 5-16, waste extended 60 inches bgs. The waste interval was completely captured at all surface solids sample locations in PRI Area 5.

PRI Area 6 – Waste was observed in seven out of 16 locations in PRI Area 6 (Figure 3-5). At six of these seven location the waste thickness was 0.5 inches or less. A waste thickness of 42 inches was observed at location 6-16, which is within the current gypsum pile footprint[4]. The waste interval was completely captured at all surface solids sample locations in PRI Area 6.

PRI Area 7 – Waste was observed at 14 out of 18 locations within PRI Area 7 (Figure 3-6). Waste thickness was one or two inches at most locations, except in the southeast corner (location 7-01) where it was 4 inches thick and at the former inlet area (locations 7-04 and 7-04 SB) where waste was approximately 30 inches thick. The waste interval was completely captured at all surface solids sample locations in PRI Area 7.

7.4.2 *Vertical Concentration Profiles*

The Phase 1A-B RI included one or more subsurface borings associated with each Inner PRI area to evaluate potential differences between surface and subsurface concentrations and help inform the preliminary vertical N&E of chemical impacts. Subsurface sample locations and sample depth intervals are summarized in Table 3-2.

There are several scenarios which may result in subsurface concentrations being higher than surface conditions. These include, but are not limited to:

- The types of chemicals released in the past might have been different than at present due to changes in plant operation conditions.
- The level (concentration, mass loading) of contaminants released to the environment may have been higher in the past than at present, especially if plant operations were changed with the goal of reducing levels of chemical release.

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[4] Subsurface sample location 6-16 was located within the historical inlet of the PRI Area 6 waste lagoon.

- Historical wastes may have been moved or buried under less impacted or clean materials.
- Chemical fate and transport processes might act on surficial materials differently than on deep materials, potentially resulting in higher concentrations in samples collected at depth.

Consistent with the evaluations of horizontal nature and extent of surface concentrations described above, the vertical nature and extent evaluation presented below considers only the expected risk drivers of HCB, Total PCBs, and D/F TEQ.

To evaluate the vertical N&E of risk drivers at the Site, concentrations of mammal TEQ (ND=0), total PCBs, and HCB at each sample interval were plotted against the start depth of the sample interval in order to visualize the change in concentrations occurring with depth (Figures 7-60 through 7-62). Additionally, the sample interval within each soil boring that had the maximum concentration is identified in Table 7-4.

General observations of the preliminary evaluation of the vertical N&E of chemical impacts are provided below.

- Maximum concentrations of TEQs, Total PCBs, and HCB were located within the same sample interval for all soil borings except 1-14 and 4-05.
- At locations 1-03, 1-08, 3-14, and 5-14SB, the maximum concentrations were detected in the surface or shallowest solids sample. This sample interval was from 0 to 0.5 feet bgs except at location 5-14SB where it was 0 to 2 feet bgs.
- Maximum concentrations of TEQs, Total PCBs, and HCB were detected in a sample interval at depth (i.e., not in the shallowest interval/surface sample) at locations 1-07, 1-13, 1-14, 4-05, 5-16, 6-16, and 7-04SB.
- At location 1-13 (former Main Ditch near former outlet to Old Waste Pond), highest concentrations were detected in a waste layer encountered at 8 to 9 feet bgs.
- At location 1-14 (Former Boron Ditch), highest concentrations were detected in backfill material between 0.5 and 4 feet bgs, which is above the waste layer encountered at 7 to 8.5 feet bgs.
- At location 4-05 (gypsum pile), there was relatively little variation in concentration through the vertical waste profile. Total PCBs were most consistent, and TEQs and HCB concentrations varied through the waste column by factors of 7 and 8, respectively.

- At location 5-14SB, concentrations decreased with depth through the waste profile.
- At location 5-16 (former wastewater diversion ditch), waste samples from below 0.5 feet bgs had significantly higher concentrations than the surface sample from 0 to 0.5 feet bgs, with the maximum concentrations detected in the sample from 2 to 4 feet bgs.
- At location 6-16/4-11, concentrations within the waste profile were relatively consistent, but the maximum concentrations were detected from the deepest waste sample, collected from 3.5 to 4.5 feet bgs.
- At location 7-04/7-04SB, concentrations in deeper waste interval 0.5 to 2.5 feet bgs were higher than in the surface waste sample from 0 to 0.5 feet bgs.
- For all soil borings, maximum concentrations were measured in sample intervals that were shallower than the native soil sample interval.

8.0 REFERENCES

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Figures

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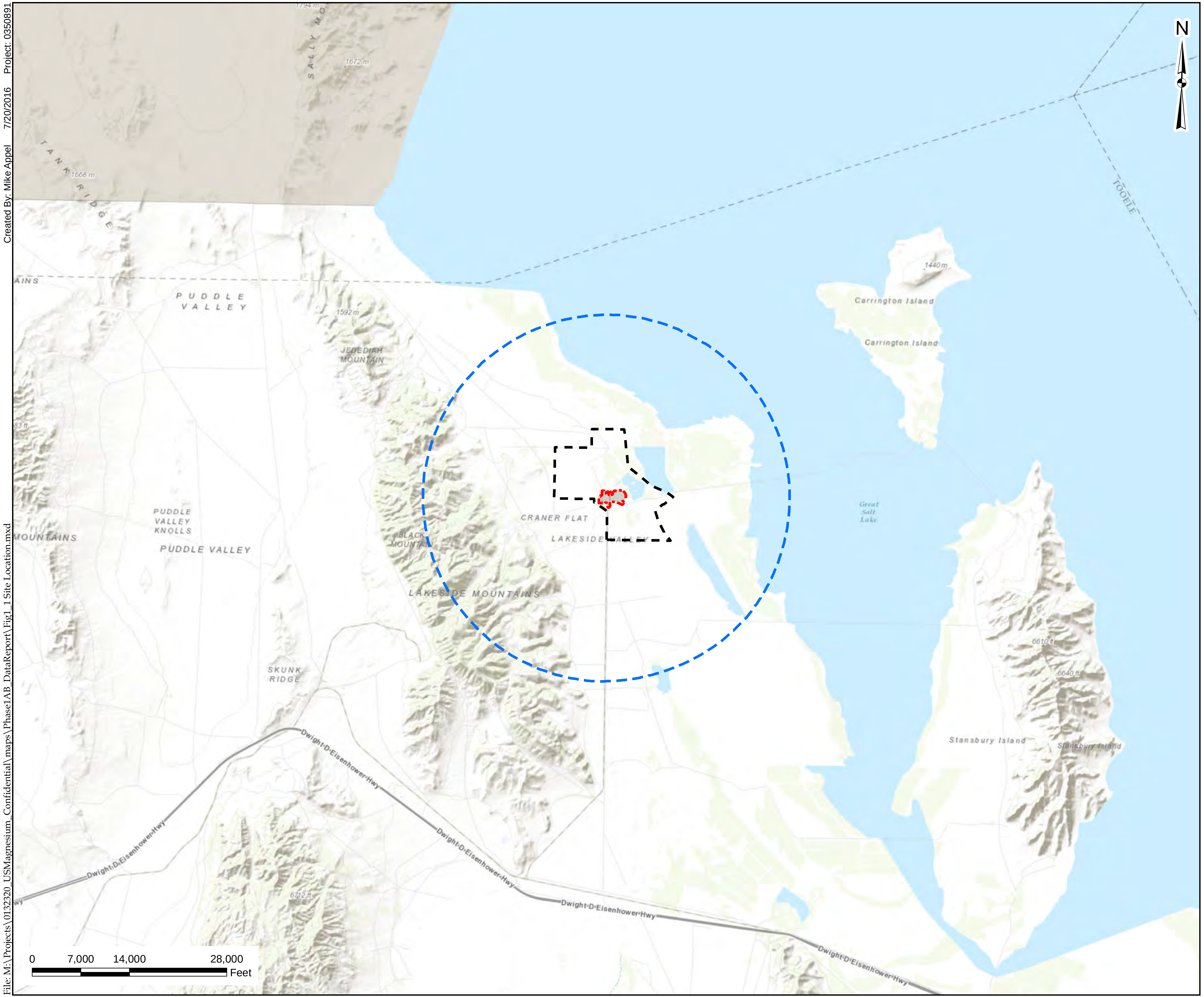

Source: ESRI World Topography Webservice NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 1-1
Site Location Map
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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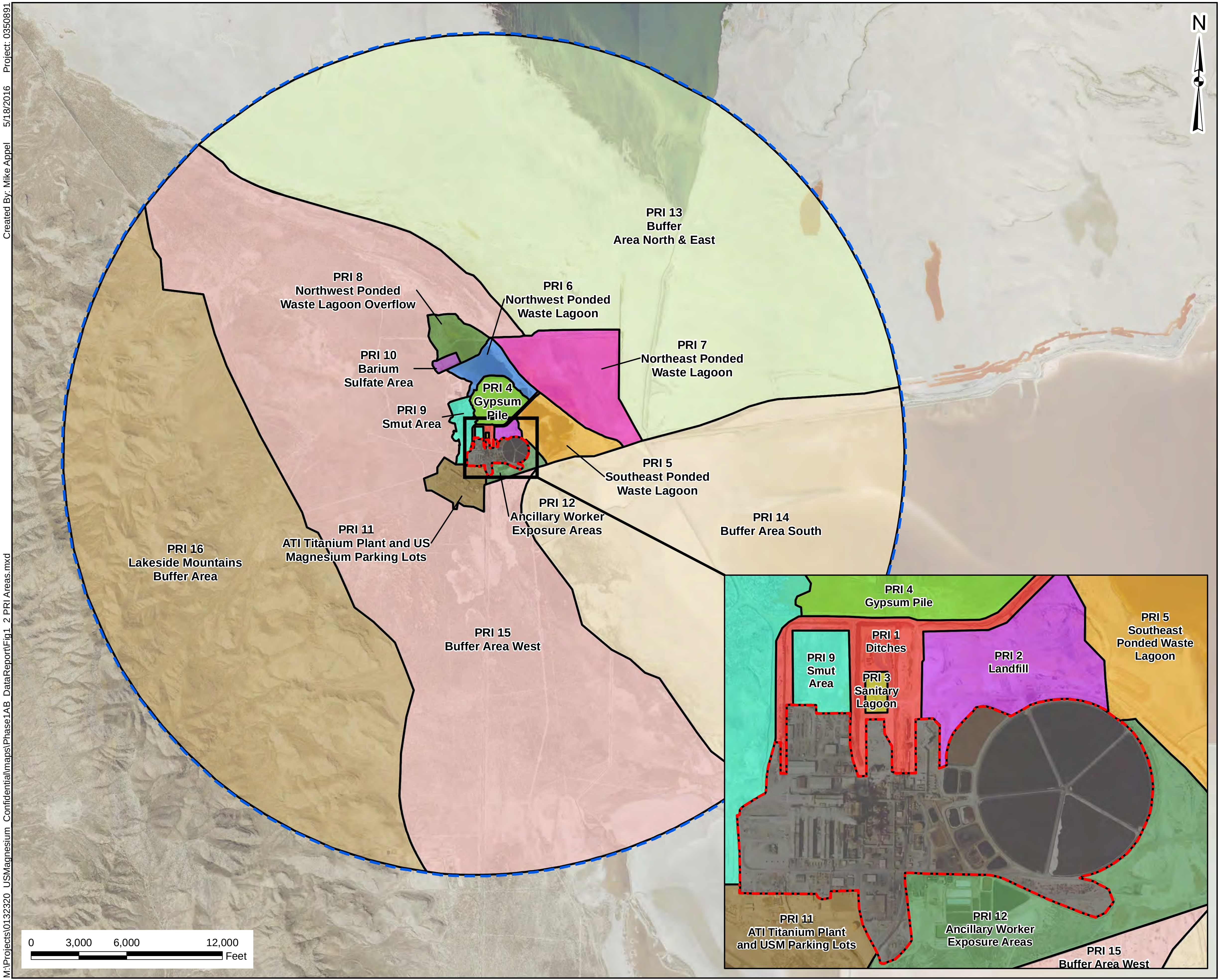

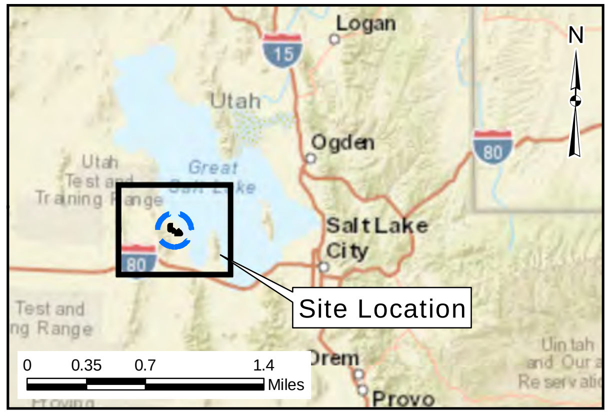

Source: Utah GIS Portal Aerial Webservice, USDA, June 30, 2014; NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

- ☐ Preliminary Remedial Investigation Areas
- 🟥 PRI 1: Ditches
- 🟪 PRI 2: Landfill
- 🟨 PRI 3: Sanitary Lagoon
- 🟩 PRI 4: Gypsum Pile
- 🟧 PRI 5: Southeast Ponded Waste Lagoon
- 🟦 PRI 6: Northwest Ponded Waste Lagoon
- 🟪 PRI 7: Northeast Ponded Waste Lagoon
- 🟩 PRI 8: Northwest Ponded Waste Lagoon Overflow
- 🟦 PRI 9: Smut Area
- 🟪 PRI 10: Barium Sulfate Area
- 🟫 PRI 11: ATI Titanium Plant and US Magnesium Parking Lots
- 🟩 PRI 12: Ancillary Worker Exposure Areas
- ☐ PRI 13: Buffer Area North & East
- ☐ PRI 14: Buffer Area South
- ☐ PRI 15: Buffer Area West
- 🟫 PRI 16: Lakeside Mountains Buffer Area
- ⬚ Operating Facility
- ⬚ RI/FS Study Area Boundary

Notes:
All boundaries approximate, originally provided by EPA
Revised Buffer Areas - April 2012.

Figure 1-2
Preliminary Remedial
Investigation Areas
OU-1 Phase 1A-B RI Data Report
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Source: November 18, 2015 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

○	Surface Sample (Biased)
▣	Surface and Subsurface Sample (Biased)
▨	Operating Facility
☐	Preliminary Remedial Investigation Areas
🟥	PRI 1: Ditches

Notes:
All boundaries approximate, provided by EPA.

Figure 3-1

Sample Locations and
Measured Waste Thickness
Ditches - PRI Area 1
OU-1 Phase 1A-B RI Data Report
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Source: November 11, 2015; 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

● Surface Sample

▣ Surface and Subsurface Sample (Biased)

▭ Preliminary Remedial Investigation Areas

▬ PRI 3: Sanitary Lagoon

Figure 3-2

Sample Locations and
Measured Waste Thickness
Sanitary Lagoon PRI Area 3
OU-1 Phase 1A-B RI Data Report
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Tooele County, Utah

Notes:
All boundaries approximate, provided by EPA.

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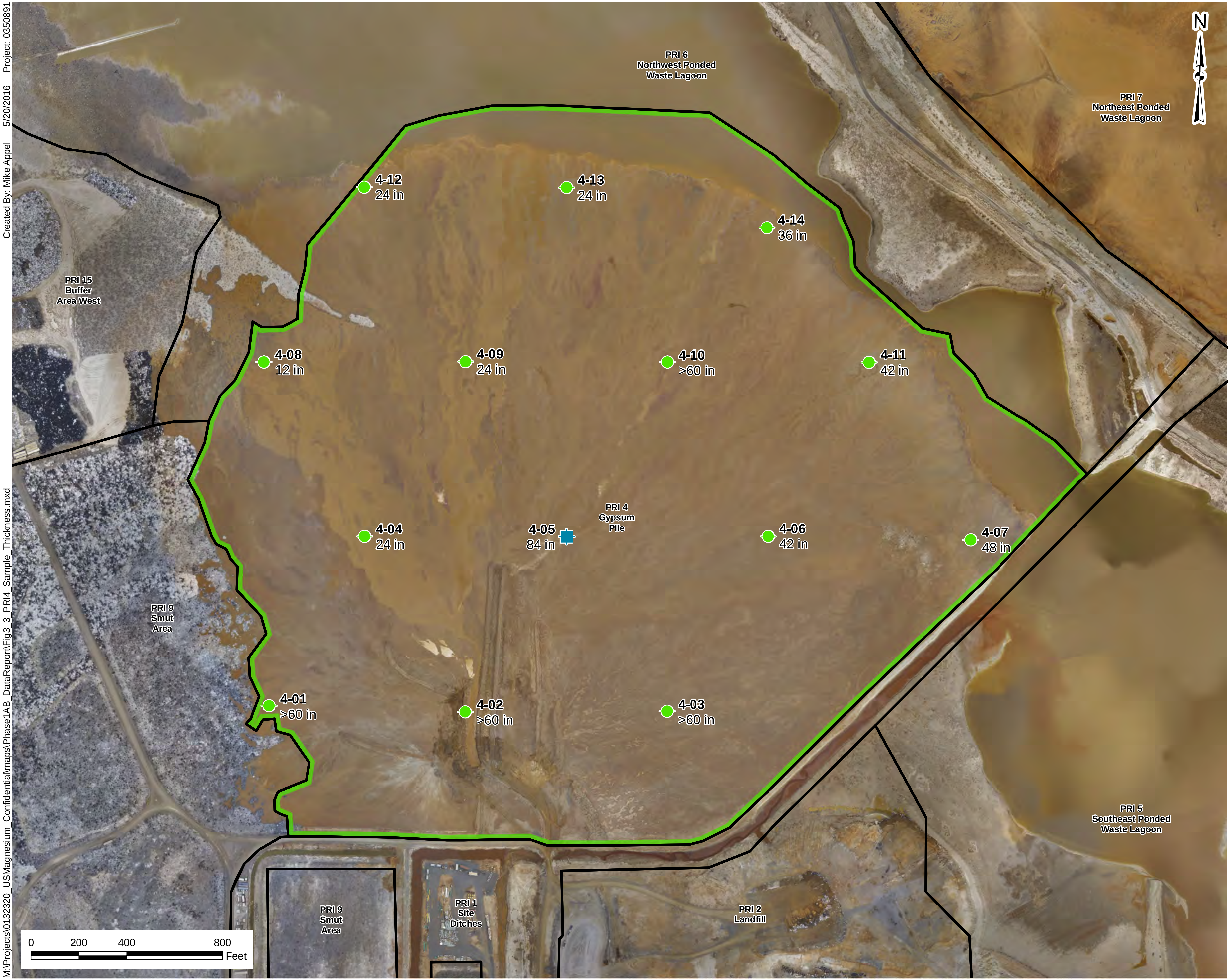

Source: November 18, 2015; 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

● Surface Sample

■ Surface and Subsurface Sample

🟩 PRI 4: Gypsum Pile

☐ Preliminary Remedial Investigation Areas

Notes:
All boundaries approximate, provided by EPA.

Figure 3-3

Sample Locations and
Measured Waste Thickness
Gypsum Pile PRI Area 4
OU-1 Phase 1A-B RI Data Report
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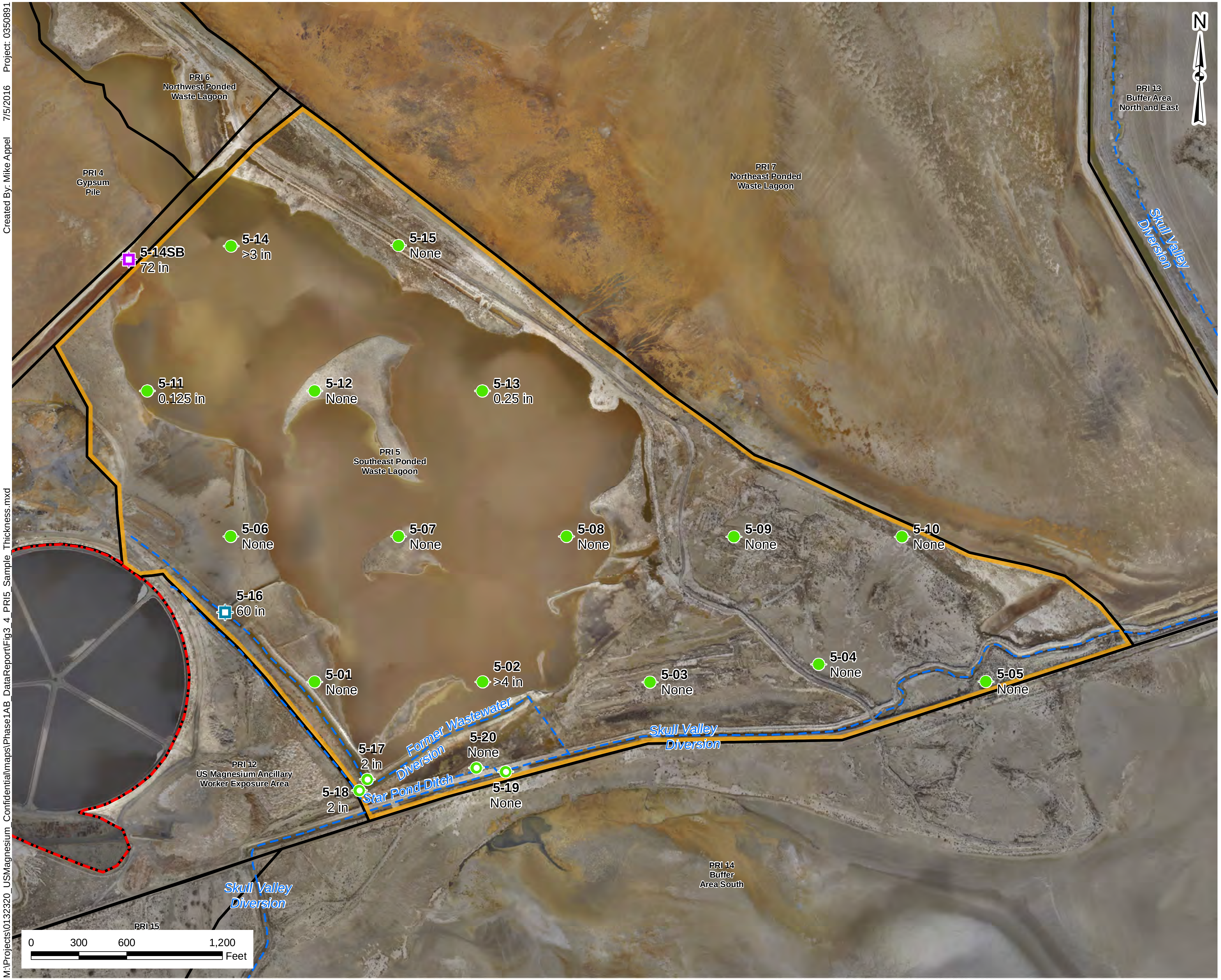

Source: November 18, 2015 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

- ● Surface Sample
- ○ Surface Sample (Biased)
- ▣ Surface and Subsurface Sample (Biased)
- ▣ Subsurface Sample (Biased)
- - - Ditch Feature
- ▨ Operating Facility
- 🟧 PRI 5: Southeast Ponded Waste Lagoon
- ☐ Preliminary Remedial Investigation Areas

Notes:
All boundaries approximate, provided by EPA.

Figure 3-4

Sample Locations and Measured Waste Thickness Southeast Current Waste Pond - PRI Area 5
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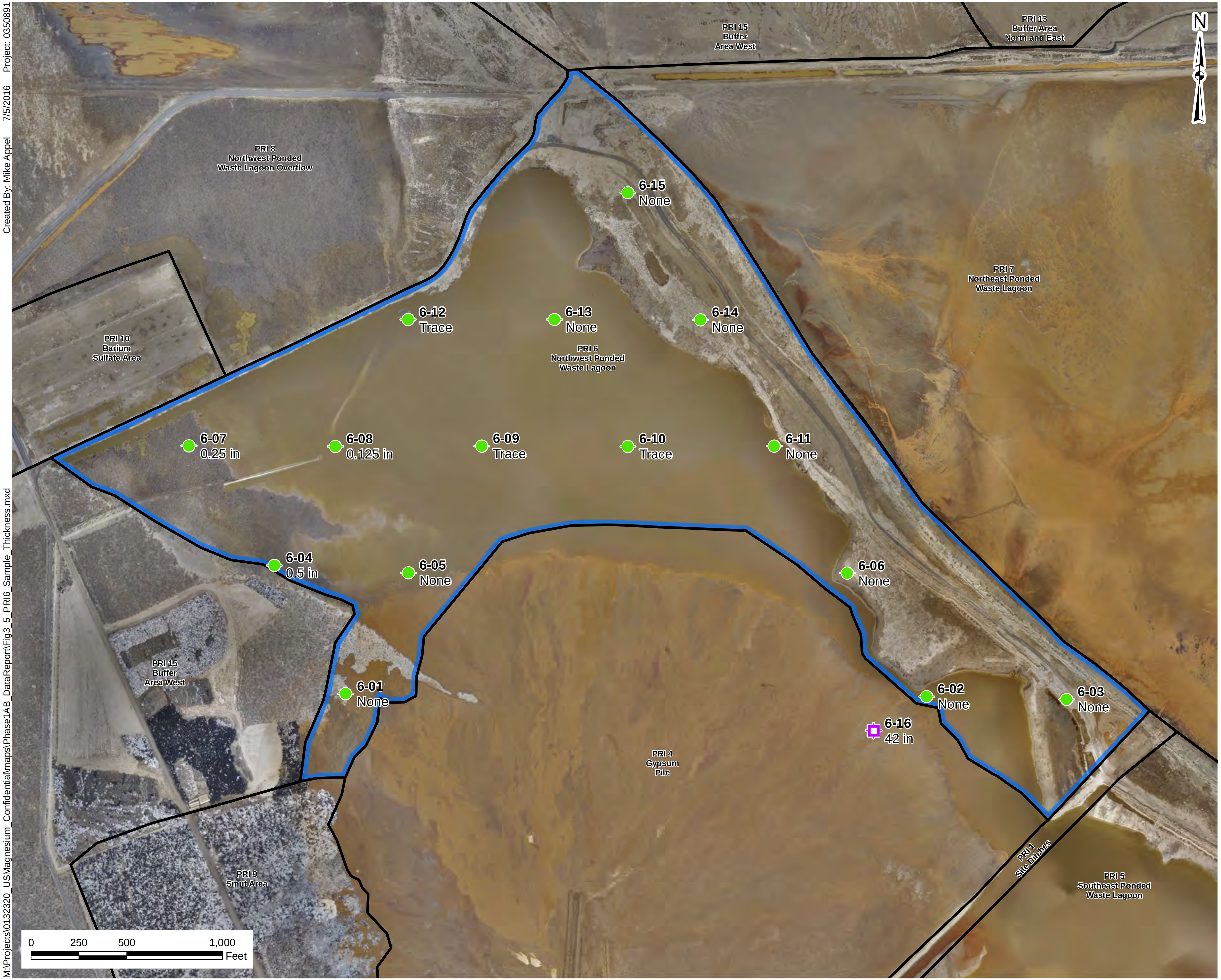

Source: November 18, 2015 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

- ● Surface Sample
- ◻ Subsurface Sample (Biased)
- ▭ Preliminary Remedial Investigation Areas
- ▬ PRI 6: Northwest Ponded Waste Lagoon

Notes:
All boundaries approximate, provided by EPA.

Figure 3-5

Sample Locations and
Measured Waste Thickness
Northwest Current Waste
Pond - PRI Area 6
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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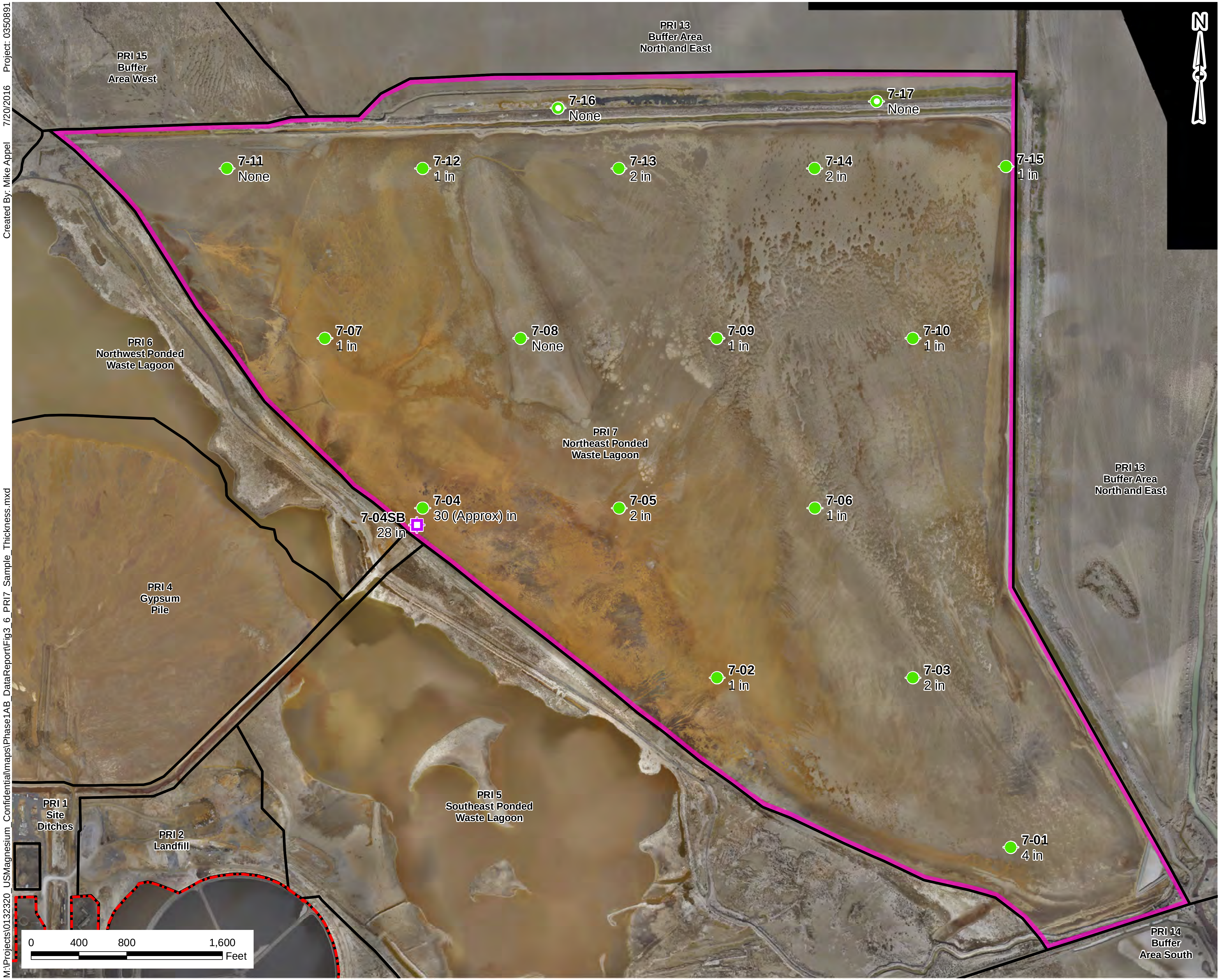

Source: November 18, 2015 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

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Created By: Mike Appel

7/20/2016

Project: 0350891

Legend

Phase 1A-B Sample Location

- ● Surface Sample
- ○ Surface Sample (Biased)
- ▣ Subsurface Sample (Biased)
- ▨ Operating Facility
- ☐ Preliminary Remedial Investigation Areas
- 🟪 PRI 7: Northeast Ponded Waste Lagoon

Notes:
All boundaries approximate, provided by EPA.

Figure 3-6

Sample Locations and
Measured Waste Thickness
Old Waste Pond - PRI Area 7
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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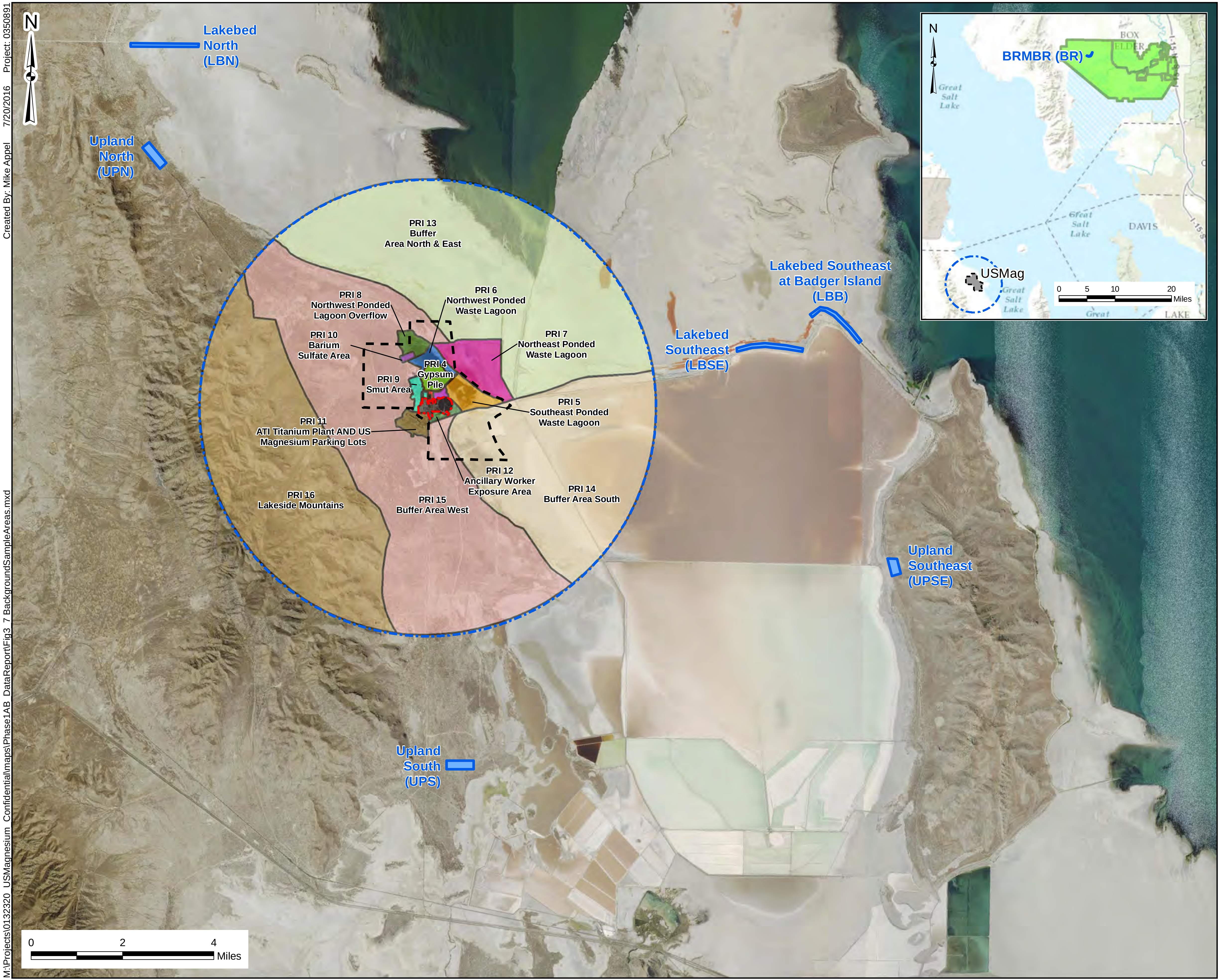

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD83 UTM zone 12N

Legend

- 🟦 Background Sampling Area
- ▨ Operating Facility
- ⌜⌟ US Magnesium Property
- ⬚ RI/FS Study Area
- 🟩 Bear River Migratory Bird Refuge

Preliminary Remedial Investigation Areas

- 🟥 PRI 1: Ditches
- 🟪 PRI 2: Landfill
- 🟨 PRI 3: Sanitary Lagoon
- 🟩 PRI 4: Gypsum Pile
- 🟧 PRI 5: Southeast Ponded Waste Lagoon
- 🟦 PRI 6: Northwest Ponded Waste Lagoon
- 🟪 PRI 7: Northeast Ponded Waste Lagoon
- 🟩 PRI 8: Northwest Ponded Waste Lagoon Overflow
- 🟦 PRI 9: Smut Area
- 🟪 PRI 10: Barium Sulfate Area
- 🟫 PRI 11: ATI Titanium Plant and US Magnesium Parking Lots
- 🟩 PRI 12: Ancillary Worker Exposure Areas
- ⬜ PRI 13: Buffer Area North & East
- ⬜ PRI 14: Buffer Area South
- ⬜ PRI 15: Buffer Area West
- ⬜ PRI 16: Lakeside Mountains Buffer Area

Notes:
PRI boundaries approximate, provided by EPA.

Figure 3-7
Background Sample Areas
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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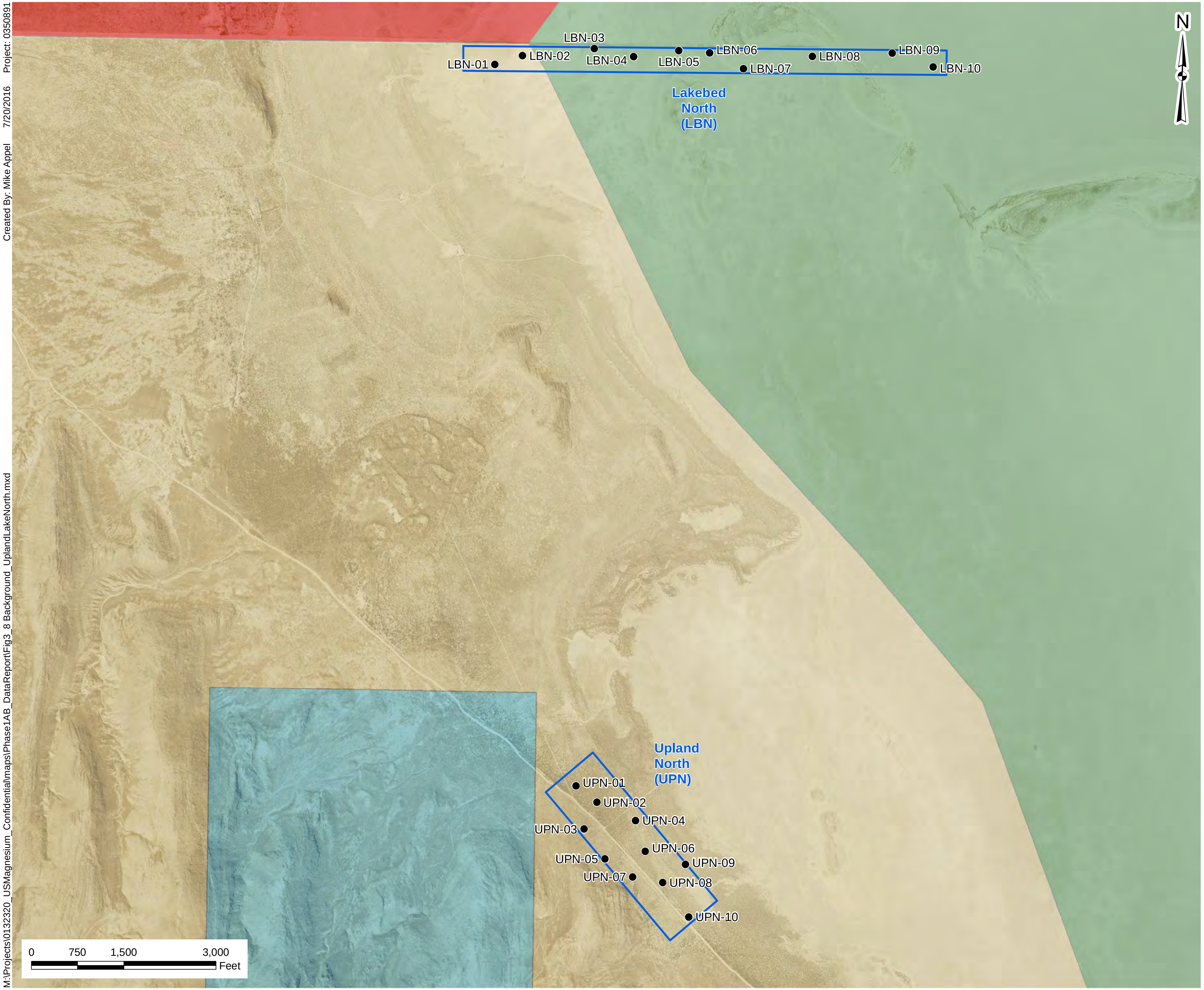
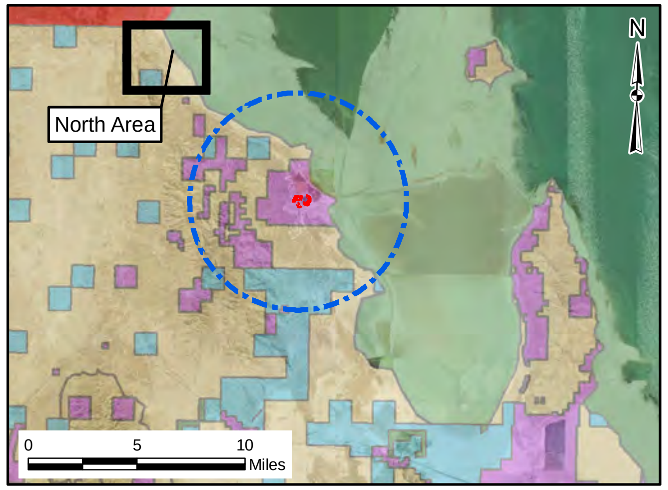


Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet



Legend

● Background Sample Location

▭ Background Sample Area

⬚ RI/FS Study Area

Land Ownership

🟪 Private

🟨 Bureau of Land Management

🟥 US Dept of Defense

🟩 Utah Dept Natural Resources

🟦 Utah State Land Trust

Notes:
Land Ownership from Utah AGRC Webportal.

Figure 3-8

Background Sample Locations
Upland North and Lakebed North
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
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M:\Projects\0132320 USMagnesium Confidential\maps\Phase1AB DataReport\Fig3 9 Background LakebedSoutheast.mxd Created By: Mike Appel 7/20/2016 Project: 0350891

Legend

- ● Background Sample Location
- ▭ Background Sample Area
- ⬚ RI/FS Study Area

Land Ownership

- 🟪 Private
- 🟨 Bureau of Land Management
- 🟥 US Dept of Defense
- 🟩 Utah Dept Natural Resources
- 🟦 Utah State Land Trust

Notes:
Land Ownership from Utah AGRC Webportal.

Figure 3-9
Background Sample Locations
Lakebed Southeast
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Environmental Resources Management
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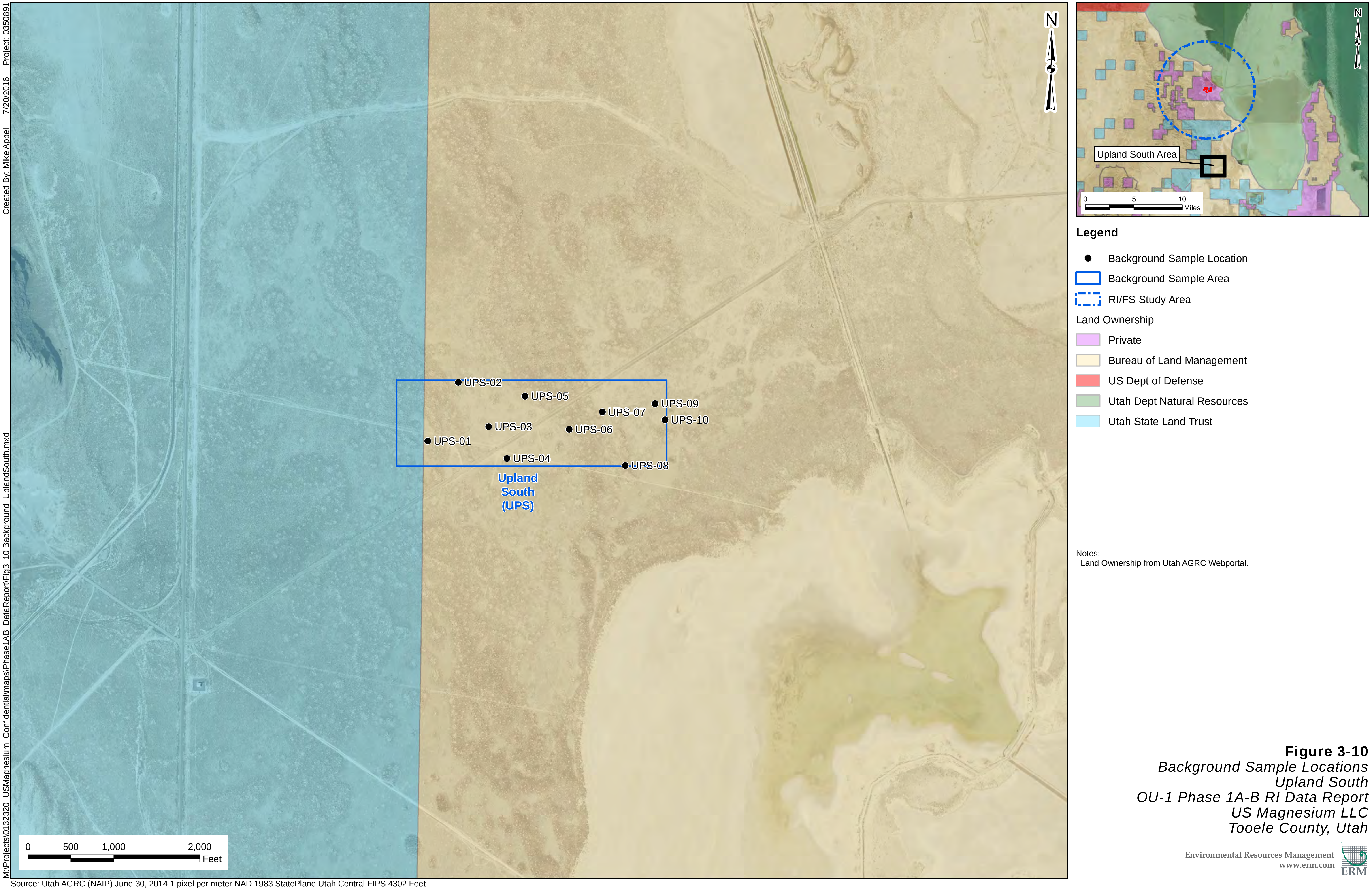
Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet



Notes:
Land Ownership from Utah AGRC Webportal.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

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Figure 3-10
Background Sample Locations
Upland South
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
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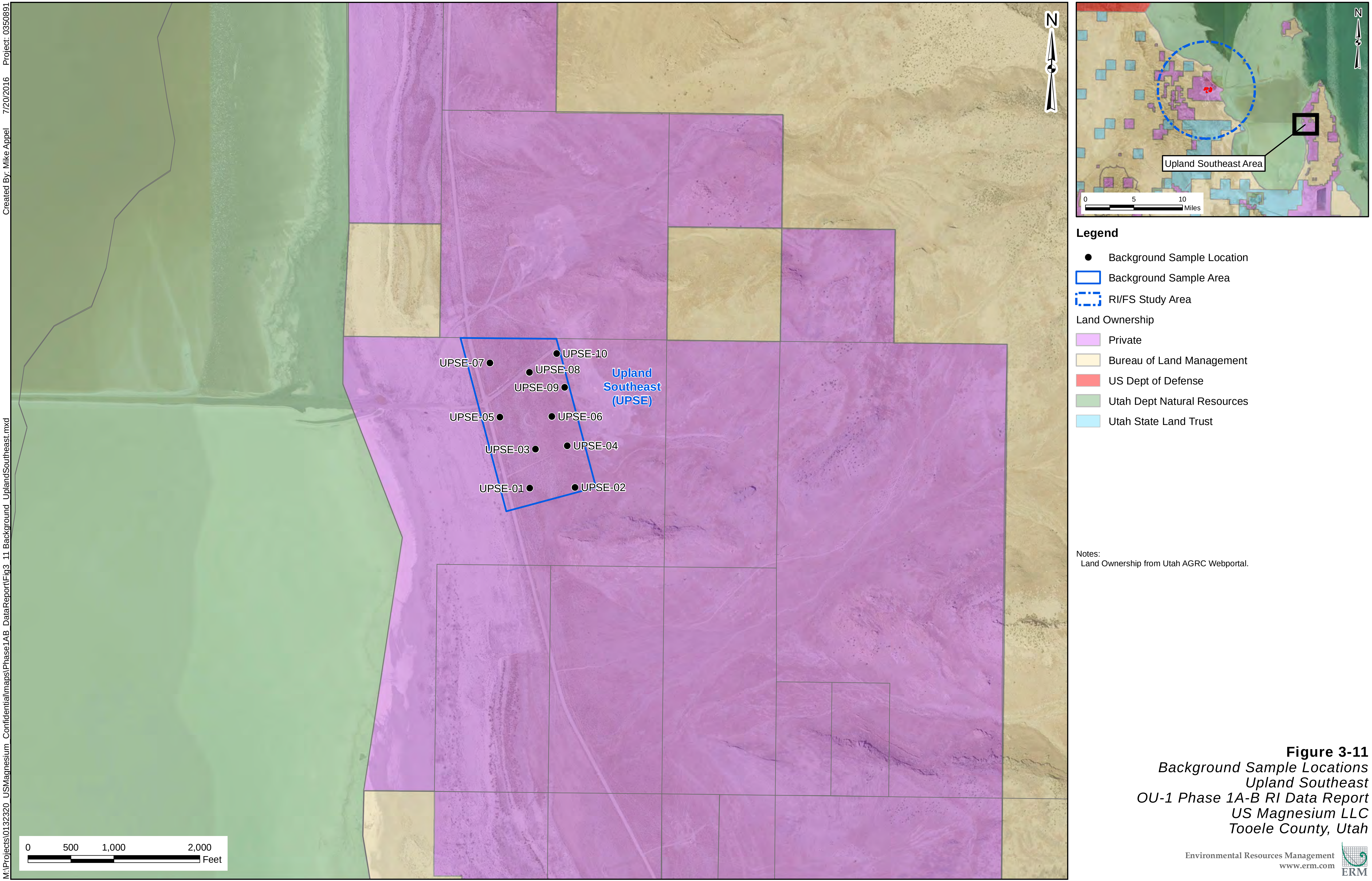

Legend

- ● Background Sample Location
- ▭ Background Sample Area
- ▭ RI/FS Study Area

Land Ownership

- 🟪 Private
- 🟨 Bureau of Land Management
- 🟥 US Dept of Defense
- 🟩 Utah Dept Natural Resources
- 🟦 Utah State Land Trust

Notes:
Land Ownership from Utah AGRC Webportal.

Figure 3-11
Background Sample Locations
Upland Southeast
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

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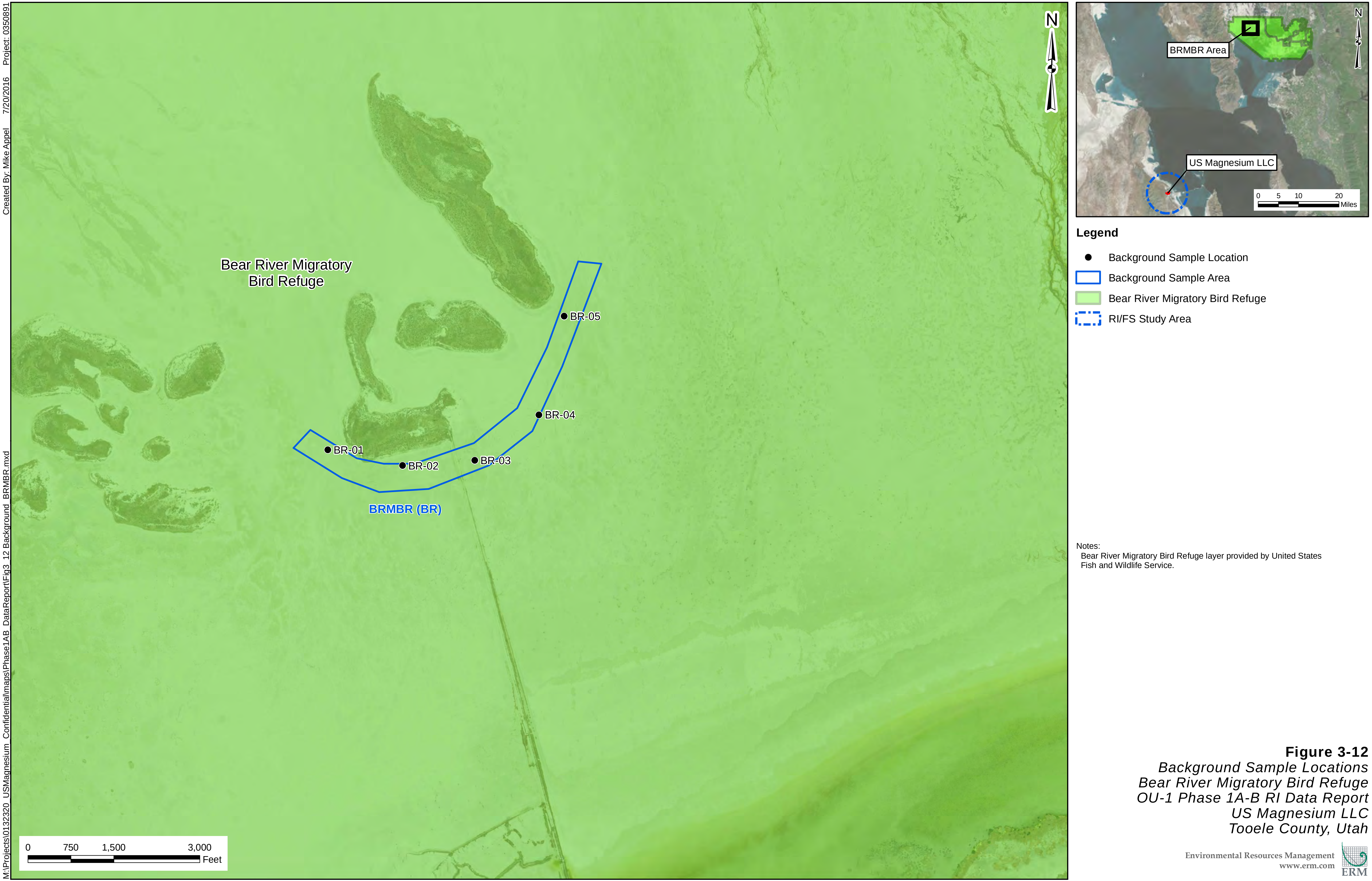

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Notes:
Bear River Migratory Bird Refuge layer provided by United States Fish and Wildlife Service.

Figure 3-12
Background Sample Locations
Bear River Migratory Bird Refuge
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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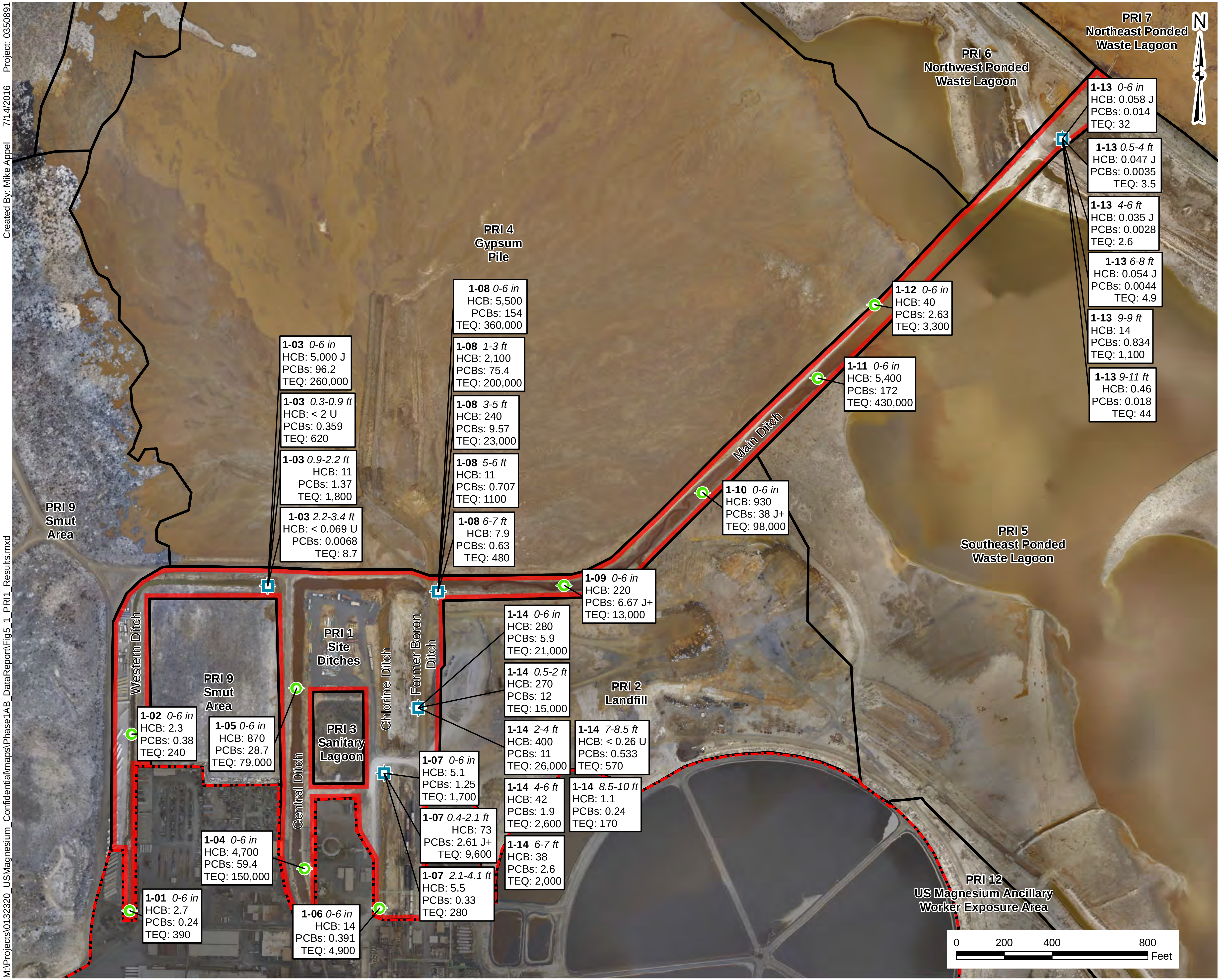

Source: November 18, 2015 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

- ○ Surface Sample (Biased)
- ◘ Surface and Subsurface Sample (Biased)
- ▨ Operating Facility
- ☐ Preliminary Remedial Investigation Areas
- 🟥 PRI 1: Ditches

7-13 0-6 in	Sample Location and Depth (bgs)
HCB: 0.21	Hexachlorobenzene in mg/kg
PCBs: 0.092	Total PCBs in mg/kg
TEQ: 100	Dixons/Furans Mammal TEQ (ND=0) in pg/g

Notes:
All boundaries approximate, provided by EPA.

Figure 5-1

HCB, Total PCB, and Mammal TEQ Point Concentrations Ditches - PRI Area 1
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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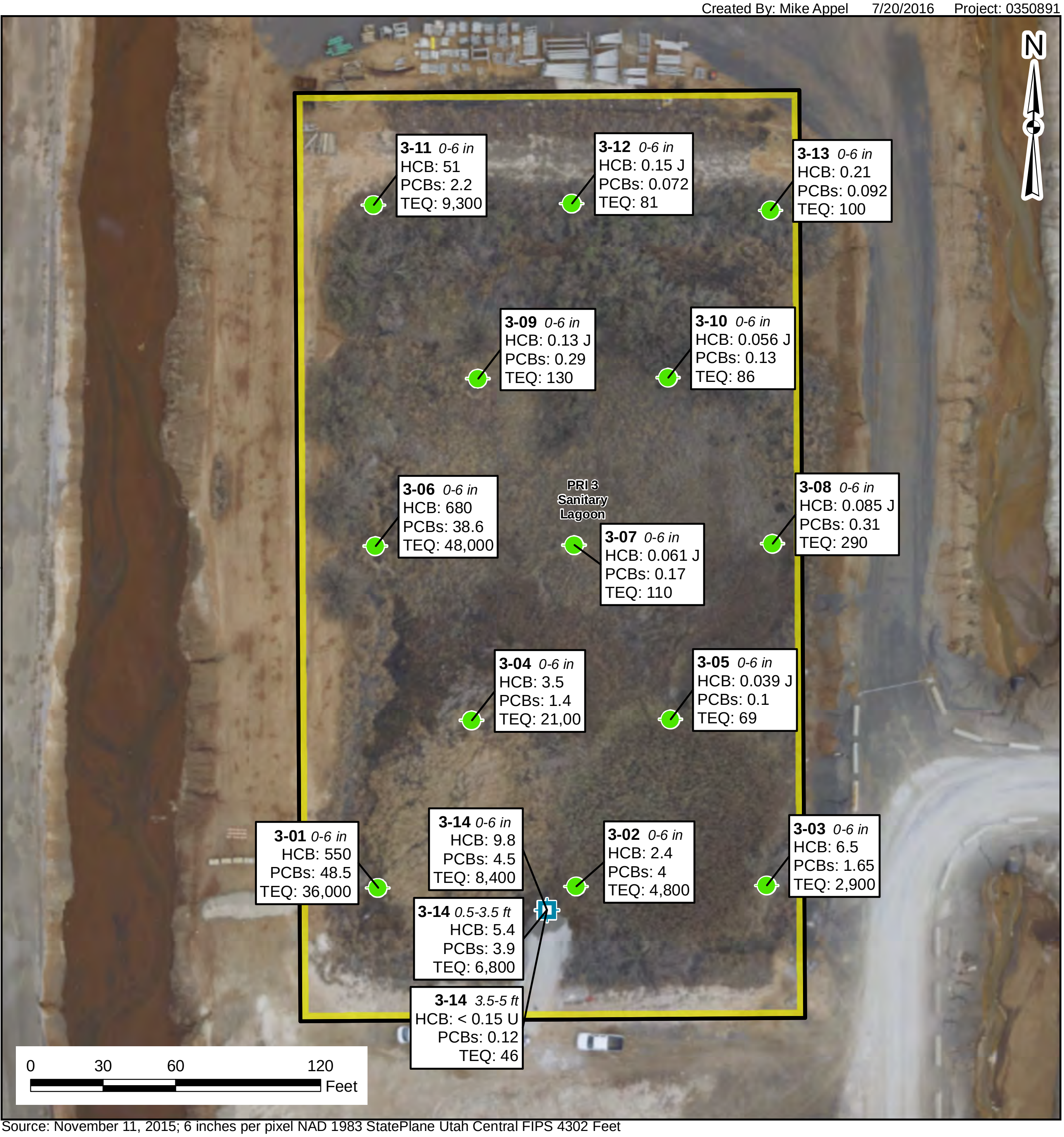

File: M:\Projects\0132320_USMagnesium_Confidential\maps\Phase1AB_DataReport\Fig5_2_PRI3_Results.mxd

Source: November 11, 2015; 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

● Surface Sample

▣ Surface and Subsurface Sample (Biased)

☐ Preliminary Remedial Investigation Areas

🟨 PRI 3: Sanitary Lagoon

3-13 *0-6 in*	Sample Location and Depth (bgs)
HCB: 0.21	Hexachlorobenzene in mg/kg
PCBs: 0.092	Total PCBs in mg/kg
TEQ: 100	Dixons/Furans Mammal TEQ (ND=0) in pg/g

Notes:
All boundaries approximate, provided by EPA.
mg/kg - milligrams per kilogram
pg/g - picograms per gram
in - inches below ground surface (bgs)
ft - feet below ground surface (bgs)

Figure 5-2
HCB, Total PCB, and Mammal
TEQ Point Concentrations
Sanitary Lagoon - PRI Area 3
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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Source: November 18, 2015; 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

● Surface Sample

■ Surface and Subsurface Sample

🟩 PRI 4: Gypsum Pile

☐ Preliminary Remedial Investigation Areas

3-13 *0-6 in*	Sample Location and Depth (bgs)
HCB: 0.21	Hexachlorobenzene in mg/kg
PCBs: 0.092	Total PCBs in mg/kg
TEQ: 100	Dixons/Furans Mammal TEQ (ND=0) in pg/g

Notes:
All boundaries approximate, provided by EPA.
mg/kg - milligrams per kilogram
pg/g - picograms per gram
in - inches below ground surface (bgs)
ft - feet below ground surface (bgs)

Figure 5-3

HCB, Total PCB, and Mammal
TEQ Point Concentrations
Gypsum Pile - PRI Area 4
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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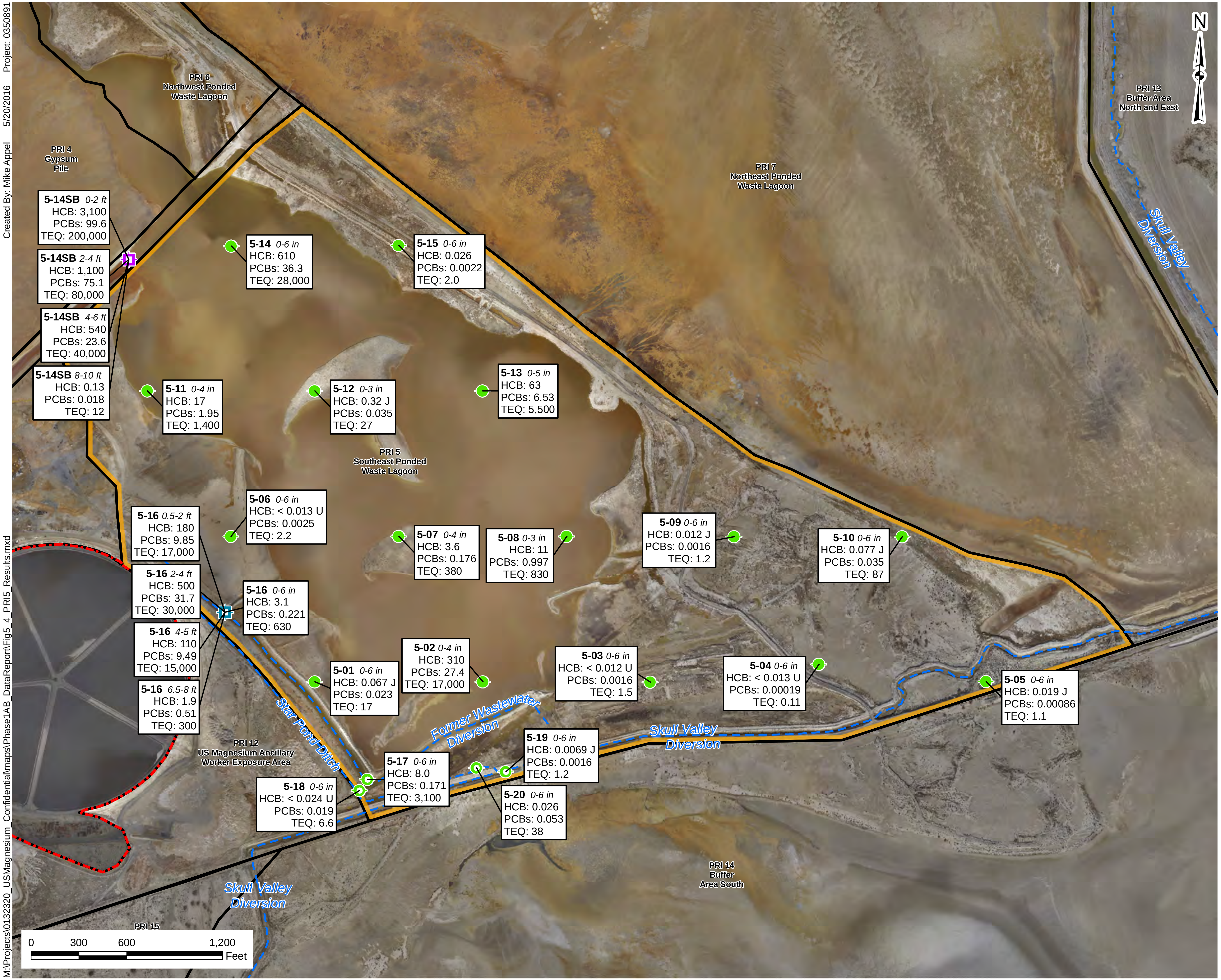

Source: November 18, 2015 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

- ● Surface Sample
- ○ Surface Sample (Biased)
- ▣ Surface and Subsurface Sample (Biased)
- ▣ Subsurface Sample (Biased)
- - - Ditch Feature
- ▨ Operating Facility
- ▬ PRI 5: Southeast Ponded Waste Lagoon
- ☐ Preliminary Remedial Investigation Areas

5-13 *0-6 in*	Sample Location and Depth (bgs)
HCB: 0.21	Hexachlorobenzene in mg/kg
PCBs: 0.092	Total PCBs in mg/kg
TEQ: 100	Dixons/Furans Mammal TEQ (ND=0) in pg/g

Notes:
All boundaries approximate, provided by EPA.
mg/kg - milligrams per kilogram
pg/g - picograms per gram
in - inches below ground surface (bgs)
ft - feet below ground surface (bgs)

Figure 5-4

HCB, Total PCB, and Mammal
TEQ Point Concentrations
Southeast Current Waste
Pond - PRI Area 5
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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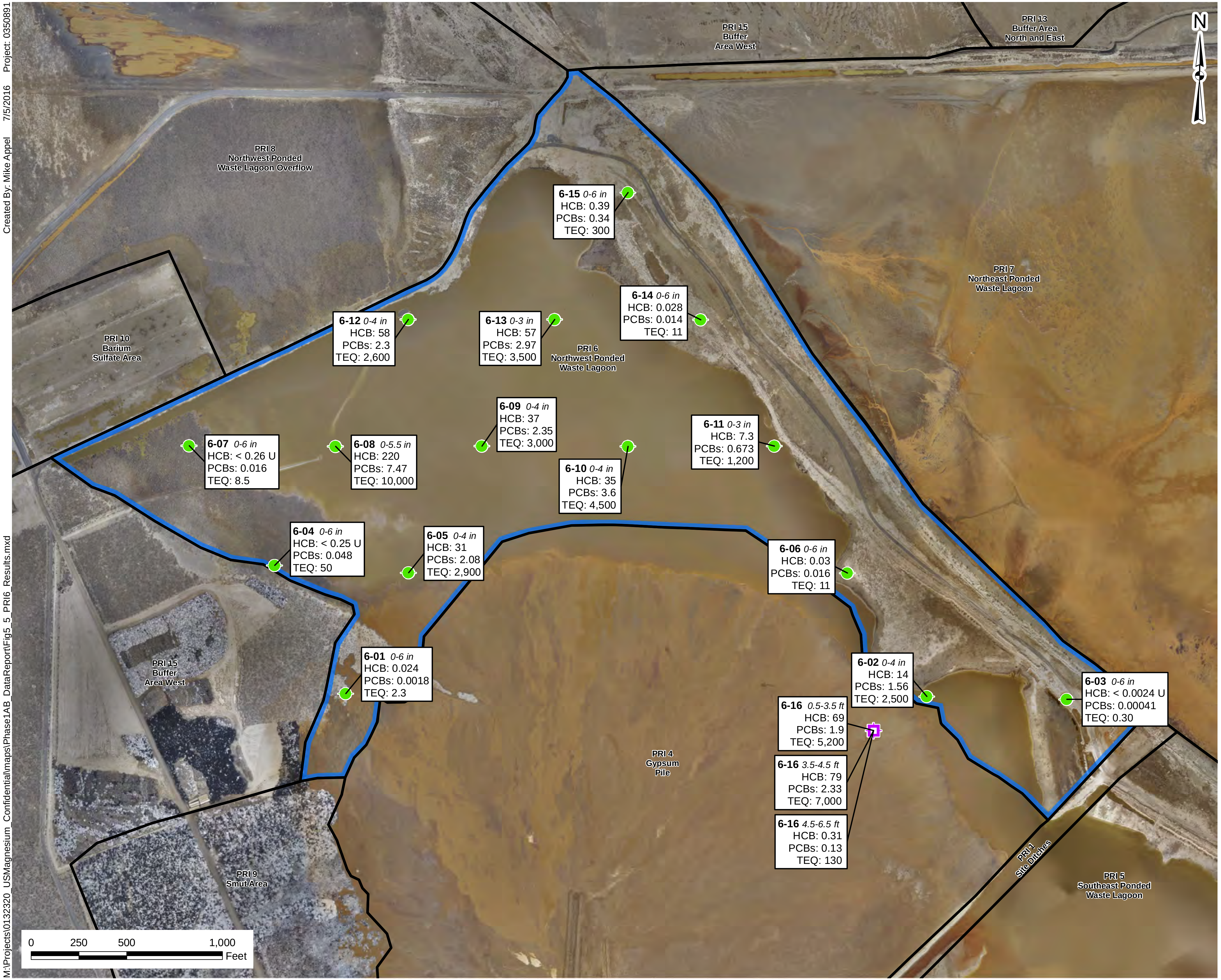

Source: November 18, 2015 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

● Surface Sample

▣ Subsurface Sample (Biased)

▭ Preliminary Remedial Investigation Areas

▬ PRI 6: Northwest Ponded Waste Lagoon

6-13 *0-6 in*	Sample Location and Depth (bgs)
HCB: 0.21	Hexachlorobenzene in mg/kg
PCBs: 0.092	Total PCBs in mg/kg
TEQ: 100	Dixons/Furans Mammal TEQ (ND=0) in pg/g

Notes:
All boundaries approximate, provided by EPA.
mg/kg - milligrams per kilogram
pg/g - picograms per gram
in - inches below ground surface (bgs)
ft - feet below ground surface (bgs)

Figure 5-5
HCB, Total PCB, and Mammal
TEQ Point Concentrations
Northwest Current Waste
Pond - PRI Area 6
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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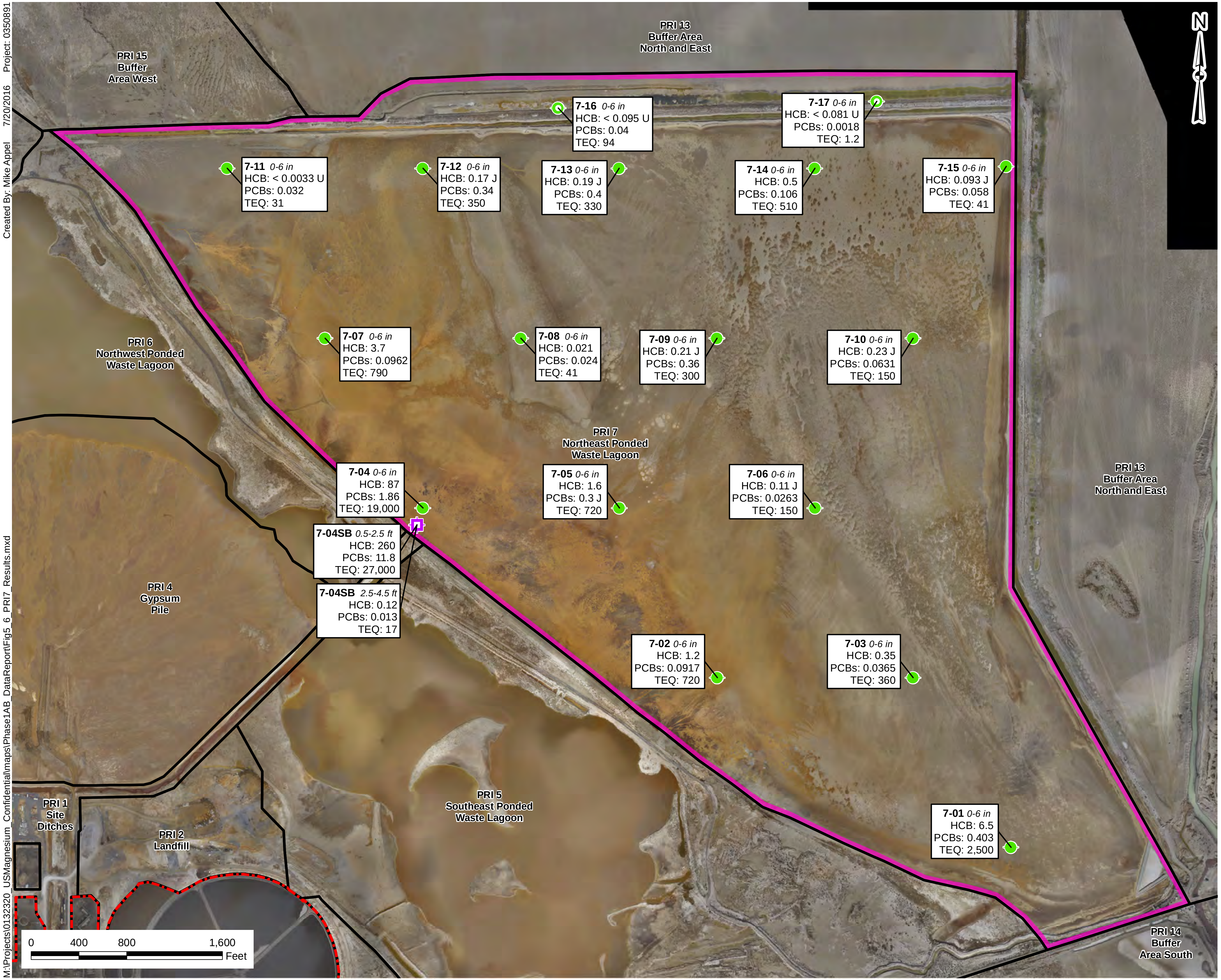

Source: November 18, 2015 6 inches per pixel NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Legend

Phase 1A-B Sample Location

- ● Surface Sample
- ○ Surface Sample (Biased)
- ☐ Subsurface Sample (Biased)
- ▨ Operating Facility
- ☐ Preliminary Remedial Investigation Areas
- ▬ PRI 7: Northeast Ponded Waste Lagoon

7-13 *0-6 in*	Sample Location and Depth (bgs)
HCB: 0.21	Hexachlorobenzene in mg/kg
PCBs: 0.092	Total PCBs in mg/kg
TEQ: 100	Dixons/Furans Mammal TEQ (ND=0) in pg/g

Notes:
All boundaries approximate, provided by EPA.
mg/kg - milligrams per kilogram
pg/g - picograms per gram
in - inches below ground surface (bgs)
ft - feet below ground surface (bgs)

Figure 5-6

HCB, Total PCB, and Mammal TEQ Point Concentrations Old Waste Pond - PRI Area 7 OU-1 Phase 1A-B RI Data Report US Magnesium LLC Tooele County, Utah

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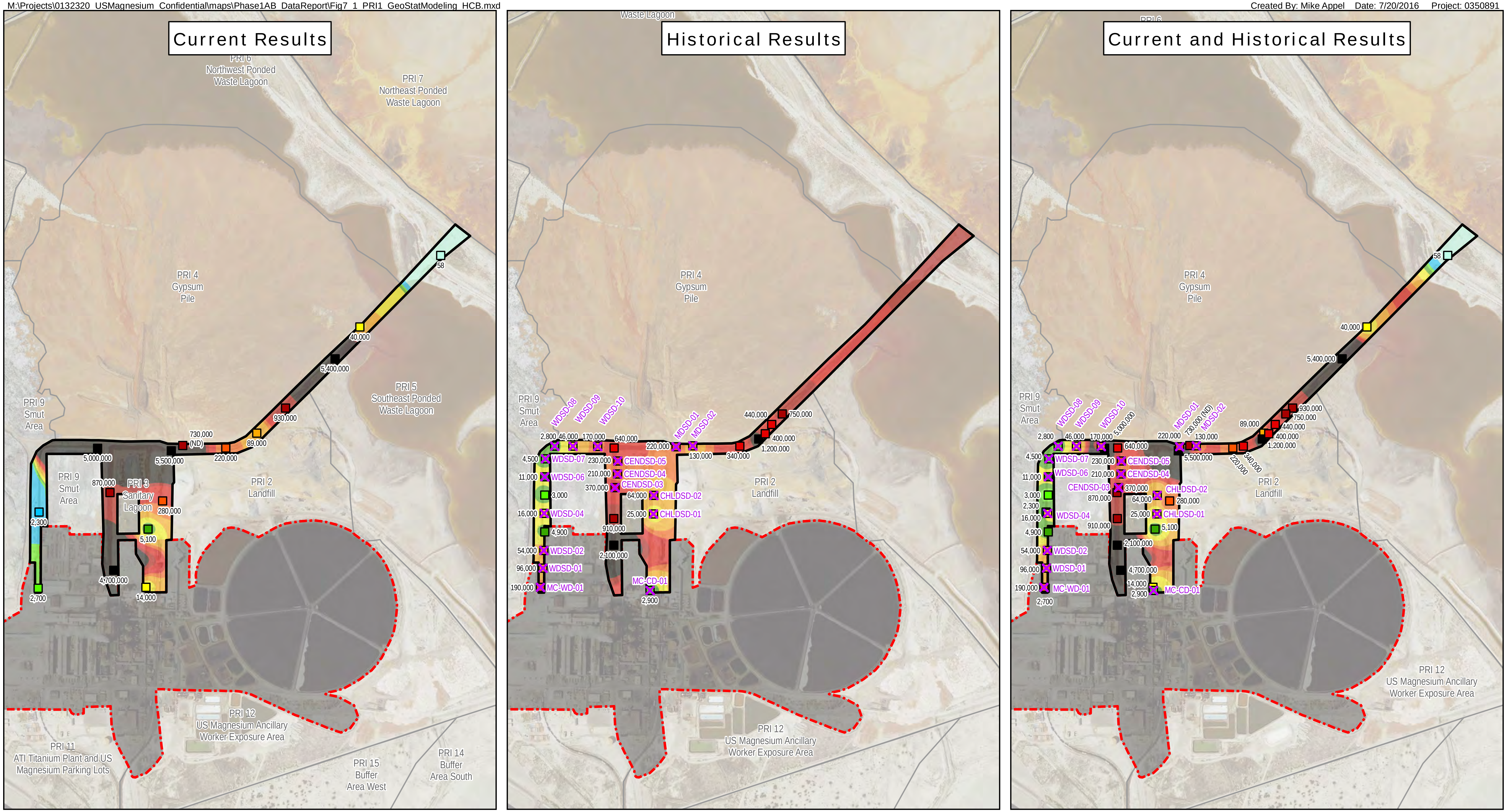

Legend

- 🟥 Operating Facility
- ▭ Preliminary Remedial Investigation Area 1 (Ditches)
- ▭ Other Preliminary Remedial Investigation Areas
- × Historical data not representative of current site conditions

HCB in Surface Soil (µg/kg) Interpolation and Points

- < 130
- 130 - 2,400
- 2,400 - 4,500
- 4,500 - 11,000
- 11,000 - 51,000
- 51,000 - 170,000
- 170,000 - 280,000
- 280,000 - 640,000
- 640,000 - 930,000
- > 930,000

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of HCB concentrations in recent and historical samples from PRIs 1 and 3.

N

0 900 1,800 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-1

Geostatistical Modeling Results for HCB Concentrations
Ditches - PRI Area 1
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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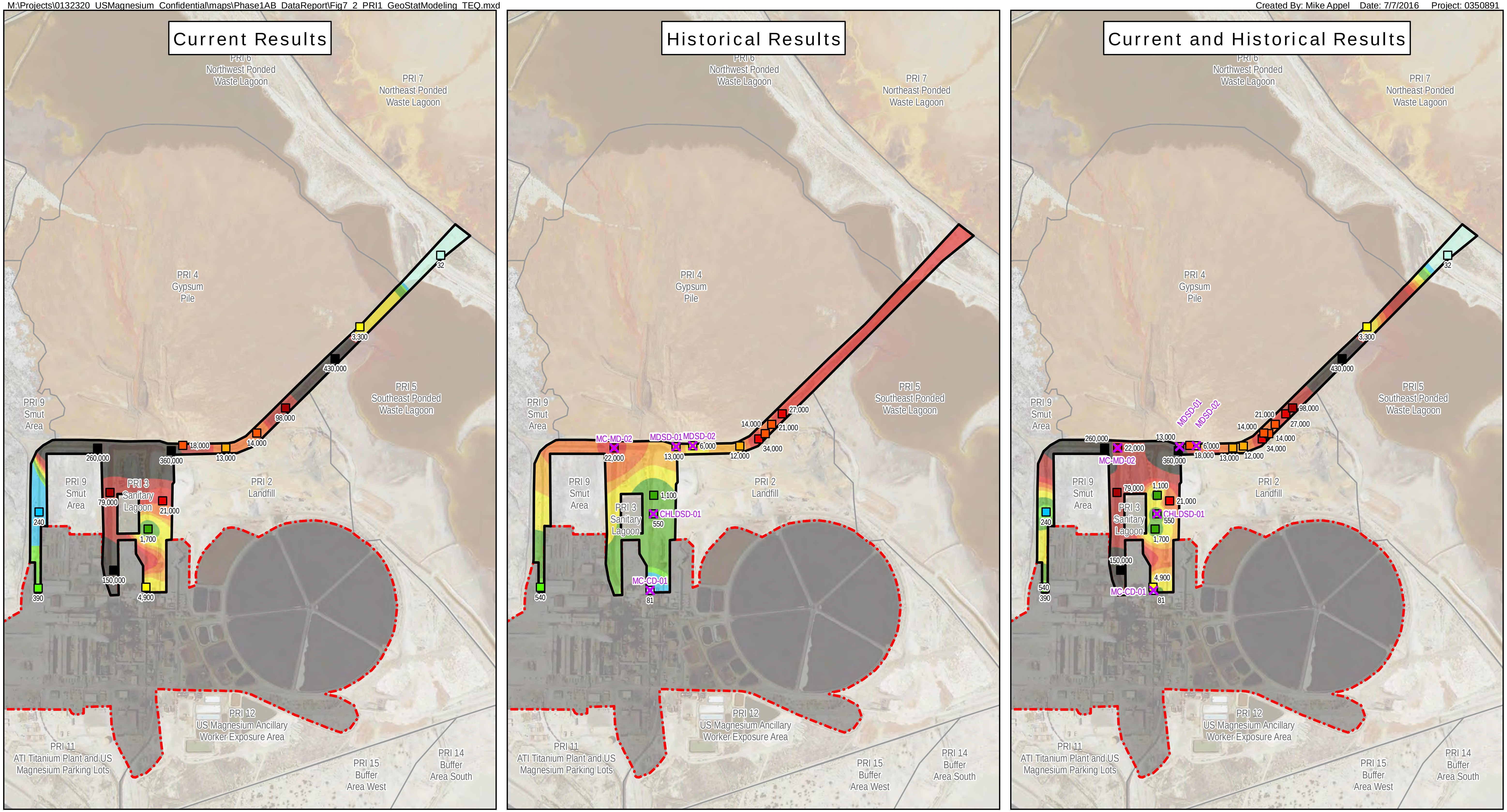

Legend

- Operating Facility
- Preliminary Remedial Investigation Area 1 (Ditches)
- Other Preliminary Remedial Investigation Areas
- × Historical data not representative of current site conditions

Mammal TEQ in Surface Soil (pg/g)
Interpolation and Points

▢	< 86
🟦	86 - 290
🟩	290 - 550
🟩	550 - 2,900
🟨	2,900 - 8,400
🟧	8,400 - 13,000
🟧	13,000 - 21,000
🟥	21,000 - 34,000
🟥	34,000 - 98,000
⬛	> 98,000

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Mammal TEQ concentrations in recent and historical samples from PRIs 1 and 3.

N

0 900 1,800 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-2

Geostatistical Modeling Results for Mammal TEQ Concentrations
Ditches - PRI Area 1
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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M:\Projects\0132320_USMagnesium_Confidential\maps\Phase1AB_DataReport\Fig7_3_PRI1_GeoStatModeling_PCBs.mxd

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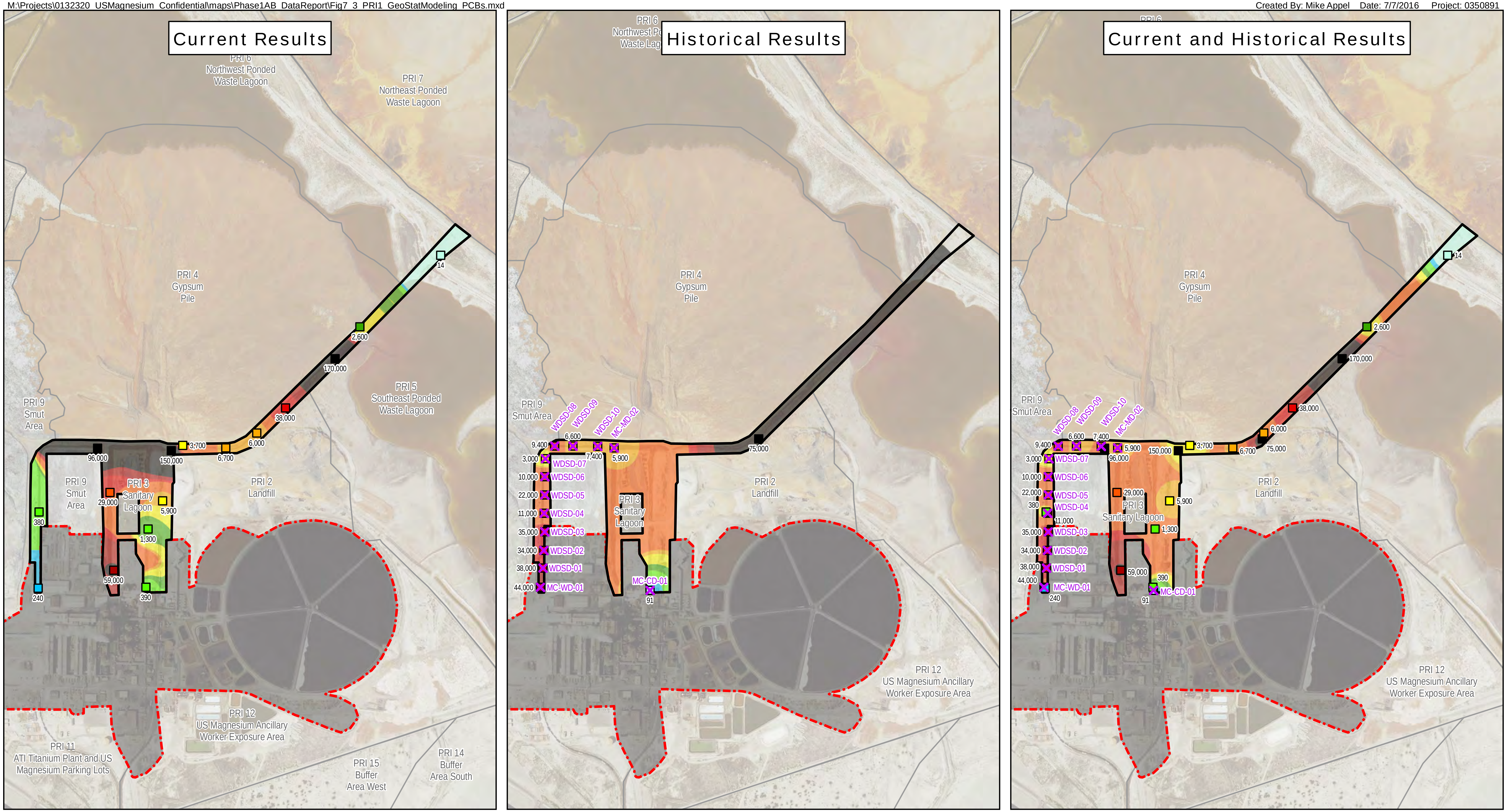

Legend

🟥 Operating Facility

▭ Preliminary Remedial Investigation Area 1 (Ditches)

▭ Other Preliminary Remedial Investigation Areas

× Historical data not representative of current site conditions

Total PCBs in Surface Soil (µg/kg)

Interpolation and Points

- ▭ < 100
- 🟦 100 - 310
- 🟩 310 - 1,250
- 🟩 1,250 - 2,630
- 🟨 2,630 - 5,900
- 🟧 5,900 - 7,357
- 🟧 7,357 - 28,700
- 🟥 28,700 - 38,000
- 🟥 38,000 - 59,000
- ⬛ > 59,000

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Total PCBs concentrations in recent and historical samples from PRIs 1 and 3.

N

0 900 1,800 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-3

Geostatistical Modeling Results for Total PCB Concentrations
Ditches - PRI Area 1
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Environmental Resources Management
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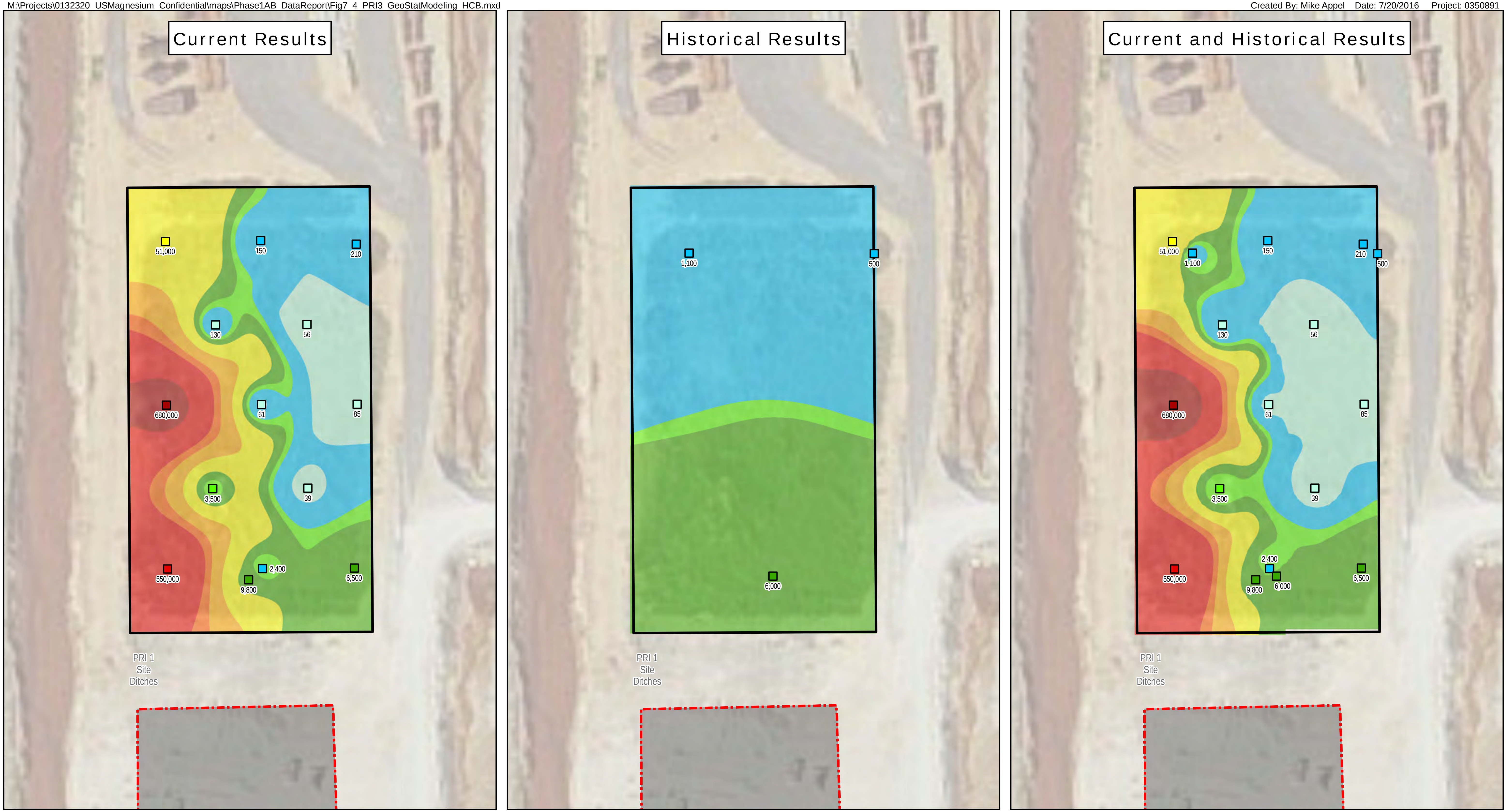

Legend

Operating Facility

Preliminary Remedial Investigation Area 3 (Sanitary Lagoon)

Other Preliminary Remedial Investigation Areas

HCB in Surface Soil (µg/kg) Interpolation and Points

- < 130
- 130 - 2,400
- 2,400 - 4,500
- 4,500 - 11,000
- 11,000 - 51,000
- 51,000 - 170,000
- 170,000 - 280,000
- 280,000 - 640,000
- 640,000 - 930,000
- \> 930,000

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of HCB concentrations in recent and historical samples from PRIs 1 and 3.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-4

Geostatistical Modeling Results for HCB Concentrations
Sanitary Lagoon - PRI Area 3
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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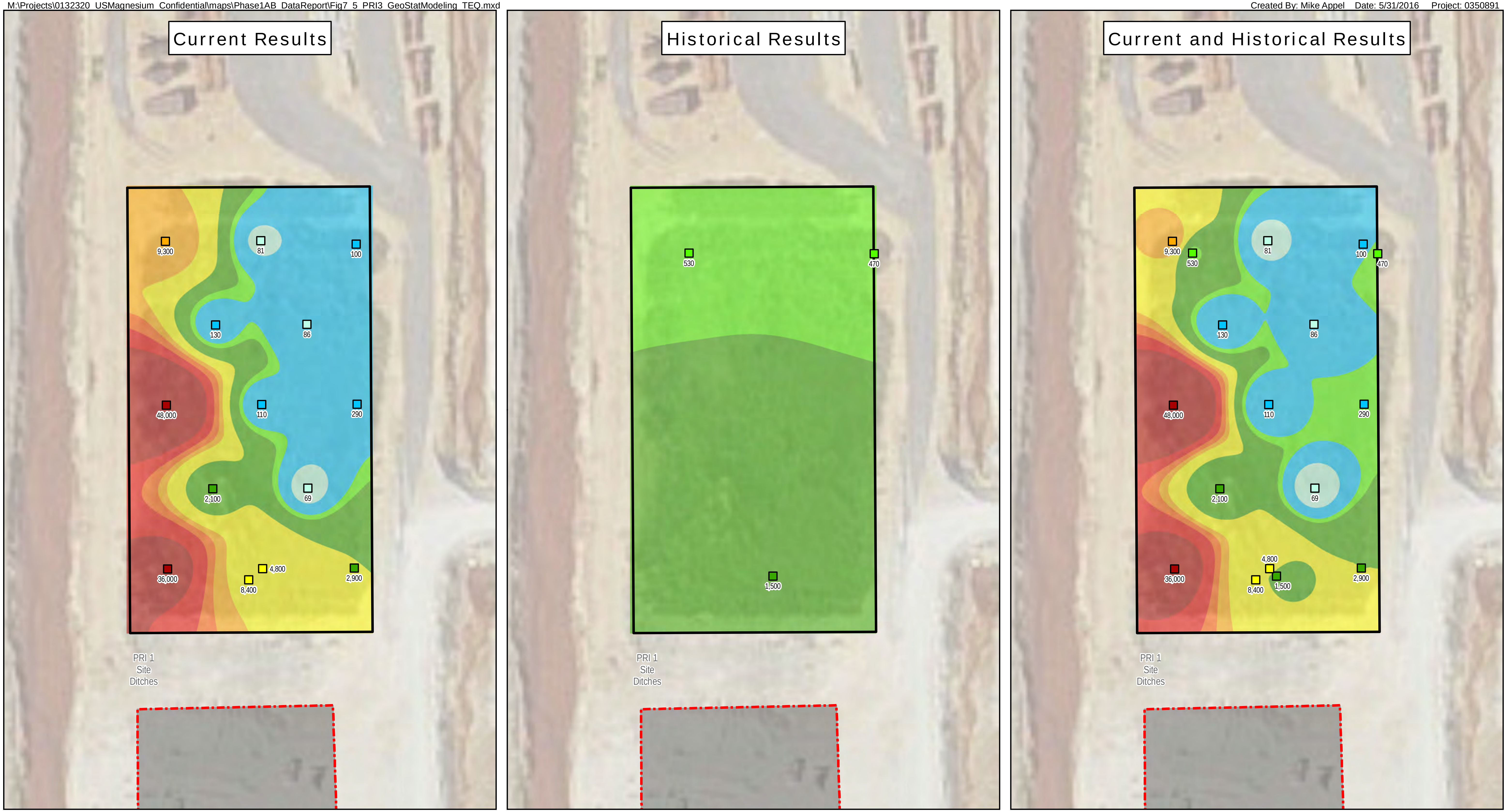


Legend

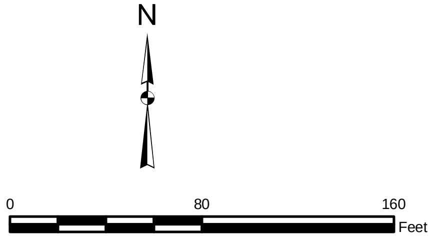
🟥 Operating Facility

⬜ Preliminary Remedial Investigation Area 3 (Sanitary Lagoon)

⬜ Other Preliminary Remedial Investigation Areas

Mammal TEQ in Surface Soil (pg/g)
Interpolation and Points
- 🟩 < 86
- 🟦 86 - 290
- 🟩 290 - 550
- 🟩 550 - 2,900
- 🟨 2,900 - 8,400
- 🟧 8,400 - 13,000
- 🟧 13,000 - 21,000
- 🟥 21,000 - 34,000
- 🟥 34,000 - 98,000
- ⬛ > 98,000

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Mammal TEQ concentrations in recent and historical samples from PRIs 1 and 3.



Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-5

Geostatistical Modeling Results for Mammal TEQ Concentrations
Sanitary Lagoon - PRI Area 3
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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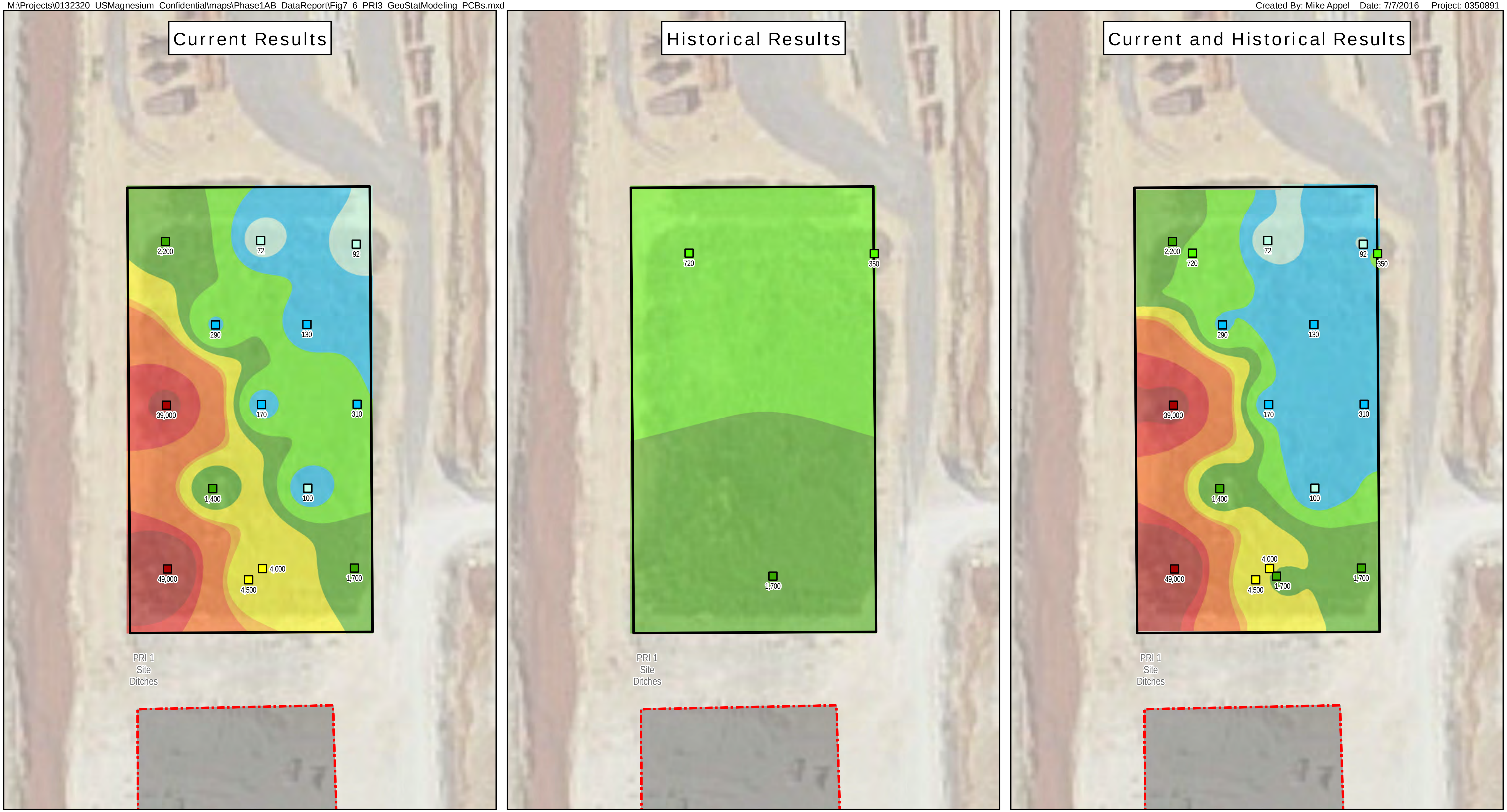

Legend

- 🟥 Operating Facility
- ⬛ Preliminary Remedial Investigation Area 3 (Sanitary Lagoon)
- ⬜ Other Preliminary Remedial Investigation Areas

Total PCBs in Surface Soil (µg/kg)
Interpolation and Points
- ⬜ < 100
- 🟦 100 - 310
- 🟩 310 - 1,250
- 🟩 1,250 - 2,630
- 🟨 2,630 - 5,900
- 🟧 5,900 - 7,357
- 🟧 7,357 - 28,700
- 🟥 28,700 - 38,000
- 🟥 38,000 - 59,000
- ⬛ > 59,000

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Total PCBs concentrations in recent and historical samples from PRIs 1 and 3.

N

0 80 160
Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-6
Geostatistical Modeling Results for Total PCB Concentrations
Sanitary Lagoon - PRI Area 3
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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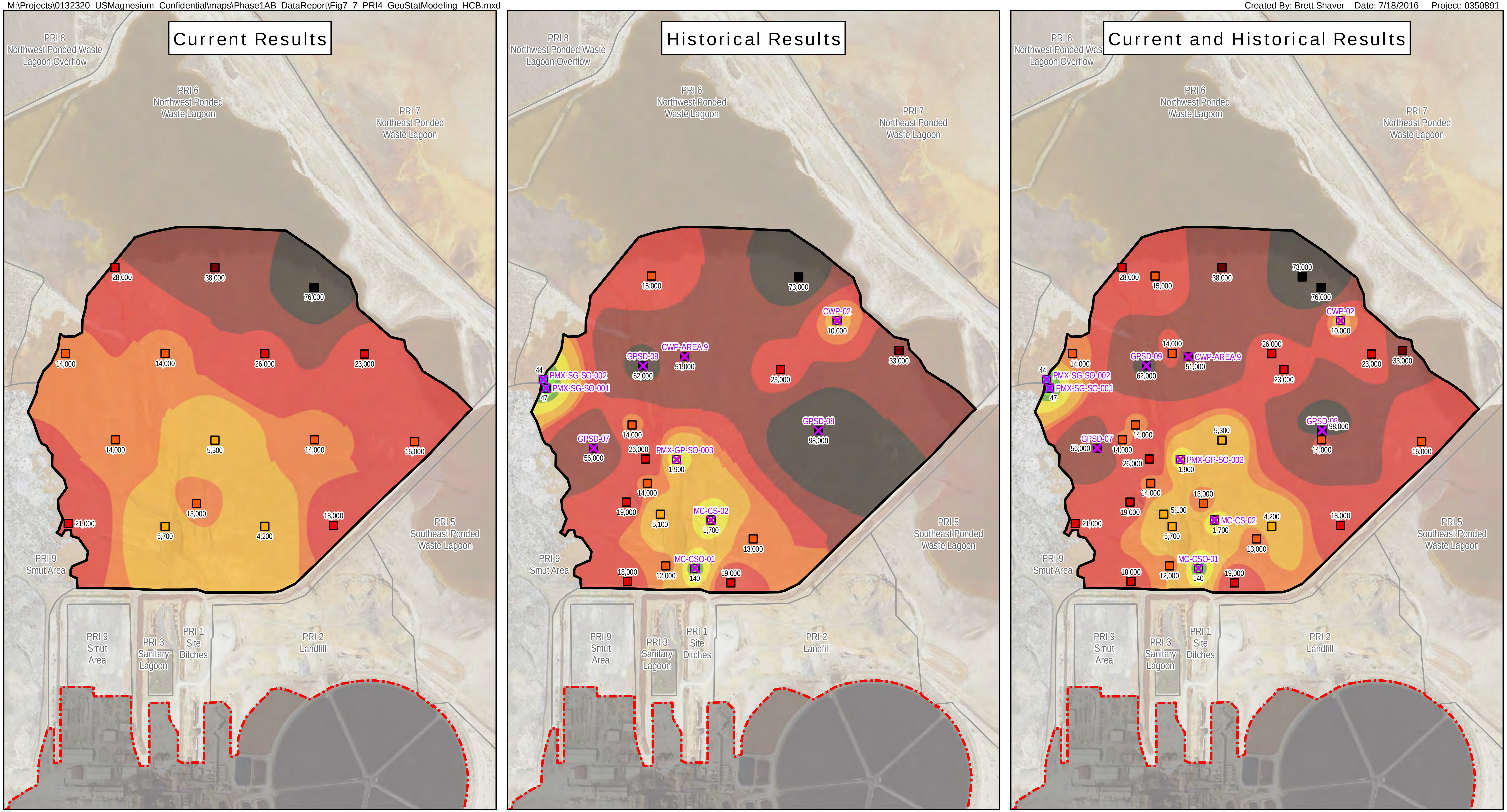
Created By: Brett Shaver Date: 7/18/2016 Project: 0350891



Legend

- Operating Facility
- Preliminary Remedial Investigation Area 4 (Gypsum Pile)
- Other Preliminary Remedial Investigation Areas
- × Historical data not representative of current site conditions

HCB in Surface Soil (µg/ kg) Interpolation and Points

- <23
- 23 - 61
- 61 - 210
- 210 - 720
- 720 - 3,700
- 3,700 - 11,000
- 11,000 - 15,000
- 15,000 - 28,000
- 28,000 - 58,000
- > 58,000

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of HCB detections in recent and historical samples from PRIs 4, 5, 6, and 7.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-7

Geostatistical Modeling Results for HCB Concentrations
Gypsum Pile PRI Area 4
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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Created By: Mike Appel Date: 7/7/2016 Project: 0350891

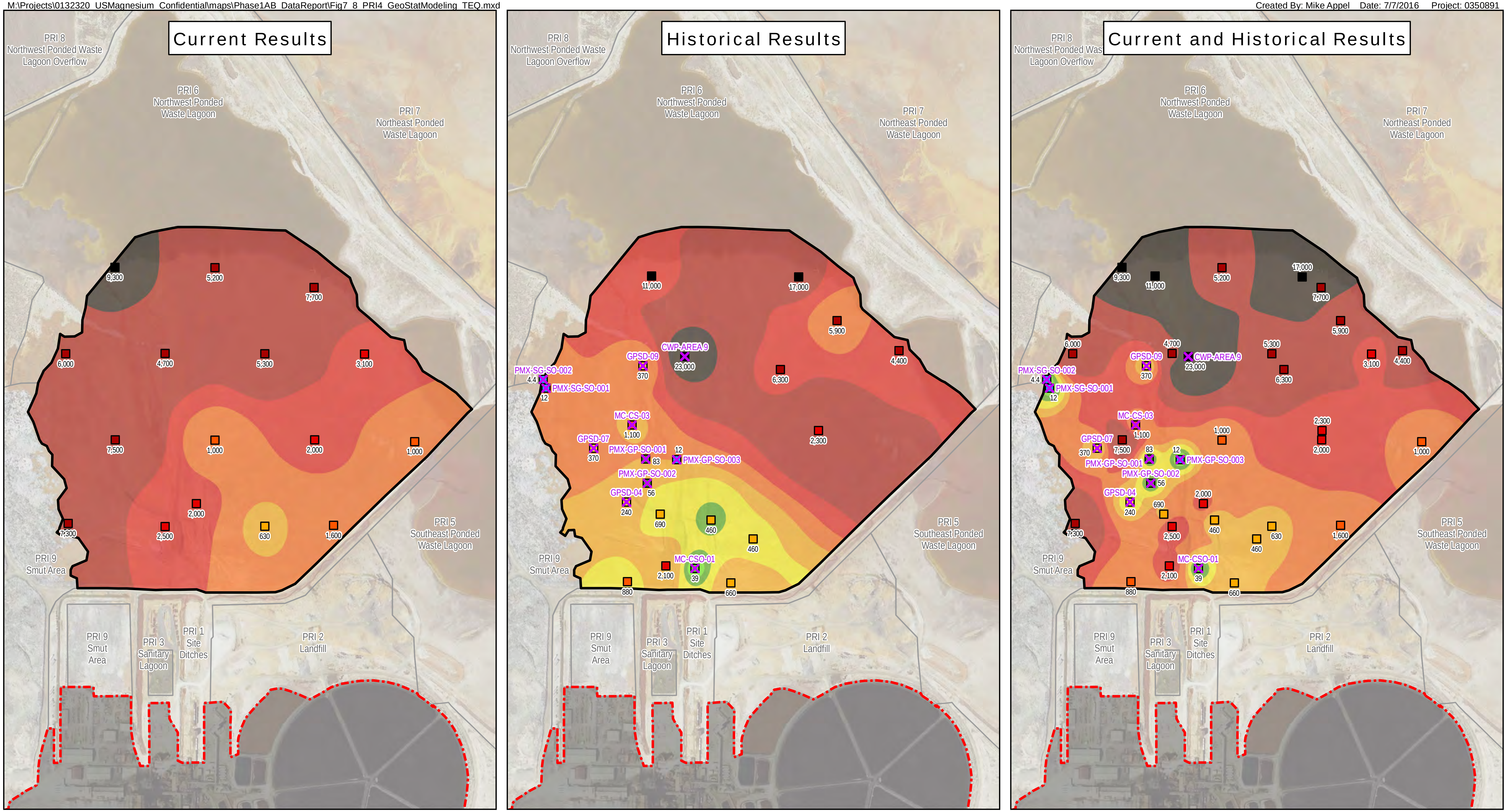

Figure 7-8

Geostatistical Modeling Results for Mammal TEQ Concentrations
Gypsum Pile PRI Area 4
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Legend

- Operating Facility
- Preliminary Remedial Investigation Area 4 (Gypsum Pile)
- Other Preliminary Remedial Investigation Areas
- × Historical data not representative of current site conditions

Mammal TEQ in Surface Soil (pg/g)
Interpolation and Points

- ⬜ < 3
- 🟦 3 - 13
- 🟩 13 - 50
- 🟩 50 - 150
- 🟨 150 - 393
- 🟧 393 - 772
- 🟧 772 - 1,800
- 🟥 1,800 - 3,620
- 🟥 3,620 - 7,700
- ⬛ > 7,700

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Mammal TEQ concentrations in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,000 2,000 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

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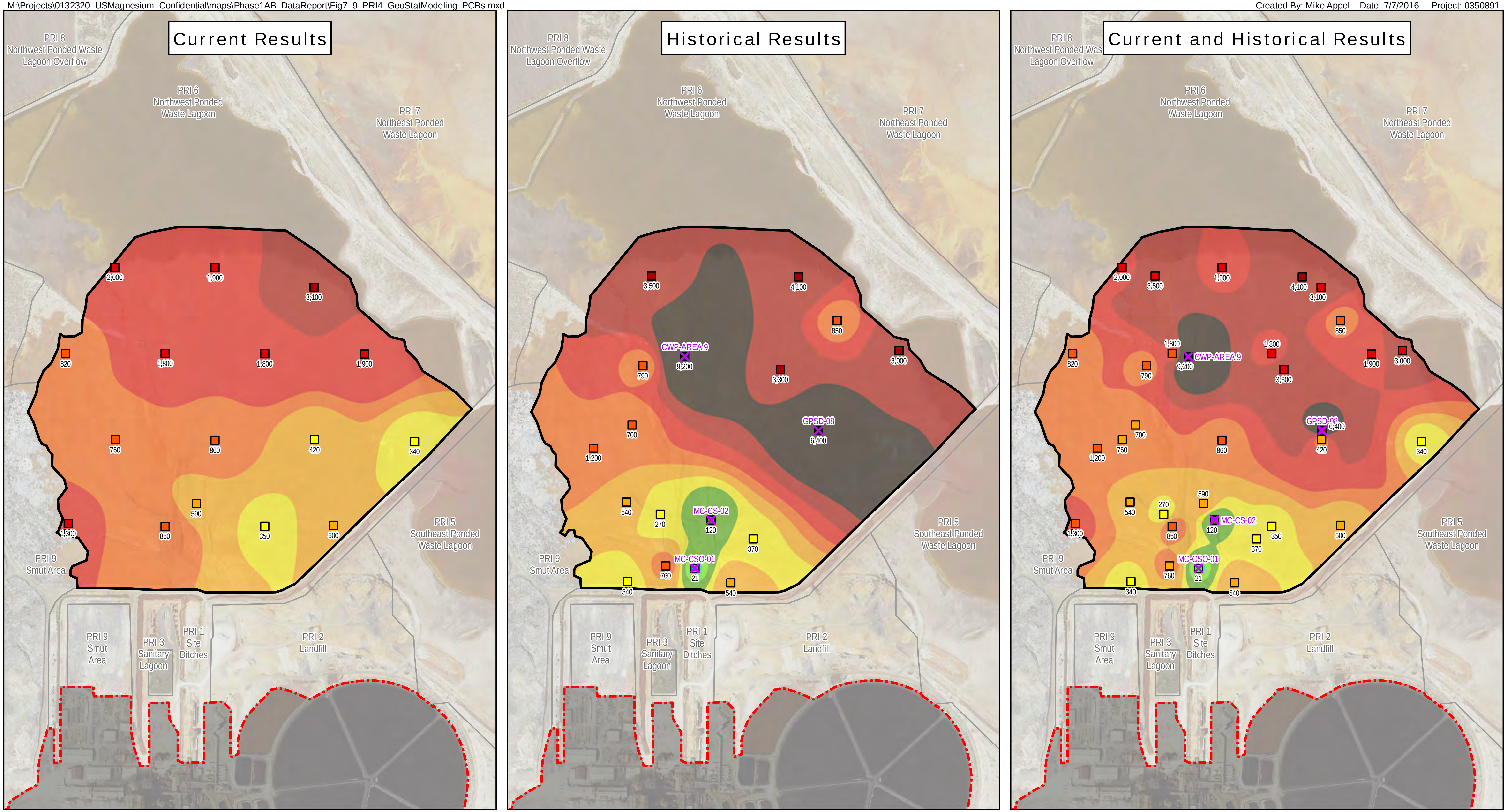
Created By: Mike Appel Date: 7/7/2016 Project: 0350891



Legend

Operating Facility

Preliminary Remedial Investigation Area 4 (Gypsum Pile)

Other Preliminary Remedial Investigation Areas

× Historical data not representative of current site conditions

Total PCBs in Surface Soil (µg/kg)
Interpolation and Points

- < 13
- 14 - 32
- 33 - 96
- 97 - 268
- 269 - 418
- 419 - 679
- 680 - 1,166
- 1,167 - 2,270
- 2,271 - 4,080
- > 4,081

NOTES:

- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Total PCBs concentrations in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,000 2,000 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-9

Geostatistical Modeling Results for Total PCB Concentrations
Gypsum Pile PRI Area 4
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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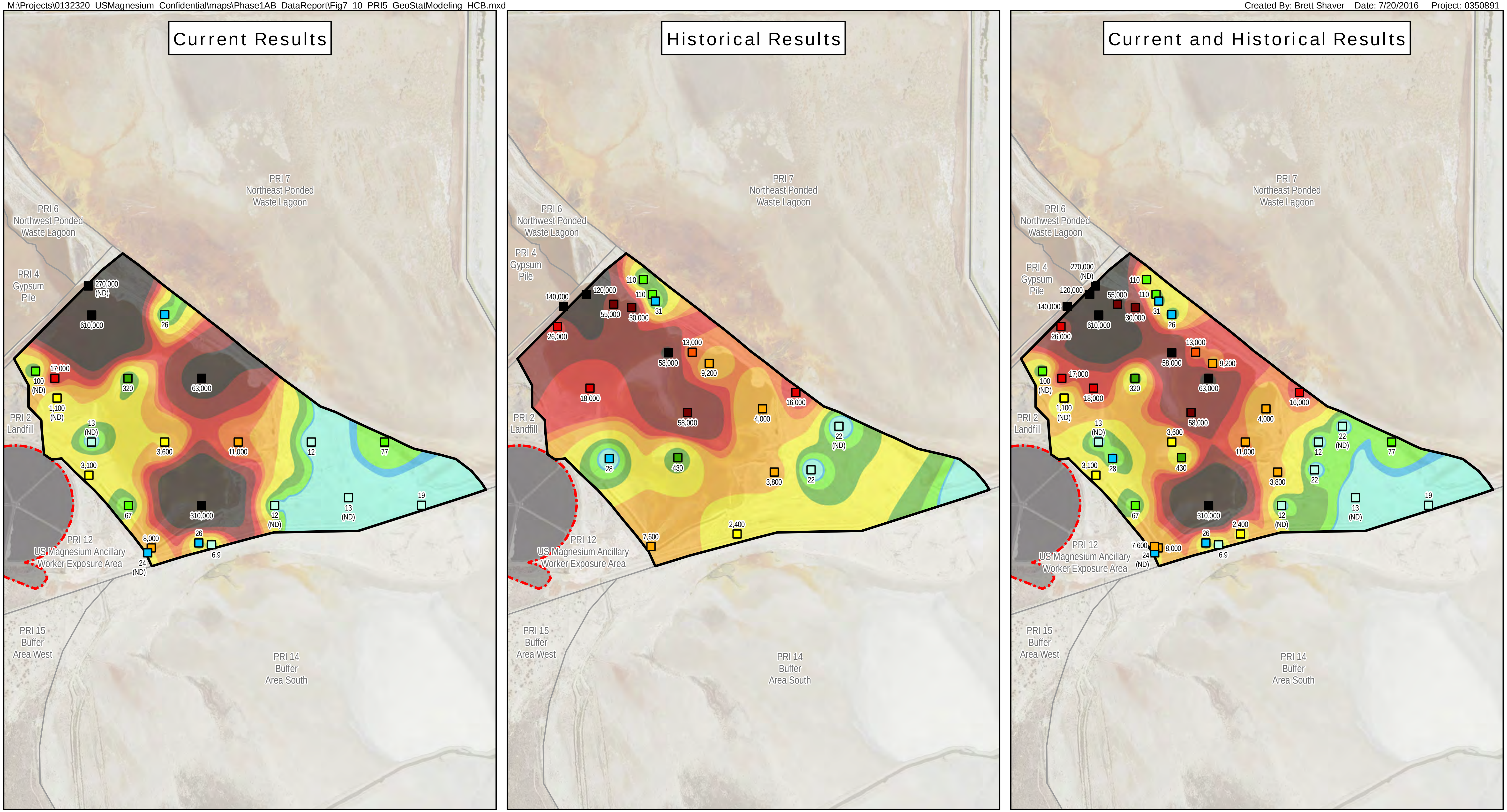
Created By: Brett Shaver Date: 7/20/2016 Project: 0350891



Legend

- 🟥 Operating Facility
- ⬛ Preliminary Remedial Investigation Area 5 (Southeast Ponded Waste Lagoon)
- ⬜ Other Preliminary Remedial Investigation Areas

HCB in Surface Soil (µg/ kg) Interpolation and Points

- <23
- 23 - 61
- 61 - 210
- 210 - 720
- 720 - 3,700
- 3,700 - 11,000
- 11,000 - 15,000
- 15,000 - 28,000
- 28,000 - 58,000
- \> 58,000

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of HCB detections in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,200 2,400 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-10

Geostatistical Modeling Results for HCB Concentrations
Southeast Ponded Waste Lagoon - PRI Area 5
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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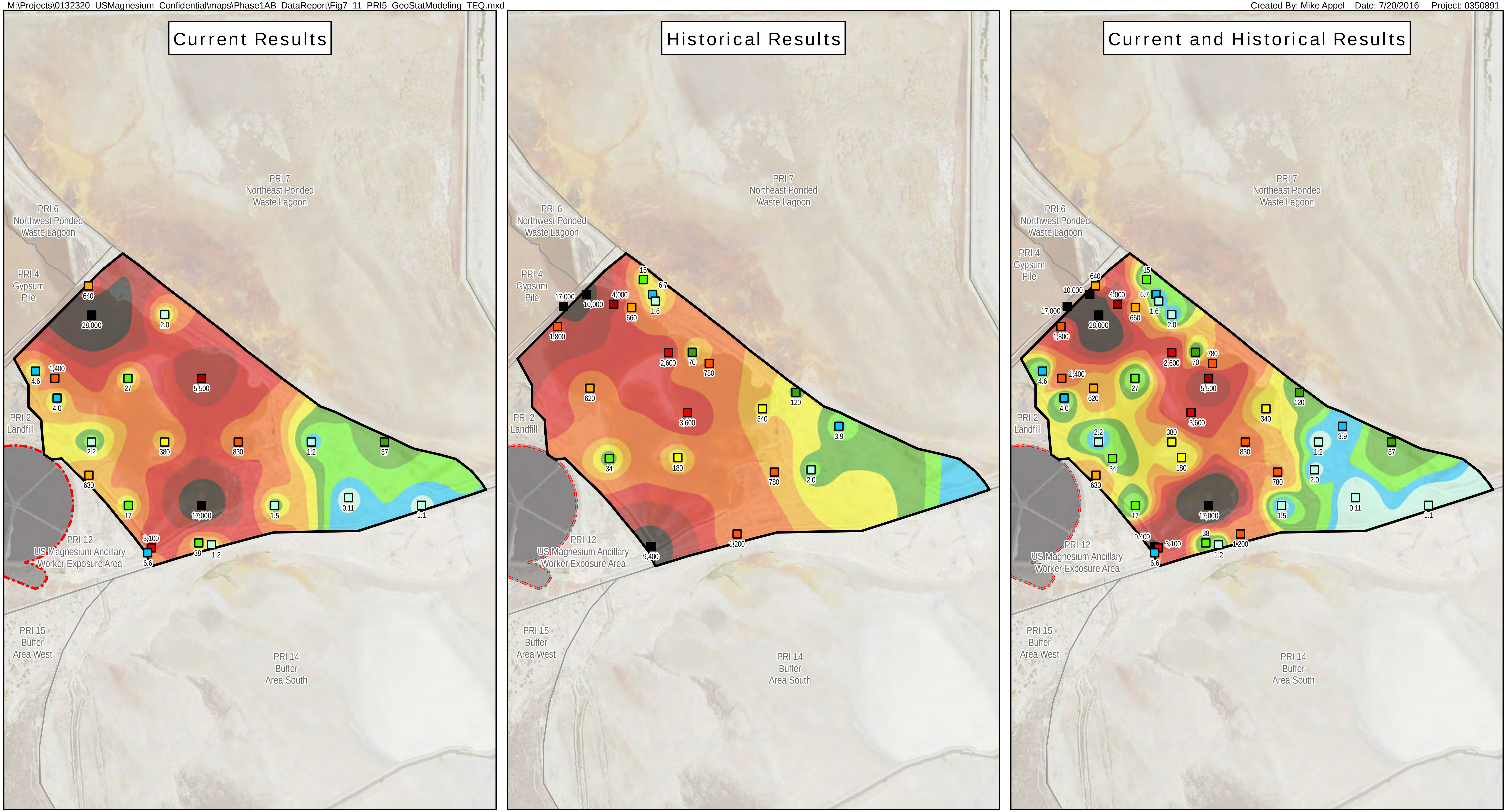

Legend

- 🟥 Operating Facility
- ⬛ Preliminary Remedial Investigation Area 5 (Southeast Ponded Waste Lagoon)
- ⬜ Other Preliminary Remedial Investigation Areas

Mammal TEQ in Surface Soil (pg/g)

Interpolation and Points

⬜ < 3	🟨 150 - 393
🟦 3 - 13	🟧 393 - 772
🟩 13 - 50	🟧 772 - 1,800
🟩 50 - 150	🟥 1,800 - 3,620
	🟥 3,620 - 7,700
	⬛ > 7,700

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Mammal TEQ concentrations in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,200 2,400 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-11

Geostatistical Modeling Results for Mammal TEQ Concentrations
Southeast Ponded Waste Lagoon PRI Area 5
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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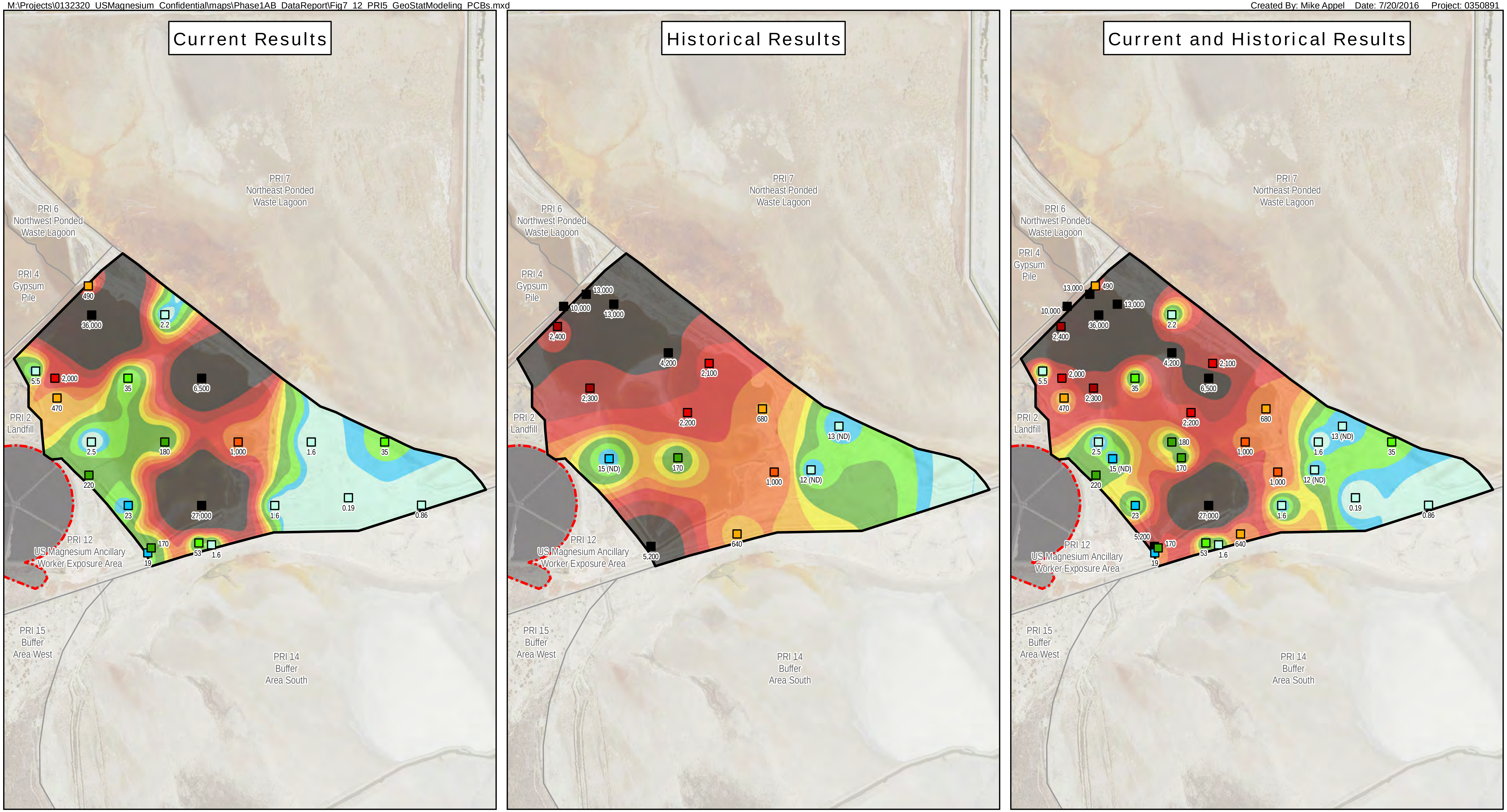
Created By: Mike Appel Date: 7/20/2016 Project: 0350891



Legend

🟥 Operating Facility

▭ Preliminary Remedial Investigation Area 5 (Southeast Ponded Waste Lagoon)

▭ Other Preliminary Remedial Investigation Areas

Total PCBs in Surface Soil (µg/kg)

Interpolation and Points

▨	< 13
▨	14 - 32
▨	33 - 96
▨	97 - 268
▨	269 - 418
▨	419 - 679
▨	680 - 1,166
▨	1,167 - 2,270
▨	2,271 - 4,080
▨	> 4,081

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Total PCB concentrations in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,200 2,400 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-12

Geostatistical Modeling Results for Total PCB Concentrations
Southeast Ponded Waste Lagoon PRI Area 5
OU-1 Phase 1A-B RI Data Report
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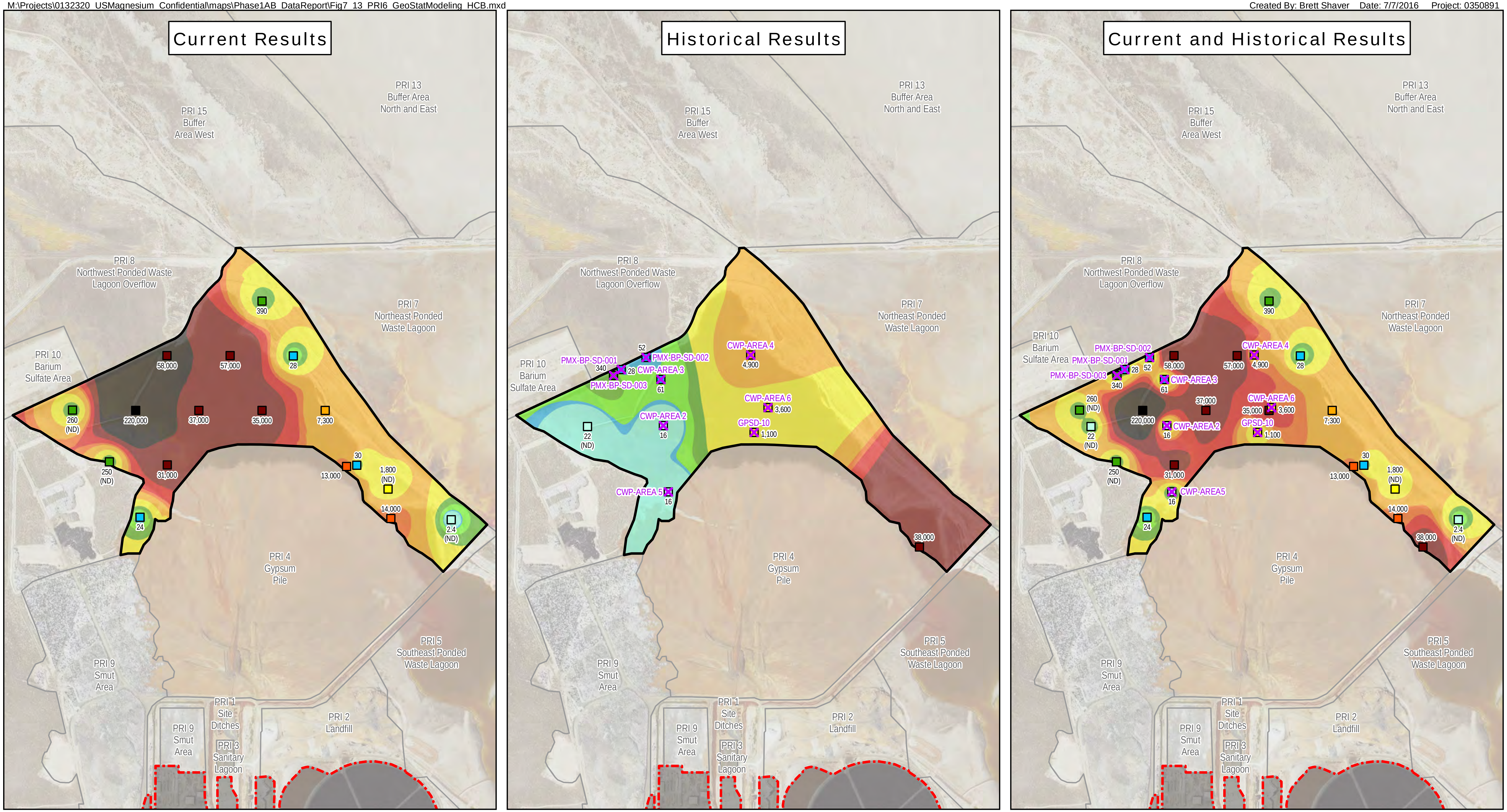
Created By: Brett Shaver Date: 7/7/2016 Project: 0350891



Legend

- 🟥 Operating Facility
- ⬛ Preliminary Remedial Investigation Area 6 (Northwest Ponded Waste Lagoon)
- ☐ Other Preliminary Remedial Investigation Areas
- × Historical data not representative of current site conditions

HCB in Surface Soil (µg/ kg)
Interpolation and Points

- <23
- 23 - 61
- 61 - 210
- 210 - 720
- 720 - 3,700
- 3,700 - 11,000
- 11,000 - 15,000
- 15,000 - 28,000
- 28,000 - 58,000
- > 58,000

NOTES:

- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of HCB detections in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,000 2,000 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-13

Geostatistical Modeling Results for HCB Concentrations
Northwest Ponded Waste Lagoon PRI Area 6
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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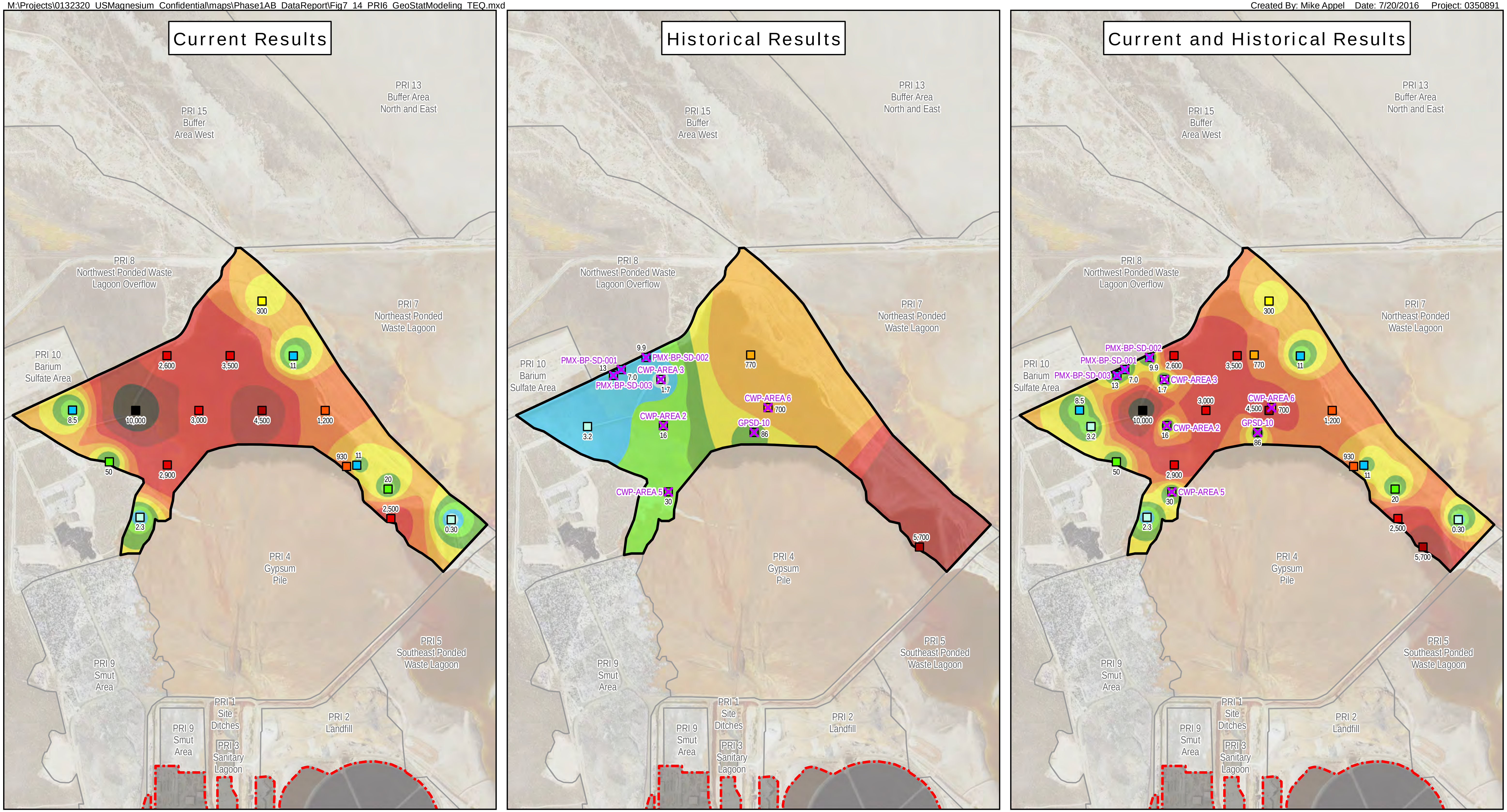
Created By: Mike Appel Date: 7/20/2016 Project: 0350891



Legend

- ⬚ Operating Facility
- ▭ Preliminary Remedial Investigation Area 6 (Northwest Ponded Waste Lagoon)
- ▭ Other Preliminary Remedial Investigation Areas
- × Historical data not representative of current site conditions

Mammal TEQ in Surface Soil (pg/g)
Interpolation and Points

▭	< 3
▭	3 - 13
▭	13 - 50
▭	50 - 150
▭	150 - 393
▭	393 - 772
▭	772 - 1,800
▭	1,800 - 3,620
▭	3,620 - 7,700
▭	> 7,700

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Mammal TEQ concentrations in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,000 2,000 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-14

Geostatistical Modeling Results for Mammal TEQ Concentrations
Northwest Ponded Waste Lagoon PRI Area 6
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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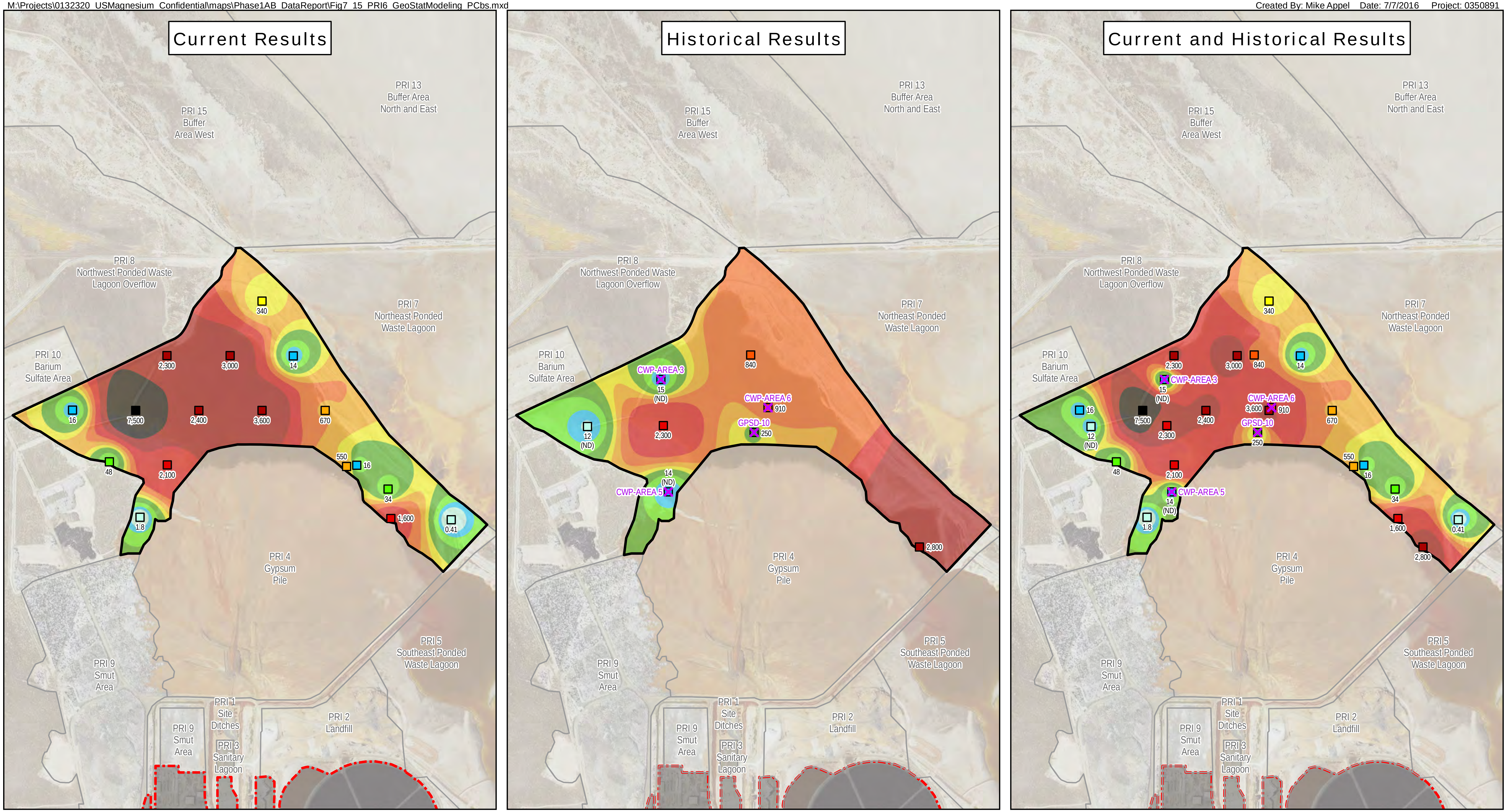
Created By: Mike Appel Date: 7/7/2016 Project: 0350891



Legend

- 🟥 Operating Facility
- ⬛ Preliminary Remedial Investigation Area 6 (Northwest Ponded Waste Lagoon)
- ⬜ Other Preliminary Remedial Investigation Areas
- × Historical data not representative of current site conditions

Total PCBs in Surface Soil (µg/kg) Interpolation and Points

- ⬜ < 13
- 🟦 14 - 32
- 🟩 33 - 96
- 🟩 97 - 268
- 🟨 269 - 418
- 🟧 419 - 679
- 🟧 680 - 1,166
- 🟥 1,167 - 2,270
- 🟥 2,271 - 4,080
- ⬛ > 4,081

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Total PCB concentrations in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,000 2,000 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-15

Geostatistical Modeling Results for Total PCB Concentrations
Northwest Ponded Waste Lagoon PRI Area 6
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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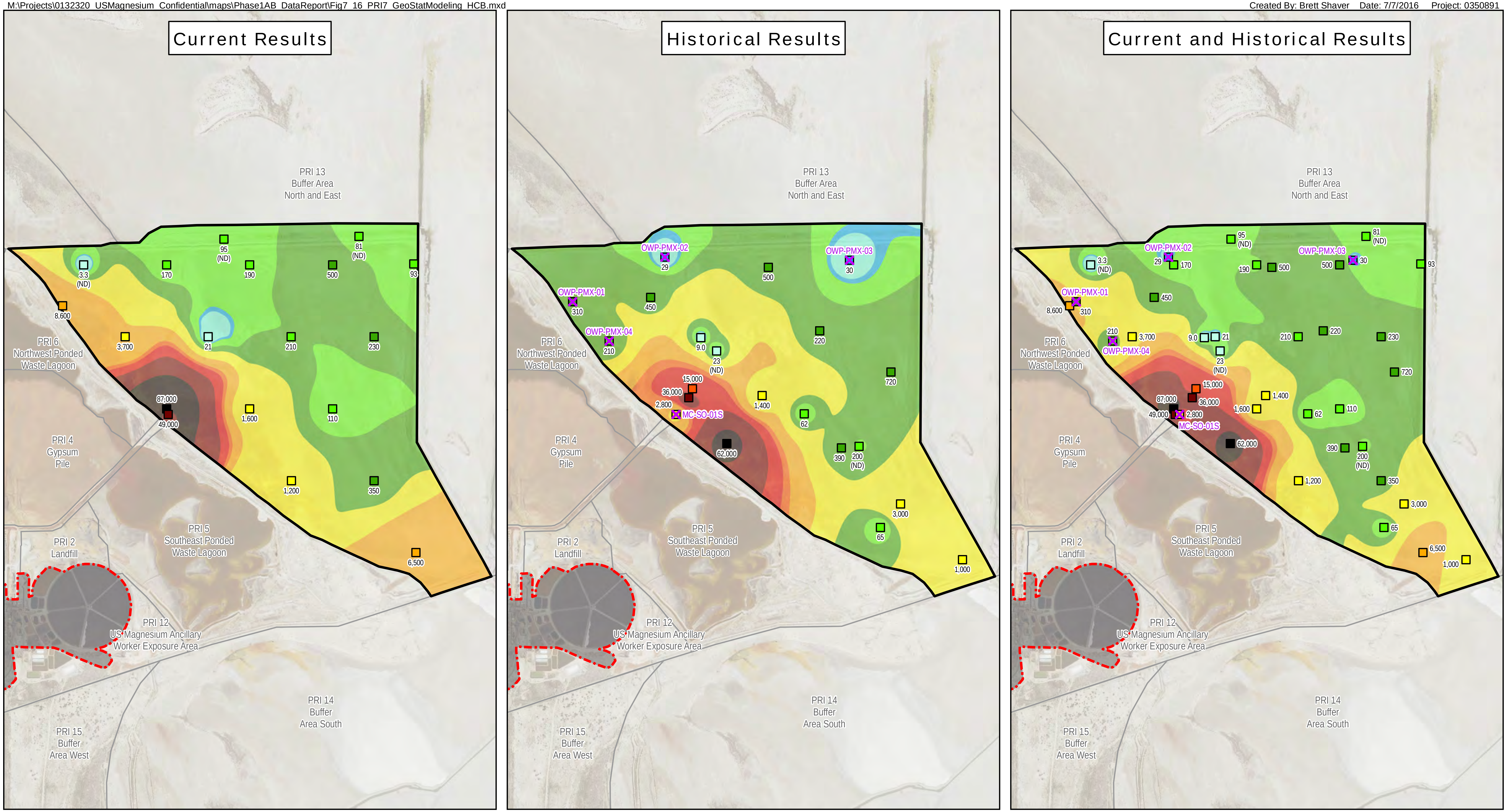
Created By: Brett Shaver Date: 7/7/2016 Project: 0350891



Legend

- Operating Facility
- Preliminary Remedial Investigation Area 7 (Northeast Ponded Waste Lagoon)
- Other Preliminary Remedial Investigation Areas
- ✕ Historical data not representative of current site conditions

HCB in Surface Soil (µg/ kg) Interpolation and Points

- <23
- 23 - 61
- 61 - 210
- 210 - 720
- 720 - 3,700
- 3,700 - 11,000
- 11,000 - 15,000
- 15,000 - 28,000
- 28,000 - 58,000
- > 58,000

NOTES:

- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of HCB detections in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,000 2,000 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-16

Geostatistical Modeling Results for HCB Concentrations
Northeast Ponded Waste Lagoon PRI Area 7
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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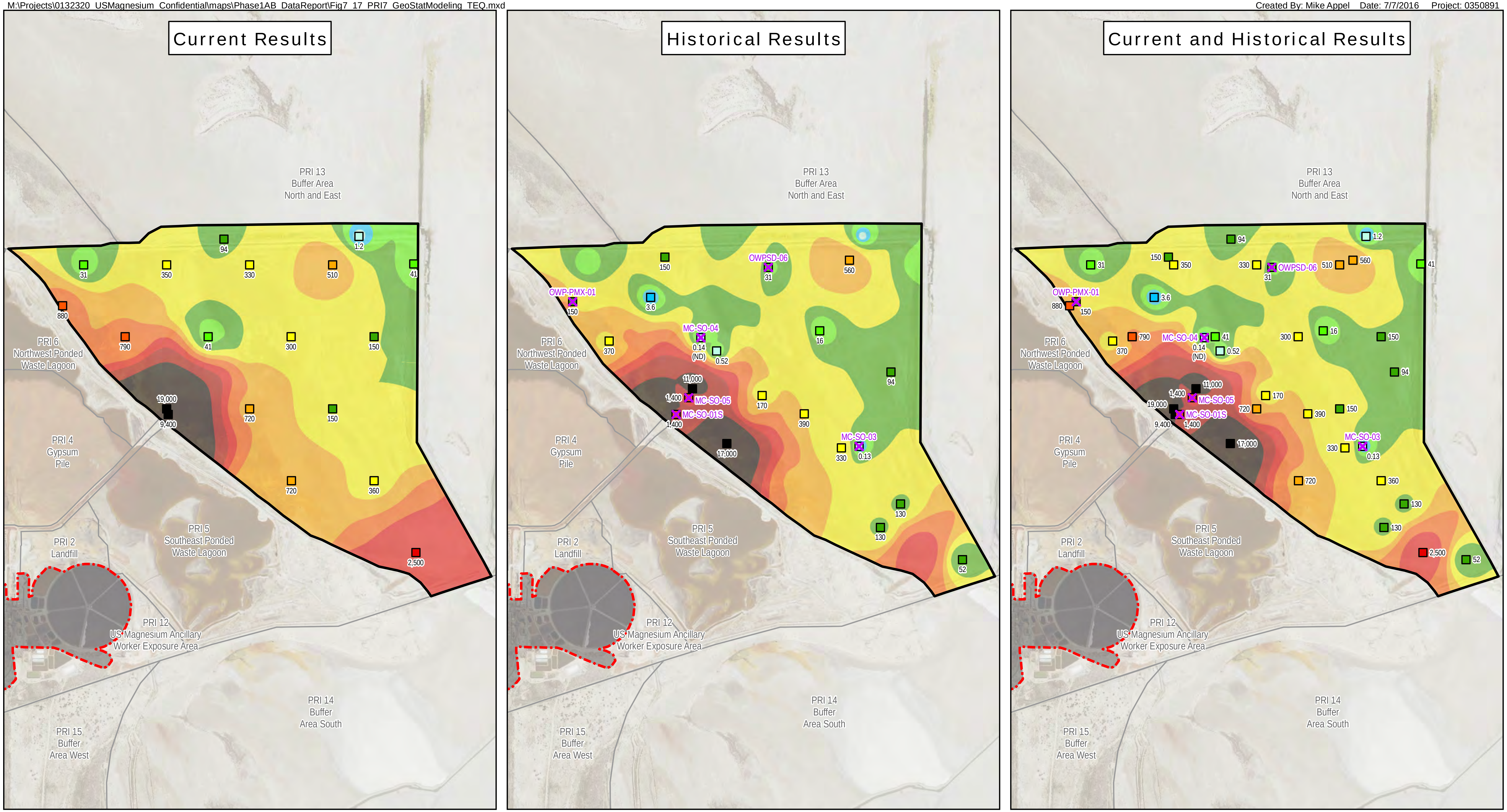
Created By: Mike Appel Date: 7/7/2016 Project: 0350891



Legend

- Operating Facility
- Preliminary Remedial Investigation Area 7 (Northeast Ponded Waste Lagoon)
- Other Preliminary Remedial Investigation Areas
- × Historical data not representative of current site conditions

Mammal TEQ in Surface Soil (pg/g)
Interpolation and Points
- < 3
- 3 - 13
- 13 - 50
- 50 - 150
- 150 - 393
- 393 - 772
- 772 - 1,800
- 1,800 - 3,620
- 3,620 - 7,700
- > 7,700

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Mammal TEQ concentrations in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,000 2,000 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-17

Geostatistical Modeling Results for Mammal TEQ Concentrations
Northeast Ponded Waste Lagoon PRI Area 7
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
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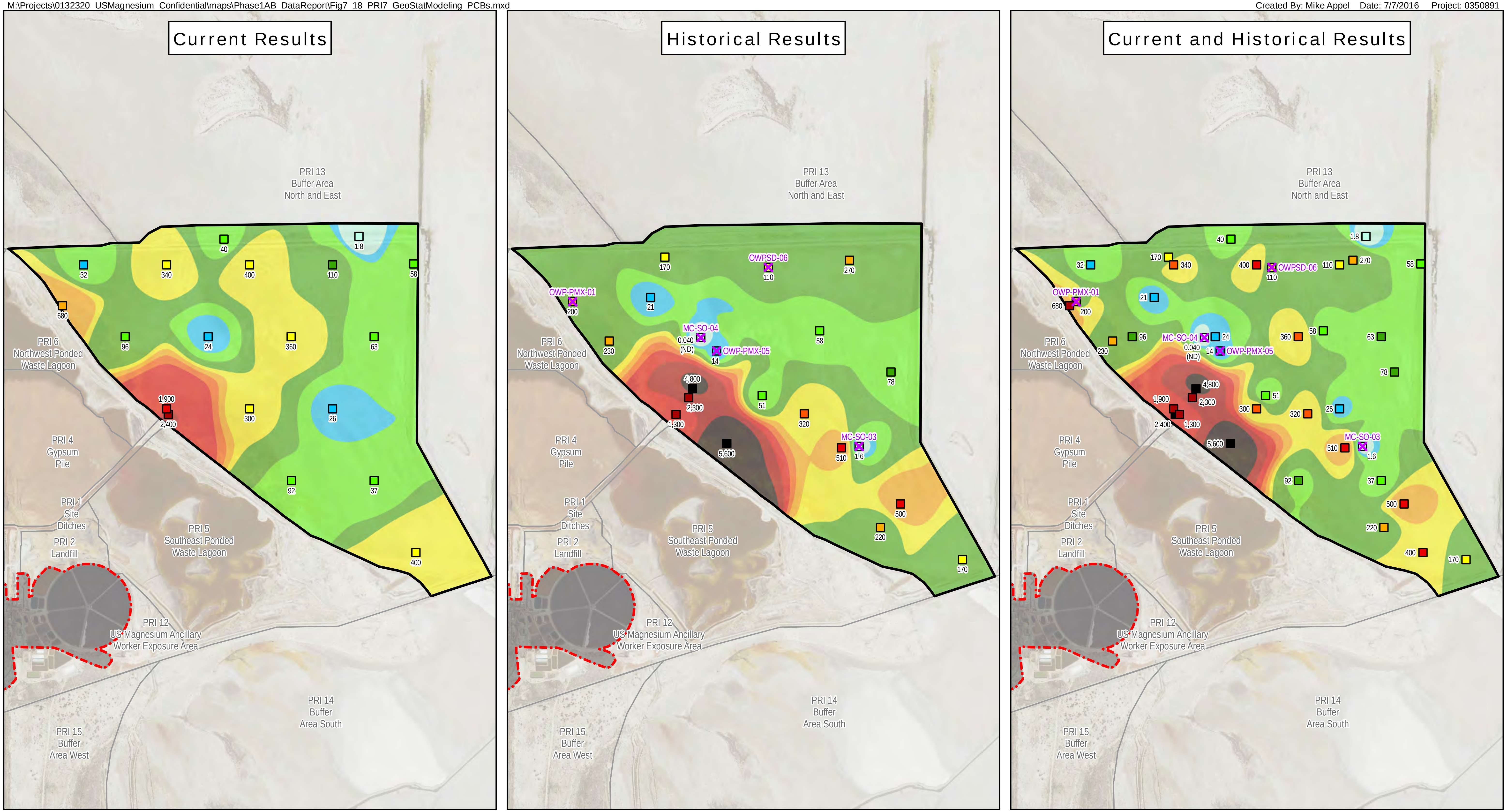
Created By: Mike Appel Date: 7/7/2016 Project: 0350891



Legend

🟥 Operating Facility

⬛ Preliminary Remedial Investigation Area 7 (Northeast Ponded Waste Lagoon)

☐ Other Preliminary Remedial Investigation Areas

× Historical data not representative of current site conditions

Total PCBs in Surface Soil (µg/kg) Interploation and Points

- ☐ < 13
- 🟦 14 - 32
- 🟩 33 - 96
- 🟩 97 - 268
- 🟨 269 - 418
- 🟧 419 - 679
- 🟧 680 - 1,166
- 🟥 1,167 - 2,270
- 🟥 2,271 - 4,080
- ⬛ > 4,081

NOTES:
- All boundaries approximate, provided by EPA.
- Interpolation conducted in ArcGIS using Inverse Distance Weighting (IDW) Geostatistical analysis Values are an estimate based on spatial statistics
- Concentration intervals for interpolation and point symbology are based on range of Total PCBs concentrations in recent and historical samples from PRIs 4, 5, 6, and 7.

N

0 1,000 2,000 Feet

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-18

Geostatistical Modeling Results for Total PCB Concentrations
Northeast Ponded Waste Lagoon PRI Area 7
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
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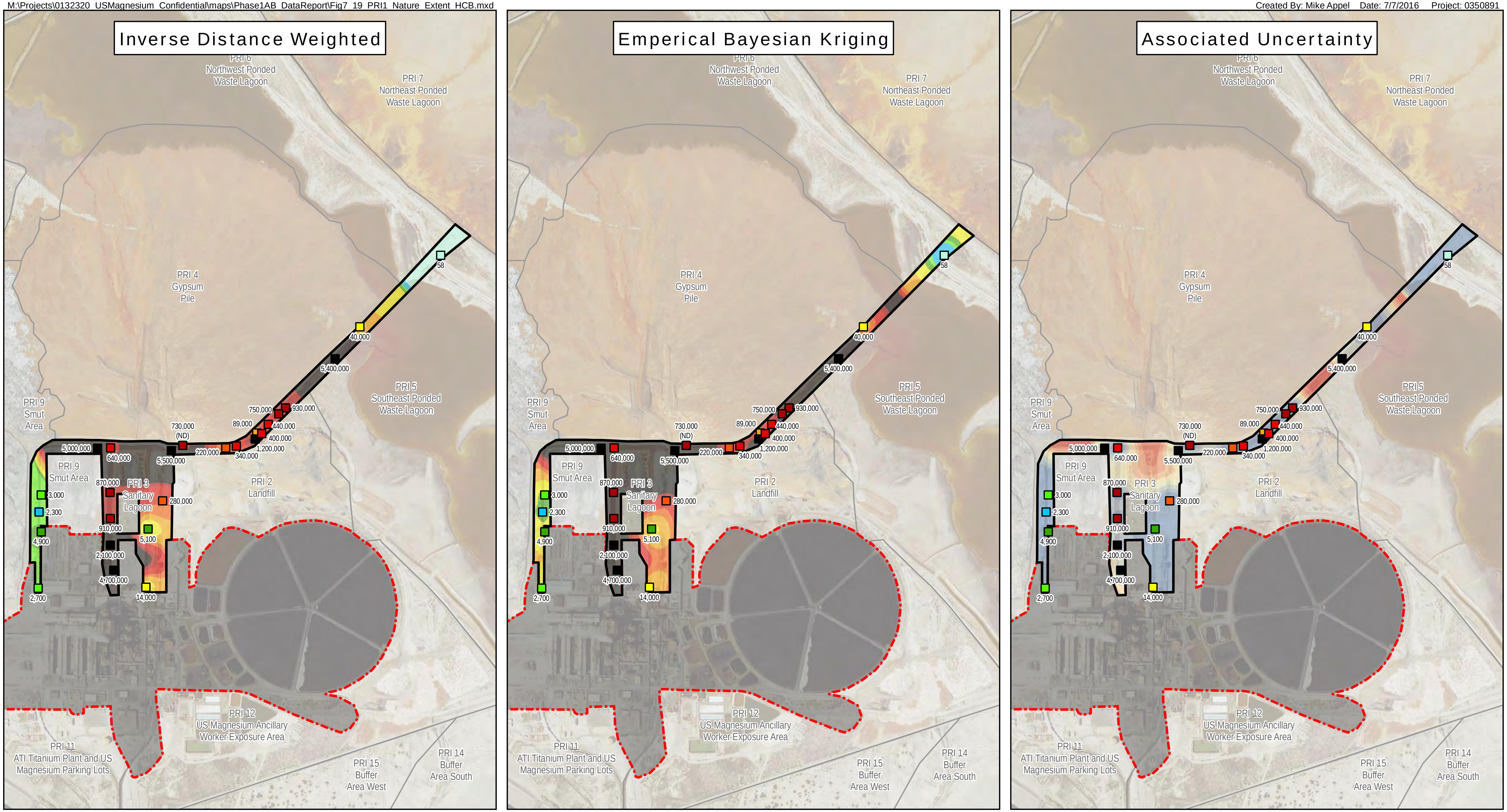
Created By: Mike Appel Date: 7/7/2016 Project: 0350891



Legend

⬚ Operating Facility	HCB in Surface Soil	🟨 11,000 - 51,000	Prediction Standard Error	⬜ 14,000,000 - 25,000,000
⬜ Preliminary Remedial Investigation Area 1 (Ditches)	(µg/kg)	🟧 51,000 - 170,000	(µg/kg)	⬜ 25,000,000 - 39,000,000
	⬜ < 130	🟧 170,000 - 280,000	🟦 < 310	🟧 39,000,000 - 57,000,000
	🟦 130 - 2,400	🟥 280,000 - 640,000	🟦 310 - 3,600,000	🟧 57,000,000 - 79,000,000
⬜ Other Preliminary Remedial Investigation Areas	🟩 2,400 - 4,500	🟥 640,000 - 930,000	⬜ 3,600,000 - 7,100,000	🟥 79,000,000 - 120,000,000
	🟩 4,500 - 11,000	⬛ > 930,000	⬜ 7,100,000 - 14,000,000	🟥 > 120,000,000

0 900 1,800 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-19

Nature and Extent of HCB Concentrations
Ditches - PRI Area 1
OU-1 Phase 1A-B RI Data Report
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Created By: Mike Appel Date: 7/20/2016 Project: 0350891

Legend

▭	Operating Facility
▭	Preliminary Remedial Investigation Area 1 (Ditches)
▭	Other Preliminary Remedial Investigation Areas

Mammal TEQ in Surface Soil (pg/g)

🟦	< 86
🟦	86 - 290
🟩	290 - 550
🟩	550 - 2,900
🟨	2,900 - 8,400
🟧	8,400 - 13,000
🟧	13,000 - 21,000
🟥	21,000 - 34,000
🟥	34,000 - 98,000
⬛	> 98,000

Prediction Standard Error (pg/g)

🟦	< 27
🟦	27 - 74,100,000
⬜	74,100,000 - 148,000,000
⬜	148,000,000 - 297,000,000
⬜	297,000,000 - 593,000,000
⬜	593,000,000 - 1,040,000,000
🟧	1,040,000,000 - 2,000,000,000
🟧	2,010,000,000 - 3,560,000,000
🟥	3,560,000,000 - 6,970,000,000
🟥	> 6,970,000,000

0 900 1,800 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-20

Nature and Extent of Mammal TEQ Concentrations
Ditches - PRI Area 1
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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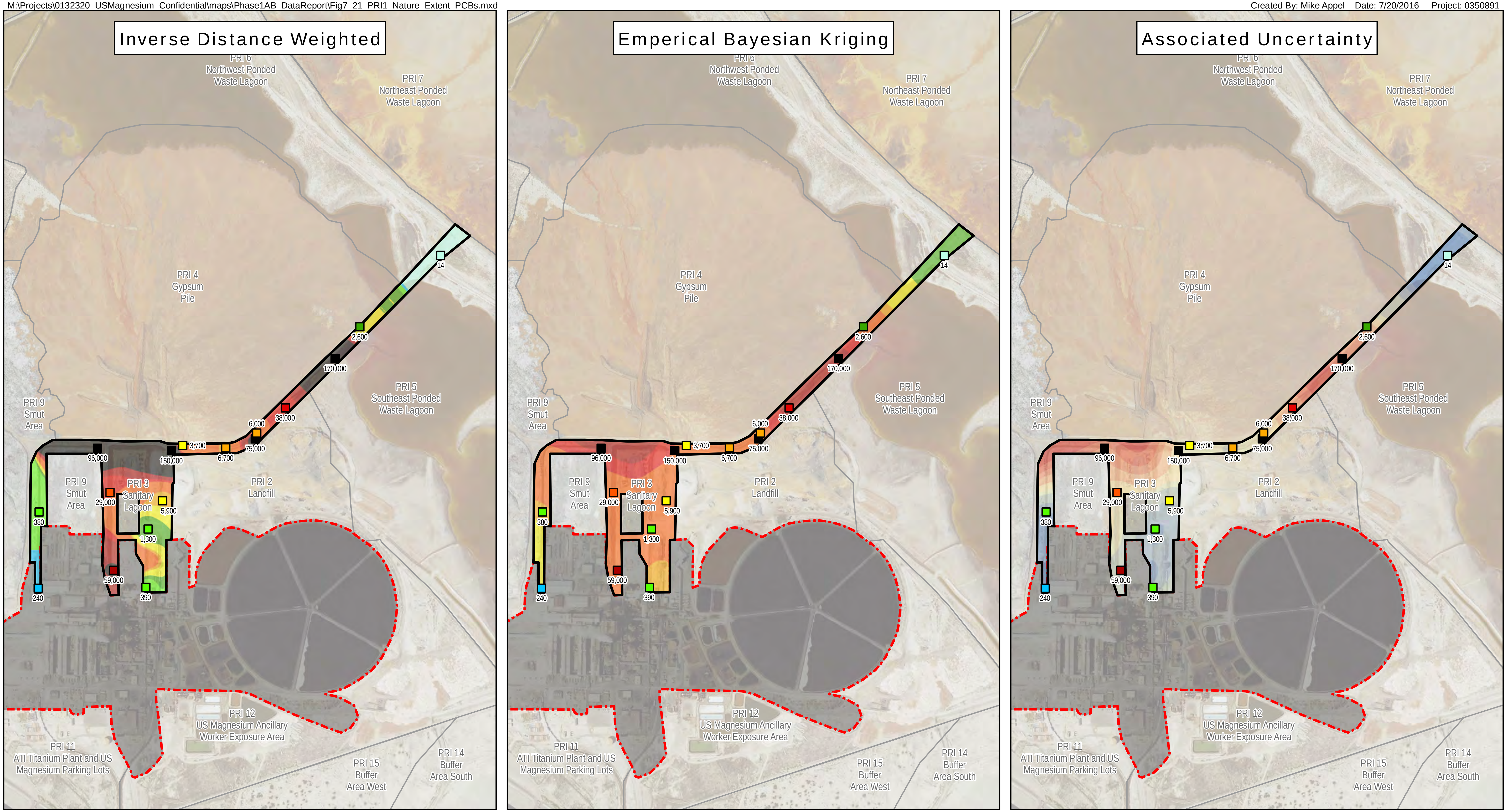

Legend

Operating Facility

Preliminary Remedial Investigation Area 1 (Ditches)

Other Preliminary Remedial Investigation Areas

Total PCBs in Surface Soil (µg/kg)

- < 100
- 100 - 310
- 310 - 1,250
- 1,250 - 2,630
- 2,630 - 5,900
- 5,900 - 7,357
- 7,357 - 28,700
- 28,700 - 38,000
- 38,000 - 59,000
- > 59,000

Prediction Standard Error (µg/kg)

- < 9,827
- 9,827 - 12,531
- 12,532 - 16,588
- 16,589 - 26,055
- 26,056 - 32,818
- 32,819 - 49,047
- 49,048 - 76,096
- 76,097 - 103,144
- 103,145 - 145,070
- > 145,070

0 900 1,800 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-21

Nature and Extent of Total PCB Concentrations
Ditches - PRI Area 1
OU-1 Phase 1A-B RI Data Report
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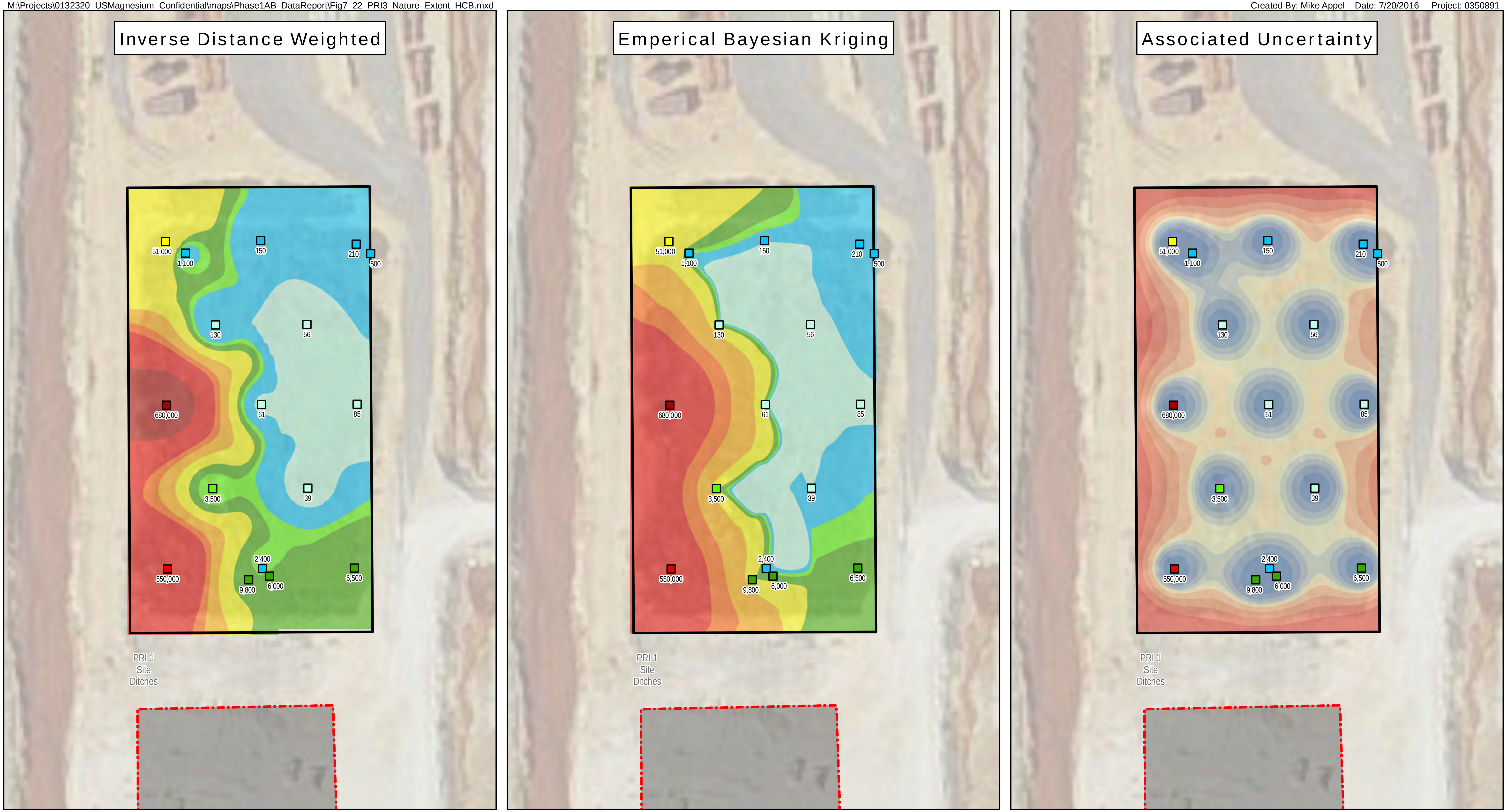
M:\Projects\0132320_USMagnesium_Confidential\maps\Phase1AB_DataReport\Fig7_22_PRI3_Nature_Extent_HCB.mxd

Created By: Mike Appel Date: 7/20/2016 Project: 0350891



Legend

- ▭ Operating Facility
- ▭ Preliminary Remedial Investigation Area 3 (Sanitary Lagoon)
- ▭ Other Preliminary Remedial Investigation Areas

HCB in Surface Soil (µg/kg)

- ▇ < 130
- ▇ 130 - 2,400
- ▇ 2,400 - 4,500
- ▇ 4,500 - 11,000
- ▇ 11,000 - 51,000
- ▇ 51,000 - 170,000
- ▇ 170,000 - 280,000
- ▇ 280,000 - 640,000
- ▇ 640,000 - 930,000
- ▇ > 930,000

Prediction Standard Error (µg/kg)

- ▇ < 100,200
- ▇ 100,200 - 115,300
- ▇ 115,300 - 122,800
- ▇ 122,800 - 127,800
- ▇ 127,800 - 131,200
- ▇ 131,200 - 134,500
- ▇ 134,500 - 145,400
- ▇ 145,400 - 158,700
- ▇ 158,700 - 174,600
- ▇ > 174,600

0 80 160 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-22

Nature and Extent of HCB Concentrations
Sanitary Lagoon - PRI Area 3
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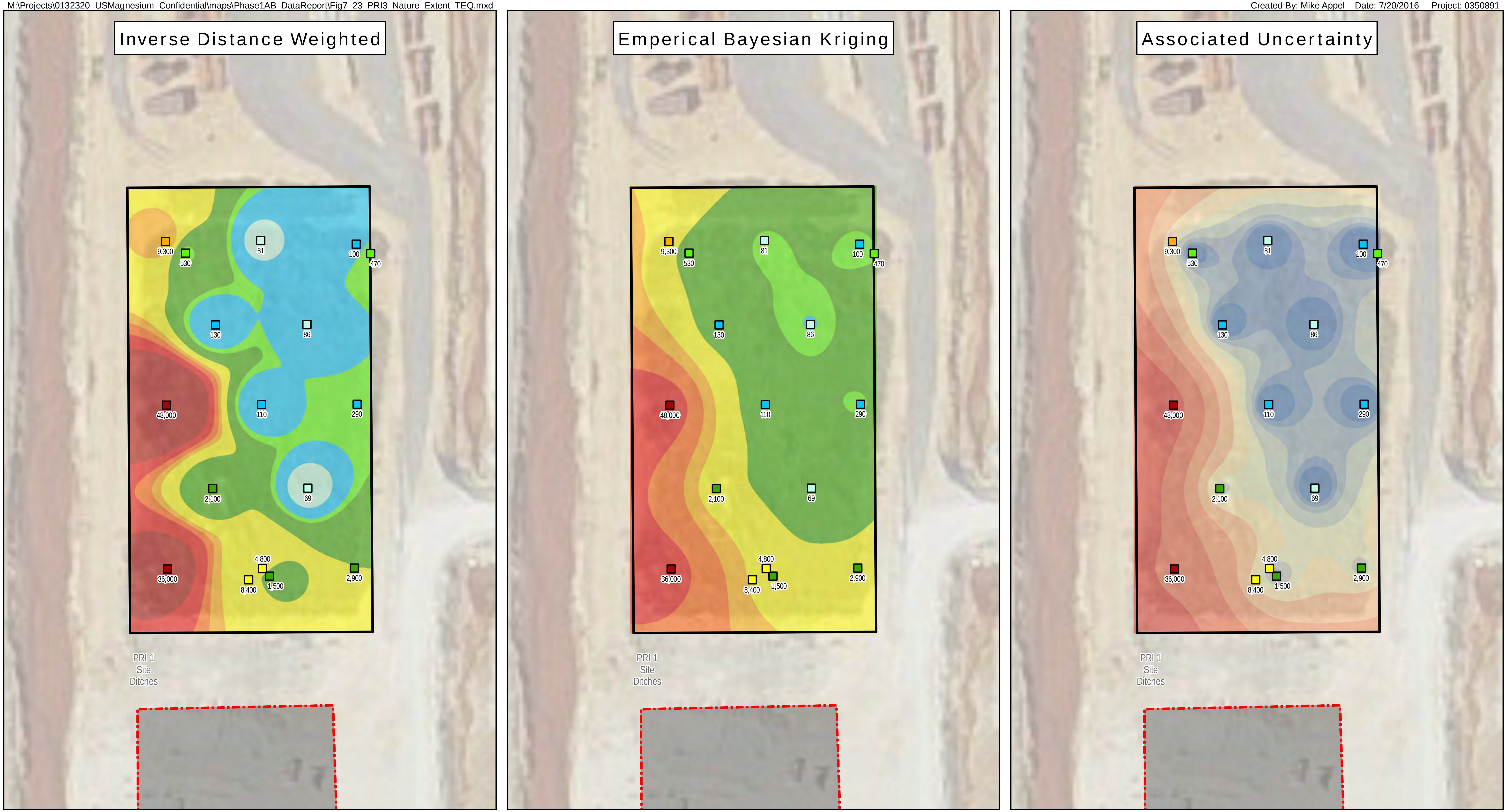
Created By: Mike Appel Date: 7/20/2016 Project: 0350891



Legend

🟥 Operating Facility

⬜ Preliminary Remedial Investigation Area 3 (Sanitary Lagoon)

⬜ Other Preliminary Remedial Investigation Areas

Mammal TEQ in Surface Soil (pg/g)

- < 86
- 86 - 290
- 290 - 550
- 550 - 2,900
- 2,900 - 8,400
- 8,400 - 13,000
- 13,000 - 21,000
- 21,000 - 34,000
- 34,000 - 98,000
- > 98,000

Prediction Standard Error (pg/g)

- < 1,864
- 1,865 - 2,230
- 2,231 - 2,815
- 2,816 - 3,839
- 3,840 - 4,790
- 4,791 - 6,619
- 6,620 - 9,252
- 9,253 - 12,251
- 12,252 - 15,689
- > 15,690

0 80 160 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-23

Nature and Extent of Mammal TEQ Concentrations
Sanitary Lagoon - PRI Area 3
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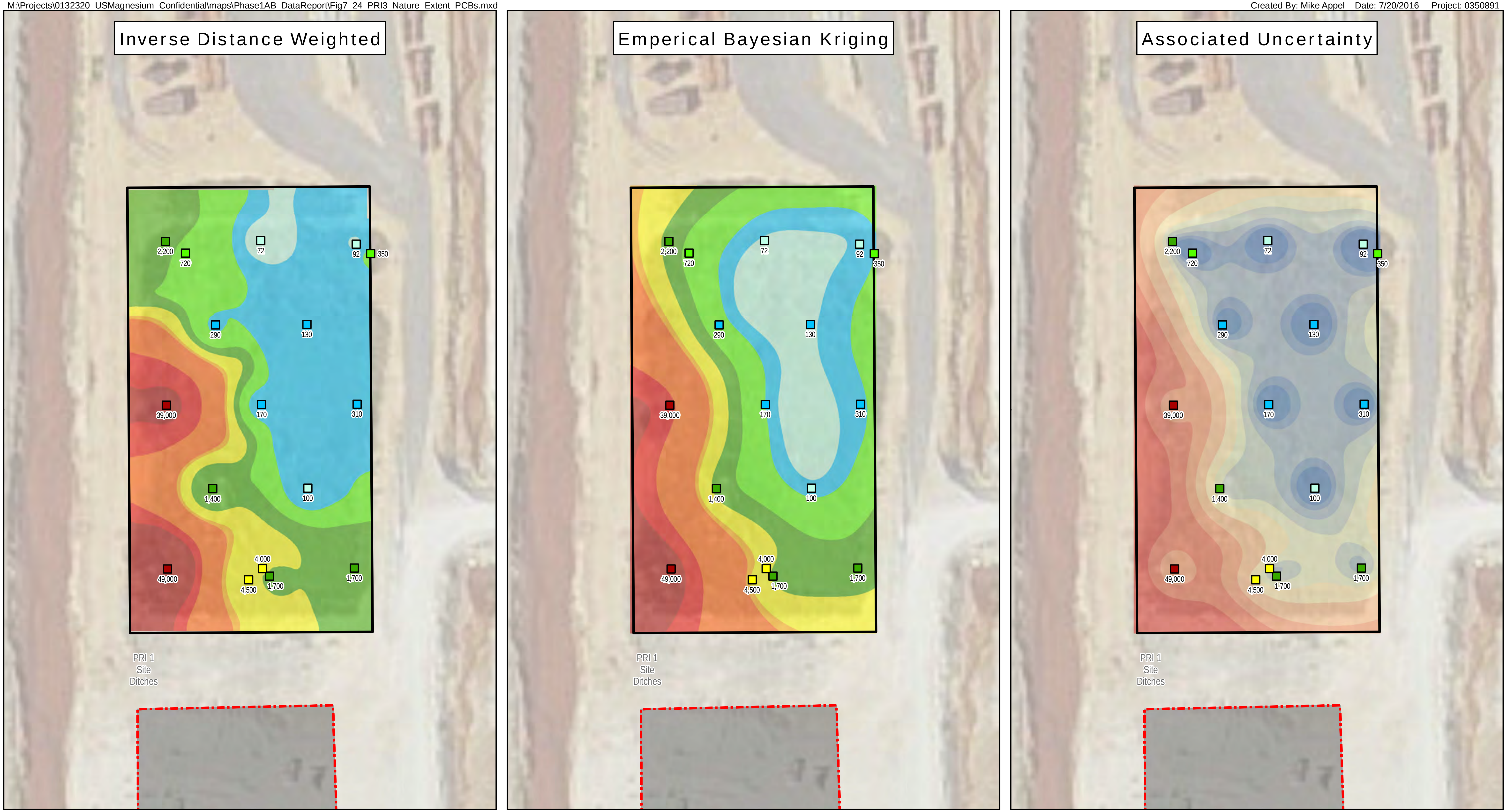

Inverse Distance Weighted

Emperical Bayesian Kriging

Associated Uncertainty

Legend

Operating Facility

Preliminary Remedial Investigation Area 3 (Sanitary Lagoon)

Other Preliminary Remedial Investigation Areas

Total PCBs in Surface Soil (µg/kg)

- < 100
- 100 - 310
- 310 - 1,250
- 1,250 - 2,630
- 2,630 - 5,900
- 5,900 - 7,357
- 7,357 - 28,700
- 28,700 - 38,000
- 38,000 - 59,000
- > 59,000

Standard Error Prediction (µg/kg)

- < 730
- 730 - 820
- 820 - 1,020
- 1,020 - 1,500
- 1,500 - 2,280
- 2,280 - 4,140
- 4,140 - 7,250
- 7,250 - 10,080
- 10,080 - 13,390
- > 13,390

0 80 160 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-24

Nature and Extent of Total PCB Concentrations
Sanitary Lagoon - PRI Area 3
OU-1 Phase 1A-B RI Data Report
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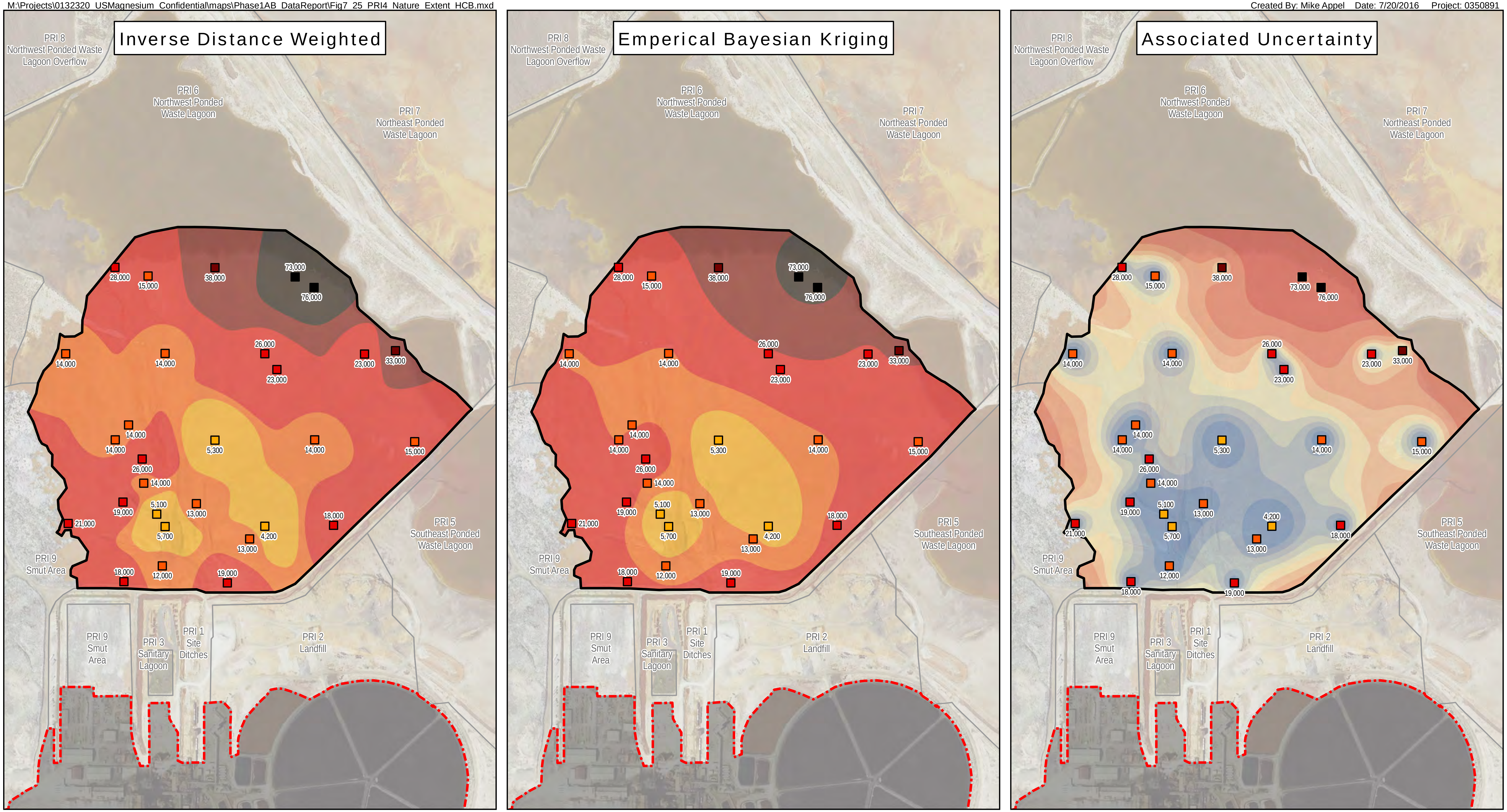
M:\Projects\0132320_USMagnesium_Confidential\maps\Phase1AB_DataReport\Fig7_25_PRI4_Nature_Extent_HCB.mxd

Created By: Mike Appel Date: 7/20/2016 Project: 0350891



Legend

▭ Operating Facility

▭ Preliminary Remedial Investigation Area 4 (Gypsum Pile)

▭ Other Preliminary Remedial Investigation Areas

HCB in Surface Solids (µg/kg)
- 🟦 < 23
- 🟦 24 - 61
- 🟩 61 - 210
- 🟩 210 - 720
- 🟨 720 - 3,700
- 🟧 3,700 - 11,000
- 🟧 11,000 - 15,000
- 🟥 15,000 - 28,000
- 🟫 28,000 - 58,000
- ⬛ > 58,000

Standard Error Prediction (µg/kg)
- 🟦 < 4,150
- 🟦 4,150 - 4,800
- ⬜ 4,800 - 5,360
- ⬜ 5,360 - 5,920
- ⬜ 5,920 - 6,380
- 🟨 6,380 - 7,040
- 🟧 7,040 - 7,780
- 🟧 7,780 - 8,990
- 🟧 8,990 - 13,180
- 🟥 > 13,180

0 800 1,600 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-25

Nature and Extent of HCB Concentrations
Gypsum Pile PRI Area 4
OU-1 Phase 1A-B RI Data Report
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M:\Projects\0132320_USMagnesium_Confidential\maps\Phase1AB_DataReport\Fig7_26_PRI4_Nature_Extent_TEQ.mxd

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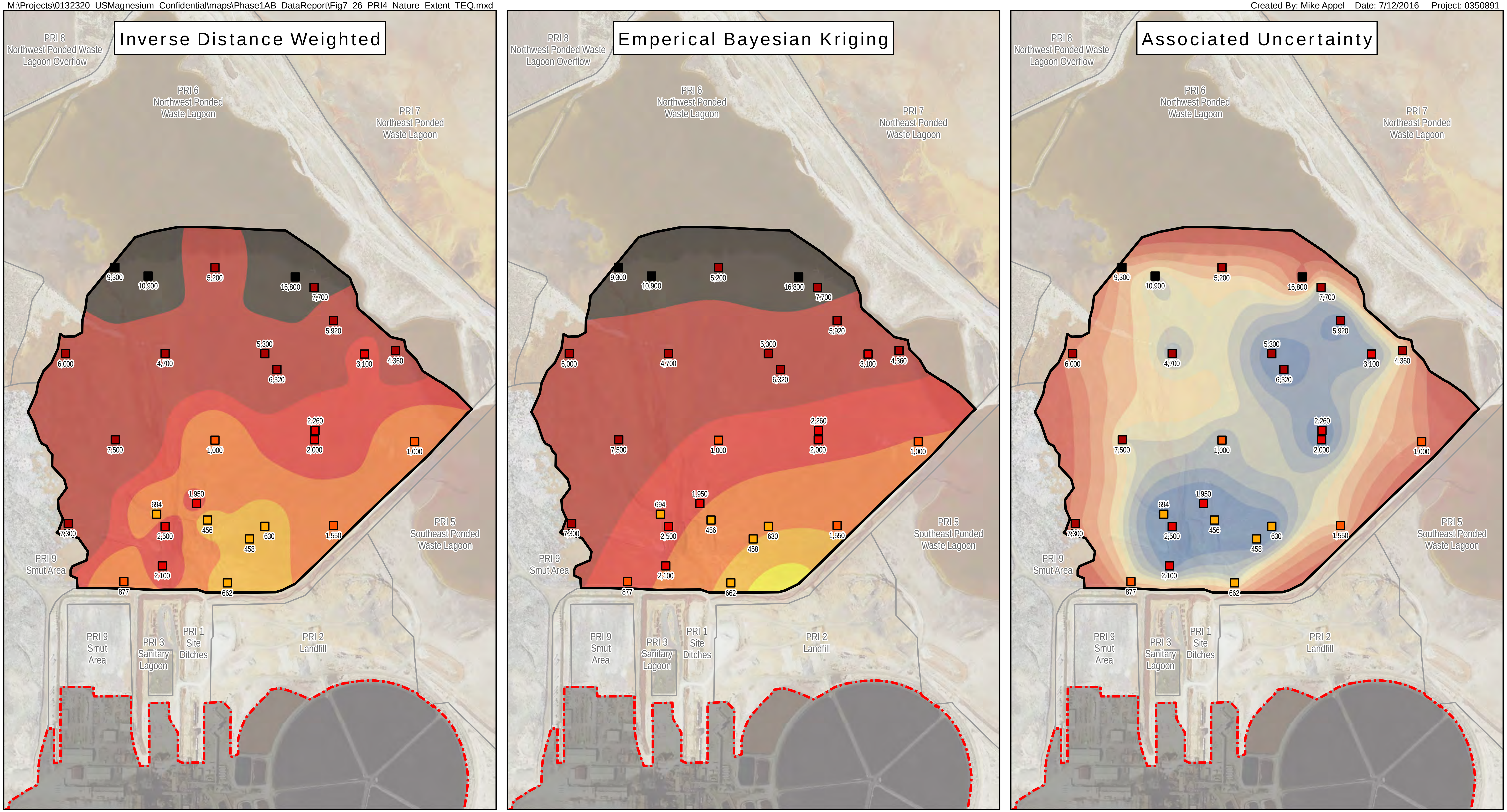

Legend

🟥 Operating Facility

⬜ Preliminary Remedial Investigation Area 4 (Gypsum Pile)

⬜ Other Preliminary Remedial Investigation Areas

Mammal TEQ in Surface Soil (pg/g)
- 🟦 < 3
- 🟦 3 - 13
- 🟩 13 - 50
- 🟩 50 - 150
- 🟨 150 - 393
- 🟨 393 - 772
- 🟧 772 - 1,800
- 🟥 1,800 - 3,620
- 🟥 3,620 - 7,700
- ⬛ > 7,700

Prediction Standard Error (pg/g)
- 🟦 < 1,127
- 🟦 1,128 - 1,183
- ⬜ 1,184 - 1,228
- ⬜ 1,229 - 1,261
- ⬜ 1,262 - 1,289
- 🟨 1,290 - 1,334
- 🟧 1,335 - 1,401
- 🟧 1,402 - 1,490
- 🟥 1,491 - 1,619
- 🟥 > 1,620

0 800 1,600 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-26

Nature and Extent of Mammal TEQ Concentrations
Gypsum Pile PRI Area 4
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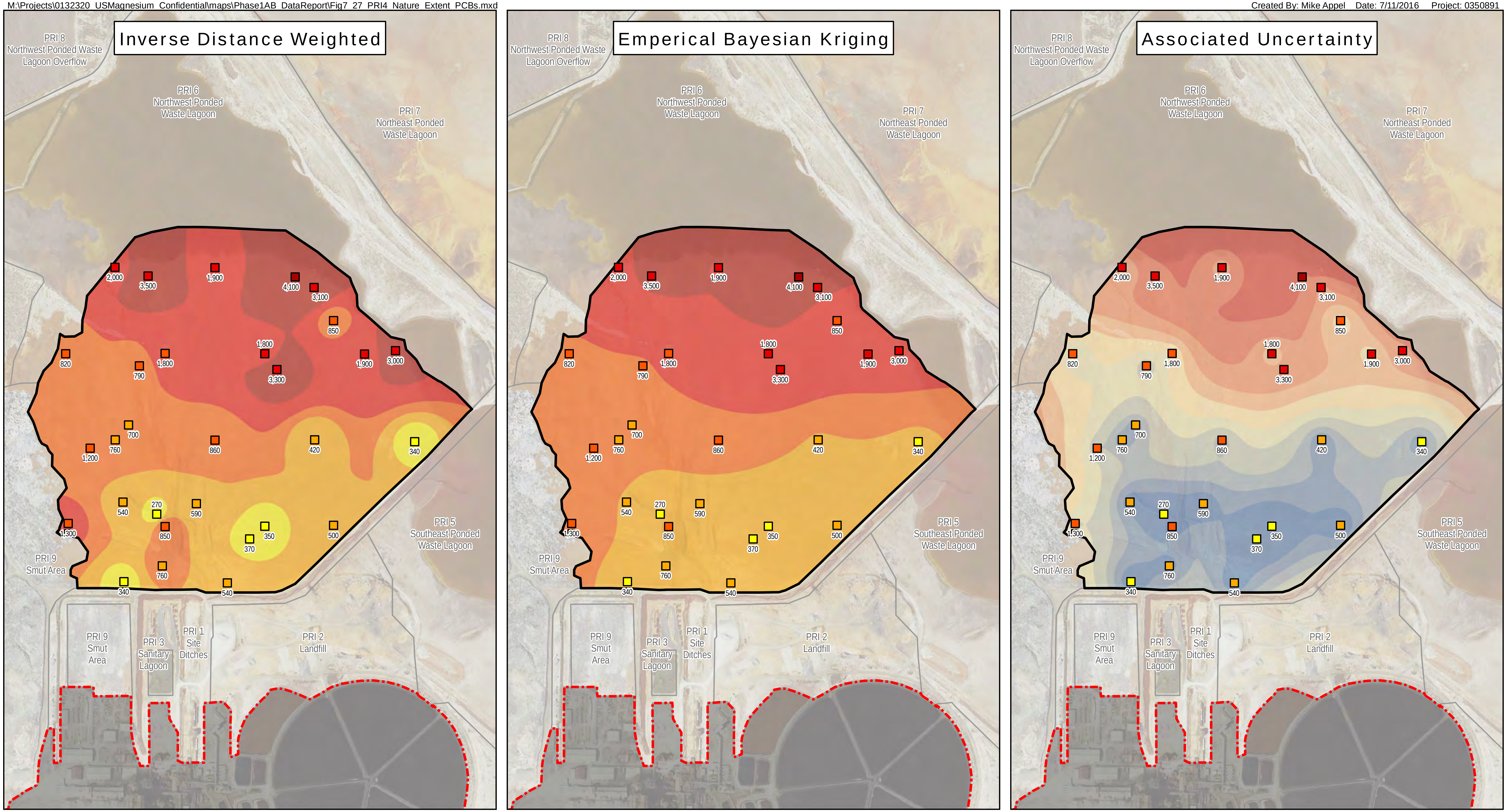

Legend

🟥 Operating Facility

▭ Preliminary Remedial Investigation Area 4 (Gypsum Pile)

▭ Other Preliminary Remedial Investigation Areas

Total PCBs in Surface Soil (µg/kg)

- < 13
- 14 - 32
- 33 - 96
- 97 - 268
- 269 - 418
- 419 - 679
- 680 - 1,166
- 1,167 - 2,270
- 2,271 - 4,080
- > 4,081

Prediction Standard Error (µg/kg)

- < 205
- 205 - 240
- 241 - 277
- 278 - 339
- 340 - 412
- 413 - 515
- 516 - 614
- 615 - 733
- 734 - 910
- > 910

0 800 1,600 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-27

Nature and Extent of Total PCB Concentrations
Gypsum Pile PRI Area 4
OU-1 Phase 1A-B RI Data Report
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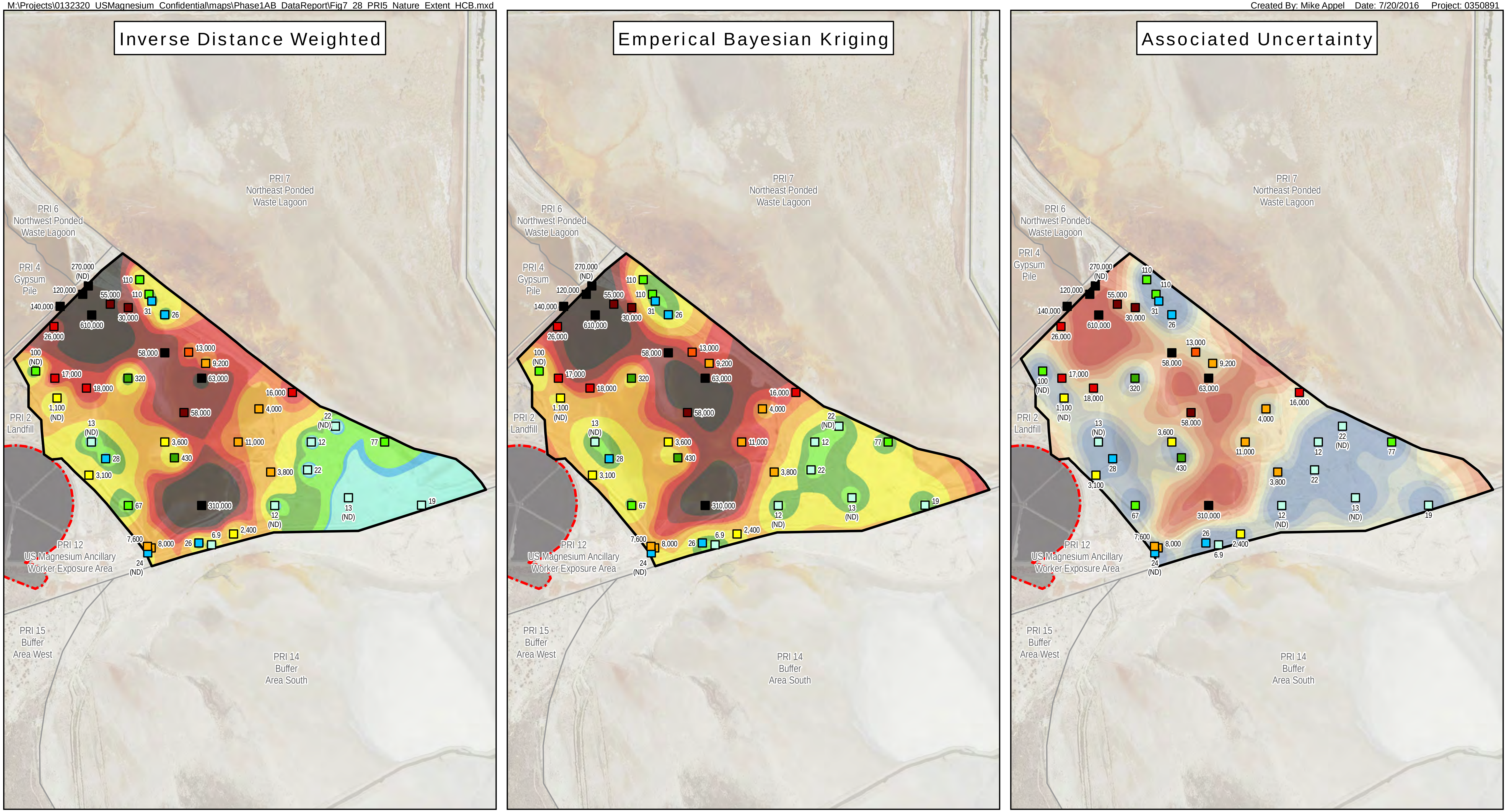

Legend

🟥 Operating Facility

▭ Preliminary Remedial Investigation Area 5 (Southeast Ponded Waste Lagoon)

☐ Other Preliminary Remedial Investigation Areas

HCB in Surface Soil (µg/ kg)

- < 23
- 23 - 61
- 61 - 210
- 210 - 720
- 720 - 3,700
- 3,700 - 11,000
- 11,000 - 15,000
- 15,000 - 28,000
- 28,000 - 58,000
- >58,000

Standard Error Prediection (µg/ kg)

- < 285
- 285 - 6,820
- 6,820 - 13,360
- 13,360 - 23,170
- 23,170 - 36,240
- 36,240 - 59,120
- 59,120 - 98,350
- 98,350 - 163,730
- 163,730 - 248,720
- > 248,720

0 1,200 2,400 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-28

Nature and Extent of HCB Concentrations
Southeast Ponded Waste Lagoon - PRI Area 5
OU-1 Phase 1A-B RI Data Report
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Tooele County, Utah

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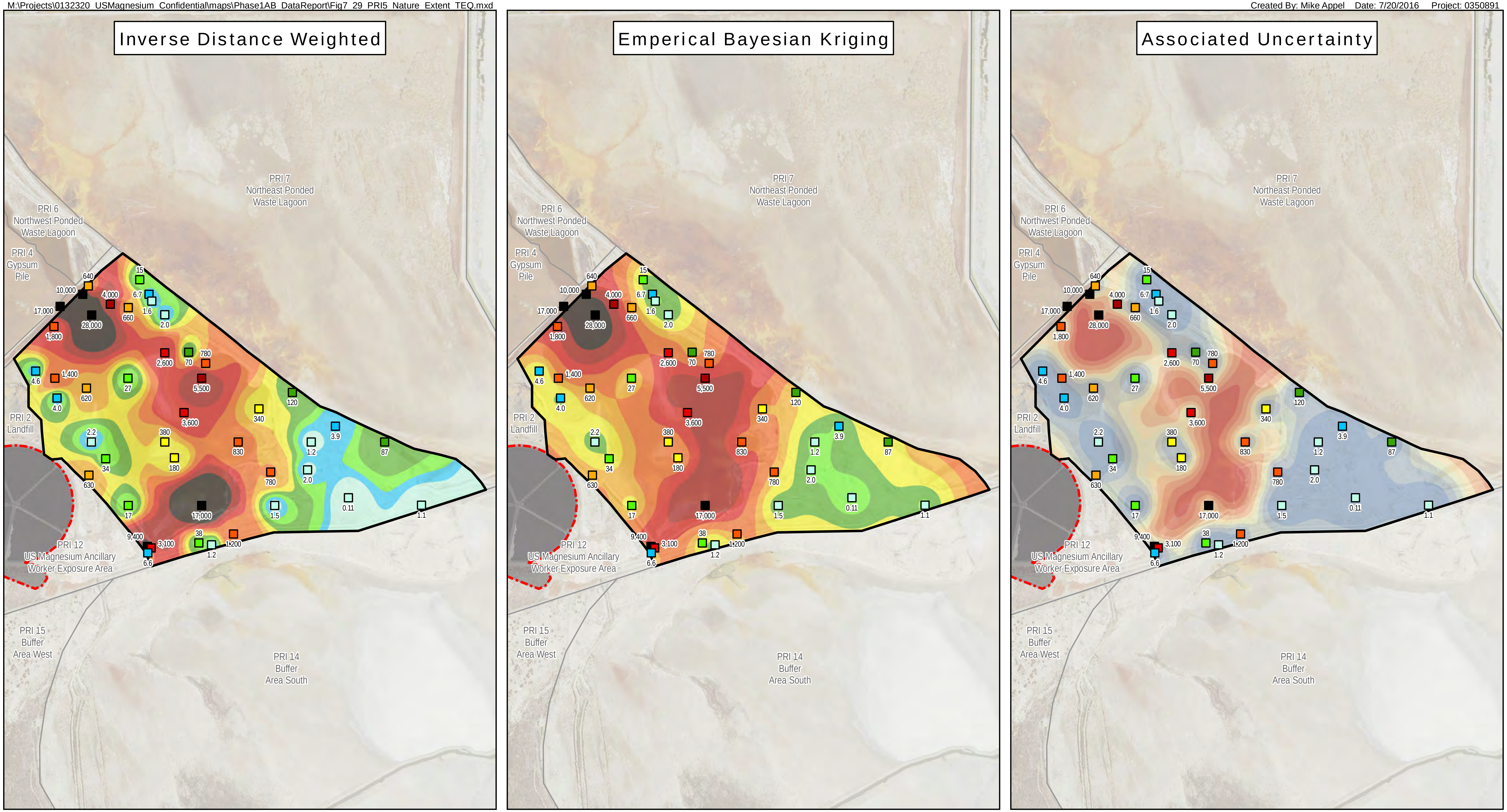
M:\Projects\0132320_USMagnesium_Confidential\maps\Phase1AB_DataReport\Fig7_29_PRI5_Nature_Extent_TEQ.mxd

Created By: Mike Appel Date: 7/20/2016 Project: 0350891



Legend

- 🟥 Operating Facility
- ⬛ Preliminary Remedial Investigation Area 5 (Southeast Ponded Waste Lagoon)
- ⬜ Other Preliminary Remedial Investigation Areas

Mammal TEQ in Surface Soil (pg/g)

⬜	< 3
🟦	3 - 13
🟩	13 - 50
🟩	50 - 150
🟨	150 - 393
🟧	393 - 772
🟧	772 - 1,800
🟥	1,800 - 3,620
🟥	3,620 - 7,700
⬛	> 7,700

Prediction Standard Error (pg/g)

🟦	< 38
🟦	39 - 1,976
⬜	1,977 - 5,853
⬜	5,854 - 11,668
⬜	11,669 - 19,422
🟨	19,423 - 31,052
🟧	31,053 - 56,251
🟧	56,252 - 104,710
🟥	104,711 - 172,552
🟥	> 172,553

0 1,200 2,400 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-29

Nature and Extent of Mammal TEQ Concentrations
Southeast Ponded Waste Lagoon PRI Area 5
OU-1 Phase 1A-B RI Data Report
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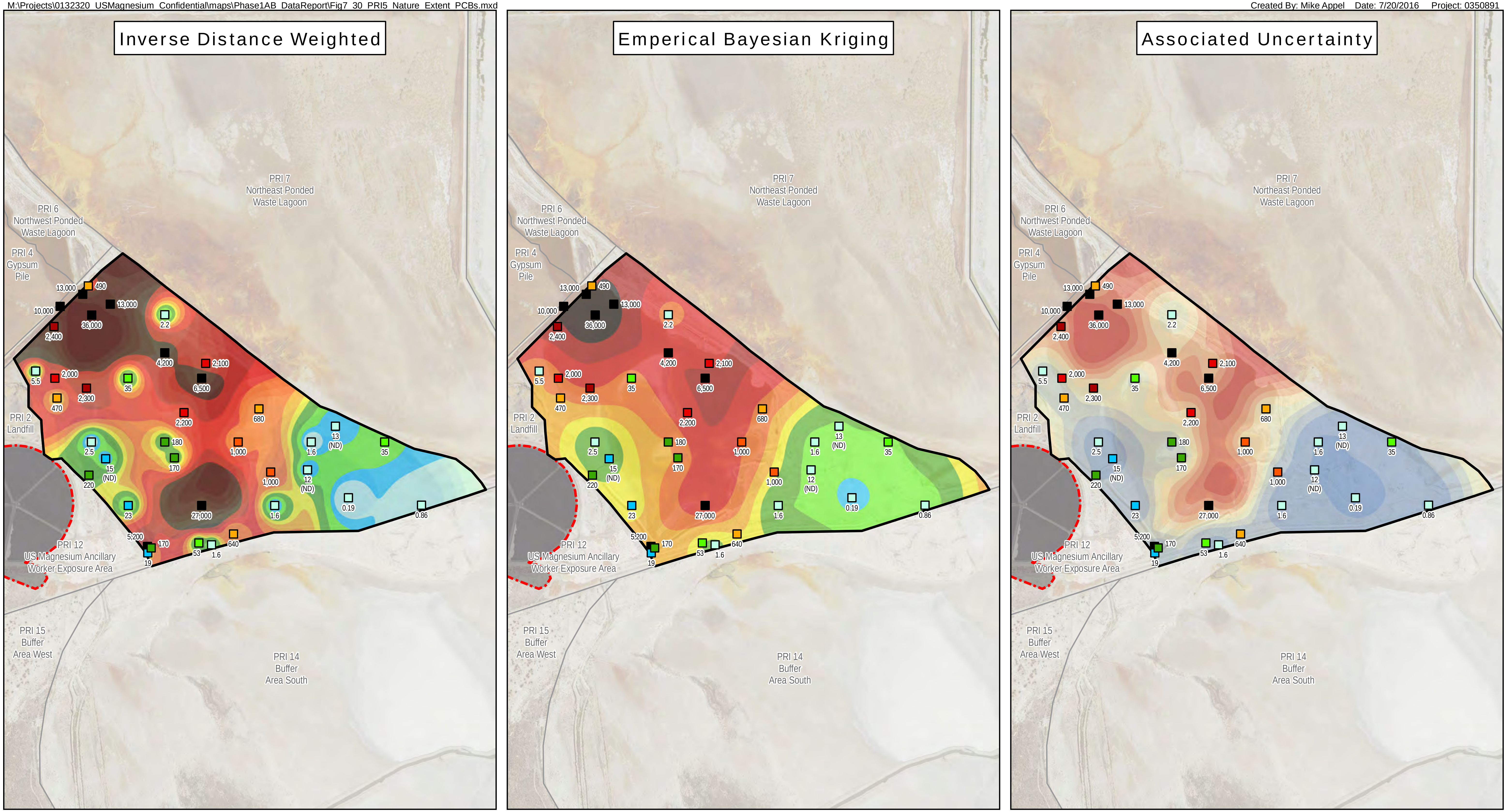

Legend

🟥 Operating Facility

⬛ Preliminary Remedial Investigation Area 5 (Southeast Ponded Waste Lagoon)

⬜ Other Preliminary Remedial Investigation Areas

Total PCBs in Surface Soil (µg/kg)

- ⬜ < 13
- 🟦 14 - 32
- 🟩 33 - 96
- 🟩 97 - 268
- 🟨 269 - 418
- 🟨 419 - 679
- 🟧 680 - 1,166
- 🟥 1,167 - 2,270
- 🟥 2,271 - 4,080
- ⬛ > 4,080

Prediction Standard Error (µg/kg)

- 🟦 62 - 201
- 🟦 202 - 618
- ⬜ 619 - 1,174
- ⬜ 1,175 - 1,729
- ⬜ 1,730 - 2,562
- 🟨 2,563 - 3,951
- 🟧 3,952 - 5,896
- 🟧 5,897 - 8,951
- 🟥 8,952 - 13,534
- 🟥 13,535 - 35,479

0 1,000 2,000 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-30

Nature and Extent of Total PCB Concentrations
Southeast Ponded Waste Lagoon PRI Area 5
OU-1 Phase 1A-B RI Data Report
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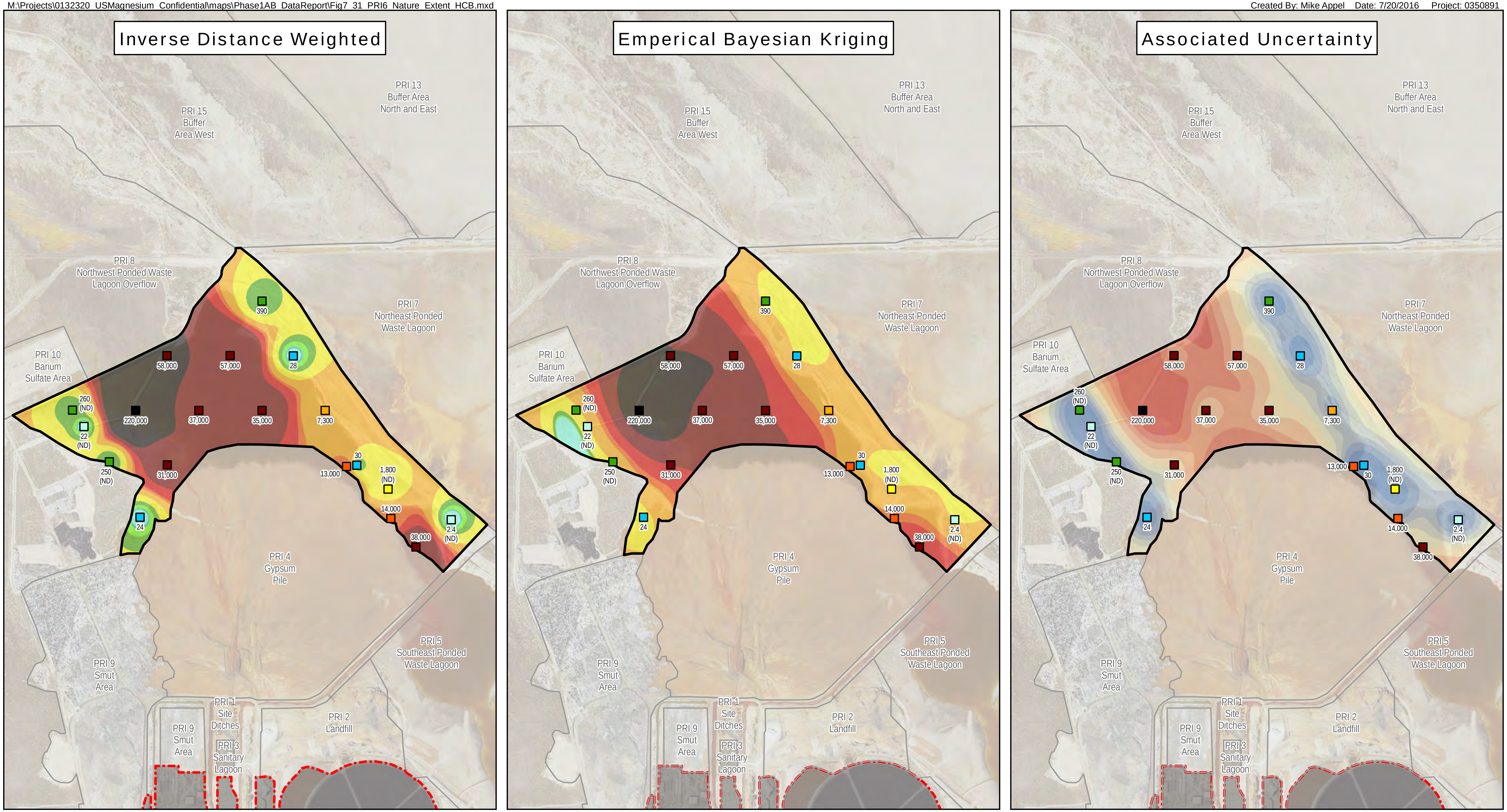

Legend

🟥 Operating Facility

⬜ Preliminary Remedial Investigation Area 6 (Northwest Ponded Waste Lagoon)

⬜ Other Preliminary Remedial Investigation Areas

HCB in Surface Soil (µg/ kg)

- <23
- 23 - 61
- 61 - 210
- 210 - 720
- 720 - 3,700
- 3,700 - 11,000
- 11,000 - 15,000
- 15,000 - 28,000
- 28,000 - 58,000
- > 58,000

Prediction Standard Error (µg/kg)

- < 8,343
- 8,343 - 10,320
- 10,320 - 12,020
- 12,020 - 14,560
- 14,560 - 18,230
- 18,230 - 24,170
- 24,170 - 33,210
- 33,210 - 40,560
- 40,560 - 49,600
- > 49,600

0 1,000 2,000 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-31

Nature and Extent of HCB Concentrations
Northwest Ponded Waste Lagoon PRI Area 6
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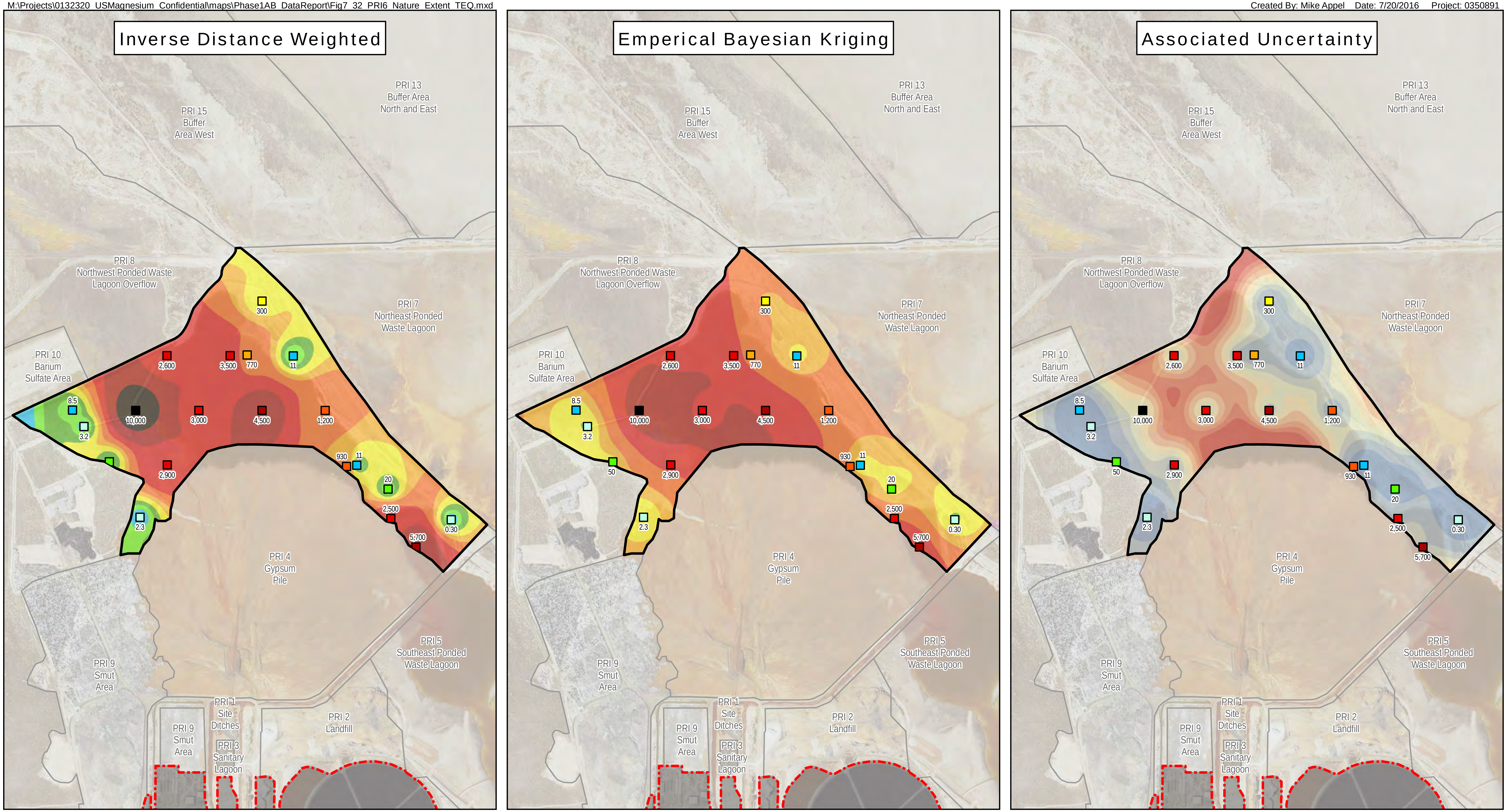

Legend

- Operating Facility
- Preliminary Remedial Investigation Area 6 (Northwest Ponded Waste Lagoon)
- Other Preliminary Remedial Investigation Areas

Mammal TEQ in Surface Soil (pg/g)

- < 3
- 3 - 13
- 13 - 50
- 50 - 150
- 150 - 393
- 393 - 772
- 772 - 1,800
- 1,800 - 3,620
- 3,620 - 7,700
- > 7,700

Prediction Standard Error (pg/g)

- < 327
- 328 - 1,046
- 1,047 - 2,483
- 2,484 - 4,638
- 4,639 - 8,230
- 8,231 - 14,695
- 14,696 - 25,471
- 25,472 - 36,247
- 36,248 - 51,333
- > 51,334

0 1,000 2,000 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-32

Nature and Extent of Mammal TEQ Concentrations
Northwest Ponded Waste Lagoon PRI Area 6
OU-1 Phase 1A-B RI Data Report
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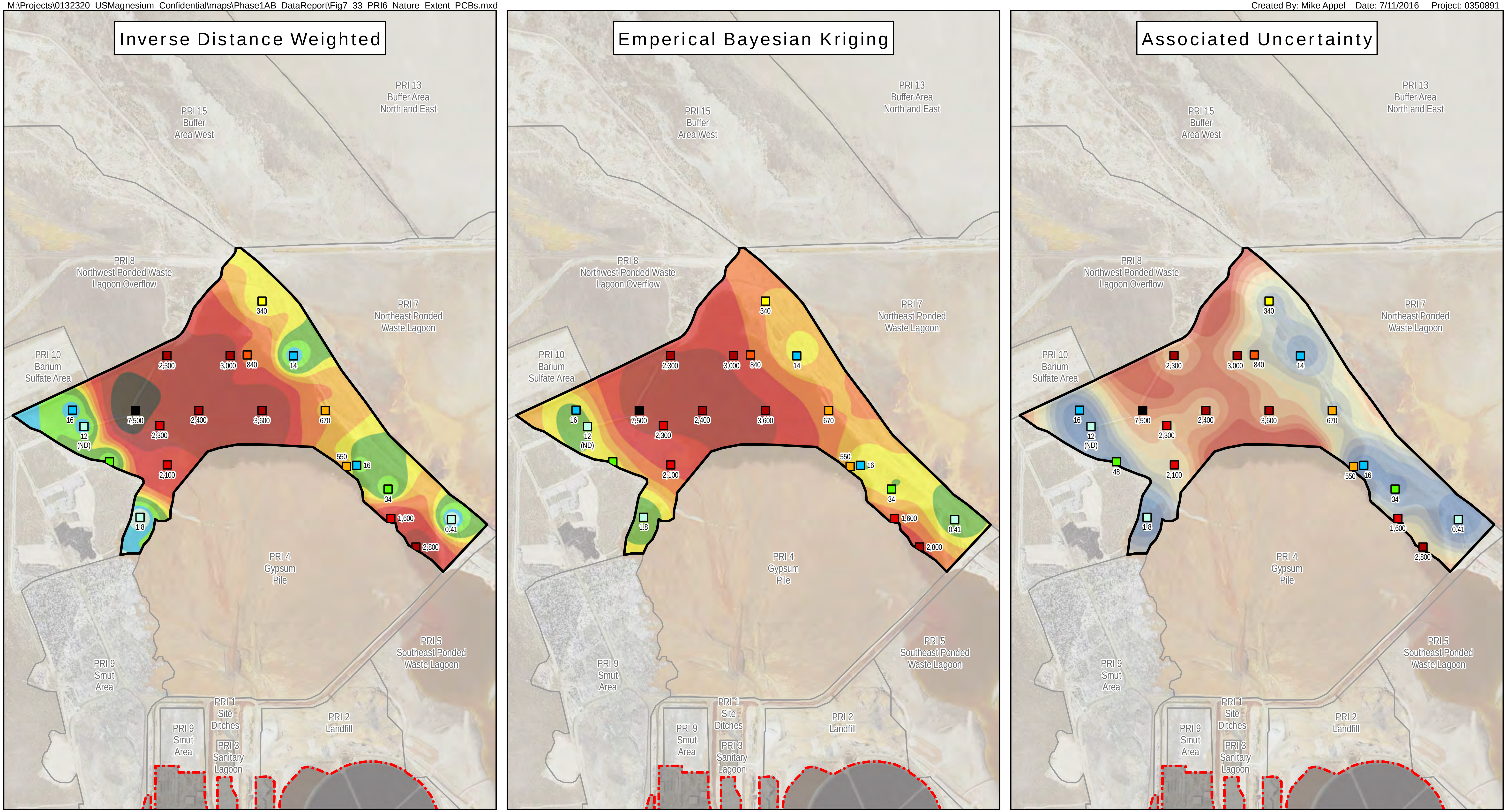

Legend

▭ Operating Facility

▭ Preliminary Remedial Investigation Area 6 (Northwest Ponded Waste Lagoon)

▭ Other Preliminary Remedial Investigation Areas

Total PCBs in Surface Soil (µg/kg)

- ▭ < 13
- ▭ 14 - 32
- ▭ 33 - 96
- ▭ 97 - 268
- ▭ 269 - 418
- ▭ 419 - 679
- ▭ 680 - 1,166
- ▭ 1,167 - 2,270
- ▭ 2,271 - 4,080
- ▭ > 4,081

Prediction Standard Error (µg/kg)

- ▭ < 443
- ▭ 444 - 590
- ▭ 591 - 736
- ▭ 737 - 883
- ▭ 884 - 1,102
- ▭ 1,103 - 1,432
- ▭ 1,433 - 1,798
- ▭ 1,799 - 2,347
- ▭ 2,348 - 3,007
- ▭ > 3,008

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-33

Nature and Extent of Total PCB Concentrations
Northwest Ponded Waste Lagoon PRI Area 6
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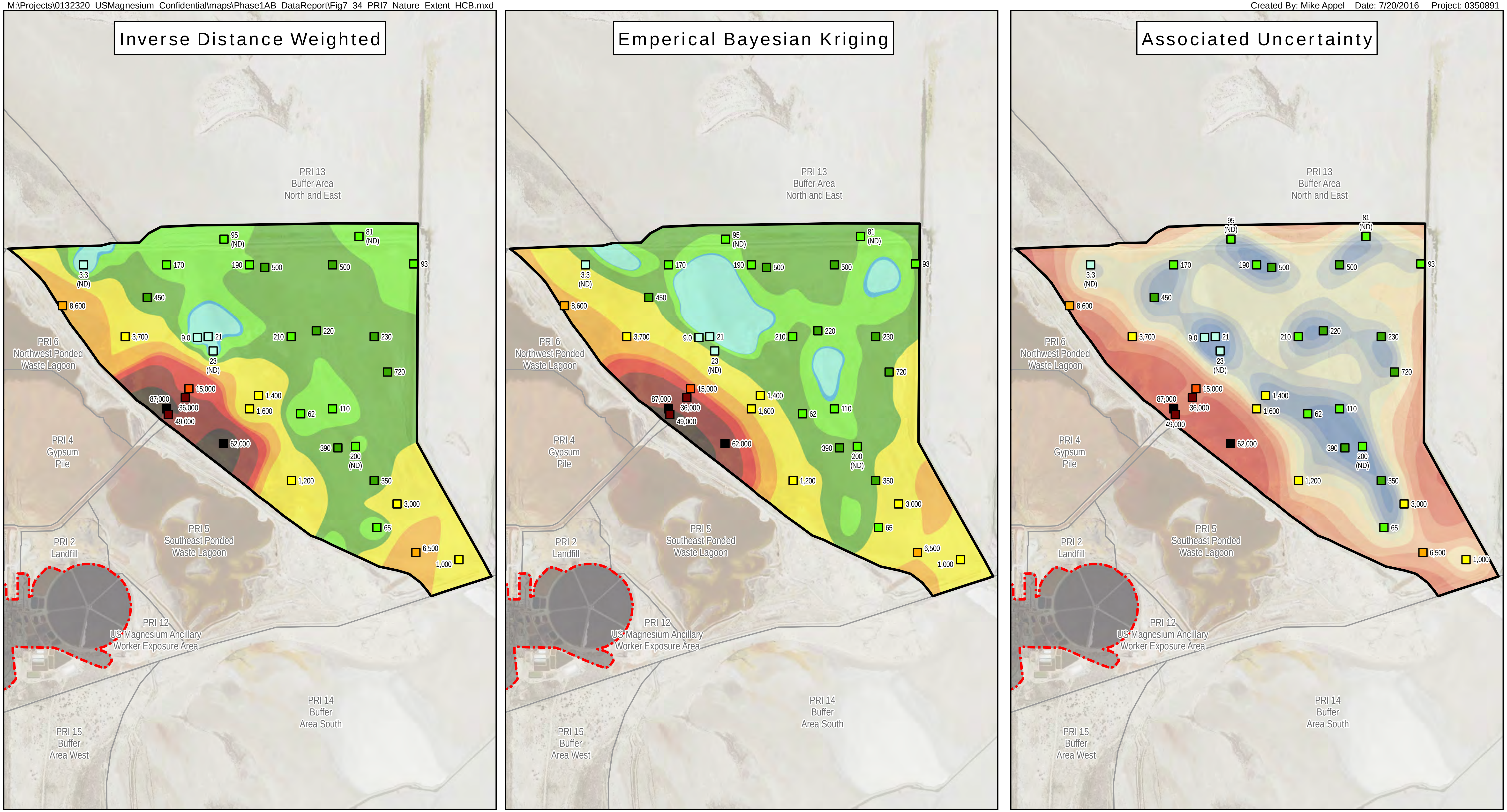

Legend

Operating Facility

Preliminary Remedial Investigation Area 7 (Northeast Ponded Waste Lagoon)

Other Preliminary Remedial Investigation Areas

HCB in Surface Soil (µg/ kg)
- 🟦 <23
- 🟦 23 - 61
- 🟩 61 - 210
- 🟩 210 - 720
- 🟨 720 - 3,700
- 🟧 3,700 - 11,000
- 🟧 11,000 - 15,000
- 🟥 15,000 - 28,000
- 🟫 28,000 - 58,000
- ⬛ > 58,000

Prediction Standard Error (µg/kg)
- 🟦 < 650
- 🟦 650 - 720
- ⬜ 720 - 790
- ⬜ 790 - 860
- ⬜ 860 - 1,000
- 🟨 1,000 - 1,280
- 🟧 1,280 - 1,770
- 🟧 1,770 - 3,300
- 🟥 3,300 - 7,680
- 🟥 > 7,680

0 1,000 2,000 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-34

Nature and Extent of HCB Concentrations
Northeast Ponded Waste Lagoon PRI Area 7
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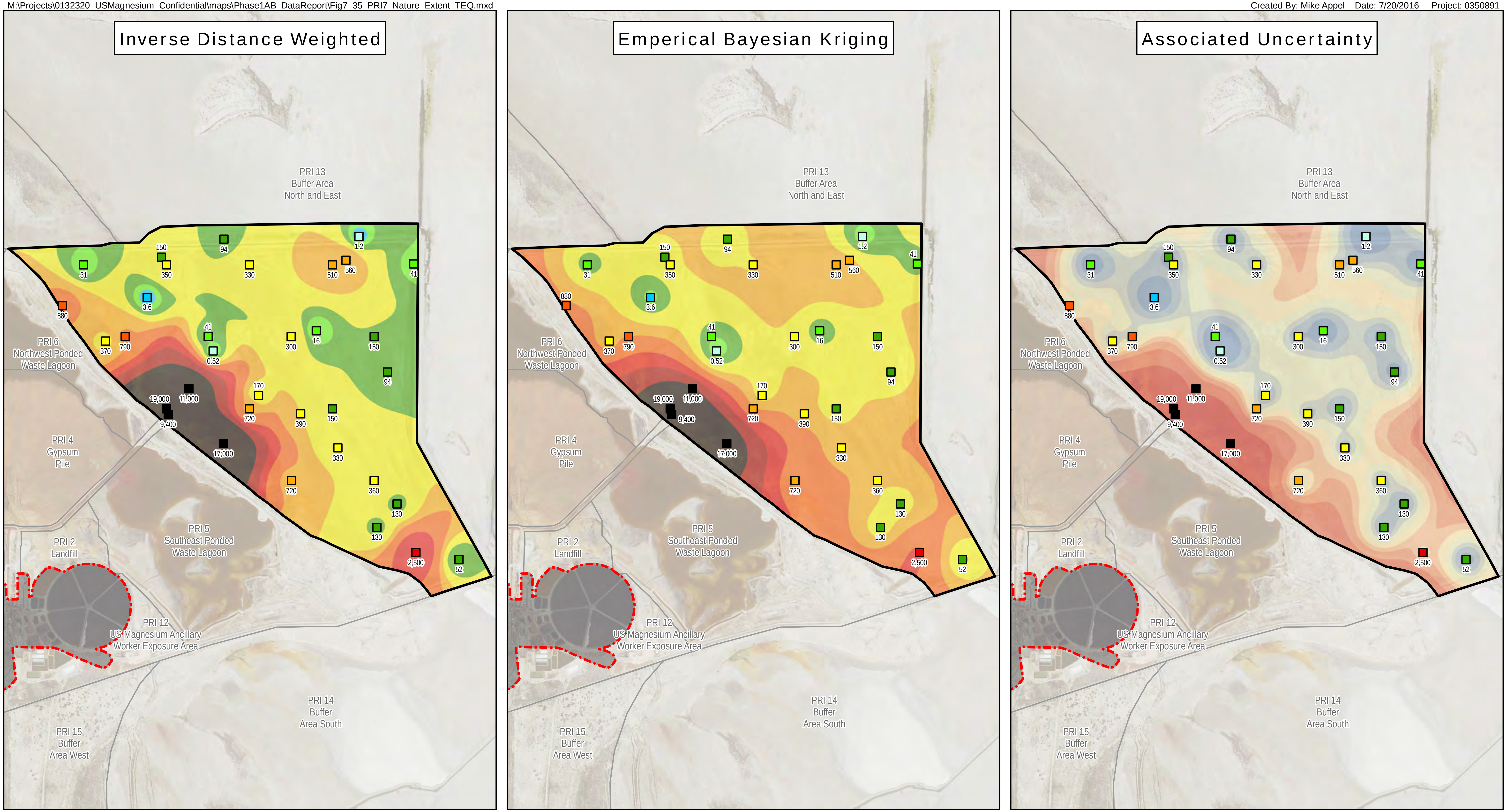
M:\Projects\0132320_USMagnesium_Confidential\maps\Phase1AB_DataReport\Fig7_35_PRI7_Nature_Extent_TEQ.mxd

Created By: Mike Appel Date: 7/20/2016 Project: 0350891



Legend

- Operating Facility
- Preliminary Remedial Investigation Area 7 (Northeast Ponded Waste Lagoon)
- Other Preliminary Remedial Investigation Areas

Mammal TEQ in Surface Soil (pg/g)

- < 3
- 3 - 13
- 13 - 50
- 50 - 150
- 150 - 393
- 393 - 772
- 772 - 1,800
- 1,800 - 3,620
- 3,620 - 7,700
- > 7,700

Prediction Standard Error (pg/g)

- < 50
- 50 - 276
- 277 - 503
- 504 - 730
- 731 - 1,183
- 1,184 - 1,864
- 1,865 - 2,545
- 2,546 - 4,133
- 4,134 - 11,167
- > 11,167

0 1,000 2,000 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-35

Nature and Extent of Mammal TEQ Concentrations
Northeast Ponded Waste Lagoon PRI Area 7
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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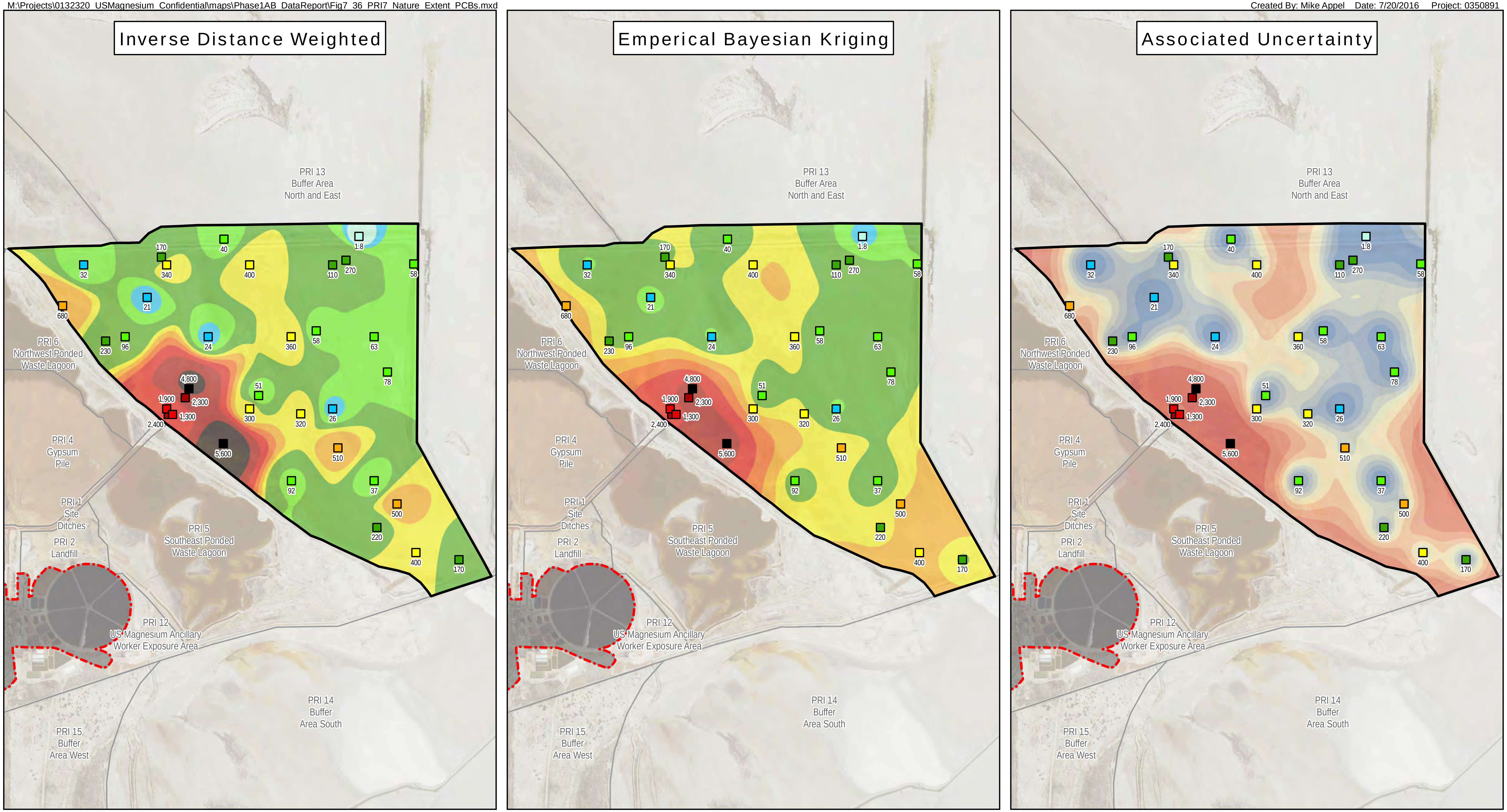
Created By: Mike Appel Date: 7/20/2016 Project: 0350891



Legend

- ⬚ Operating Facility
- ▭ Preliminary Remedial Investigation Area 7 (Northeast Ponded Waste Lagoon)
- □ Other Preliminary Remedial Investigation Areas

Total PCBs in Surface Soil (µg/kg)

- ⬜ < 13
- 🟦 14 - 32
- 🟩 33 - 96
- 🟩 97 - 268
- 🟨 269 - 418
- 🟧 419 - 679
- 🟧 680 - 1,166
- 🟥 1,167 - 2,270
- 🟥 2,271 - 4,080
- ⬛ > 4,081

Prediction Standard Error (µg/kg)

- 🟦 17 - 186
- 🟦 187 - 258
- ⬜ 259 - 330
- ⬜ 331 - 402
- ⬜ 403 - 475
- ⬜ 476 - 571
- 🟧 572 - 715
- 🟧 716 - 932
- 🟥 933 - 1,606
- 🟥 1,607 - 6,155

0 1,000 2,000 Feet

N

NOTES:
- All boundaries approximate, provided by EPA.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

Figure 7-36

Nature and Extent of Total PCB Concentrations
Northeast Ponded Waste Lagoon PRI Area 7
OU-1 Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

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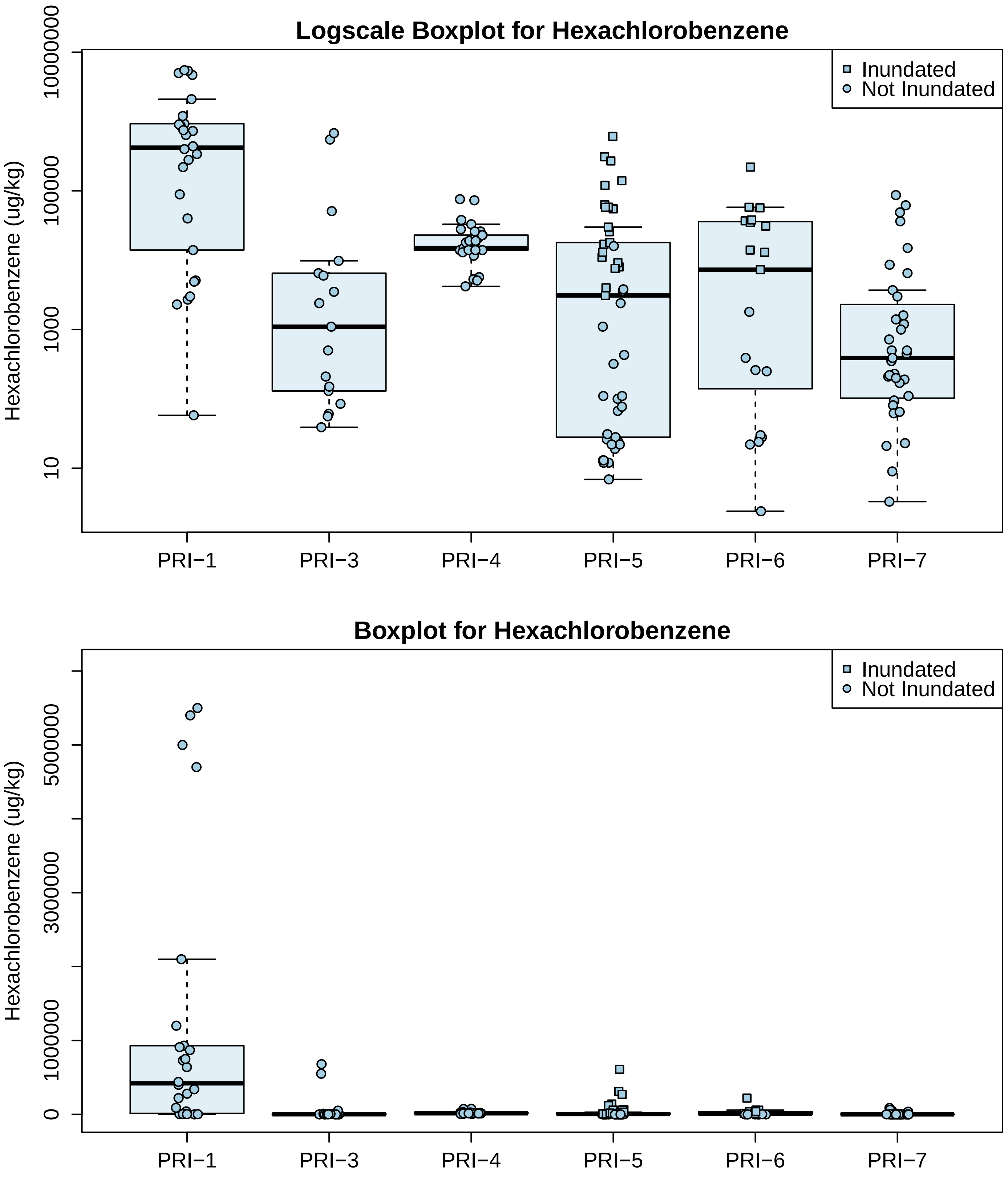


Figure 7− 37
Boxplots for Hexachlorobenzene in Inner PRI Areas
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

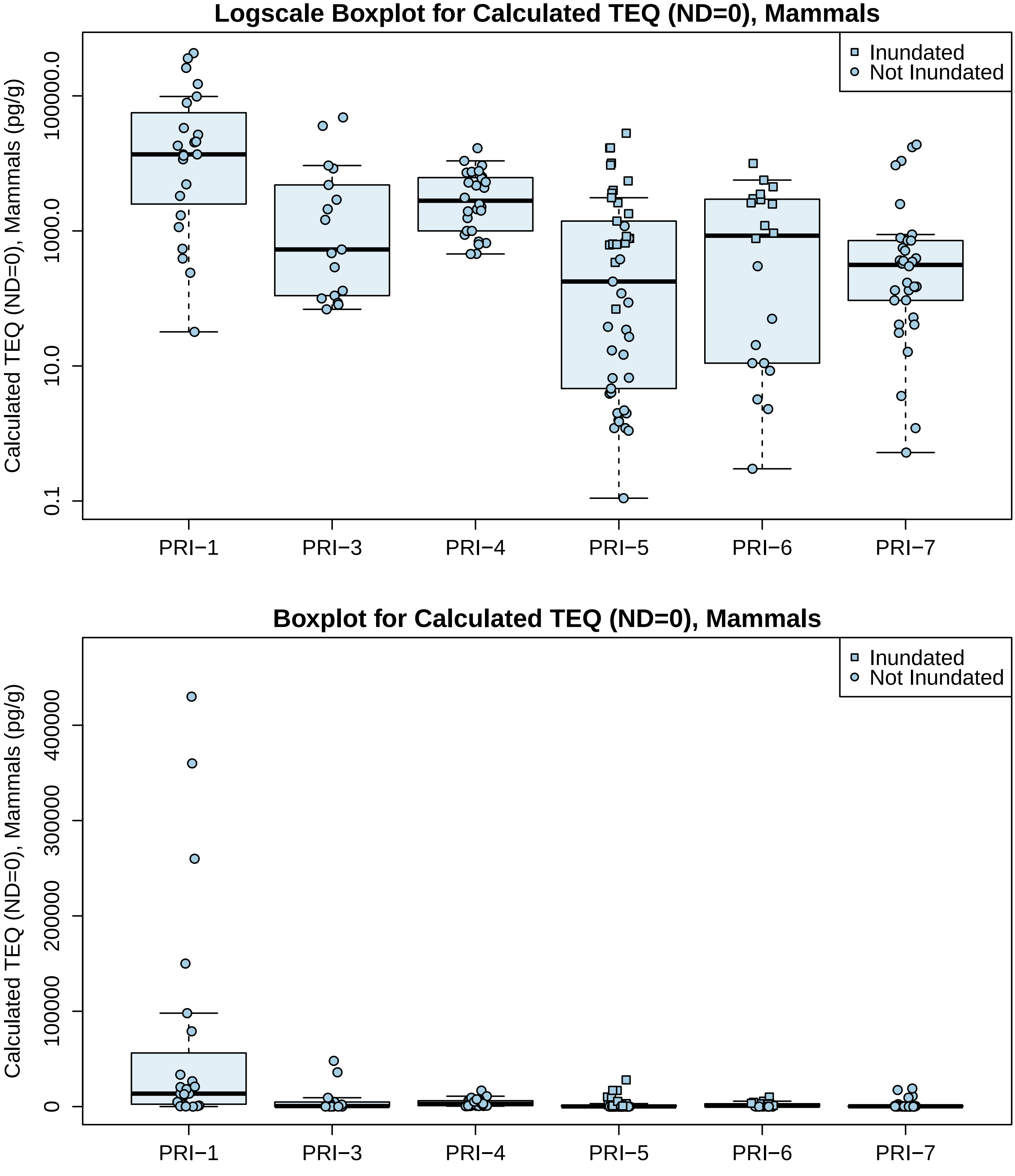
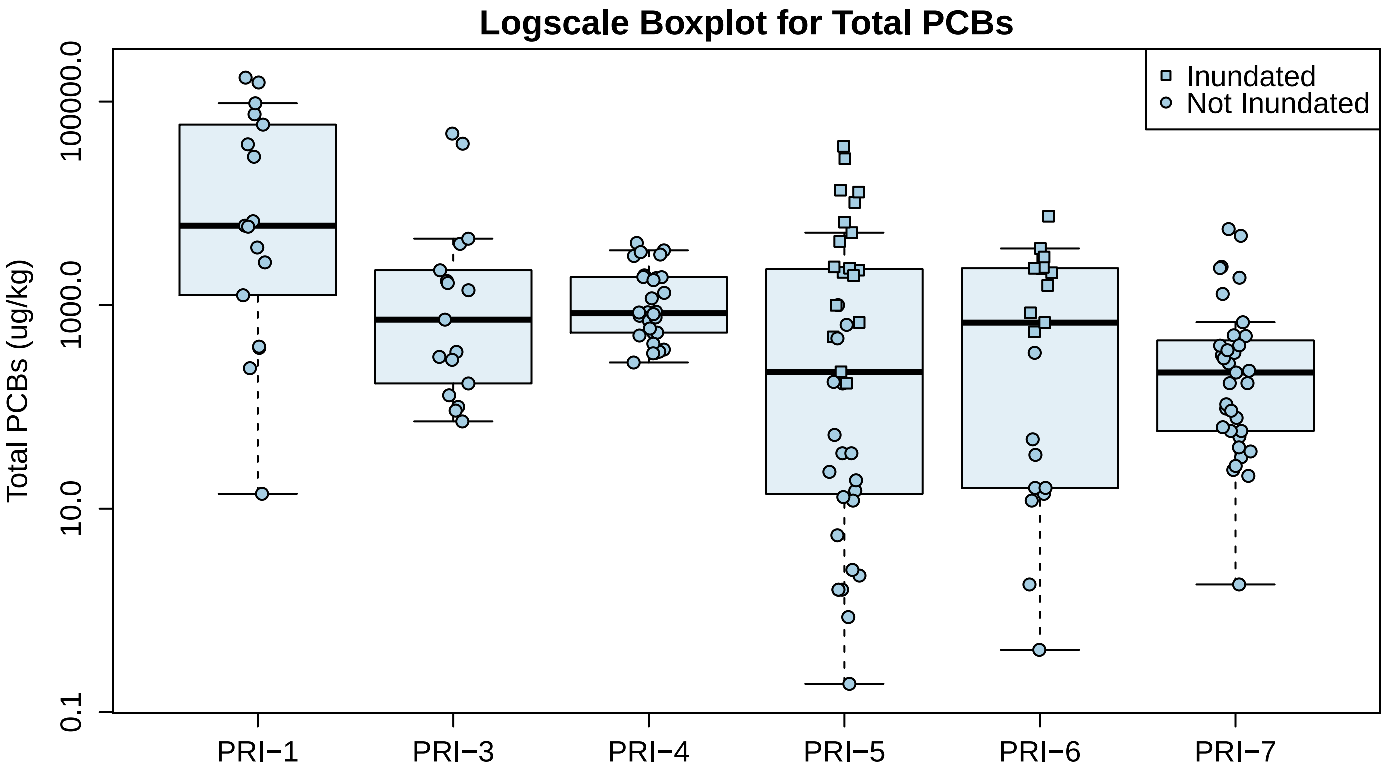


Figure 7− 38
Boxplots for Calculated TEQ (ND=0), Mammals in Inner PRI Areas
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah



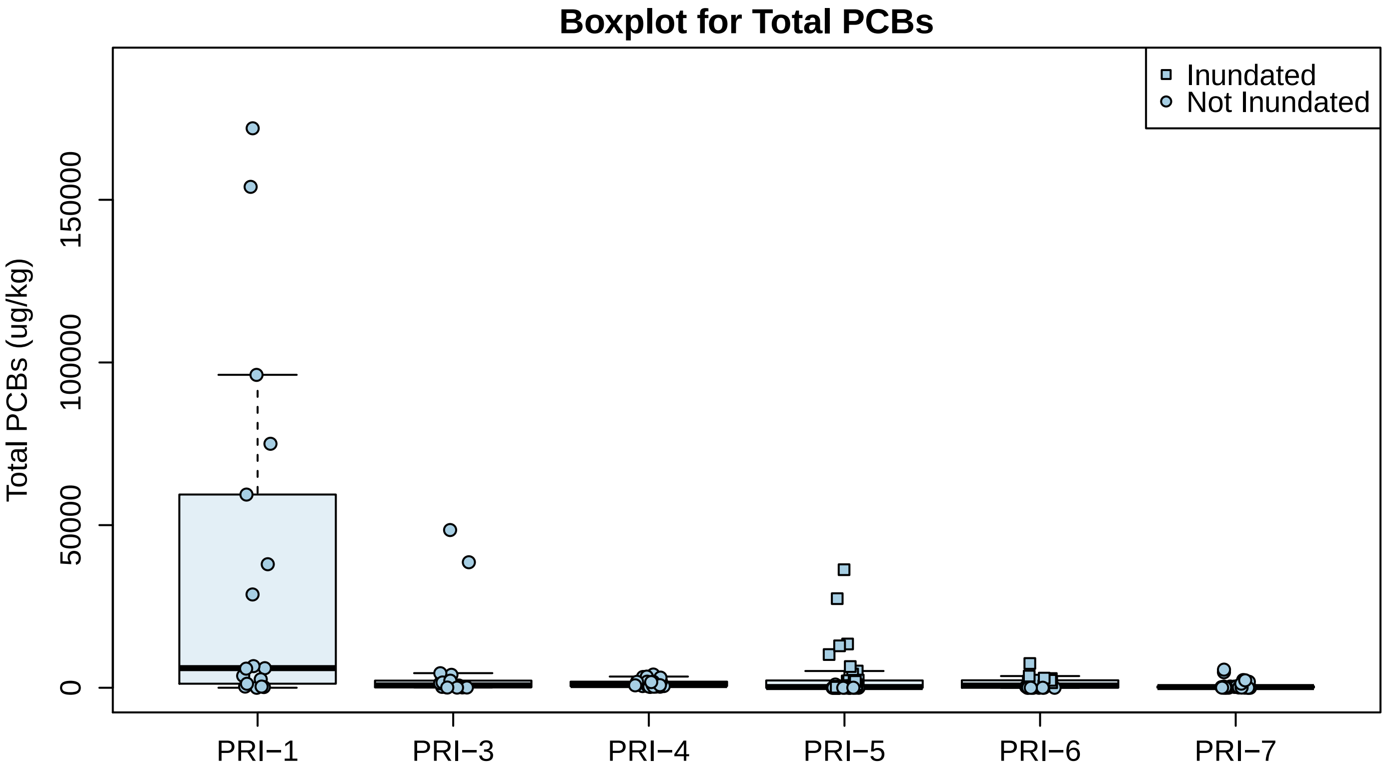
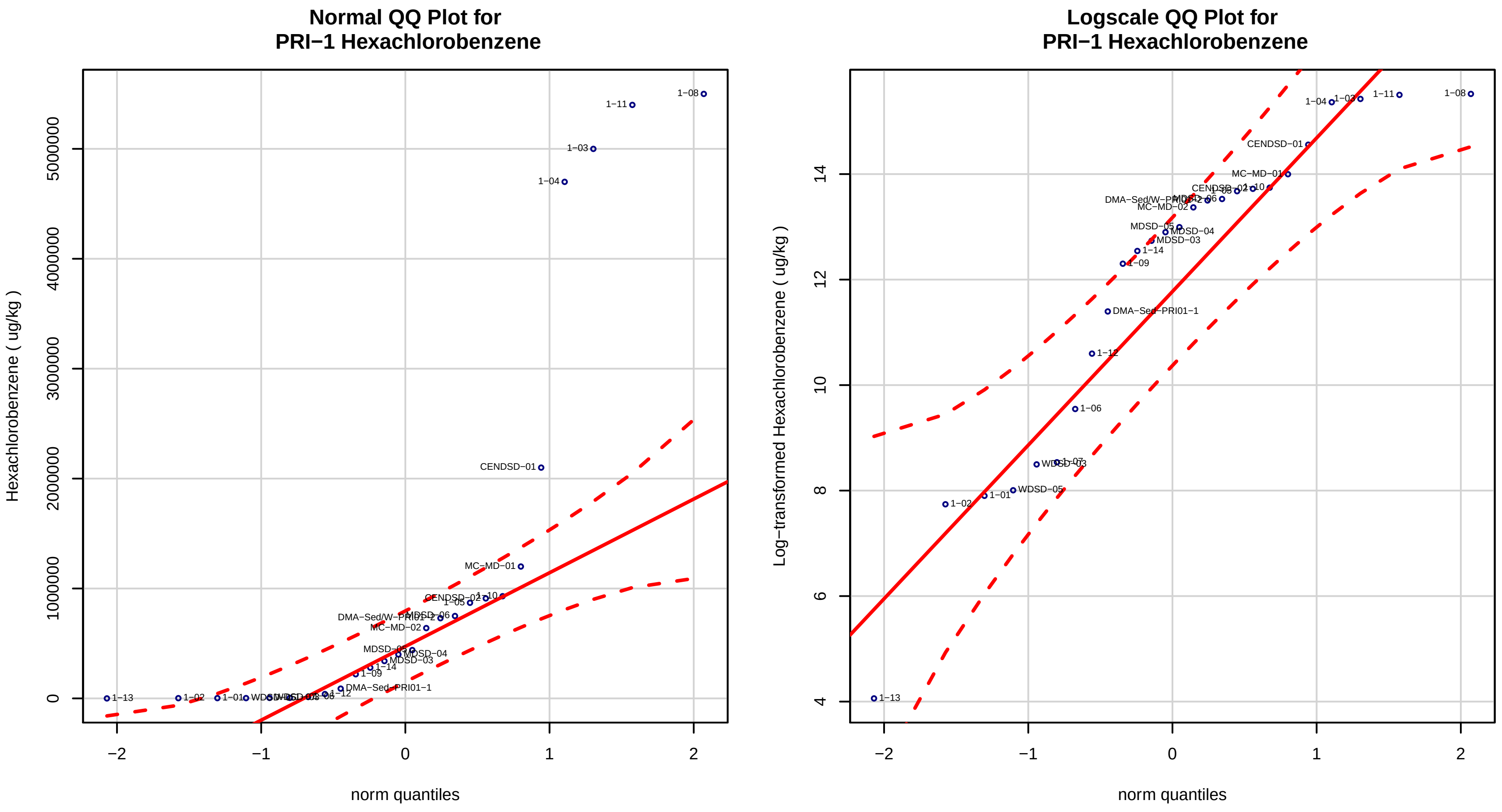


Figure 7− 39
Boxplots for Total PCBs in Inner PRI Areas
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah


Normal QQ Plot for PRI−1 Hexachlorobenzene

Logscale QQ Plot for PRI−1 Hexachlorobenzene

Figure 7− 40
Q−Q plots for Hexachlorobenzene in PRI−1
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

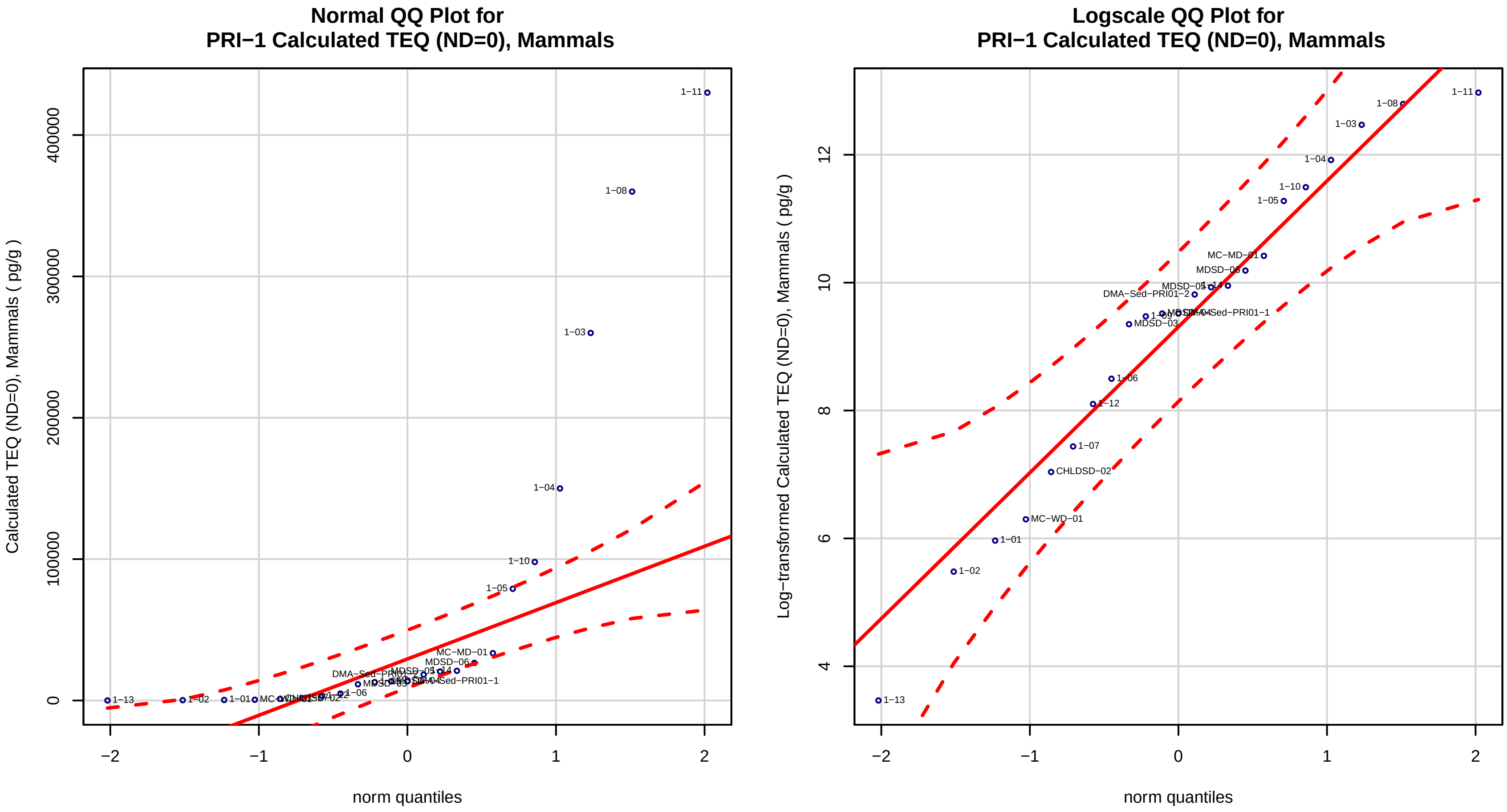
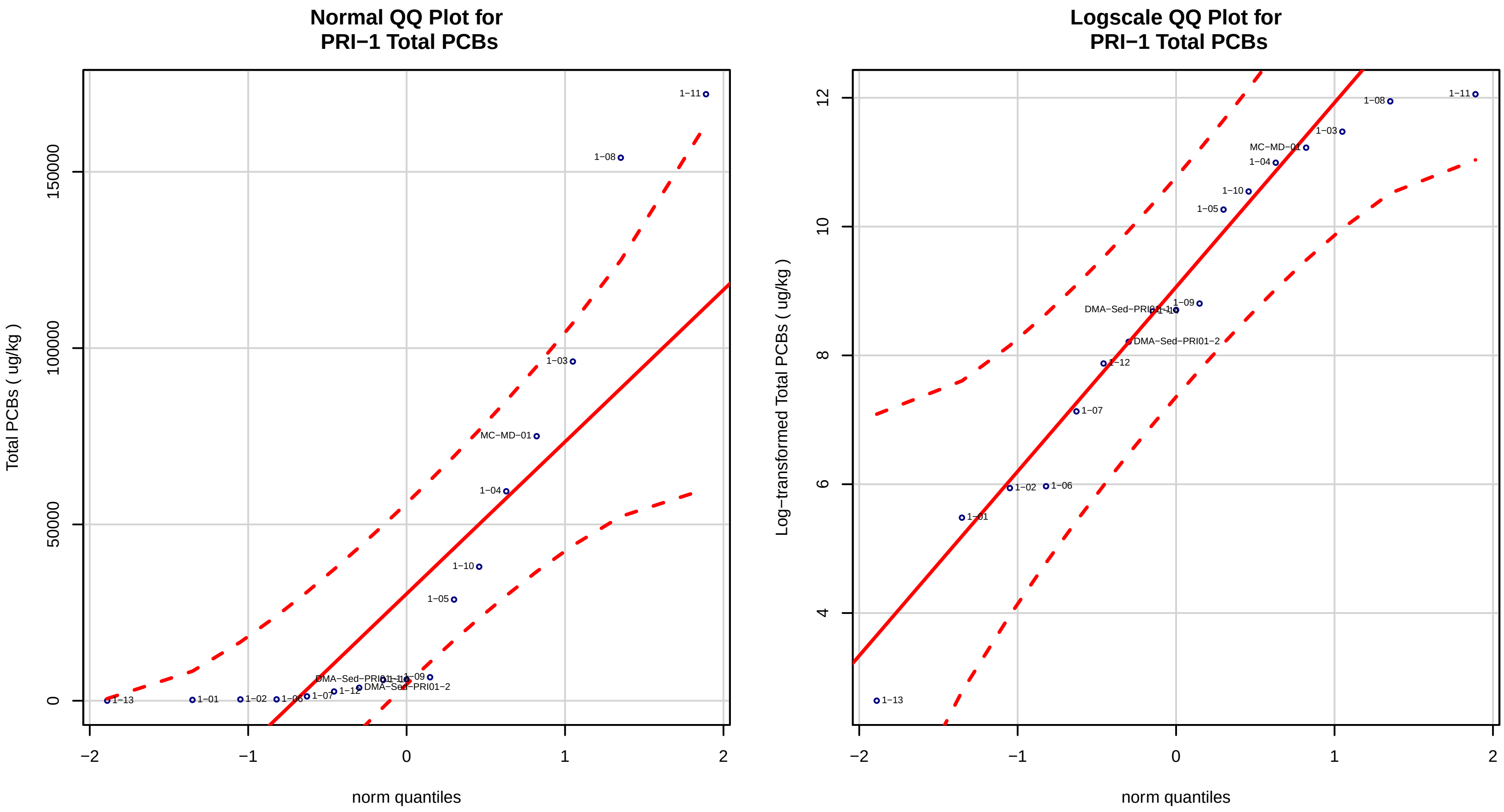


Figure 7− 41
Q−Q plots for Calculated TEQ (ND=0), Mammals in PRI−1
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah



Normal QQ Plot for PRI−1 Total PCBs

Logscale QQ Plot for PRI−1 Total PCBs

Figure 7− 42
Q−Q plots for Total PCBs in PRI−1
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

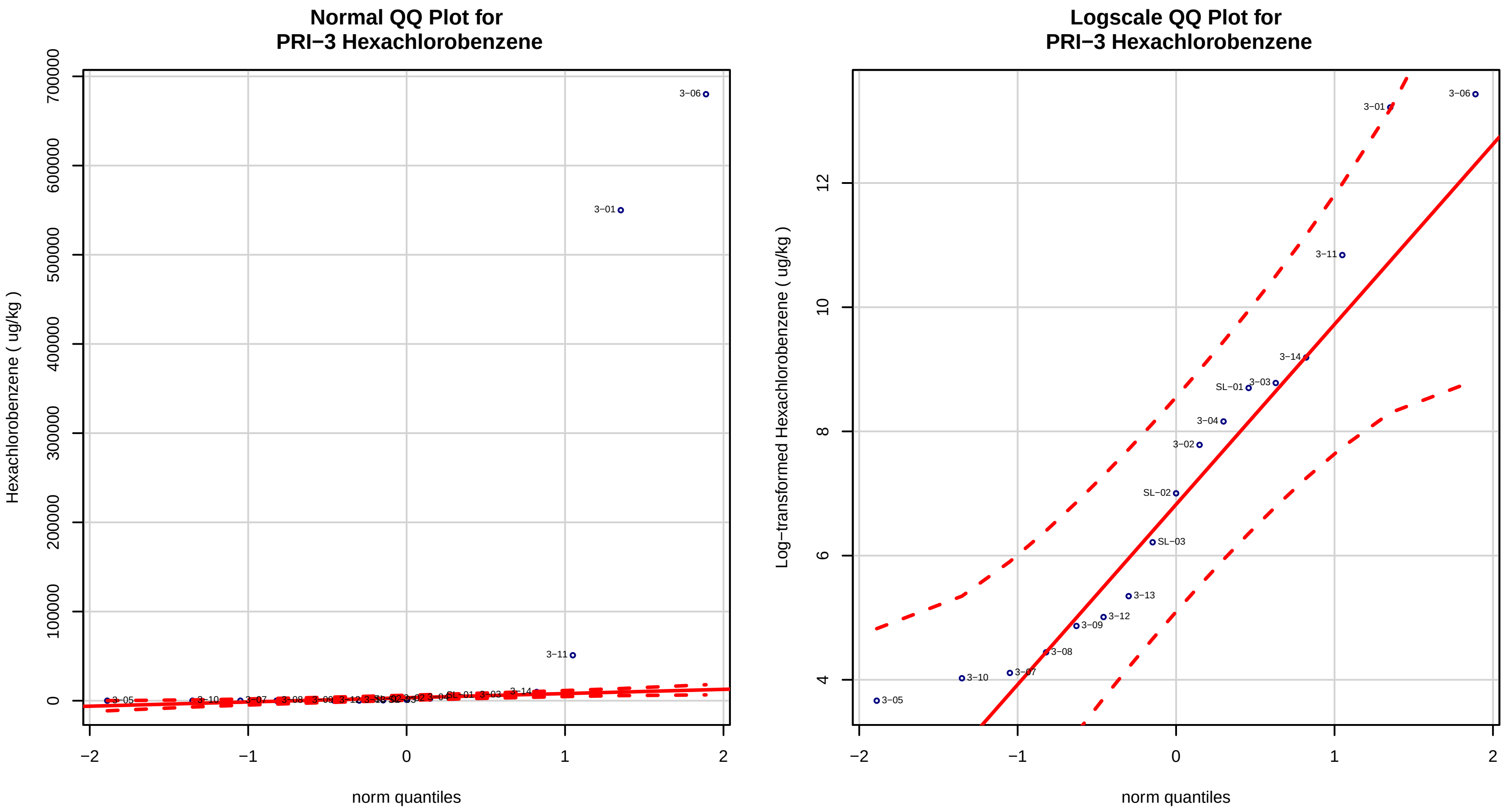
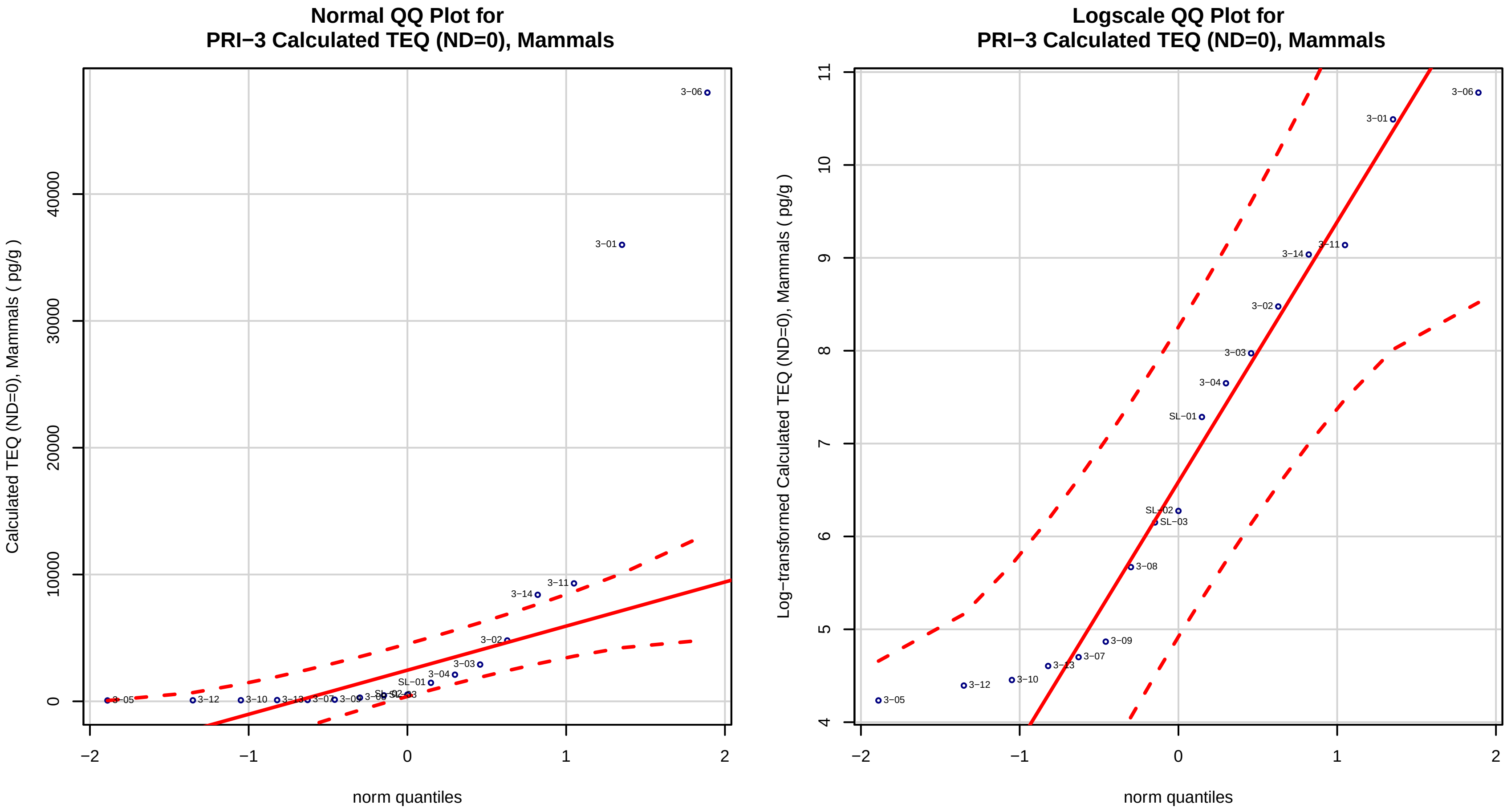


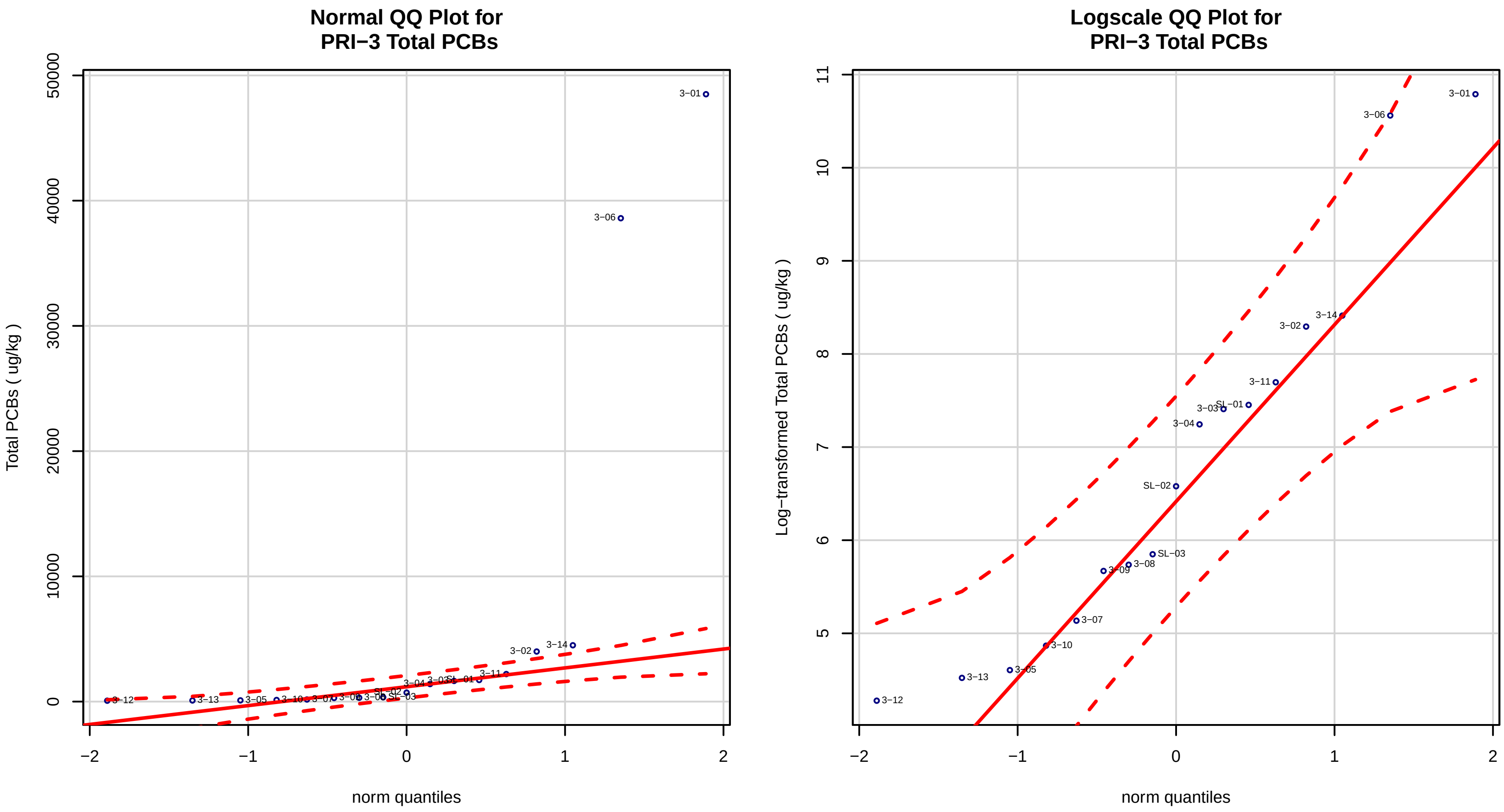
Figure 7− 43
Q−Q plots for Hexachlorobenzene in PRI−3
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah



Normal QQ Plot for PRI−3 Calculated TEQ (ND=0), Mammals

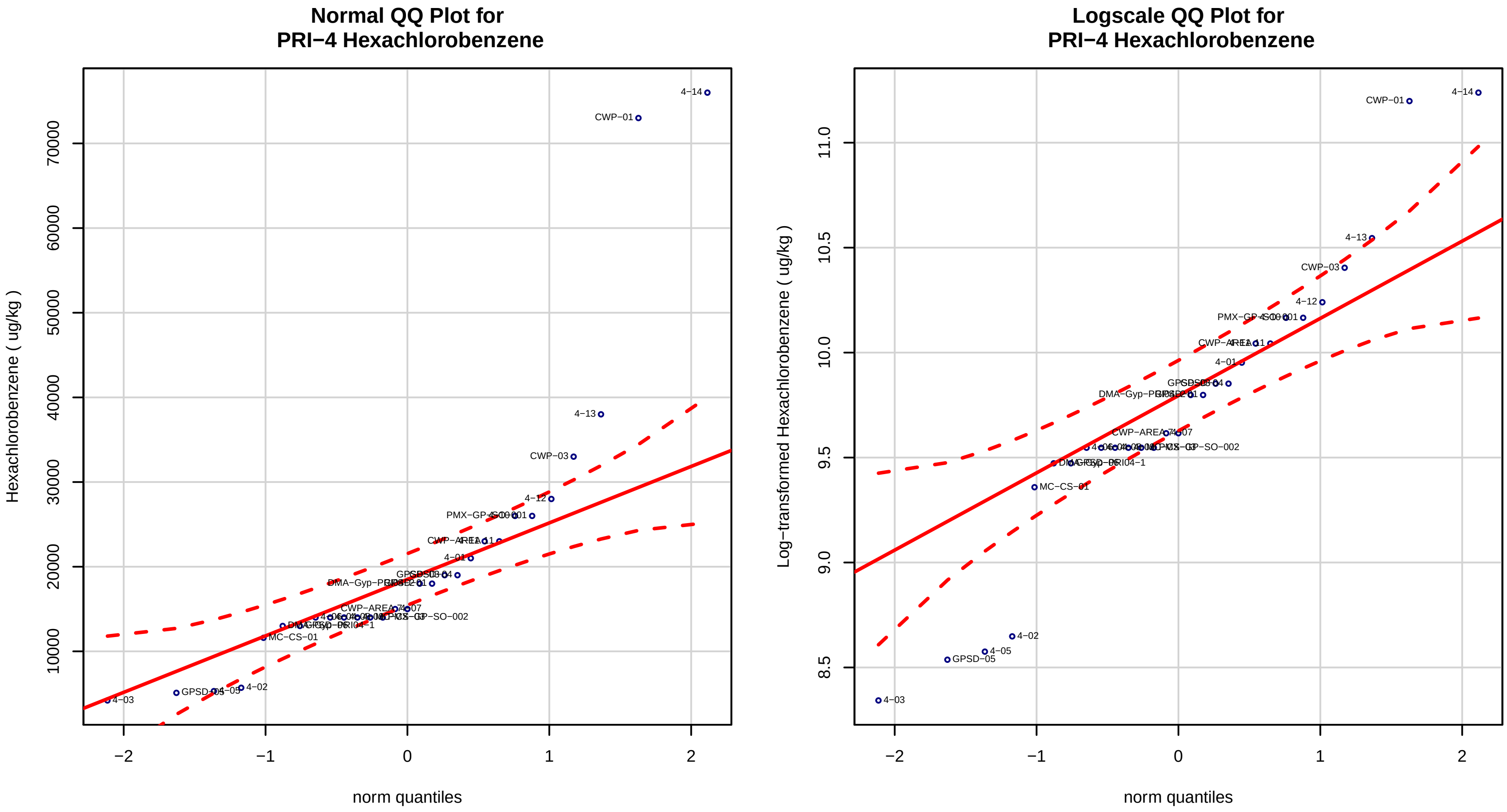
Logscale QQ Plot for PRI−3 Calculated TEQ (ND=0), Mammals

Figure 7− 44
Q−Q plots for Calculated TEQ (ND=0), Mammals in PRI−3
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah


Normal QQ Plot for PRI−3 Total PCBs

Logscale QQ Plot for PRI−3 Total PCBs

Figure 7− 45
Q−Q plots for Total PCBs in PRI−3
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah



Normal QQ Plot for PRI−4 Hexachlorobenzene

Logscale QQ Plot for PRI−4 Hexachlorobenzene

Figure 7− 46
Q−Q plots for Hexachlorobenzene in PRI−4
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

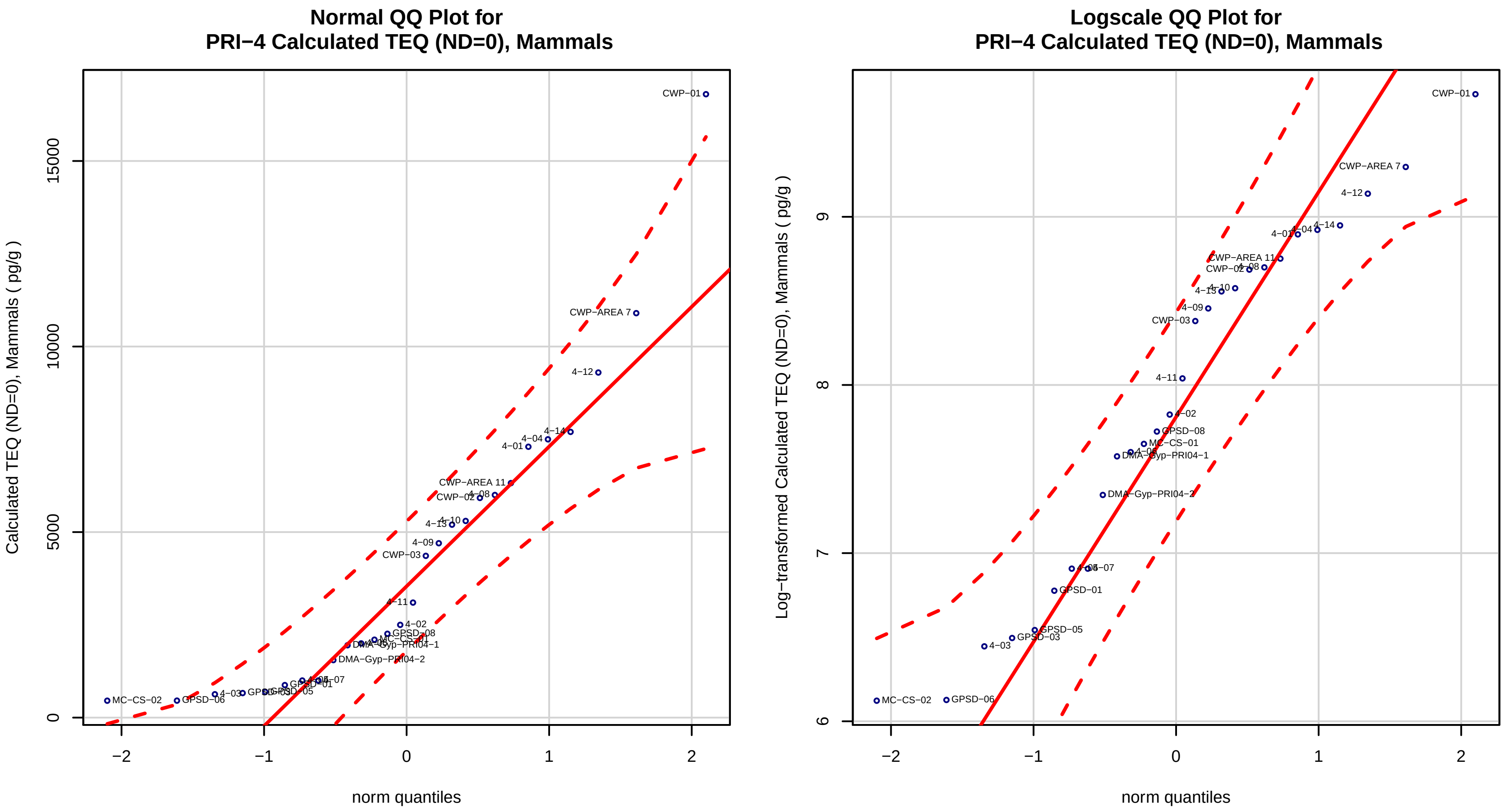


Figure 7− 47
Q−Q plots for Calculated TEQ (ND=0), Mammals in PRI−4
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

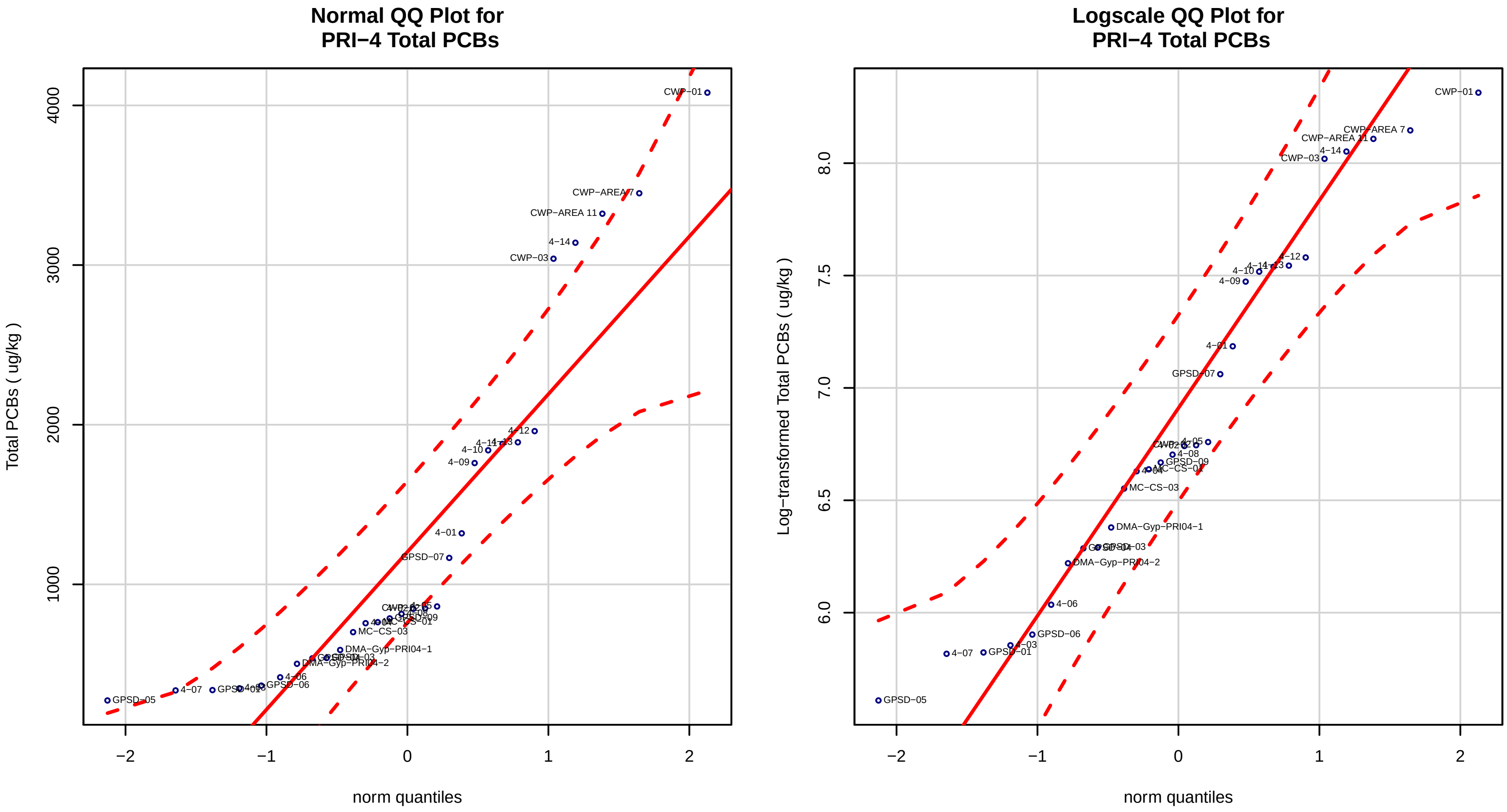


Figure 7− 48
Q−Q plots for Total PCBs in PRI−4
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

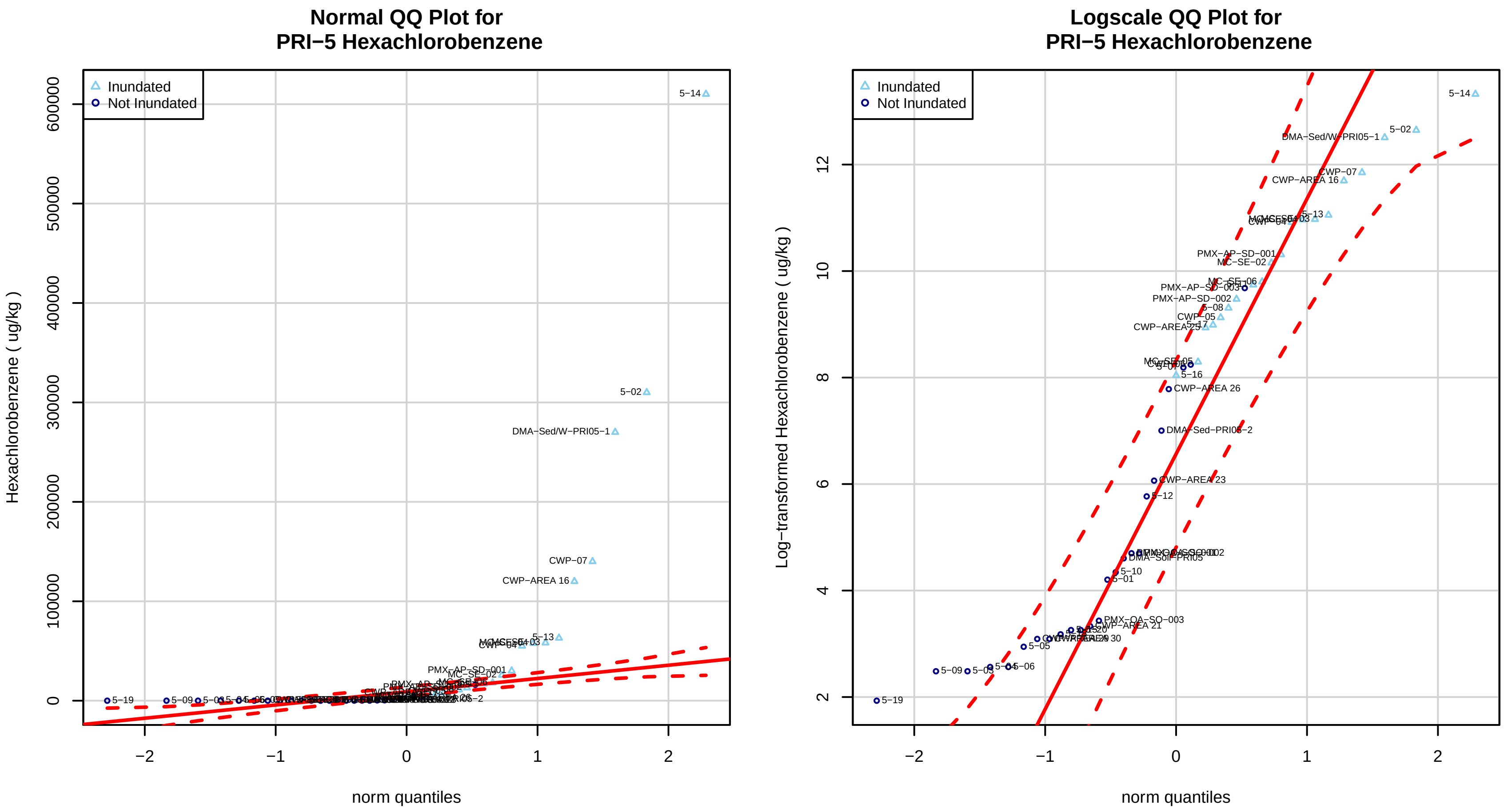


Figure 7− 49
Q−Q plots for Hexachlorobenzene in PRI−5
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

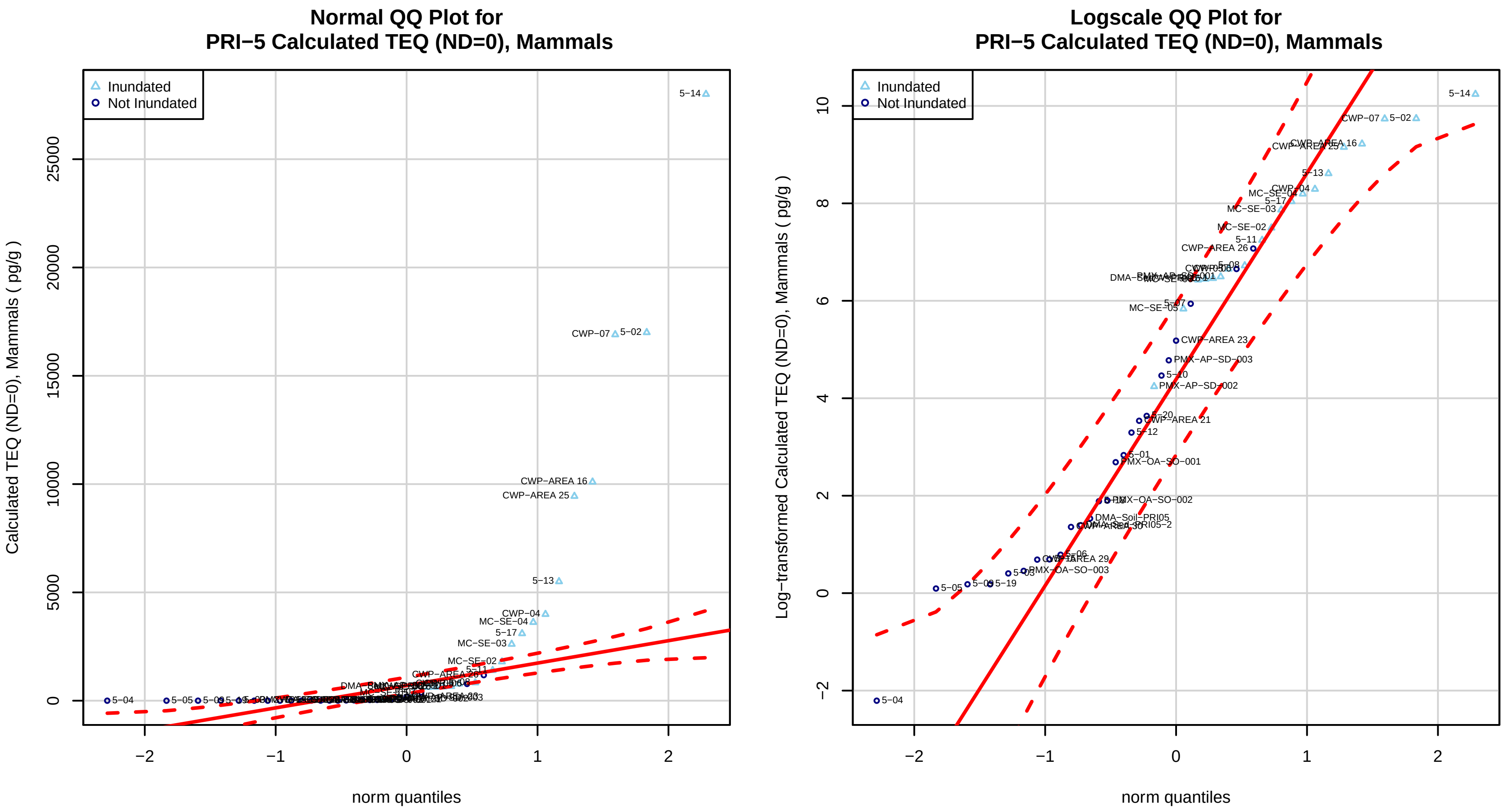
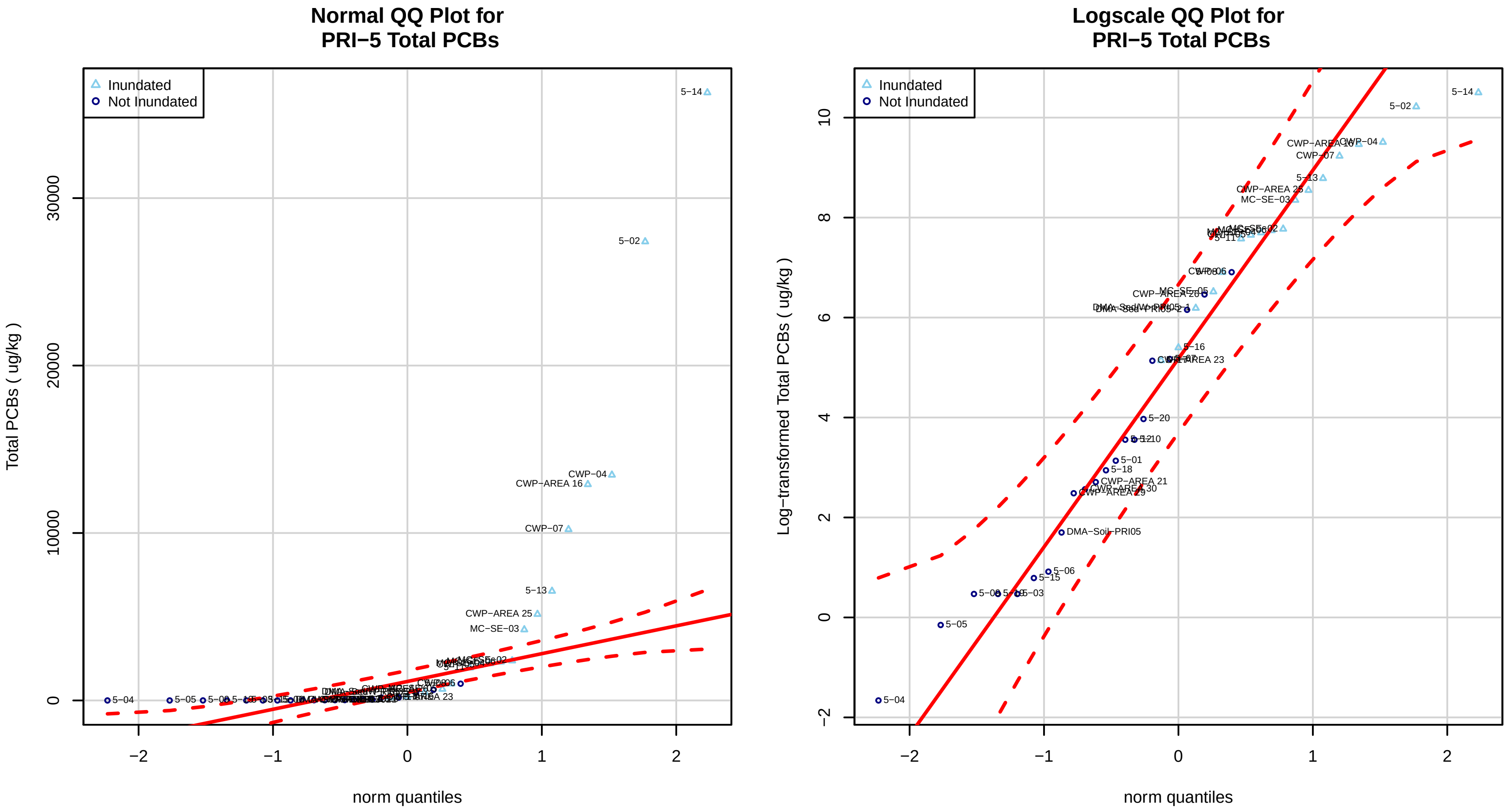


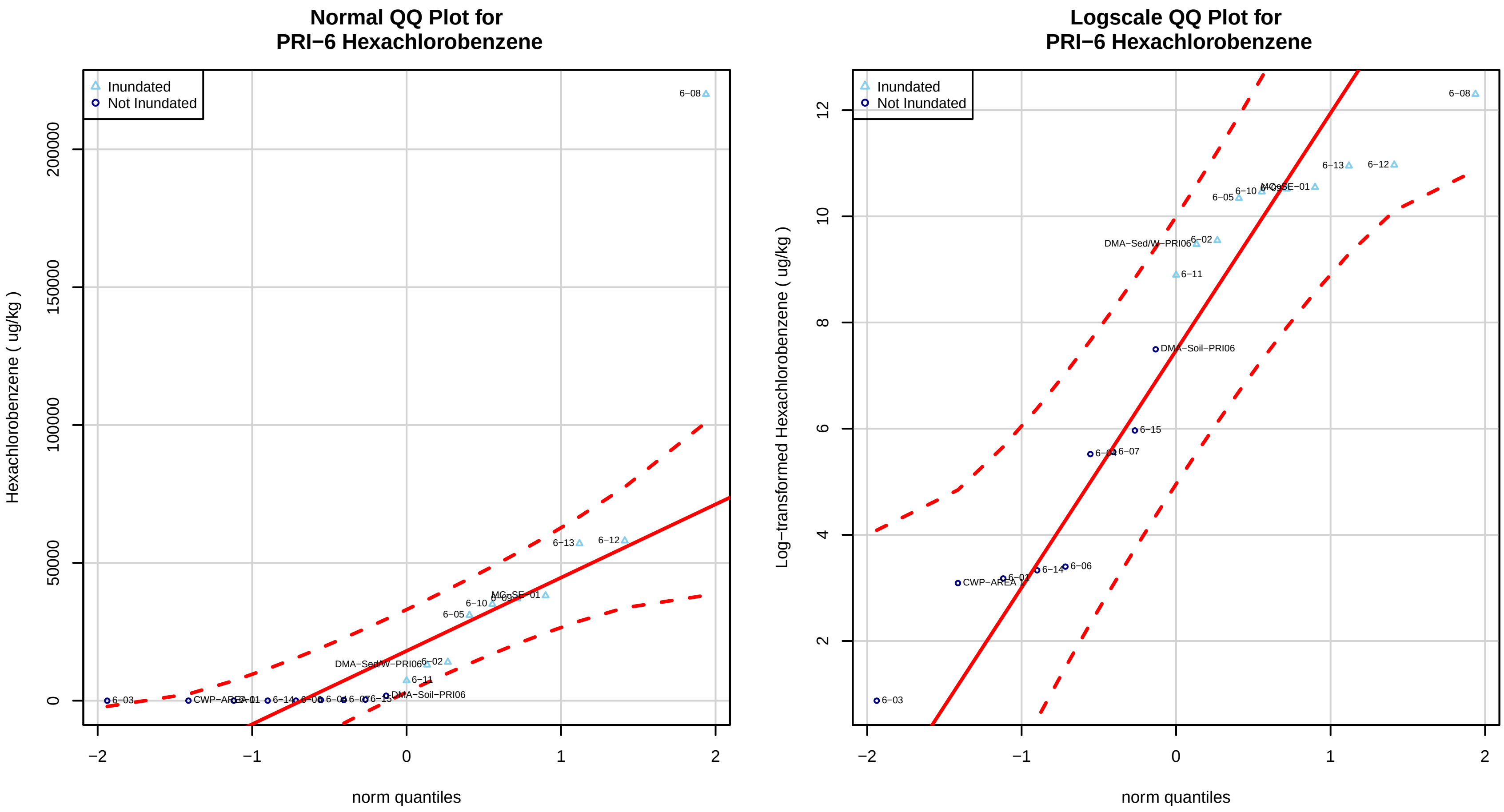
Figure 7− 50
Q−Q plots for Calculated TEQ (ND=0), Mammals in PRI−5
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah



Normal QQ Plot for PRI−5 Total PCBs

Logscale QQ Plot for PRI−5 Total PCBs

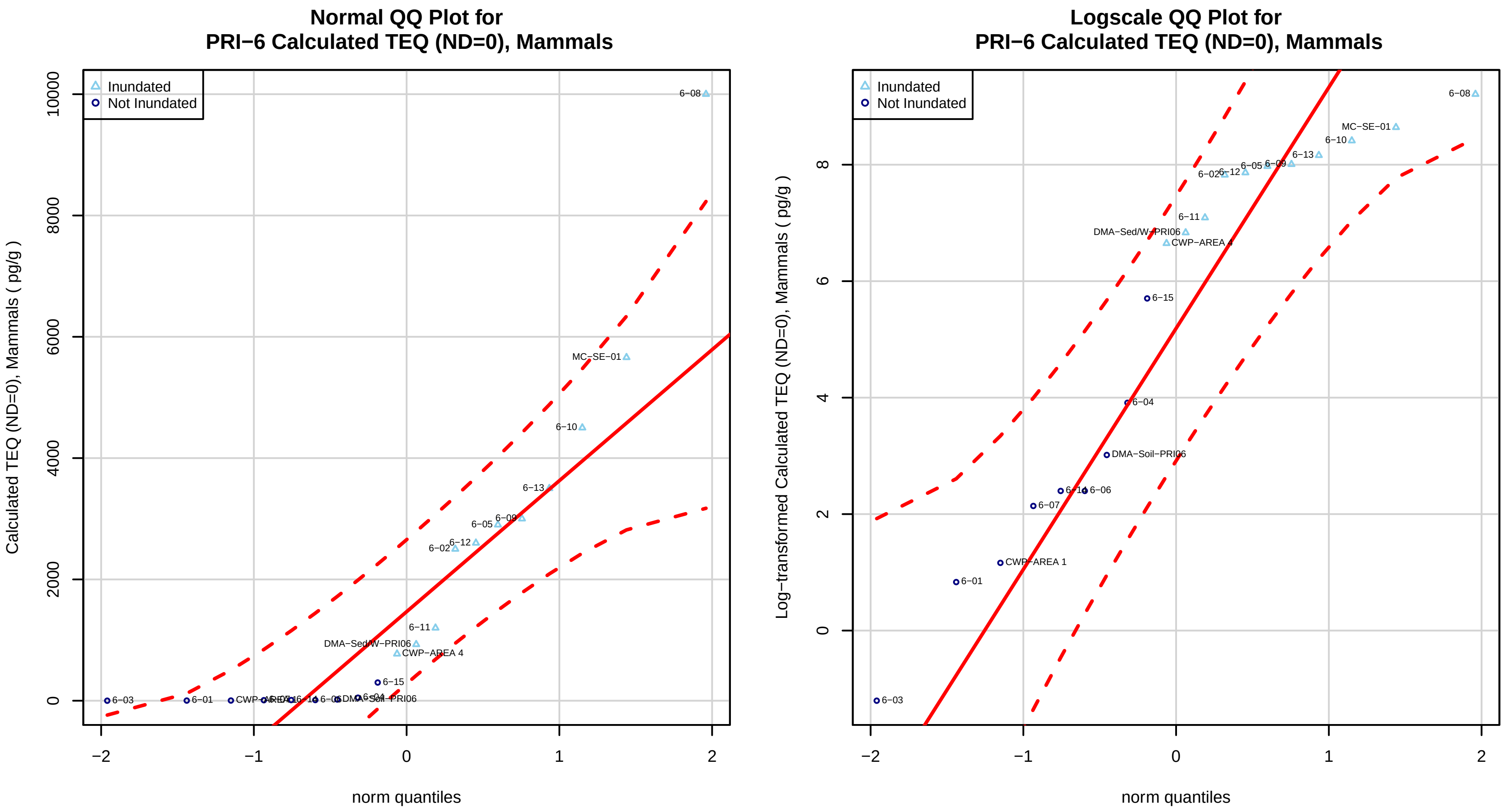
Figure 7− 51
Q−Q plots for Total PCBs in PRI−5
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah



Normal QQ Plot for PRI−6 Hexachlorobenzene

Logscale QQ Plot for PRI−6 Hexachlorobenzene

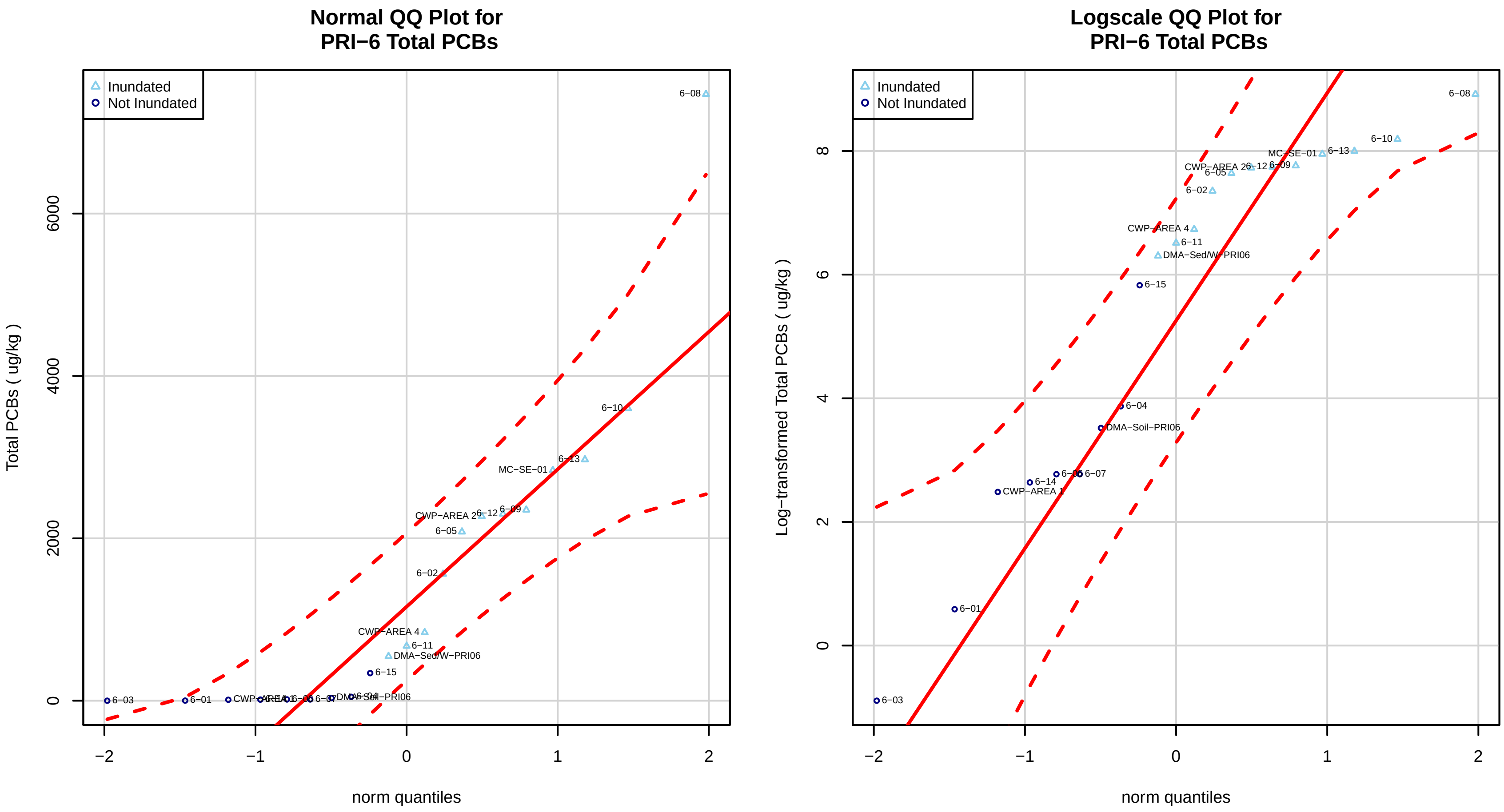
Figure 7− 52
Q−Q plots for Hexachlorobenzene in PRI−6
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah



Normal QQ Plot for
PRI−6 Calculated TEQ (ND=0), Mammals

Logscale QQ Plot for
PRI−6 Calculated TEQ (ND=0), Mammals

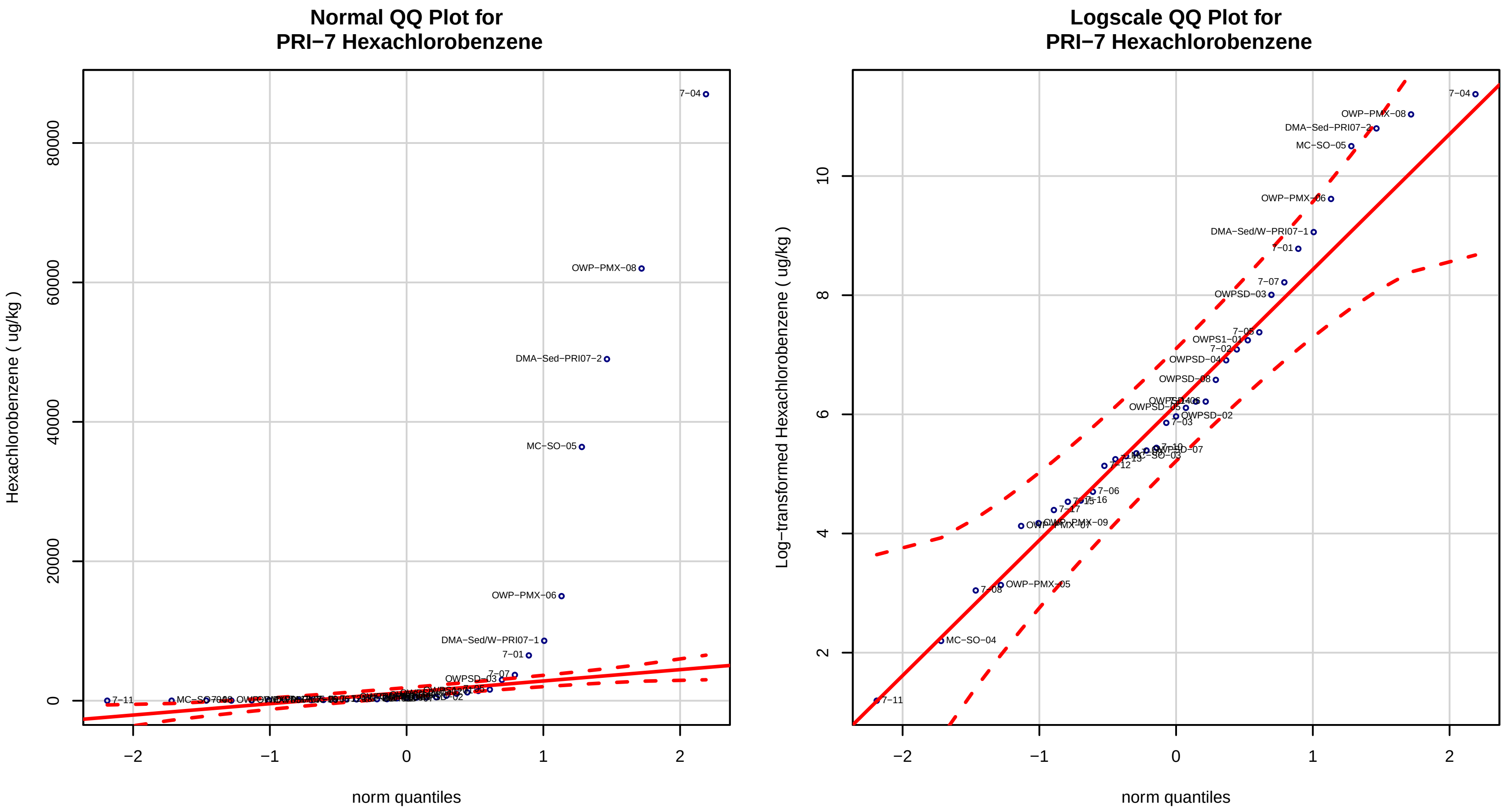
Figure 7− 53
Q−Q plots for Calculated TEQ (ND=0), Mammals in PRI−6
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah



Normal QQ Plot for PRI−6 Total PCBs

Logscale QQ Plot for PRI−6 Total PCBs

Figure 7− 54
Q−Q plots for Total PCBs in PRI−6
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah



Normal QQ Plot for PRI−7 Hexachlorobenzene

Logscale QQ Plot for PRI−7 Hexachlorobenzene

Figure 7− 55
Q−Q plots for Hexachlorobenzene in PRI−7
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

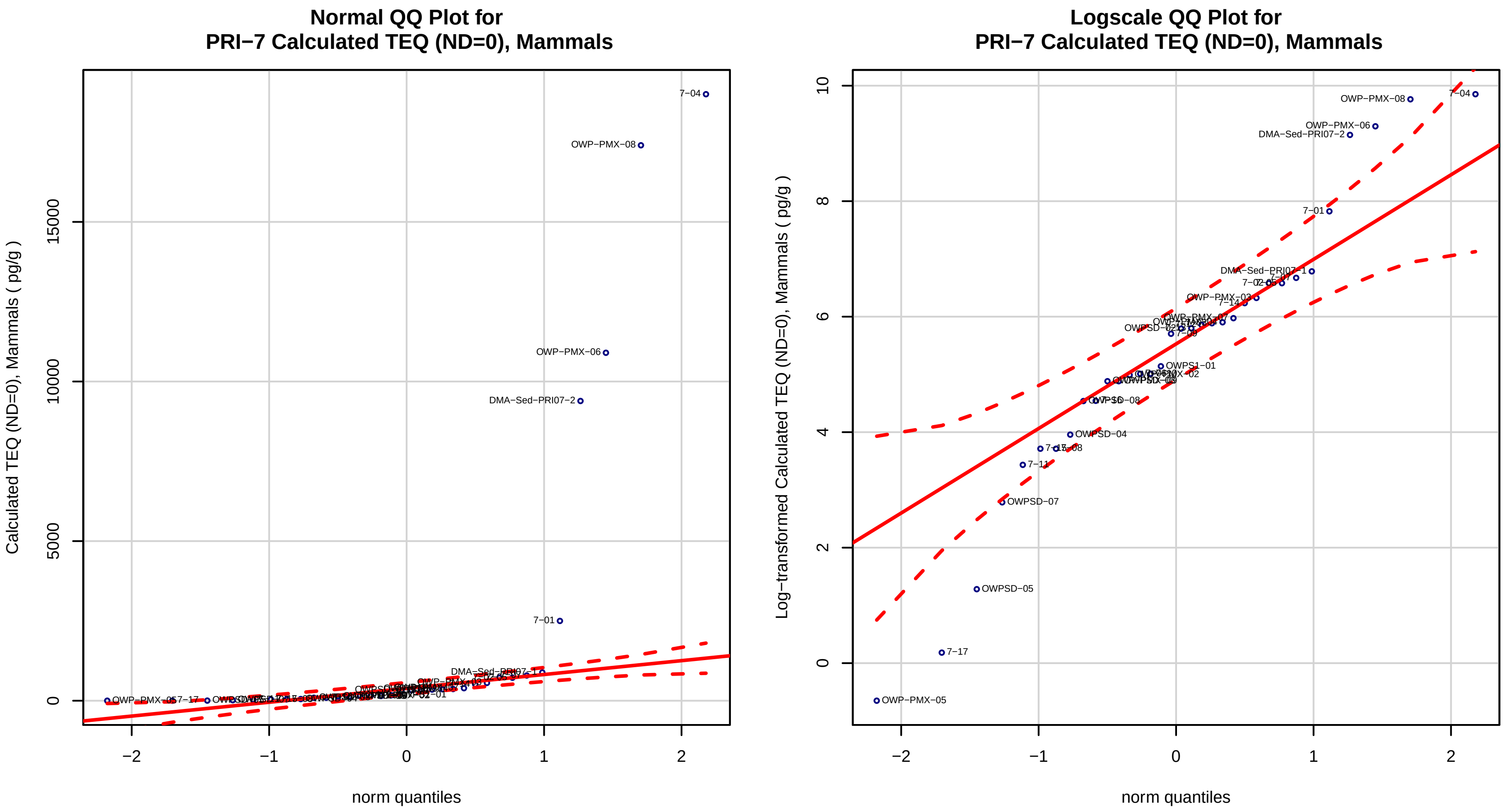


Figure 7− 56
Q−Q plots for Calculated TEQ (ND=0), Mammals in PRI−7
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

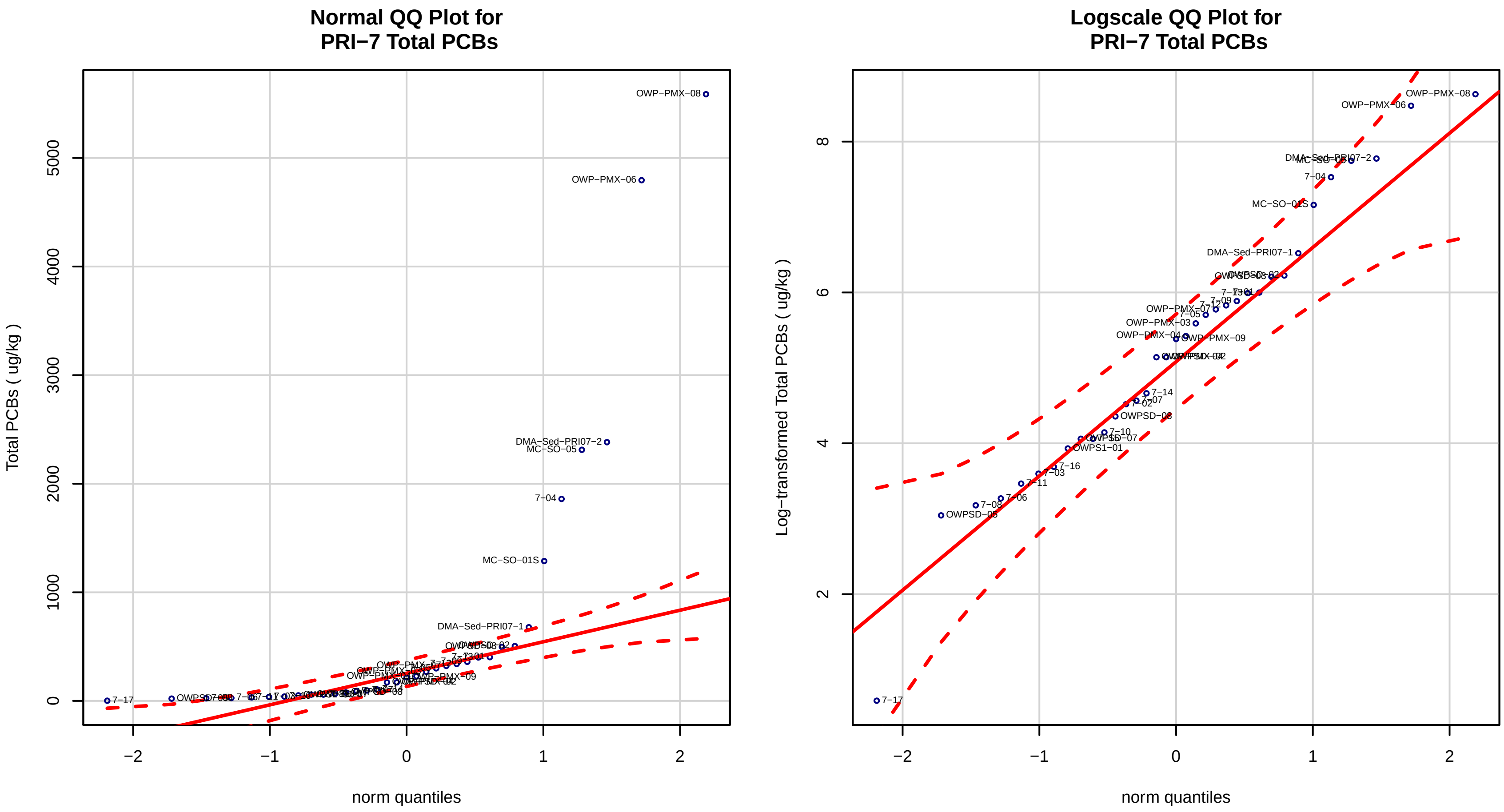


Figure 7− 57
Q−Q plots for Total PCBs in PRI−7
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

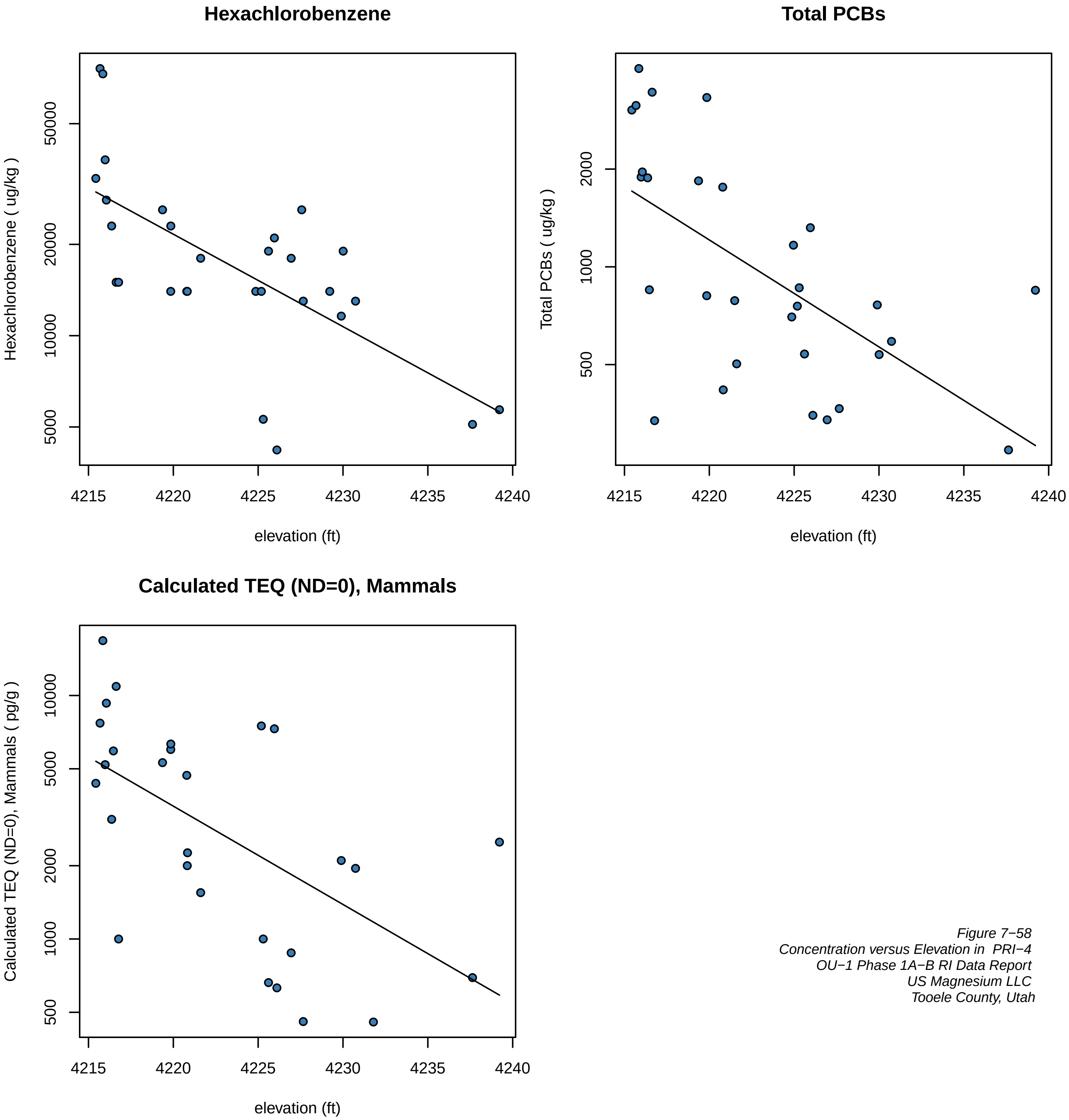


Figure 7−58
Concentration versus Elevation in PRI−4
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

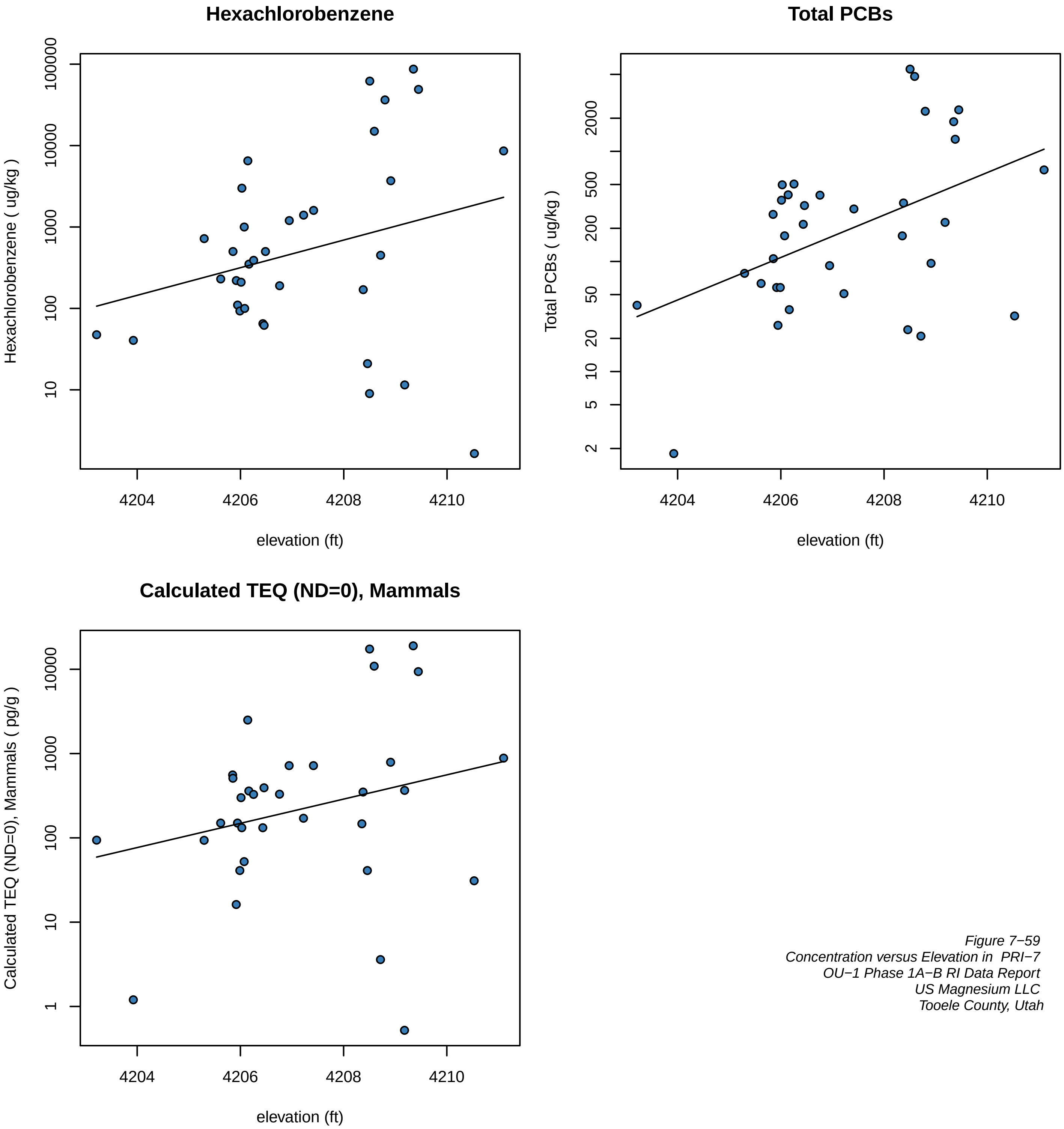


Figure 7−59
Concentration versus Elevation in PRI−7
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

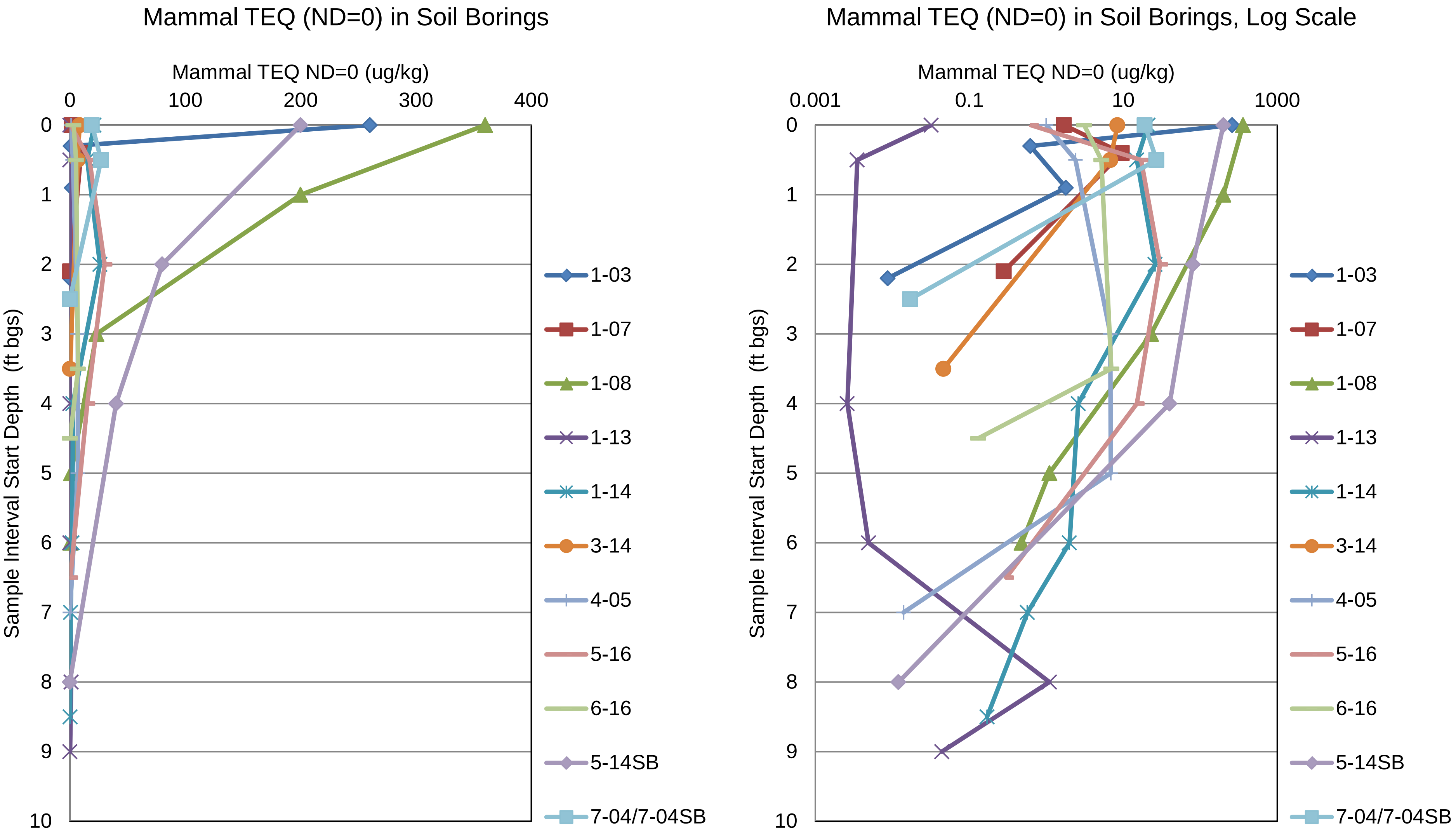


Figure 7− 60
Mammal TEQ versus Sample Depth
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

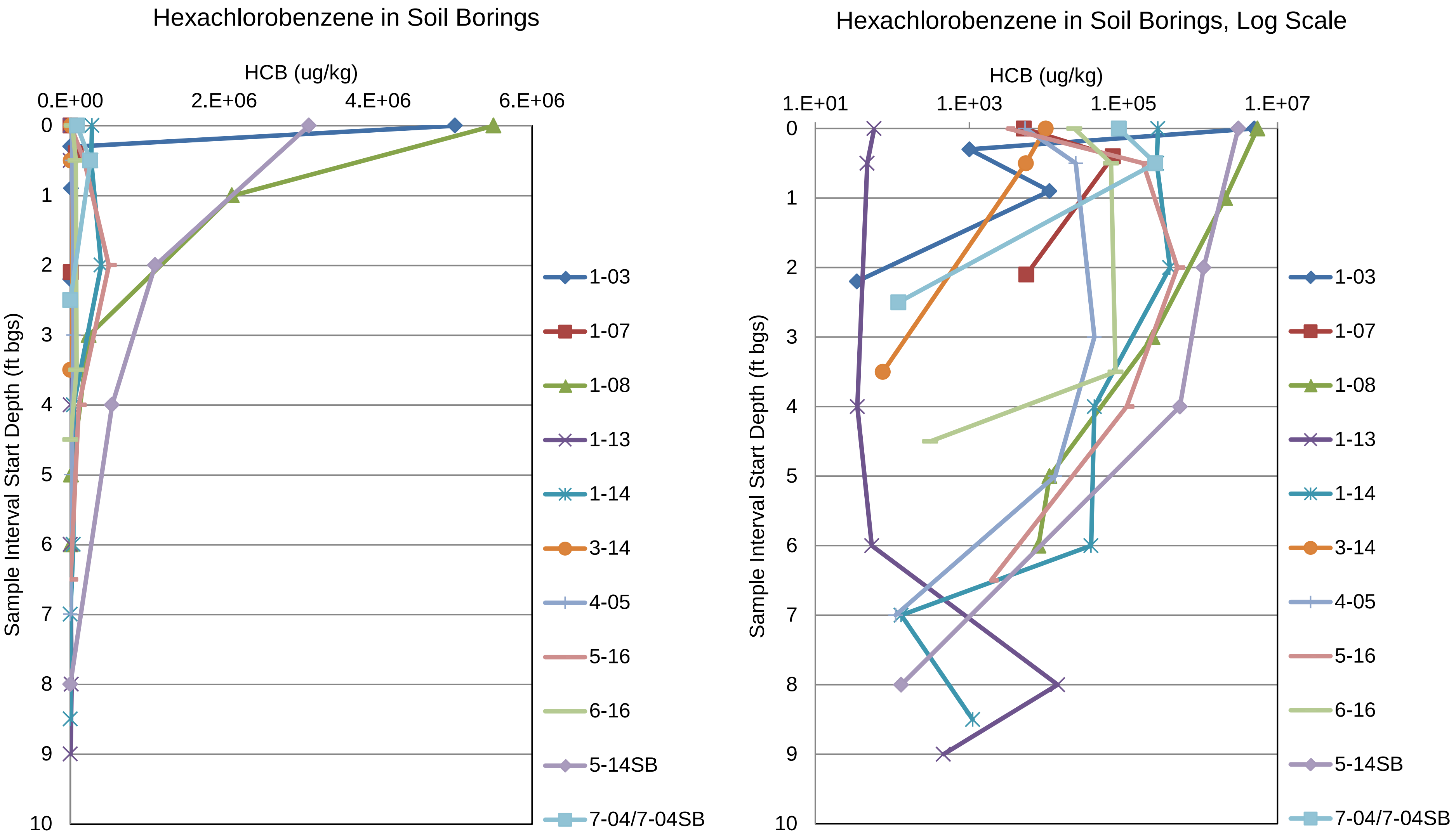


Figure 7− 61
Hexachlorobenzene versus Sample Depth
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

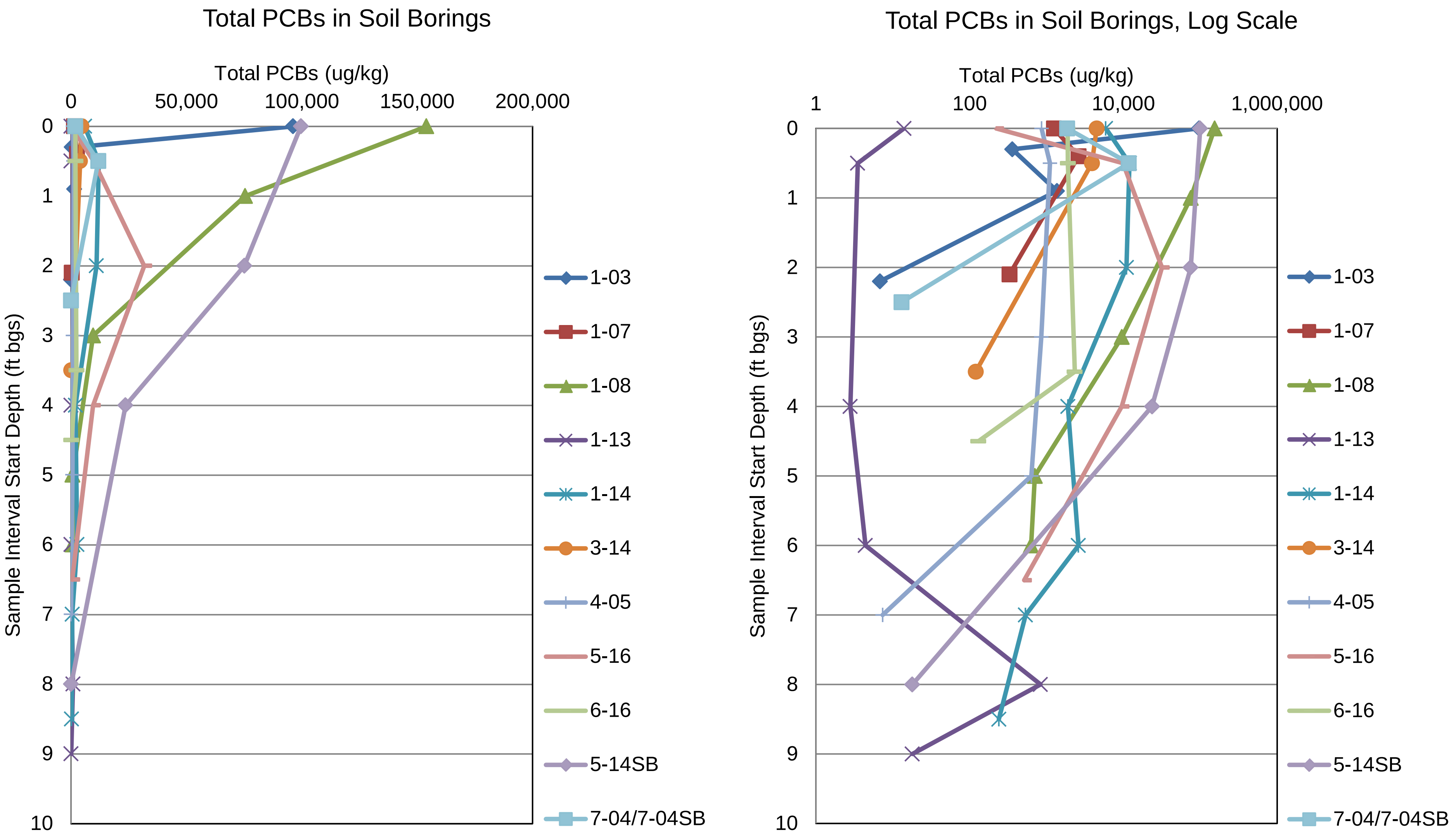


Figure 7− 62
Total PCBs versus Sample Depth
OU−1 Phase 1A−B RI Data Report
US Magnesium LLC
Tooele County, Utah

Tables

Table 1-1
Summary of USEPA-Approved SAP Modifications
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

SAP Modification Number	Date Approved	Description	Locations
1	10/7/15	Revise subsurface sample collection method at background/reference areas to a hand auger and revise background/reference area subsurface sample depth identification scheme for sample IDs.	BR-3, LBB-7, LBN-6, LBSE-7, UPN-6, UPS-6, UPSE-5
2	10/26/15	Update SAP Worksheet #24 to include updated control limits for VOC, SVOC, and PAH.	All
3	11/24/15	Collect subsurface samples from inlet area of PRI Area 5 using a extended-reach excavator and coring device; attempt improved recovery at select subsurface sample locations using coring device(s); collect surface solids samples from select PRI Area 1 locations using a Ponar/box corer deployed from an excavator.	5-14SB, 5-16, 1-08, 7-04SB, 1-03, 1-06, 1-07, 1-08

Notes:

PAH = Polycyclic aromatic hydrocarbon
PRI = Preliminary Remedial Investigation
SAP = Sampling and Analysis Plan
SVOC = Semi-volatile organic compound
VOC = Volatile organic compound

Table 1-2
Summary of USEPA-Approved Field Modifications
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Field Mod Number	Date Approved	Description	Locations
1	9/25/15	Move sample location 100 feet to the northeast due to original sample location being located a road.	5-04
2	10/1/15	Abandon background boreholes with left over soil instead of bentonite chips.	UPN-6, UPS-6, UPSE-5, LBN-6, LBSE-7, LBB-7 and BR-3
3	10/9/15	Move sample location 25 feet to the north due a hard salt pan at the original location.	LBSE-10
4	10/23/15	Use new, decontaminated post hole digger to collect subsurface sample.	BR-3
5	10/29/15	Composite multiple (3 to 4) sample aliquots (which individually did not meet sample acceptability criteria) to obtain sufficient sample volume.	5-07, 5-08, 5-12, 6-09, 6-11 and 6-13
6	10/30/15	Move sample location approximately 50 feet south due to original location being inundated with wastewater.	4-14
7	11/4/15	If 100% of first grab aliquot from subsurface sampling passes through 1/4 inch sieve, the remaining aliquots can be placed directly on sample tray.	1-03, 1-08, 1-13, 1-14, 3-14, 4-05, 5-16, 6-16 and 7-04
8	11/12/15	Move original sample location to an accessible location for subsurface drilling.	7-04SB
9	11/24/15	Move original sample location to an accessible areas within the Central Ditch (1-04) and Main Ditch (1-12).	1-04 and 1-12
10	12/7/15	Analyze all shallow/waste samples collected on 12/2/15 and analyze all first native samples collected on 11/5/15.	1-08 and 5-16

Table 3-1
Surface Solids Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Area	Location Identifier	X-Coordinate	Y-Coordinate	Date Sampled	Sample ID	Method	Sample Depth (inches bgs)	Waste Thickness (inches)	Saturated	Field Duplicate QC Sample	Laboratory Duplicate & Matrix Spike QC Sample
Inner PRIs											
PRI 1	1-01	1298598	7505120	11/19/15	1-01-SS-01-111915	Hand Auger	0 to 6	None	Yes		
	1-02	1298606	7505858	11/19/15	1-02-SS-01-111915	Hand Auger	0 to 6	None	Yes		
	1-03	1299174	7506478	12/3/15	1-03-SS-01-120315	Ponar	0 to 6	26 *	Inundated	X	
	1-04	1299328	7505295	11/24/15	1-04-SS-01-112415	Hand Auger	0 to 6	> 60	Inundated		
	1-05	1299294	7506049	11/19/15	1-05-SS-01-111915	Hand Auger	0 to 6	4	Inundated		
	1-06	1299641	7505129	12/3/15	1-06-SS-01-120315	Ponar	0 to 6	30	Inundated		
	1-07	1299661	7505694	12/3/15	1-07-SS-01-120315	Ponar	0 to 6	25 *	Inundated		
	1-08	1299886	7506453	12/3/15	1-08-SS-01-120315	Ponar	0 to 6	54 *	Inundated		X
	1-09	1300414	7506479	11/23/15	1-09-SS-01-112315	Hand Auger	0 to 6	> 60	Inundated		
	1-10	1300992	7506867	11/23/15	1-10-SS-01-112315	Hand Auger	0 to 6	60	Inundated	X	
	1-11	1301475	7507345	11/23/15	1-11-SS-01-112315	Hand Auger	0 to 6	> 60	Inundated		
	1-12	1301713	7507652	11/24/15	1-12-SS-01-112415	Hand Auger	0 to 6	7	Inundated		
	1-13	1302496	7508346	11/23/15	1-13-SS-01-112315	Hand Auger	0 to 6	12 **	No		
	1-14	1299803	7505967	11/19/15	1-14-SS-01-111915	Hand Auger	0 to 6	18 **	No		
PRI 3	3-01	1299398	7505705	11/17/15	3-01-SS-01-111715	Hand Auger	0 to 6	14	Inundated		
	3-02	1299480	7505706	11/16/15	3-02-SS-01-111615	Hand Auger	0 to 6	None	Yes		
	3-03	1299559	7505706	11/16/15	3-03-SS-01-111615	Hand Auger	0 to 6	12	No		
	3-04	1299437	7505774	11/17/15	3-04-SS-01-111715	Hand Auger	0 to 6	3	Yes		
	3-05	1299519	7505775	11/17/15	3-05-SS-01-111715	Hand Auger	0 to 6	1	Yes		
	3-06	1299397	7505846	11/17/15	3-06-SS-01-111715	Hand Auger	0 to 6	8	No	X	
	3-07	1299479	7505847	11/18/15	3-07-SS-01-111815	Hand Auger	0 to 6	None	No		
	3-08	1299561	7505847	11/18/15	3-08-SS-01-111815	Hand Auger	0 to 6	None	Yes		
	3-09	1299439	7505915	11/18/15	3-09-SS-01-111815	Hand Auger	0 to 6	None	No		
	3-10	1299518	7505916	11/18/15	3-10-SS-01-111815	Hand Auger	0 to 6	None	No		
	3-11	1299396	7505987	11/19/15	3-11-SS-01-111915	Hand Auger	0 to 6	8	No		
	3-12	1299478	7505988	11/19/15	3-12-SS-01-111915	Hand Auger	0 to 6	None	No		
	3-13	1299560	7505987	11/19/15	3-13-SS-01-111915	Hand Auger	0 to 6	None	No		
	3-14	1299468	7505696	11/17/15	3-14-SS-01-111715	Hand Auger	0 to 6	Approx. 10 *	No		
PRI 4	4-01	1298687	7507105	10/19/15	4-01-SS-01-101915	Hand Auger	0 to 6	> 60	No	X	
	4-02	1299508	7507081	10/19/15	4-02-SS-01-101915	Hand Auger	0 to 6	> 60	No	X	
	4-03	1300351	7507083	10/20/15	4-03-SS-01-102015	Hand Auger	0 to 6	> 60	No		X
	4-04	1299087	7507813	10/23/15	4-04-SS-01-102315	Hand Auger	0 to 6	24	Yes		
	4-05	1299930	7507812	10/20/15	4-05-SS-01-102015	Hand Auger	0 to 6	84 *	No		
	4-06	1300773	7507814	10/20/15	4-06-SS-01-102015	Hand Auger	0 to 6	42	No		
	4-07	1301620	7507799	10/20/15	4-07-SS-01-102015	Hand Auger	0 to 6	48	No		
	4-08	1298666	7508543	10/23/15	4-08-SS-01-102315	Hand Auger	0 to 6	12	Yes		
	4-09	1299509	7508544	10/23/15	4-09-SS-01-102315	Hand Auger	0 to 6	24	Yes		
	4-10	1300352	7508543	10/21/15	4-10-SS-01-102115	Hand Auger	0 to 6	> 60	No		
	4-11	1301196	7508541	10/21/15	4-11-SS-01-102115	Hand Auger	0 to 6	42	No		

Table 3-1
Surface Solids Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Area	Location Identifier	X-Coordinate	Y-Coordinate	Date Sampled	Sample ID	Method	Sample Depth (inches bgs)	Waste Thickness (inches)	Saturated	Field Duplicate QC Sample	Laboratory Duplicate & Matrix Spike QC Sample
PRI 4 (cont'd)	4-12	1299084	7509274	10/29/15	4-12-SS-01-102915	Hand Auger	0 to 6	24	Yes		
	4-13	1299931	7509272	10/29/15	4-13-SS-01-102915	Hand Auger	0 to 6	24	Yes		
	4-14	1300768	7509105	10/29/15	4-14-SS-01-102915	Hand Auger	0 to 6	36	Yes		
PRI 5	5-01	1302862	7504916	10/15/15	5-01-SS-01-101515	Hand Auger	0 to 6	None	No		
	5-02	1303915	7504915	10/27/15	5-02-SS-01-102715	Ponar	0 to 4	> 4	Inundated		
	5-03	1304965	7504915	9/25/15	5-03-SS-01-092515	Hand Auger	0 to 6	None	No		
	5-04	1306023	7505025	9/25/15	5-04-SS-01-092515	Hand Auger	0 to 6	None	No		
	5-05	1307072	7504918	9/25/15	5-05-SS-01-092515	Hand Auger	0 to 6	None	No		
	5-06	1302334	7505828	10/15/15	5-06-SS-01-101515	Hand Auger	0 to 6	None	No		
	5-07	1303388	7505828	10/27/15	5-07-SS-01-102715	Ponar	0 to 4	None	No		
	5-08	1304441	7505827	10/27/15	5-08-SS-01-102715	Ponar	0 to 3	None	Inundated		
	5-09	1305491	7505827	9/17/15	5-09-SS-01-091715	Hand Auger	0 to 6	None	No		
	5-10	1306545	7505827	10/15/15	5-10-SS-01-101515	Hand Auger	0 to 6	None	No	X	
	5-11	1301810	7506740	10/27/15	5-11-SS-01-102715	Ponar	0 to 4	0.125	Inundated		
	5-12	1302860	7506740	10/27/15	5-12-SS-01-102715	Ponar	0 to 3	None	No		
	5-13	1303914	7506740	10/27/15	5-13-SS-01-102715	Ponar	0 to 5	0.25	Inundated		
	5-14	1302337	7507649	10/27/15	5-14-SS-01-102715	Ponar	0 to 6	> 3	Inundated		
	5-15	1303387	7507652	9/17/15	5-15-SS-01-091715	Hand Auger	0 to 6	None	No		
	5-16	1302298	7505352	10/15/15	5-16-SS-01-101515	Hand Auger	0 to 6	60 *	Yes		
	5-17	1303190	7504304	9/18/15	5-17-SS-01-091815	Hand Auger	0 to 6	2	No		
	5-18	1303141	7504235	9/18/15	5-18-SS-01-091815	Hand Auger	0 to 6	2	No		
	5-19	1304060	7504352	9/18/15	5-19-SS-01-091815	Hand Auger	0 to 6	None	No		
	5-20	1303876	7504377	9/18/15	5-20-SS-01-091815	Hand Auger	0 to 6	None	No		
PRI 6	6-01	1298438	7508735	10/16/15	6-01-SS-01-101615	Hand Auger	0 to 6	None	No	X	X
	6-02	1301474	7508720	10/28/15	6-02-SS-01-102815	Ponar	0 to 4	None	Inundated		
	6-03	1302205	7508705	9/17/15	6-03-SS-01-091715	Hand Auger	0 to 6	None	No		
	6-04	1298066	7509405	10/16/15	6-04-SS-01-101615	Hand Auger	0 to 6	0.5	No		X
	6-05	1298766	7509367	10/28/15	6-05-SS-01-102815	Ponar	0 to 4	None	Inundated		
	6-06	1301059	7509364	9/17/15	6-06-SS-01-091715	Hand Auger	0 to 6	None	No		
	6-07	1297620	7510029	10/16/15	6-07-SS-01-101615	Hand Auger	0 to 6	0.25	No	X	
	6-08	1298384	7510028	10/28/15	6-08-SS-01-102815	Ponar	0 to 5.5	0.125	Inundated		
	6-09	1299149	7510029	10/28/15	6-09-SS-01-102815	Ponar	0 to 4	Trace	Inundated		
	6-10	1299913	7510027	10/28/15	6-10-SS-01-102815	Ponar	0 to 4	Trace	Inundated		
	6-11	1300678	7510028	10/28/15	6-11-SS-01-102815	Ponar	0 to 3	None	Inundated		
	6-12	1298764	7510689	10/28/15	6-12-SS-01-102815	Ponar	0 to 4	Trace	Inundated		
	6-13	1299529	7510691	10/28/15	6-13-SS-01-102815	Ponar	0 to 3	None	Inundated		
	6-14	1300293	7510689	9/16/15	6-14-SS-01-091615	Hand Auger	0 to 6	None	No		
	6-15	1299912	7511353	9/16/15	6-15-SS-01-091615	Hand Auger	0 to 6	None	No		
PRI 7	7-01	1307695	7506001	9/23/15	7-01-SS-01-092315	Hand Auger	0 to 6	4	No		
	7-02	1305239	7507421	9/24/15	7-02-SS-01-092415	Hand Auger	0 to 6	1	Yes		

Table 3-1
Surface Solids Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Area	Location Identifier	X-Coordinate	Y-Coordinate	Date Sampled	Sample ID	Method	Sample Depth (inches bgs)	Waste Thickness (inches)	Saturated	Field Duplicate QC Sample	Laboratory Duplicate & Matrix Spike QC Sample
PRI 7 (cont'd)	7-03	1306876	7507421	9/24/15	7-03-SS-01-092415	Hand Auger	0 to 6	2	Yes		
	7-04	1302779	7508840	9/29/15	7-04-SS-01-092915	Hand Auger	0 to 6	Approx. 30	Yes		
	7-05	1304420	7508840	9/24/15	7-05-SS-01-092415	Hand Auger	0 to 6	2	No		
	7-06	1306057	7508840	9/28/15	7-06-SS-01-092815	Hand Auger	0 to 6	1	No		
	7-07	1301960	7510259	9/23/15	7-07-SS-01-092315	Hand Auger	0 to 6	1	Yes		
	7-08	1303597	7510259	9/23/15	7-08-SS-01-092315	Hand Auger	0 to 6	None	No		
	7-09	1305238	7510259	9/28/15	7-09-SS-01-092815	Hand Auger	0 to 6	1	No		
	7-10	1306876	7510259	9/28/15	7-10-SS-01-092815	Hand Auger	0 to 6	1	Yes		
	7-11	1301141	7511678	9/21/15	7-11-SS-01-092115	Hand Auger	0 to 6	None	No		
	7-12	1302778	7511678	9/21/15	7-12-SS-01-092115	Hand Auger	0 to 6	1	No	X	
	7-13	1304419	7511678	9/22/15	7-13-SS-01-092215	Hand Auger	0 to 6	2	No		X
	7-14	1306057	7511679	9/22/15	7-14-SS-01-092215	Hand Auger	0 to 6	2	Yes	X	
	7-15	1307655	7511695	9/22/15	7-15-SS-01-092215	Hand Auger	0 to 6	1	No		
	7-16	1303909	7512184	9/29/15	7-16-SS-01-092915	Hand Auger	0 to 6	None	Yes		
	7-17	1306573	7512241	9/29/15	7-17-SS-01-092915	Hand Auger	0 to 6	None	Yes		
Background Areas											
BRMBR	BR-01	1404771	7719985	10/22/15	BR-1-SS-01-102215	Flat Bottom Scoop	0 to 2	None	N		
	BR-02	1406076	7719711	10/22/15	BR-2-SS-01-102215	Flat Bottom Scoop	0 to 2	None	N		
	BR-03	1407336	7719804	10/22/15	BR-3-SS-01-102215	Flat Bottom Scoop	0 to 2	None	N		
	BR-04	1408461	7720599	10/22/15	BR-4-SS-01-102215	Flat Bottom Scoop	0 to 2	None	N		
	BR-05	1408900	7722318	10/22/15	BR-5-SS-01-102215	Flat Bottom Scoop	0 to 2	None	N		
LBB	LBB-01	1343740	7515528	10/9/15	LBB-1-SS-01-100915	Flat Bottom Scoop	0 to 2	None	N		
	LBB-02	1344262	7515584	10/9/15	LBB-2-SS-01-100915	Flat Bottom Scoop	0 to 2	None	N	Y	
	LBB-03	1344761	7516023	10/9/15	LBB-3-SS-01-100915	Flat Bottom Scoop	0 to 2	None	N		
	LBB-04	1345196	7515770	10/9/15	LBB-4-SS-01-100915	Flat Bottom Scoop	0 to 2	None	N		
	LBB-05	1345969	7515433	10/9/15	LBB-5-SS-01-100915	Flat Bottom Scoop	0 to 2	None	N		
	LBB-06	1346744	7514896	10/8/15	LBB-6-SS-01-100815	Flat Bottom Scoop	0 to 2	None	N		
	LBB-07	1347052	7514452	10/8/15	LBB-7-SS-01-100815	Flat Bottom Scoop	0 to 2	None	N		
	LBB-08	1347742	7513734	10/8/15	LBB-8-SS-01-100815	Flat Bottom Scoop	0 to 2	None	N		
	LBB-09	1348353	7513045	10/8/15	LBB-9-SS-01-100815	Flat Bottom Scoop	0 to 2	None	N		
	LBB-10	1348921	7512458	10/8/15	LBB-10-SS-01-100815	Flat Bottom Scoop	0 to 2	None	N		
LBN	LBN-01	1265416	7546460	10/2/15	LBN-1-SS-01-100215	Flat Bottom Scoop	0 to 2	None	N	Y	
	LBN-02	1265868	7546600	10/2/15	LBN-2-SS-01-100215	Flat Bottom Scoop	0 to 2	None	N	Y	
	LBN-03	1267032	7546713	10/2/15	LBN-3-SS-01-100215	Flat Bottom Scoop	0 to 2	None	N		
	LBN-04	1267673	7546582	10/2/15	LBN-4-SS-01-100215	Flat Bottom Scoop	0 to 2	None	N		Y
	LBN-05	1268404	7546682	10/2/15	LBN-5-SS-01-100215	Flat Bottom Scoop	0 to 2	None	N		
	LBN-06	1268910	7546645	10/5/15	LBN-6-SS-01-100515	Flat Bottom Scoop	0 to 2	None	N		
	LBN-07	1269459	7546393	10/5/15	LBN-7-SS-01-100515	Flat Bottom Scoop	0 to 2	None	N		

Table 3-1
Surface Solids Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Area	Location Identifier	X-Coordinate	Y-Coordinate	Date Sampled	Sample ID	Method	Sample Depth (inches bgs)	Waste Thickness (inches)	Saturated	Field Duplicate QC Sample	Laboratory Duplicate & Matrix Spike QC Sample
LBN (cont'd)	LBN-08	1270577	7546590	10/5/15	LBN-8-SS-01-100515	Flat Bottom Scoop	0 to 2	None	N		
	LBN-09	1271873	7546644	10/5/15	LBN-9-SS-01-100515	Flat Bottom Scoop	0 to 2	None	N		
	LBN-10	1272541	7546415	10/5/15	LBN-10-SS-01-100515	Flat Bottom Scoop	0 to 2	None	N		
LBSE	LBSE-01	1335465	7511406	10/6/15	LBSE-1-SS-01-100615	Flat Bottom Scoop	0 to 2	None	N	Y	
	LBSE-02	1335974	7511419	10/6/15	LBSE-2-SS-01-100615	Flat Bottom Scoop	0 to 2	None	N		Y
	LBSE-03	1336390	7511503	10/6/15	LBSE-3-SS-01-100615	Flat Bottom Scoop	0 to 2	None	N		
	LBSE-04	1337210	7511613	10/6/15	LBSE-4-SS-01-100615	Flat Bottom Scoop	0 to 2	None	Y		
	LBSE-05	1337928	7511795	10/6/15	LBSE-5-SS-01-100615	Flat Bottom Scoop	0 to 2	None	Y		
	LBSE-06	1338358	7511755	10/7/15	LBSE-6-SS-01-100715	Flat Bottom Scoop	0 to 2	None	N		
	LBSE-07	1339695	7511566	10/7/15	LBSE-7-SS-01-100715	Flat Bottom Scoop	0 to 2	None	N		
	LBSE-08	1340478	7511669	10/7/15	LBSE-8-SS-01-100715	Flat Bottom Scoop	0 to 2	None	N		
	LBSE-09	1341406	7511304	10/7/15	LBSE-9-SS-01-100715	Flat Bottom Scoop	0 to 2	None	N		
	LBSE-10	1342343	7511157	10/7/15	LBSE-10-SS-01-100715	Flat Bottom Scoop	0 to 2	None	N		
UPN	UPN-01	1266734	7534740	10/14/15	UPN-1-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N		
	UPN-02	1267074	7534473	10/14/15	UPN-2-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N	Y	
	UPN-03	1266867	7534038	10/14/15	UPN-3-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N		
	UPN-04	1267706	7534178	10/14/15	UPN-4-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N		Y
	UPN-05	1267204	7533554	10/14/15	UPN-5-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N		
	UPN-06	1267860	7533677	10/14/15	UPN-6-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N		
	UPN-07	1267659	7533262	10/14/15	UPN-7-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N		
	UPN-08	1268145	7533170	10/14/15	UPN-8-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N		
	UPN-09	1268514	7533464	10/14/15	UPN-9-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N		
	UPN-10	1268569	7532611	10/14/15	UPN-10-SS-01-101415	Flat Bottom Scoop	0 to 2	None	N		
UPS	UPS-01	1301781	7463050	10/12/15	UPS-1-SS-01-101215	Flat Bottom Scoop	0 to 2	None	N	Y	
	UPS-02	1302138	7463731	10/12/15	UPS-2-SS-01-101215	Flat Bottom Scoop	0 to 2	None	N		Y
	UPS-03	1302492	7463218	10/12/15	UPS-3-SS-01-101215	Flat Bottom Scoop	0 to 2	None	N		
	UPS-04	1302704	7462848	10/12/15	UPS-4-SS-01-101215	Flat Bottom Scoop	0 to 2	None	N		
	UPS-05	1302916	7463572	10/12/15	UPS-5-SS-01-101215	Flat Bottom Scoop	0 to 2	None	N		
	UPS-06	1303427	7463184	10/13/15	UPS-6-SS-01-101315	Flat Bottom Scoop	0 to 2	None	N		
	UPS-07	1303813	7463387	10/13/15	UPS-7-SS-01-101315	Flat Bottom Scoop	0 to 2	None	N		
	UPS-08	1304083	7462765	10/13/15	UPS-8-SS-01-101315	Flat Bottom Scoop	0 to 2	None	N		
	UPS-09	1304430	7463485	10/13/15	UPS-9-SS-01-101315	Flat Bottom Scoop	0 to 2	None	N		
	UPS-10	1304545	7463296	10/13/15	UPS-10-SS-01-101315	Flat Bottom Scoop	0 to 2	None	N		
UPSE	UPSE-01	1353205	7485370	10/1/15	UPSE-1-SS-01-100115	Flat Bottom Scoop	0 to 2	None	N	Y	
	UPSE-02	1353733	7485383	10/1/15	UPSE-2-SS-01-100115	Flat Bottom Scoop	0 to 2	None	N	Y	
	UPSE-03	1353271	7485823	10/1/15	UPSE-3-SS-01-100115	Flat Bottom Scoop	0 to 2	None	N		
	UPSE-04	1353642	7485865	10/1/15	UPSE-4-SS-01-100115	Flat Bottom Scoop	0 to 2	None	N		

Table 3-1
Surface Solids Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Area	Location Identifier	X-Coordinate	Y-Coordinate	Date Sampled	Sample ID	Method	Sample Depth (inches bgs)	Waste Thickness (inches)	Saturated	Field Duplicate QC Sample	Laboratory Duplicate & Matrix Spike QC Sample
UPSE (cont'd)	UPSE-05	1352858	7486198	10/1/15	UPSE-5-SS-01-100115	Flat Bottom Scoop	0 to 2	None	N		
	UPSE-06	1353462	7486205	9/30/15	UPSE-6-SS-01-093015	Flat Bottom Scoop	0 to 2	None	N		
	UPSE-07	1352743	7486827	9/30/15	UPSE-7-SS-01-093015	Flat Bottom Scoop	0 to 2	None	N		
	UPSE-08	1353203	7486718	9/30/15	UPSE-8-SS-01-093015	Flat Bottom Scoop	0 to 2	None	N		
	UPSE-09	1353611	7486544	9/30/15	UPSE-9-SS-01-093015	Flat Bottom Scoop	0 to 2	None	N		
	UPSE-10	1353520	7486937	9/30/15	UPSE-10-SS-01-093015	Flat Bottom Scoop	0 to 2	None	N		

Notes:

* = waste depth was determined during drilling activities

** = waste was encountered during drilling from 8 to 9 feet bgs at location 1-13 and from 7 to 8 feet bgs at location 1-14.

bgs = below ground surface

BRMBR = Bear River Migratory Bird Refuge

LBB = Lakebed Southeast at Badger Island

LBN = Lakebed North

LBSE = Lakebed Southeast

PRI = Preliminary Remedial Investigation

QC = Quality control

UPN = Upland North

UPS = Upland South

UPSE = Upland Southeast

Table 3-2
Subsurface Solids Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Location Identifier	X-Coordinate	Y-Coordinate	Date Sampled	Method	Sample Interval * (feet bgs)	Description	Sample ID	Analysis
Inner PRIs								
1-03	1299174	7506478	11/4/2015	Sonic (52° from vertical)	0.3 to 0.9	Waste	1-03-SB-01-0.5-1.5-110415	HL
					0.9 to 2.2	Waste	1-03-SB-01-1.5-3.5-110415	HL
					2.2 to 3.4	Native	1-03-SB-01-3.5-5.5-110415	LL
1-07	1299661	7505694	11/4/2015	Sonic (45° from vertical)	0.4 to 2.1	Waste	1-07-SB-01-0.5-1.5-110415	HL
					2.1 to 4.2	Native	1-07-SB-01-1.5-3-110415	LL
					4.2 to 7.1	Native	Not Analyzed	
					7.1 to 9.9	Native	Not Analyzed	
1-08	1299886	7506453	11/5/2015	Sonic (45° from vertical)	0.4 to 5	Waste	Not Analyzed	
					5 to 6	Waste	Not Analyzed	
					6 to 7	Native	1-08-SB-01-8.5-10-110515	LL
			12/2/2015	Lexan Tube	1 to 3	Waste	1-08-SB-01-1-3-120215	HL
					3 to 5	Waste	1-08-SB-01-3-5-120215	HL
					5 to 6	Waste	1-08-SB-01-5-6-120215	HL
1-13	1302496	7508346	11/10/2015	Sonic	0.5 to 4	Fill	1-13-SB-01-0.5-4-111015	LL
					4 to 6	Fill	1-13-SB-01-4-6-111015	LL
					6 to 8	Fill	1-13-SB-01-6-8-111015	LL
					8 to 9	Waste	1-13-SB-01-8-9-111015	HL
					9 to 11	Native	1-13-SB-01-9-11-111015	LL
					11 to 13	Native	Not Analyzed	
					13 to 15	Native	Not Analyzed	
					15 to 17	Native	Not Analyzed	
1-14	1299803	7505967	11/3/2015	Sonic	0.5 to 2	Fill	1-14-SB-01-7-8.5-110315	LL
					2 to 4	Fill	1-14-SB-01-0.5-2-110315	LL
					4 to 6	Fill	1-14-SB-01-2-4-110315	LL
					6 to 7	Fill	1-14-SB-01-4-6-110315	LL
					7 to 8.5	Waste	1-14-SB-01-6-7-110315	HL
					8.5 to 10	Native	1-14-SB-01-8.5-10-110315	LL
					10 to 11	Native	Not Analyzed	
					15 to 17	Native	Not Analyzed	

Table 3-2
Subsurface Solids Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Location Identifier	X-Coordinate	Y-Coordinate	Date Sampled	Method	Sample Interval * (feet bgs)	Description	Sample ID	Analysis
3-14	1299468	7505696	11/3/2015	Sonic	0.5 to 3.5	Waste/Native	3-14-SB-01-0.5-3.5-110315	LL
					3.5 to 5	Native	3-14-SB-01-3.5-5-110315	LL
4-05	1299930	7507812	11/9/2015	Sonic	0.5 to 3	Waste	4-05-SB-01-0.5-3-110915	HL
					3 to 5	Waste	4-05-SB-01-3-5-110915	HL
					5 to 7	Waste	4-05-SB-01-5-7-110915	HL
					7 to 9	Native	4-05-SB-01-7-9-110915	LL
5-14SB	1301694	7507563	12/1/2015	Lexan Tube	0 to 2	Waste	5-14SB-SB-01-0-2-120115	HL
					2 to 4	Waste	5-14SB-SB-01-2-4-120115	HL
					4 to 6	Waste	5-14SB-SB-01-4-6-120115	HL
					8 to 10	Native	5-14SB-SB-01-8-10-120115	LL
5-16	1302298	7505352	11/5/2015	Sonic	0.5 to 6.5	Waste	Not Analyzed	
					6.5 to 8	Native	5-16-SB-01-6.5-8-110515	LL
					8 to 10	Native	Not Analyzed	
			12/2/2015	Lexan Tube	0.5 to 2	Waste	5-16-SB-01-0.5-2-120215	HL
					2 to 4	Waste	5-16-SB-01-2-4-120215	HL
					4 to 5	Waste	5-16-SB-01-4-5-120215	HL
6-16	1301196	7508541	11/6/2015	Sonic	0.5 to 3.5	Waste	6-16-SB-01-0.5-3.5-110615	HL
					3.5 to 4.5	Waste	6-16-SB-01-3.5-4.5-110615	HL
					4.5 to 6.5	Native	6-16-SB-01-4.5-6.5-110615	LL
7-04SB	1302727	7508698	11/10/2015	Sonic	2.5 to 4.5	Native	7-04-SB-01-2.5-4.5-111015	LL
					4.5 to 6.5	Native	Not Analyzed	
					6.5 to 8.5	Native	Not Analyzed	
					8.5 to 9.5	Native	Not Analyzed	
					9.5 to 11.5	Native	Not Analyzed	
			12/10/2015	Lexan Tube	0.5 to 2.5	Waste	7-04SB-SB-01-0.5-2.5-121015	HL

Table 3-2
Subsurface Solids Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Location Identifier	X-Coordinate	Y-Coordinate	Date Sampled	Method	Sample Interval * (feet bgs)	Description	Sample ID	Analysis
Background								
BR-03	1407336	7719804	10/22/2015	Post Hole Digger	0.17 to 3	Native	BR-3-SB-01-02-36-102215	LL
LBB-07	1347052	7514452	10/8/2015	Hand Auger	0.17 to 3	Native	LBB-7-SB-01-02-36-100815	LL
LBN-06	1268910	7546645	10/5/2015	Hand Auger	0.17 to 3	Native	LBN-6-SB-01-2-36-100515	LL
LBSE-07	1339695	7511566	10/7/2015	Hand Auger	0.17 to 3	Native	LBSE-7-SB-01-02-36-100715	LL
UPN-06	1267860	7533677	10/14/2015	Hand Auger	0.17 to 3	Native	UPN-6-SB-01-02-36-101415	LL
UPS-06	1303427	7463184	10/13/2015	Hand Auger	0.17 to 3	Native	UPS-6-SB-01-02-36-101315	LL
UPSE-05	1352858	7486198	10/1/2015	Hand Auger	0.17 to 3	Native	UPSE-5-SB-01-02-36-100115	LL

Notes:
bgs = below ground surface
HL = High-level analytical protocol
LL = Low-level analytical protocol
* Sample intervals shown for sonic drilling samples at locations 1-03, 1-07, and 1-08 have been corrected to vertical.

Table 3-3
Field Quality Control Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Date	Sample ID	Type	Notes
Inner PRIs			
12/10/15	7-04SB-SB-41-0.5-2.5-121015	Source Blank	Deionized water source blank
9/23/15	7-01-SS-31-092315	Equipment Blank	Equipment blank for surface sampling week of September 21 to 25, 2015
10/21/15	4-10-SS-31-102115	Equipment Blank	Equipment blank for surface sampling week of October 19 to 23, 2015
10/28/15	6-13-SS-31-102815	Equipment Blank	Equipment blank for surface sampling (helicopter) week of October 27 to 29, 2015
11/6/15	6-16-SB-31-0.5-3.5-110615	Equipment Blank	Equipment blank for subsurface sampling week of November 3 to 6, 2015
11/18/15	3-10-SS-31-111815	Equipment Blank	Equipment blank for surface sampling week of November 16 to 19, 2015
11/24/15	1-04-SS-31-112415	Equipment Blank	Equipment blank for surface sampling week of November 23 to 24, 2015
12/10/15	7-04SB-SB-31-0.5-2.5-121015	Equipment Blank	Equipment blank for subsurface sampling week of December 1 to 3, 2015
12/10/15	7-04SB-SB-32-0.5-2.5-121015	Equipment Blank	Equipment blank for surface sampling (ponar) week of December 1 to 3, 2015
9/21/15	7-12-SS-11-092115	Field Duplicate	
9/22/15	7-14-SS-11-092215	Field Duplicate	
10/15/15	5-10-SS-11-101515	Field Duplicate	
10/16/15	6-01-SS-11-101615	Field Duplicate	
10/16/15	6-07-SS-11-101615	Field Duplicate	
10/19/15	4-01-SS-11-101915	Field Duplicate	
10/19/15	4-02-SS-11-101915	Field Duplicate	
11/17/15	3-06-SS-11-111715	Field Duplicate	
11/23/15	1-10-SS-11-112315	Field Duplicate	
12/3/15	1-03-SS-11-120315	Field Duplicate	
9/17/15	6-06-SS-21-091715	Trip Blank	
9/18/15	5-20-SS-21-091815	Trip Blank	
9/21/15	7-12-SS-21-092115	Trip Blank	
9/22/15	7-15-SS-21-092215	Trip Blank	
9/23/15	7-08-SS-21-092315	Trip Blank	
9/24/15	7-02-SS-21-092415	Trip Blank	
9/25/15	5-05-SS-21-092515	Trip Blank	
9/28/15	7-09-55-21-092815	Trip Blank	
9/29/15	7-04-SS-21-092915	Trip Blank	
10/16/15	6-04-SS-21-101615	Trip Blank	
10/19/15	4-02-SS-21-101915	Trip Blank	
10/20/15	4-07-SS-21-102015	Trip Blank	
10/21/15	4-10-SS-21-102115	Trip Blank	
10/23/15	4-09-SS-21-102315	Trip Blank	
10/27/15	5-12-SS-21-102715	Trip Blank	
10/28/15	6-13-SS-21-102815	Trip Blank	
10/29/15	4-14-SS-21-102915	Trip Blank	

Table 3-3
Field Quality Control Samples
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Date	Sample ID	Type	Notes
11/3/15	1-14-SB-21-10-11-110315	Trip Blank	
11/4/15	1-07-SB-21-5-7-110415	Trip Blank	
11/5/15	1-08-SB-21-8.5-10-110515	Trip Blank	
11/6/15	6-16-SB-21-4.5-6.5-110615	Trip Blank	
11/9/15	4-05-SB-21-7-9-110915	Trip Blank	
11/10/15	7-04-SB-21-9.5-11.5-111015	Trip Blank	
11/16/15	3-03-SS-21-111615	Trip Blank	
11/17/15	3-01-SS-21-111715	Trip Blank	
11/18/15	3-10-SS-21-111815	Trip Blank	
11/19/15	1-14-SS-21-111915	Trip Blank	
11/23/15	1-09-SS-21-112315	Trip Blank	
11/24/15	1-04-SS-21-112415	Trip Blank	
12/1/15	5-14SB-SB-21-0-2-120115	Trip Blank	
12/2/15	1-08-SB-21-1-3-120215	Trip Blank	
12/3/15	1-06-SS-21-120315	Trip Blank	
12/10/15	7-04SB-SB-21-0.5-2.5-121015	Trip Blank	
Background			
10/1/2015	UPSE-2-SS-11-100115	Field Duplicate	
10/1/2015	UPSE-1-SS-11-100115	Field Duplicate	
10/2/2015	LBN-1-SS-11-100215	Field Duplicate	
10/2/2015	LBN-2-SS-11-100215	Field Duplicate	
10/6/2015	LBSE-1-SS-11-100615	Field Duplicate	
10/9/2015	LBB-2-SS-11-100915	Field Duplicate	
10/12/2015	UPS-1-SS-11-101215	Field Duplicate	
10/14/2015	UPN-2-SS-11-101415	Field Duplicate	
10/2/2015	LBN-1-SS-31-100215	Equipment Blank	Equipment blank for background sampling week of September 30 to October 2, 2015
10/9/2015	LBB-1-SS-31-100915	Equipment Blank	Equipment blank for background sampling week of October 5 to 9, 2015
10/13/2015	UPS-10-SS-31-101315	Equipment Blank	Equipment blank for background sampling week of October 12 to 15, 2015

Notes:
PRI = Preliminary Remedial Investigation

Table 4-1
Phase 1A-B RI Laboratory Sample Delivery Groups
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Sample Type(s)	Sample Date(s)	Laboratory Receipt Date	Laboratory	SDG Number	LDC Data Validation Report Number
Inner PRI	9/16/2015	9/17/2015	TestAmerica	320-14952-1	35313
Inner PRI	9/17/2015	9/18/2015	TestAmerica	320-14985-1	35378
Inner PRI	9/18/2015	9/19/2015	TestAmerica	320-14996-1	35359
Inner PRI	9/18/2015	9/19/2015	TestAmerica	320-14996-2 (Re-extract for LL PCBs)	35359
Inner PRI	9/21/2015	9/22/2015	TestAmerica	320-15032-1	35410
Inner PRI	9/21/2015	9/22/2015	TestAmerica	320-15032-2 (Re-extract for LL PCBs)	35410
Inner PRI	9/22/2015	9/23/2015	TestAmerica	320-15065-1	35528
Inner PRI	9/22/2015	9/23/2015	TestAmerica	320-15065-2 (Re-extract for LL PCBs)	35528
Inner PRI	9/23/2015	9/24/2015	TestAmerica	320-15105-1	35447
Inner PRI	9/18 - 9/23/2015	9/24/2015	Alpha	L1523854	35378
Inner PRI	9/24/2015	9/25/2015	TestAmerica	320-15131-1	35447
Inner PRI	9/24/2015	9/25/2015	TestAmerica	320-15131-2 (Re-extract for LL PCBs)	35447
Inner PRI	9/25/2015	9/26/2015	TestAmerica	320-15154-1	35447
Inner PRI	9/28/2015	9/29/2015	TestAmerica	320-15201-1	35447
Inner PRI	9/28/2015	9/29/2015	TestAmerica	320-15201-2 (Re-extract for LL PCBs)	35447
Inner PRI	9/29/2015	9/30/2015	TestAmerica	320-15223-1	35447
Inner PRI	9/24 - 9/29/2015	9/30/2015	Alpha	L1524487	35378
Background	9/30 - 10/2/2015	10/3/2015	TestAmerica	320-15298-1	35443
Background	10/5 - 10/7/2015	10/8/2015	TestAmerica	320-15395-1	35443
Background	10/8 - 10/9/2015	10/10/2015	TestAmerica	320-15429-1	35461
Background	10/12 - 10/13/2015	10/14/2015	TestAmerica	320-15476-1	35456
Background	10/14/2015	10/16/2015	TestAmerica	320-15520-1	35456
Inner PRI	10/15/2015	10/16/2015	TestAmerica	320-15520-2	35800
Inner PRI	10/16/2015	10/17/2015	TestAmerica	320-15535-1	36040
Inner PRI	10/16/2015	10/17/2015	TestAmerica	320-15535-2 (Re-analyze for LL PCBs)	35617
Inner PRI	10/19/2015	10/20/2015	TestAmerica	320-15564-1	35481
Inner PRI	10/20/2015	10/21/2015	TestAmerica	320-15582-1	35481
Inner PRI	10/21/2015	10/22/2015	TestAmerica	320-15604-1	35506 RV1
Inner PRI	10/15 - 10/21/2015	10/22/2015	Alpha	L1526948	35650
Background	10/22/2015	10/23/2015	TestAmerica	320-15636-1	35456
Inner PRI	10/23/2015	10/24/2015	TestAmerica	320-15635-1	35496
Inner PRI - Fines	9/16 - 29/2015	9/17 - 30/2015	TestAmerica	320-15649-1	35706
Inner PRI	10/27/2015	10/28/2015	TestAmerica	320-15692-1	35496
Inner PRI	10/27/2015	10/28/2015	TestAmerica	320-15692-2 (Re-analyze for LL PCBs)	35706
Inner PRI	10/28/2015	10/28/2015	TestAmerica	320-15704-1	35496 RV1
Inner PRI	10/23 - 10/28/2015	10/29/2015	Alpha	L1527831	35650
Inner PRI	10/29/2015	10/30/2015	TestAmerica	320-15726-1	35617BC
Inner PRI	11/3/2015	11/4/2015	TestAmerica	320-15782-1	36117
Inner PRI	11/4/2015	11/5/2015	TestAmerica	320-15803-1	35826
Inner PRI	11/5/2015	11/6/2015	TestAmerica	320-15832-1	35826

Table 4-1
Phase 1A-B RI Laboratory Sample Delivery Groups
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Sample Type(s)	Sample Date(s)	Laboratory Receipt Date	Laboratory	SDG Number	LDC Data Validation Report Number
Inner PRI	10/29/2015 PRI 4 only	11/6/2015	Alpha	L1528909	35568
Inner PRI	11/6/2015	11/7/2015	TestAmerica	320-15847-1	35706
Inner PRI	11/9/2015	11/10/2015	TestAmerica	320-15866-1	35617BC
Inner PRI	11/10/2015	11/11/2015	TestAmerica	320-15887-1	35826
Inner PRI	11/6 - 11/10/2015 PRIs 4, 6, and 7 only	11/12/2015	Alpha	L1529748	35568
Inner PRI - Fines	10/15/2015	10/16/2015	TestAmerica	320-15967-1	35706
Inner PRI	11/16/2015	11/17/2015	TestAmerica	320-15988-1	35826
Inner PRI	11/17/2015	11/18/2015	TestAmerica	320-16022-1	35846
Inner PRI	11/18/2015	11/19/2015	TestAmerica	320-16045-1	35812
Inner PRI - Fines	10/27 - 28/2015	10/28 - 29/2015	TestAmerica	320-16064-1	35800A
Inner PRI	11/19/2015	11/20/2015	TestAmerica	320-16067-1	36117
Inner PRI	11/23/2015	11/24/2015	TestAmerica	320-16119-1	35826
Inner PRI	11/24/2015	11/25/2015	TestAmerica	320-16151-1	35805
Inner PRI	12/1/2015	12/2/2015	TestAmerica	320-16225-1	35826
Inner PRI	12/2/2015	12/3/2015	TestAmerica	320-16252-1	35866A
Inner PRI	12/2/2015	12/3/2015	TestAmerica	320-16252-2 (1-08-SB-01-5-6-120215)	36121
Inner PRI	12/3/2015	12/4/2015	TestAmerica	320-16299-1	35826
Inner PRI	12/1 - 12/3/2015	12/4/2015	Alpha	L1532038	35716
Inner PRI	12/10/2015	12/11/2015	TestAmerica	320-16417-1	35800
Inner PRI	12/10/2015	12/11/2015	Alpha	L1532824	35866D
Inner PRI	10/29 - 11/24/2015	11/6, 11/12, & 11/25/2015	Alpha	L1600869	35866C
Inner PRI - Fines	11/24/2015	1/27/2016	Alpha	L1602197	35866B
Inner PRI - Fines	11/16 - 11/24/2015	11/17 - 11/25/2015	TestAmerica	320-16803-1 (No SVOC)	36103

Table 4-1
Phase 1A-B RI Laboratory Sample Delivery Groups
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Sample Type(s)	Sample Date(s)	Laboratory Receipt Date	Laboratory	SDG Number	LDC Data Validation Report Number
Inner PRI - Fines	11/16 - 11/24/2015	11/17 - 11/25/2015	TestAmerica	320-16083-2 (SVOC only)	36219
Inner PRI - Fines	11/19/2015	3/2/2016	Alpha	L1605755	36096
Inner PRI	12/2 - 12/3/2015	12/4/2015	Alpha	L1613388	36343

Notes:
SDG = Sample Delivery Group
LL PCBs = Low-level polychlorinated biphenyl analysis by Method 1668A
PRI = Preliminary Remedial Investigation
LDC = Laboratory Data Consultants
SVOC = Semi-volatile organic compound

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-01**	**1-02**	**1-03**	**1-03**	**1-03**	**1-03**	**1-04**	**1-05**	**1-06**	**1-07**	**1-07**	**1-07**	**1-08**
	Sample Date	**19-Nov-15**	**19-Nov-15**	**04-Nov-15**	**04-Nov-15**	**04-Nov-15**	**03-Dec-15**	**24-Nov-15**	**19-Nov-15**	**03-Dec-15**	**04-Nov-15**	**04-Nov-15**	**03-Dec-15**	**05-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0.3 - 0.9 ft**	**0.9 - 2.2 ft**	**2.2 - 3.4 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.4 - 2.1 ft**	**2.1 - 4.1 ft**	**0 - 6 in**	**6 - 7 ft**
	Sample ID	**1-01-SS-01-111915**	**1-02-SS-01-111915**	**1-03-SB-01-0.5-1.5-110415**	**1-03-SB-01-1.5-3.5-110415**	**1-03-SB-01-3.5-5.5-110415**	**1-03-SS-01-120315**	**1-04-SS-01-112415**	**1-05-SS-01-111915**	**1-06-SS-01-120315**	**1-07-SB-01-0.5-1.5-110415**	**1-07-SB-01-1.5-3-110415**	**1-07-SS-01-120315**	**1-08-SB-01-8.5-10-110515**
Analyte	**Unit**													
01-Dioxins and Furans														
2,3,7,8-TCDD	pg/g	3.5	2.7	*< 0.68 U*	*< 3.4 U*	*< 0.062 U*	390 J	210	110	*< 4.2 U*	*< 13 U*	*< 1.0 U*	*< 3.3 U*	1.4
1,2,3,7,8-PeCDD	pg/g	6.3 J	11	7.6 J	17 J	*< 0.11 U*	3,100 J	1,700	750	45 J	92	3.6 J	*< 13 UQ*	6.3 J
1,2,3,4,7,8-HxCDD	pg/g	*< 2.3 U*	14	6.8 J	*< 18 UQ*	*< 0.23 U*	3,900 J	2,500	1,200	*< 91 UQ*	120	3.8 J	*< 46 U*	5.5 J
1,2,3,6,7,8-HxCDD	pg/g	16 J	33	22 J	75 J	*< 0.42 UQ*	13,000	6,800	2,800	370	520	13	*< 130 UQ*	17
1,2,3,7,8,9-HxCDD	pg/g	*< 13 UQ*	27	27 J	80 J	0.46 J	13,000	7,600	3,500	460	590	15	130	21
1,2,3,4,6,7,8-HpCDD	pg/g	66 J	170	150	550	3.3 J	94,000	56,000	21,000	2,000	3,900	87	710	110
OCDD	pg/g	170	580	400	1,600	13	290,000	150,000	40,000	3,200	8,700	150	1,200 J	370
2,3,7,8-TCDF	pg/g	1,400	440	110	390	2.2	24,000	18,000	12,000	480	900	50	190	140
1,2,3,7,8-PeCDF	pg/g	790	280	500	1,400	7.5	220,000	150,000 J	65,000 J+	4,000	7,500	300	1,400	420
2,3,4,7,8-PeCDF	pg/g	280	120	240	630	3.7 J	88,000	67,000 J	*< 27,000 UQ*	2,800	3,900	170	860	250
1,2,3,4,7,8-HxCDF	pg/g	720 J	500	1,800	5,000	25	740,000	440,000 J	260,000 J+	13,000	28,000	810	4,600 J	1,200
1,2,3,6,7,8-HxCDF	pg/g	280 J	230	1,200	3,400	18	500,000	310,000 J	170,000 J+	8,800	19,000	530	3,400 J	810
1,2,3,7,8,9-HxCDF	pg/g	*< 31 UQ*	42	140	500	2.5 J	84,000	47,000 J	74,000 J+	1,900	3,200	100	700 J	130
2,3,4,6,7,8-HxCDF	pg/g	64 J	51	270	710	*< 3.4 UQ*	78,000	52,000 J	26,000	2,200	3,700	95	610 J	170
1,2,3,4,6,7,8-HpCDF	pg/g	1,600	1,900	11,000	32,000	160	4,900,000 J	2,300,000 J	1,400,000	75,000	160,000	3,300	27,000	7,900
1,2,3,4,7,8,9-HpCDF	pg/g	570	550	3,300	10,000	54	1,700,000	980,000	500,000	29,000	55,000	1,600	14,000	2,400
OCDF	pg/g	20,000	25,000	67,000	260,000	1,100	26,000,000 J	9,000,000 J	5,700,000 J	420,000	1,000,000	22,000	140,000 J	77,000
Calculated TEQ (ND=0), Mammalian	pg/g	390	240	620	1,800	8.7	260,000	150,000	79,000	4,900	9,600	280	1,700	480
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	400	240	630	1,800	9.0	260,000	150,000	83,000	4,900	9,600	290	1,700	480
Calculated TEQ (ND=0), Avian	pg/g	29,000	24,000	900	110,000	14	50,000,000	47,000,000	8,800,000	150,000	740,000	55,000	54,000	80,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	29,000	24,000	11,000	110,000	360	50,000,000	47,000,000	8,800,000	150,000	740,000	55,000	54,000	80,000
02-PCBs														
PCB-77	pg/g	50	470	*< 269 UJ*	*< 460 U*	*< 1.7 U*	*< 2,220 U*	*< 4,580 U*	*< 5,660 U*	*< 136 U*	*< 240 U*	*< 36 U*	537	120
PCB-81	pg/g	*< 11 U*	53	*< 269 U*	*< 460 U*	*< 1.8 U*	*< 2,220 U*	*< 4,580 U*	*< 5,660 U*	*< 136 U*	*< 240 U*	*< 40 U*	*< 133 U*	75
PCB-105	pg/g	330	1,100	*< 269 U*	*< 460 U*	1.4 J	*< 2,220 U*	16,600	10,200 J	*< 136 U*	*< 240 U*	100	*< 133 U*	450
PCB-107/123	pg/g			*< 539 U*	*< 920 U*		*< 4,450 U*	*< 9,160 U*	20,000 J	331 J	*< 479 U*		838	
PCB-114	pg/g	32	130	*< 269 U*	*< 460 U*	*< 1.2 U*	*< 2,220 U*	*< 4,580 U*	*< 5,660 U*	*< 136 U*	*< 240 U*	*< 45 U*	*< 133 U*	*< 100 UQ*
PCB-118	pg/g	550	2,200	*< 269 U*	*< 460 U*	*< 2.2 UQ*	*< 2,220 U*	18,700	19,800	*< 136 U*	*< 240 U*	86	378	630
PCB-123	pg/g	25 J	63			*< 1.2 U*						*< 44 U*		*< 59 U*
PCB-126	pg/g	*< 20 U*	120	*< 269 U*	*< 460 U*	*< 1.4 U*	*< 2,220 U*	*< 4,580 U*	*< 5,660 U*	*< 136 U*	*< 240 U*	*< 47 U*	*< 133 U*	74
PCB-156	pg/g			*< 269 U*	*< 460 U*		27,100	14,400	16,300	*< 136 U*	1,600 J+		2,140	
PCB-157	pg/g			*< 269 U*	*< 460 U*		*< 2,220 UJ*	*< 4,580 U*	7,300 J	*< 136 U*	698 J+		*< 133 U*	
PCB-156/157	pg/g	140	720			*< 3.6 UQ*						160		360
PCB-167	pg/g	58	250	*< 269 U*	*< 460 U*	3.5 J	30,900 J	18,800	14,000	*< 136 U*	*< 240 U*	230	*< 133 U*	320
PCB-169	pg/g	*< 6.6 U*	*< 15 U*	*< 269 U*	*< 460 U*	*< 0.68 U*	*< 2,220 U*	*< 4,580 U*	*< 5,660 U*	*< 136 U*	*< 240 U*	*< 23 U*	*< 133 U*	*< 38 U*
PCB-189	pg/g	52	170	*< 269 U*	*< 460 U*	4.1 J	50,400	19,700	21,000	342	1,460 J+	310	1,180	490
Monochlorobiphenyls, Total	mg/kg	0.000035	0.0024	*< 0.000269 U*	*< 0.000460 U*	0.0000063 J	*< 0.00222 U*	*< 0.00458 U*	*< 0.00566 U*	*< 0.000136 U*	*< 0.000240 U*	0.0065	*< 0.000133 U*	0.0025
Dichlorobiphenyls, Total	mg/kg	*< 0.00001 U*	0.005	*< 0.000269 U*	0.00310	*< 0.00001 U*	0.0309	*< 0.00458 U*	0.0120	*< 0.000136 U*	0.00752 J+	0.0027	*< 0.000133 U*	0.0052
Trichlorobiphenyls, Total	mg/kg	0.0006	0.0087	*< 0.000269 U*	0.00398	0.0000084 J	0.0489 J	0.0499	0.0450	0.000213 J	0.00762 J+	0.00024	0.000198 J	0.0014
Tetrachlorobiphenyls, Total	mg/kg	0.0013	0.014	*< 0.000269 UJ*	0.00883	0.00002	0.0993	0.0650	0.0584	0.000164 J	0.0156 J+	0.0038	0.00118	0.0034
Pentachlorobiphenyls, Total	mg/kg	0.0026	0.015	*< 0.000269 U*	0.0444	0.00002	0.22	0.15	0.256	0.000331	0.0627 J+	0.00099	0.00327	0.0048
Hexachlorobiphenyls, Total	mg/kg	0.0023	0.021	*< 0.000269 UJ*	0.00565	0.000052	0.711	0.4	0.434	0.00468	0.0259 J+	0.0031	0.0183	0.0065
Heptachlorobiphenyls, Total	mg/kg	0.0019	0.017	0.00290	0.0119	0.000095	1.22	0.636	0.82	0.00892	0.0407 J+	0.0057	0.0322	0.011
Octachlorobiphenyls, Total	mg/kg	0.0029	0.007	0.00979	0.0313	0.00018	2.48	1.31	1.27	0.0196	0.0835 J+	0.012	0.0622	0.015
Nonachlorobiphenyls, Total	mg/kg	0.0083	0.01	0.0254	0.0790	0.00043	5.85	3.32	2.42	0.0372	0.206 J+	0.031	0.104	0.029
Decachlorobiphenyl (PCB-209)	mg/kg	0.22	0.28 J	0.321	1.18	0.006	85.5	53.5	23.4	0.32	2.16	0.26	1.03	0.55 J
Total PCBs	mg/kg	0.24	0.38	0.359	1.37	0.0068	96.2	59.4	28.7	0.391	2.61 J+	0.33	1.25	0.63
03- Metals														
Total Aluminum	mg/kg	6,400	4,900	20,000	15,000	3,200	7,000	1,900	8,700	390	4,300	15,000	190	2,300
Total Antimony	mg/kg	0.36	3.2	0.88	2.9	0.78	7.1 J-	23	1.4	1.3 J-	8.3	0.93	0.77 J-	0.51
Total Arsenic	mg/kg	9.5	20	21	54	21	77	110	22	11	60	24	7.5	8.4
Total Barium	mg/kg	170	140	460	1,200	82	650	940 J	460	35	180	330	53	200
Total Beryllium	mg/kg	0.71	0.44	1.0	0.62	0.14	0.28	0.44	0.39	0.085	0.41	0.79	0.077	*< 0.12 U*
Total Cadmium	mg/kg	0.31	0.58	0.35	0.12 J	0.19	*< 0.065 U*	0.056 J	0.15	*< 0.035 U*	0.045 J	0.24	*< 0.037 U*	0.29
Total Calcium	mg/kg	87,000	58,000	39,000	47,000	51,000	9,500 J	16,000	79,000	250,000 J	92,000	72,000	270,000 J	170,000
Total Chromium	mg/kg	31	38	28	43	5.6	24 J-	21	32	4.6 J-	36	22	2.8 J-	6.0
Total Cobalt	mg/kg	4.0	6.4	9.6	4.0	1.4	1.0	6.0	2.9	0.88	3.0	7.6	0.78	1.3

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-01**	**1-02**	**1-03**	**1-03**	**1-03**	**1-03**	**1-04**	**1-05**	**1-06**	**1-07**	**1-07**	**1-07**	**1-08**
	Sample Date	**19-Nov-15**	**19-Nov-15**	**04-Nov-15**	**04-Nov-15**	**04-Nov-15**	**03-Dec-15**	**24-Nov-15**	**19-Nov-15**	**03-Dec-15**	**04-Nov-15**	**04-Nov-15**	**03-Dec-15**	**05-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0.3 - 0.9 ft**	**0.9 - 2.2 ft**	**2.2 - 3.4 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.4 - 2.1 ft**	**2.1 - 4.1 ft**	**0 - 6 in**	**6 - 7 ft**
	Sample ID	**1-01-SS-01-111915**	**1-02-SS-01-111915**	**1-03-SB-01-0.5-1.5-110415**	**1-03-SB-01-1.5-3.5-110415**	**1-03-SB-01-3.5-5.5-110415**	**1-03-SS-01-120315**	**1-04-SS-01-112415**	**1-05-SS-01-111915**	**1-06-SS-01-120315**	**1-07-SB-01-0.5-1.5-110415**	**1-07-SB-01-1.5-3-110415**	**1-07-SS-01-120315**	**1-08-SB-01-8.5-10-110515**
Analyte	**Unit**													
Total Copper	mg/kg	63	150	22	22	2.2	3.4	16 J-	12	1.3	11	16	1.5	2.7
Total Iron	mg/kg	8,800	23,000	19,000	67,000	6,000	120,000	68,000	46,000	26,000	45,000	21,000	13,000	4,400
Total Lead	mg/kg	6.0 J+	57	15 J+	13 J+	1.9 J+	2.1 J+	5.0 J+	15 J+	1.1 J+	5.8 J+	11 J+	1.1 J+	4.5 J+
Total Magnesium	mg/kg	22,000	22,000	11,000	21,000	20,000	25,000	8,100 J+	17,000	5,700	11,000	14,000	6,200	26,000
Total Manganese	mg/kg	240	290	300	120	99	24	52 J-	130	160	100	260	140	120
Total Mercury	mg/kg	0.059	0.068	*< 0.020 U*	0.15	*< 0.010 U*	*< 0.019 U*	0.025 J	0.12	*< 0.013 U*	*< 0.036 U*	*< 0.023 U*	*< 0.012 U*	*< 0.014 U*
Total Molybdenum	mg/kg	6.0	42	2.9	52	3.9	73 J-	46 J-	14	2.5 J-	45	3.8	2.0 J-	2.4
Total Nickel	mg/kg	52	46	22	12	2.7	12 J-	28 J-	13	4.9 J-	17	23	3.9 J-	2.3
Total Potassium	mg/kg	1,500	1,300	3,800	3,100	840	2,100	450	2,900	170 J	1,200	4,800	38 J	730
Total Selenium	mg/kg	0.13 J	0.31	0.36	0.46	0.62	0.44 J	0.47	0.71	0.50 J-	0.22	0.40	0.70 J-	1.7
Total Silver	mg/kg	0.12	0.20	*< 0.047 U*	0.078 J	*< 0.038 U*	*< 0.039 U*	0.044 J	0.068 J	*< 0.021 U*	*< 0.024 U*	0.080 J	*< 0.022 U*	*< 0.040 U*
Total Sodium	mg/kg	2,500	1,600	910	2,600	840	2,100	550	2,400	370	23,000	22,000	10,000	2,300
Total Thallium	mg/kg	0.093	0.091	0.25	0.17	0.28	0.11 J	0.076	0.12	0.043 J	0.10	0.27	0.040 J	0.52
Total Vanadium	mg/kg	20	18	45	140	20	64	46 J-	62	30	66	39	14	19
Total Zinc	mg/kg	420	240	74	43	9.4	12 J	25 J-	40	3.7 J	26	60	3.8 J	8.2
05-SVOCs														
1,1'-Biphenyl	mg/kg	*< 2.5 U*	*< 2.4 U*	*< 24 U*	*< 29 U*	*< 2.1 U*	*< 300 U*	*< 210 U*	*< 46 U*	*< 20 U*	*< 21 U*	*< 2.5 U*	*< 18 U*	*< 2.2 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 0.4 U*	*< 0.38 U*	*< 3.7 U*	*< 4.6 U*	*< 0.33 U*	*< 48 U*	*< 34 U*	*< 7.2 U*	*< 3.1 U*	*< 3.2 U*	*< 0.4 U*	*< 2.8 U*	0.4 J
2,3,4,6-Tetrachlorophenol	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 12 U*	*< 14 U*	*< 1.1 U*	*< 150 U*	*< 110 U*	*< 23 U*	*< 9.8 U*	*< 10 U*	*< 1.3 U*	*< 8.8 U*	*< 1.1 U*
2,4,5-Trichlorophenol	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 12 U*	*< 15 U*	*< 1.1 U*	*< 150 U*	*< 110 U*	*< 23 U*	*< 9.9 U*	*< 10 U*	*< 1.3 U*	*< 8.9 U*	*< 1.1 U*
2,4,6-Trichlorophenol	mg/kg	*< 0.067 U*	*< 0.064 U*	*< 0.63 U*	*< 0.77 U*	*< 0.057 U*	*< 0.81 U*	*< 0.57 U*	*< 0.61 U*	*< 0.52 U*	*< 0.55 U*	*< 0.067 U*	*< 0.47 U*	*< 0.059 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 1.2 U*	*< 1.1 U*	*< 11 U*	*< 14 U*	*< 1 U*	*< 150 U*	*< 100 U*	*< 22 U*	*< 9.4 U*	*< 9.8 U*	*< 1.2 U*	*< 8.4 U*	*< 1.1 U*
2,4-Dichlorophenol	mg/kg	*< 1.4 U*	*< 1.3 U*	*< 13 U*	*< 16 U*	*< 1.1 U*	*< 160 U*	*< 120 U*	*< 25 U*	*< 11 U*	*< 11 U*	*< 1.4 U*	*< 9.5 U*	*< 1.2 U*
2,4-Dimethylphenol	mg/kg	*< 2.6 U*	*< 2.4 U*	*< 24 U*	*< 29 U*	*< 2.2 U*	*< 310 U*	*< 220 U*	*< 46 U*	*< 20 U*	*< 21 U*	*< 2.5 U*	*< 18 U*	*< 2.2 U*
2,4-Dinitrophenol	mg/kg	*< 3.3 U*	*< 3.1 U*	*< 31 U*	*< 37 U*	*< 2.8 U*	*< 390 U*	*< 280 U*	*< 59 U*	*< 26 U*	*< 27 U*	*< 3.3 U*	*< 23 U*	*< 2.9 U*
2,4-Dinitrotoluene	mg/kg	*< 1.4 U*	*< 1.3 U*	*< 13 U*	*< 16 U*	*< 1.1 U*	*< 160 U*	*< 120 U*	*< 25 U*	*< 11 U*	*< 11 U*	*< 1.4 U*	*< 9.5 U*	*< 1.2 U*
2,6-Dinitrotoluene	mg/kg	*< 1.5 U*	*< 1.4 U*	*< 14 U*	*< 17 U*	*< 1.3 U*	*< 180 U*	*< 130 U*	*< 27 U*	*< 12 U*	*< 12 U*	*< 1.5 U*	*< 11 U*	*< 1.3 U*
2-Chloronaphthalene	mg/kg	*< 1.2 U*	*< 1.2 U*	*< 12 U*	*< 14 U*	*< 1 U*	*< 150 U*	*< 110 U*	*< 22 U*	*< 9.7 U*	*< 10 U*	*< 1.2 U*	*< 8.6 U*	*< 1.1 U*
2-Chlorophenol	mg/kg	*< 1.3 U*	*< 1.3 U*	*< 13 U*	*< 15 U*	*< 1.1 U*	*< 160 U*	*< 110 U*	*< 24 U*	*< 10 U*	*< 11 U*	*< 1.3 U*	*< 9.4 U*	*< 1.2 U*
2-Methylphenol	mg/kg	*< 0.89 U*	*< 0.84 U*	*< 8.3 U*	*< 10 U*	*< 0.75 U*	*< 110 U*	*< 76 U*	*< 16 U*	*< 6.9 U*	*< 7.2 U*	*< 0.88 U*	*< 6.2 U*	*< 0.78 U*
2-Nitroaniline	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 12 U*	*< 15 U*	*< 1.1 U*	*< 150 U*	*< 110 U*	*< 23 U*	*< 10 U*	*< 10 U*	*< 1.3 U*	*< 9 U*	*< 1.1 U*
2-Nitrophenol	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 12 U*	*< 14 U*	*< 1.1 U*	*< 150 U*	*< 110 U*	*< 23 U*	*< 9.8 U*	*< 10 U*	*< 1.3 U*	*< 8.8 U*	*< 1.1 U*
3,3'-Dichlorobenzidine	mg/kg	*< 1.4 U*	*< 1.4 U*	*< 13 U*	*< 16 U*	*< 1.2 U*	*< 170 U*	*< 120 U*	*< 26 U*	*< 11 U*	*< 12 U*	*< 1.4 U*	*< 10 U*	*< 1.3 U*
3-Nitroaniline	mg/kg	*< 2.6 U*	*< 2.4 U*	*< 24 U*	*< 29 U*	*< 2.2 U*	*< 310 U*	*< 220 U*	*< 46 U*	*< 20 U*	*< 21 U*	*< 2.5 U*	*< 18 U*	*< 2.2 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 1.2 U*	*< 1.2 U*	*< 12 U*	*< 14 U*	*< 1 U*	*< 150 U*	*< 110 U*	*< 22 U*	*< 9.7 U*	*< 10 U*	*< 1.2 U*	*< 8.6 U*	*< 1.1 U*
4-Bromophenyl-phenylether	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 12 U*	*< 15 U*	*< 1.1 U*	*< 160 U*	*< 110 U*	*< 24 U*	*< 10 U*	*< 11 U*	*< 1.3 U*	*< 9.1 U*	*< 1.1 U*
4-Chloro-3-methylphenol	mg/kg	*< 1.4 U*	*< 1.3 U*	*< 13 U*	*< 16 U*	*< 1.2 U*	*< 170 U*	*< 120 U*	*< 25 U*	*< 11 U*	*< 11 U*	*< 1.4 U*	*< 9.8 U*	*< 1.2 U*
4-Chloroaniline	mg/kg	*< 0.89 U*	*< 0.84 U*	*< 8.3 U*	*< 10 U*	*< 0.75 U*	*< 110 U*	*< 76 U*	*< 16 U*	*< 6.9 U*	*< 7.2 U*	*< 0.88 U*	*< 6.2 U*	*< 0.78 U*
4-Chlorophenyl-phenylether	mg/kg	*< 1.4 U*	*< 1.3 U*	*< 13 U*	*< 16 U*	*< 1.2 U*	*< 170 U*	*< 120 U*	*< 26 U*	*< 11 U*	*< 12 U*	*< 1.4 U*	*< 9.9 U*	*< 1.3 U*
3 & 4 Methylphenol	mg/kg	*< 5.1 U*	*< 4.8 U*	*< 47 U*	*< 58 U*	*< 4.3 U*	*< 610 U*	*< 430 U*	*< 91 U*	*< 39 U*	56 J	*< 5 U*	*< 35 U*	*< 4.4 U*
4-Nitroaniline	mg/kg	*< 1.3 U*	*< 1.3 U*	*< 13 U*	*< 15 U*	*< 1.1 U*	*< 160 U*	*< 110 U*	*< 24 U*	*< 10 U*	*< 11 U*	*< 1.3 U*	*< 9.4 U*	*< 1.2 U*
4-Nitrophenol	mg/kg	*< 4.3 U*	*< 4.1 U*	*< 40 U*	*< 49 U*	*< 3.6 U*	*< 520 U*	*< 360 U*	*< 77 U*	*< 33 U*	*< 35 U*	*< 4.3 U*	*< 30 U*	*< 3.8 U*
Acetophenone	mg/kg	*< 0.38 U*	*< 0.36 U*	*< 3.6 U*	*< 4.4 U*	*< 0.32 U*	*< 46 U*	*< 33 U*	*< 6.9 U*	*< 3 U*	5.6 J	*< 0.38 U*	*< 2.7 U*	*< 0.34 U*
Benzaldehyde	mg/kg	*< 2.5 U*	*< 2.4 U*	*< 24 U*	*< 29 U*	*< 2.1 U*	*< 300 U*	*< 210 U*	*< 46 U*	*< 20 U*	*< 21 U*	*< 2.5 U*	*< 18 U*	*< 2.2 U*
Benzylbutylphthalate	mg/kg	*< 1.5 U*	*< 1.4 U*	*< 14 U*	*< 17 U*	*< 1.2 U*	*< 180 U*	*< 120 U*	*< 26 U*	*< 11 U*	*< 12 U*	*< 1.4 U*	*< 10 U*	*< 1.3 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 1.3 U*	*< 1.3 U*	*< 13 U*	*< 15 U*	*< 1.1 U*	*< 160 U*	*< 110 U*	*< 24 U*	*< 10 U*	*< 11 U*	*< 1.3 U*	*< 9.4 U*	*< 1.2 U*
bis(2-Chloroethyl) ether	mg/kg	*< 1.2 U*	*< 1.2 U*	*< 12 U*	*< 14 U*	*< 1 U*	*< 150 U*	*< 110 U*	*< 22 U*	*< 9.7 U*	*< 10 U*	*< 1.2 U*	*< 8.6 U*	*< 1.1 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 1.5 U*	*< 1.4 U*	*< 14 U*	*< 17 U*	*< 1.3 U*	*< 180 U*	*< 130 U*	*< 27 U*	*< 12 U*	*< 12 U*	*< 1.5 U*	*< 10 U*	*< 1.3 U*
Carbazole	mg/kg	*< 1.5 U*	*< 1.4 U*	*< 14 U*	*< 17 U*	*< 1.2 U*	*< 180 U*	*< 120 U*	*< 26 U*	*< 11 U*	*< 12 U*	*< 1.4 U*	*< 10 U*	*< 1.3 U*
Dibenzofuran	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 12 U*	*< 15 U*	*< 1.1 U*	*< 160 U*	*< 110 U*	*< 24 U*	*< 10 U*	*< 11 U*	*< 1.3 U*	*< 9.2 U*	*< 1.2 U*
Diethyl phthalate	mg/kg	*< 1.4 U*	*< 1.3 U*	*< 13 U*	*< 16 U*	*< 1.2 U*	*< 170 U*	*< 120 U*	*< 25 U*	*< 11 U*	*< 11 U*	*< 1.4 U*	*< 9.6 U*	*< 1.2 U*
Dimethylphthalate	mg/kg	*< 1.3 U*	*< 1.3 U*	*< 12 U*	*< 15 U*	*< 1.1 U*	*< 160 U*	*< 110 U*	*< 24 U*	*< 10 U*	*< 11 U*	*< 1.3 U*	*< 9.3 U*	*< 1.2 U*
Di-n-butylphthalate	mg/kg	*< 1.5 U*	*< 1.4 U*	*< 14 U*	*< 17 U*	*< 1.2 U*	*< 180 U*	*< 130 U*	*< 27 U*	*< 12 U*	*< 12 U*	*< 1.5 U*	*< 10 U*	*< 1.3 U*
Di-n-octylphthalate	mg/kg	*< 1.5 U*	*< 1.4 U*	*< 14 U*	*< 17 U*	*< 1.2 U*	*< 180 U*	*< 130 U*	*< 27 U*	*< 12 U*	*< 12 U*	*< 1.5 U*	*< 10 U*	*< 1.3 U*
Hexachlorobenzene	mg/kg	2.7	2.3	*< 2 U*	11	*< 0.069 U*	5,000 J	4,700	870	14	73	5.5	5.1	7.9
Hexachlorobutadiene	mg/kg	*< 0.057 U*	*< 0.054 U*	*< 0.53 U*	*< 0.65 U*	*< 0.048 U*	7.9	11	0.9 J	*< 0.44 U*	*< 0.46 U*	*< 0.056 U*	*< 0.4 U*	*< 0.05 U*
Hexachlorocyclopentadiene	mg/kg	*< 0.95 U*	*< 0.9 U*	*< 8.9 U*	*< 11 U*	*< 0.8 U*	*< 110 U*	*< 81 U*	*< 17 U*	*< 7.4 U*	*< 7.7 U*	*< 0.95 U*	*< 6.6 U*	*< 0.83 U*
Hexachloroethane	mg/kg	*< 1.2 U*	*< 1.2 U*	*< 12 U*	*< 14 U*	*< 1 U*	*< 150 U*	*< 110 U*	*< 22 U*	*< 9.7 U*	*< 10 U*	*< 1.2 U*	*< 8.6 U*	*< 1.1 U*
Isophorone	mg/kg	*< 1.4 U*	*< 1.3 U*	*< 13 U*	*< 16 U*	*< 1.2 U*	*< 170 U*	*< 120 U*	*< 26 U*	*< 11 U*	*< 12 U*	*< 1.4 U*	*< 9.9 U*	*< 1.3 U*

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-01**	**1-02**	**1-03**	**1-03**	**1-03**	**1-03**	**1-04**	**1-05**	**1-06**	**1-07**	**1-07**	**1-07**	**1-08**
	Sample Date	**19-Nov-15**	**19-Nov-15**	**04-Nov-15**	**04-Nov-15**	**04-Nov-15**	**03-Dec-15**	**24-Nov-15**	**19-Nov-15**	**03-Dec-15**	**04-Nov-15**	**04-Nov-15**	**03-Dec-15**	**05-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0.3 - 0.9 ft**	**0.9 - 2.2 ft**	**2.2 - 3.4 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.4 - 2.1 ft**	**2.1 - 4.1 ft**	**0 - 6 in**	**6 - 7 ft**
	Sample ID	**1-01-SS-01-111915**	**1-02-SS-01-111915**	**1-03-SB-01-0.5-1.5-110415**	**1-03-SB-01-1.5-3.5-110415**	**1-03-SB-01-3.5-5.5-110415**	**1-03-SS-01-120315**	**1-04-SS-01-112415**	**1-05-SS-01-111915**	**1-06-SS-01-120315**	**1-07-SB-01-0.5-1.5-110415**	**1-07-SB-01-1.5-3-110415**	**1-07-SS-01-120315**	**1-08-SB-01-8.5-10-110515**
Analyte	**Unit**													
Nitrobenzene	mg/kg	*< 1.2 U*	*< 1.1 U*	*< 11 U*	*< 13 U*	*< 0.98 U*	*< 140 U*	*< 99 U*	*< 21 U*	*< 9.1 U*	*< 9.5 U*	*< 1.2 U*	*< 8.1 U*	*< 1 U*
N-Nitrosodimethylamine	mg/kg	*< 1.5 U*	*< 1.4 U*	*< 14 U*	*< 17 U*	*< 1.2 U*	*< 18 U*	*< 12 U*	*< 13 U*	*< 11 U*	*< 12 U*	*< 1.5 U*	*< 10 U*	*< 1.3 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 12 U*	*< 15 U*	*< 1.1 U*	*< 150 U*	*< 110 U*	*< 23 U*	*< 10 U*	*< 10 U*	*< 1.3 U*	*< 9 U*	*< 1.1 U*
N-Nitrosodiphenylamine	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 12 U*	*< 15 U*	*< 1.1 U*	*< 160 U*	*< 110 U*	*< 24 U*	*< 10 U*	*< 11 U*	*< 1.3 U*	*< 9.2 U*	*< 1.2 U*
Pentachlorobenzene	mg/kg	*< 0.2 U*	*< 0.19 U*	*< 1.9 U*	*< 2.3 U*	*< 0.17 UJ*	180 J	180 J	41 J	*< 1.6 U*	2.6 J	0.39 J-	*< 1.4 U*	0.29 J-
Pentachlorophenol	mg/kg	*< 0.37 U*	*< 0.35 U*	*< 3.4 U*	*< 4.2 U*	*< 0.31 U*	8.8 J+	6.7 J+	*< 3.3 U*	*< 2.9 U*	*< 3 U*	*< 0.37 U*	*< 2.6 U*	*< 0.32 U*
Phenol	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 12 U*	*< 15 U*	*< 1.1 U*	*< 150 U*	*< 110 U*	*< 23 U*	*< 9.9 U*	*< 10 U*	*< 1.3 U*	*< 8.9 U*	*< 1.1 U*
06-PAHs														
2-Methylnaphthalene	mg/kg	0.0029 J	0.1	0.00080 J	0.0029 J	*< 0.00055 U*	0.31 J	0.18 J	0.014 J	*< 0.0030 U*	10	1.4	0.00082 J	0.062
Acenaphthene	mg/kg	*< 0.00072 U*	0.024 J	*< 0.00070 U*	*< 0.0011 U*	*< 0.00060 U*	*< 0.055 U*	*< 0.032 U*	*< 0.014 U*	*< 0.0033 U*	*< 0.056 U*	*< 0.032 U*	*< 0.00066 U*	*< 0.0053 U*
Acenaphthylene	mg/kg	*< 0.00050 U*	*< 0.0026 U*	*< 0.00049 U*	*< 0.00080 U*	*< 0.00042 U*	*< 0.039 U*	*< 0.022 U*	*< 0.0098 U*	*< 0.0023 U*	0.078 J	*< 0.022 U*	*< 0.00047 U*	*< 0.0037 U*
Anthracene	mg/kg	*< 0.00060 U*	*< 0.0031 U*	*< 0.00059 U*	*< 0.00096 U*	*< 0.00051 U*	*< 0.046 U*	*< 0.027 U*	*< 0.012 U*	*< 0.0028 U*	*< 0.047 U*	*< 0.027 U*	*< 0.00056 U*	*< 0.0044 U*
Benzo(a)anthracene	mg/kg	0.0016 J	0.014 J	*< 0.00045 U*	*< 0.00073 U*	*< 0.00039 U*	*< 0.035 U*	0.064 J	*< 0.0090 U*	*< 0.0021 U*	*< 0.036 U*	*< 0.021 U*	*< 0.00043 U*	*< 0.0034 U*
Benzo(a)pyrene	mg/kg	0.0012 J	0.013 J	0.0013 J	0.0051 J	*< 0.00051 U*	0.47 J	0.4	0.15	0.0062 J	*< 0.047 U*	*< 0.027 U*	0.0016 J	0.0048 J
Benzo(b)fluoranthene	mg/kg	0.0026 J	0.026 J	*< 0.00076 U*	*< 0.0012 U*	*< 0.00065 U*	*< 0.059 U*	0.079 J	*< 0.015 U*	*< 0.0036 U*	*< 0.06 U*	*< 0.034 U*	*< 0.00071 U*	*< 0.0057 U*
Benzo(g,h,i)perylene	mg/kg	0.0025 J	0.028 J	*< 0.0015 U*	*< 0.0024 U*	*< 0.0013 U*	*< 0.12 U*	*< 0.068 U*	*< 0.03 U*	*< 0.0071 U*	*< 0.12 U*	*< 0.068 U*	*< 0.0014 U*	*< 0.011 U*
Benzo(k)fluoranthene	mg/kg	*< 0.0012 U*	0.0065 J	*< 0.0011 U*	*< 0.0018 U*	*< 0.00097 U*	*< 0.089 U*	*< 0.052 U*	*< 0.023 U*	*< 0.0054 U*	*< 0.09 U*	*< 0.052 U*	*< 0.0011 U*	*< 0.0085 U*
Chrysene	mg/kg	0.0042 J	0.071	*< 0.00052 U*	*< 0.00084 U*	*< 0.00044 U*	*< 0.041 U*	0.08 J	*< 0.01 U*	*< 0.0025 U*	*< 0.041 U*	*< 0.024 U*	*< 0.00049 U*	*< 0.0039 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.0018 U*	*< 0.0093 U*	*< 0.0018 U*	*< 0.0029 U*	*< 0.0015 U*	*< 0.14 U*	*< 0.081 U*	*< 0.036 U*	*< 0.0085 U*	*< 0.14 U*	*< 0.082 U*	*< 0.0017 U*	*< 0.013 U*
Fluoranthene	mg/kg	0.0044 J	0.053	0.00049 J	0.0026 J	*< 0.00038 U*	*< 0.034 U*	0.13 J	0.0098 J	*< 0.0021 U*	*< 0.035 U*	*< 0.02 U*	*< 0.00041 U*	*< 0.0033 U*
Fluorene	mg/kg	*< 0.00075 U*	0.078	*< 0.00073 U*	*< 0.0012 U*	*< 0.00063 U*	*< 0.057 U*	*< 0.033 U*	*< 0.015 U*	*< 0.0035 U*	*< 0.49 U*	*< 0.062 U*	*< 0.00069 U*	*< 0.015 U*
Indeno(1,2,3-cd)pyrene	mg/kg	0.0012 J	0.013 J	*< 0.00072 U*	*< 0.0012 U*	*< 0.00061 U*	*< 0.056 U*	0.034 J	*< 0.014 U*	*< 0.0034 U*	*< 0.057 U*	*< 0.033 U*	*< 0.00068 U*	*< 0.0054 U*
Naphthalene	mg/kg	*< 0.0016 U*	*< 0.018 U*	*< 0.00055 U*	*< 0.00074 U*	*< 0.00039 U*	*< 0.036 U*	*< 0.043 U*	*< 0.0091 U*	*< 0.0022 U*	2.8	0.45	*< 0.0007 U*	*< 0.017 U*
Phenanthrene	mg/kg	*< 0.0055 U*	0.13	*< 0.0015 U*	*< 0.0048 U*	*< 0.00057 U*	*< 0.052 U*	*< 0.094 U*	*< 0.01 U*	*< 0.0025 U*	*< 0.25 U*	*< 0.032 U*	*< 0.0011 U*	*< 0.011 U*
Pyrene	mg/kg	0.0062 J	0.072	*< 0.00052 U*	0.0012 J	*< 0.00045 U*	*< 0.041 U*	0.095 J	*< 0.01 U*	*< 0.0025 U*	*< 0.041 U*	*< 0.024 U*	*< 0.00049 U*	*< 0.0039 U*
07-VOCs														
1,4-Dioxane	mg/kg	*< 0.061 U*	*< 0.067 UJ*	*< 0.1 U*	*< 0.17 UJ*	*< 0.055 U*	*< 0.14 UJ*	*< 0.055 UJ*	*< 0.071 UJ*	*< 0.079 UJ*	*< 0.057 UJ*	*< 0.075 UJ*	*< 0.056 UJ*	*< 0.05 U*
1,1-Dichloroethane	mg/kg	*< 0.00046 U*	*< 0.00049 U*	*< 0.00076 U*	*< 0.0013 U*	*< 0.00041 U*	*< 0.0011 U*	*< 0.00041 U*	*< 0.00053 U*	*< 0.00059 U*	*< 0.00042 UJ*	*< 0.00056 U*	*< 0.00041 U*	*< 0.00037 U*
1,1-Dichloroethene	mg/kg	*< 0.00041 U*	*< 0.00044 U*	*< 0.00068 U*	*< 0.0012 U*	*< 0.00037 U*	*< 0.00094 U*	*< 0.00037 U*	*< 0.00047 U*	*< 0.00053 U*	*< 0.00038 UJ*	0.0020 J	*< 0.00037 U*	*< 0.00033 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0014 U*	*< 0.0015 U*	*< 0.0023 U*	*< 0.0039 U*	*< 0.0012 U*	*< 0.0032 U*	*< 0.0012 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0013 UJ*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0011 U*
1,2-Dibromoethane	mg/kg	*< 0.00042 U*	*< 0.00046 U*	*< 0.00071 U*	*< 0.0012 U*	*< 0.00038 U*	*< 0.00098 U*	*< 0.00038 U*	*< 0.00049 U*	*< 0.00055 U*	*< 0.00039 UJ*	*< 0.00052 U*	*< 0.00039 U*	*< 0.00035 U*
1,2-Dichlorobenzene	mg/kg	*< 0.0010 U*	0.0020 J	*< 0.0017 U*	*< 0.0028 U*	*< 0.00090 U*	*< 0.0023 U*	*< 0.00091 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.00094 UJ*	*< 0.0012 U*	*< 0.00091 U*	*< 0.00082 U*
1,2-Dichloroethane	mg/kg	*< 0.0011 U*	*< 0.0012 U*	*< 0.0019 U*	*< 0.0032 U*	*< 0.0010 U*	*< 0.0026 U*	*< 0.0010 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0011 UJ*	*< 0.0014 U*	*< 0.0010 U*	*< 0.00094 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0014 U*	*< 0.0015 U*	*< 0.0023 U*	*< 0.0039 U*	*< 0.0013 U*	*< 0.0032 U*	*< 0.0013 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0013 UJ*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0011 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00060 U*	*< 0.00065 U*	*< 0.0010 U*	*< 0.0017 U*	*< 0.00053 U*	*< 0.0014 U*	*< 0.00054 U*	*< 0.00069 U*	*< 0.00077 U*	*< 0.00056 UJ*	*< 0.00073 U*	*< 0.00054 U*	*< 0.00049 U*
1,2-Dichloropropane	mg/kg	*< 0.00094 U*	*< 0.0010 U*	*< 0.0016 U*	*< 0.0027 U*	*< 0.00084 U*	*< 0.0022 U*	*< 0.00085 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.00088 UJ*	*< 0.0011 U*	*< 0.00086 U*	*< 0.00077 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00047 U*	0.00061 J	*< 0.00079 U*	0.0049 J	0.00066 J	*< 0.0011 U*	*< 0.00043 U*	*< 0.00055 U*	*< 0.00061 U*	*< 0.00044 UJ*	*< 0.00057 U*	*< 0.00043 U*	*< 0.00039 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.0010 U*	*< 0.0011 U*	*< 0.0017 U*	*< 0.0028 U*	*< 0.00090 U*	*< 0.0023 U*	*< 0.00091 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.00094 UJ*	*< 0.0012 U*	*< 0.00091 U*	*< 0.00082 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0012 U*	*< 0.0013 U*	*< 0.0020 U*	*< 0.0033 U*	*< 0.0011 U*	*< 0.0027 U*	*< 0.0011 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0011 UJ*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00096 U*
1,4-Dichlorobenzene	mg/kg	*< 0.0012 U*	0.0028 J	*< 0.0020 U*	*< 0.0035 U*	*< 0.0011 U*	*< 0.0028 U*	*< 0.0011 U*	*< 0.0014 U*	*< 0.0016 U*	*< 0.0011 UJ*	*< 0.0015 U*	*< 0.0011 U*	*< 0.0010 U*
1,1,1-Trichloroethane	mg/kg	*< 0.00057 U*	*< 0.00061 U*	*< 0.00094 U*	*< 0.0016 U*	*< 0.00051 U*	*< 0.0013 U*	*< 0.00051 U*	*< 0.00066 U*	*< 0.00073 U*	*< 0.00053 UJ*	*< 0.00069 U*	*< 0.00051 U*	*< 0.00046 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00069 U*	*< 0.00075 U*	*< 0.0012 U*	*< 0.0020 U*	*< 0.00062 U*	*< 0.0016 U*	*< 0.00062 U*	*< 0.00080 U*	*< 0.00089 U*	*< 0.00064 UJ*	*< 0.00084 U*	*< 0.00063 U*	*< 0.00057 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-11	mg/kg	*< 0.0013 U*	*< 0.0014 U*	*< 0.0022 U*	*< 0.0037 U*	*< 0.0012 U*	*< 0.0030 U*	*< 0.0012 U*	*< 0.0015 U*	*< 0.0017 U*	*< 0.0012 UJ*	*< 0.0016 U*	*< 0.0012 U*	*< 0.0011 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0012 U*	*< 0.0013 U*	*< 0.0020 U*	*< 0.0033 U*	*< 0.0011 U*	*< 0.0027 U*	0.0078	*< 0.0014 U*	*< 0.0015 U*	*< 0.0011 UJ*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00096 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0012 U*	0.0043 J	*< 0.0020 U*	0.041	*< 0.0015 U*	0.018	0.015	0.0092	*< 0.0015 U*	*< 0.0011 UJ*	*< 0.0014 U*	0.0015 J	*< 0.00096 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0011 U*	*< 0.0012 U*	*< 0.0018 U*	*< 0.0030 U*	*< 0.00096 U*	*< 0.0025 U*	*< 0.00097 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.00099 UJ*	*< 0.0013 U*	*< 0.00097 U*	*< 0.00087 U*
2-Butanone	mg/kg	*< 0.0022 U*	0.0052 J	0.0057 J	0.014 J	0.0030 J	0.0090 J	0.0025 J	0.01 J	*< 0.0028 U*	*< 0.0020 UJ*	0.0098 J	0.0028 J	0.0050 J
2-Hexanone	mg/kg	*< 0.0012 U*	*< 0.0013 U*	*< 0.0019 U*	*< 0.0033 U*	*< 0.0010 U*	*< 0.0027 U*	*< 0.0011 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0011 UJ*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00095 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0014 U*	*< 0.0016 U*	*< 0.0024 U*	*< 0.0041 U*	*< 0.0013 U*	*< 0.0033 U*	*< 0.0013 U*	*< 0.0017 U*	*< 0.0019 U*	*< 0.0013 UJ*	*< 0.0018 U*	*< 0.0013 U*	*< 0.0012 U*
Acetone	mg/kg	*< 0.0028 U*	*< 0.023 U*	*< 0.03 U*	*< 0.054 U*	*< 0.021 U*	*< 0.026 U*	*< 0.01 U*	*< 0.033 U*	*< 0.0034 U*	*< 0.0020 UJ*	*< 0.029 U*	*< 0.0067 U*	*< 0.023 U*
Benzene	mg/kg	*< 0.00041 U*	*< 0.00044 U*	*< 0.00068 U*	*< 0.0012 U*	*< 0.00037 U*	*< 0.00094 U*	0.00045 J	*< 0.00047 U*	*< 0.00053 U*	*< 0.00038 UJ*	0.0013 J	*< 0.00037 U*	*< 0.00033 U*
Bromochloromethane	mg/kg	*< 0.0015 U*	*< 0.0016 U*	*< 0.0025 U*	*< 0.0042 U*	*< 0.0013 U*	*< 0.0034 U*	*< 0.0013 U*	*< 0.0017 U*	*< 0.0019 U*	*< 0.0014 UJ*	*< 0.0018 U*	*< 0.0013 U*	*< 0.0012 U*
Bromodichloromethane	mg/kg	*< 0.00083 U*	*< 0.0021 U*	*< 0.0064 U*	0.03	*< 0.00074 U*	0.075 J	0.084	0.016	0.036	0.013 J	*< 0.0010 U*	0.39	*< 0.00068 U*
Bromoform	mg/kg	*< 0.00063 U*	0.0092	0.046	0.22	*< 0.00056 U*	0.83 J	0.55	0.12	0.097	*< 0.00058 UJ*	*< 0.00077 U*	1.2 J-	*< 0.00051 U*
Bromomethane	mg/kg	*< 0.0014 U*	*< 0.0015 U*	*< 0.0023 U*	*< 0.0038 U*	*< 0.0012 U*	*< 0.0031 U*	*< 0.0012 U*	*< 0.0016 U*	*< 0.0017 U*	*< 0.0013 UJ*	*< 0.0016 U*	*< 0.0012 U*	*< 0.0011 U*
Carbon disulfide	mg/kg	*< 0.00077 U*	0.019	0.0071 J	0.015 J	0.0065 J	0.0035 J	0.0013 J	0.0023 J	*< 0.00099 U*	0.0053 J	0.035	*< 0.00070 U*	0.0014 J
Carbon tetrachloride	mg/kg	*< 0.00083 U*	0.0032 J	*< 0.0014 U*	0.0043 J	*< 0.00074 U*	0.17 J	0.021	*< 0.00097 U*	0.29	0.011 J	*< 0.0010 U*	0.0016 J	*< 0.00068 U*
Chlorobenzene	mg/kg	*< 0.00046 U*	0.0020 J	*< 0.00076 U*	*< 0.0013 U*	*< 0.00041 U*	0.0027 J	0.00066 J	*< 0.00053 U*	*< 0.00059 U*	*< 0.00042 UJ*	0.0042 J	*< 0.00041 U*	*< 0.00037 U*

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-01**	**1-02**	**1-03**	**1-03**	**1-03**	**1-03**	**1-04**	**1-05**	**1-06**	**1-07**	**1-07**	**1-07**	**1-08**
	Sample Date	**19-Nov-15**	**19-Nov-15**	**04-Nov-15**	**04-Nov-15**	**04-Nov-15**	**03-Dec-15**	**24-Nov-15**	**19-Nov-15**	**03-Dec-15**	**04-Nov-15**	**04-Nov-15**	**03-Dec-15**	**05-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0.3 - 0.9 ft**	**0.9 - 2.2 ft**	**2.2 - 3.4 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.4 - 2.1 ft**	**2.1 - 4.1 ft**	**0 - 6 in**	**6 - 7 ft**
	Sample ID	**1-01-SS-01-111915**	**1-02-SS-01-111915**	**1-03-SB-01-0.5-1.5-110415**	**1-03-SB-01-1.5-3.5-110415**	**1-03-SB-01-3.5-5.5-110415**	**1-03-SS-01-120315**	**1-04-SS-01-112415**	**1-05-SS-01-111915**	**1-06-SS-01-120315**	**1-07-SB-01-0.5-1.5-110415**	**1-07-SB-01-1.5-3-110415**	**1-07-SS-01-120315**	**1-08-SB-01-8.5-10-110515**
Analyte	**Unit**													
Cyclohexane	mg/kg	*< 0.0041 U*	*< 0.0045 U*	*< 0.0069 U*	*< 0.012 U*	*< 0.0037 U*	*< 0.0095 U*	*< 0.0037 U*	*< 0.0048 U*	*< 0.0053 U*	0.0044 J	*< 0.0050 U*	*< 0.0038 U*	*< 0.0034 U*
Dibromochloromethane	mg/kg	*< 0.00033 U*	0.0033 J	0.013	0.066	*< 0.00029 U*	0.21 J	0.15	0.025	0.034	0.011 J	*< 0.00040 U*	0.47 J-	*< 0.00027 U*
Chloroethane	mg/kg	*< 0.00071 U*	*< 0.00077 U*	*< 0.0012 U*	*< 0.0020 U*	*< 0.00063 U*	*< 0.0016 U*	*< 0.00064 U*	*< 0.00082 U*	*< 0.00091 U*	*< 0.00066 UJ*	*< 0.00086 U*	*< 0.00064 U*	*< 0.00058 U*
Chloroform	mg/kg	*< 0.0054 U*	0.012	*< 0.0045 U*	0.022	*< 0.00037 U*	*< 0.017 U*	0.035	0.013	0.029	1.1	0.13	0.3	*< 0.00033 U*
Chloromethane	mg/kg	*< 0.00079 U*	*< 0.00085 U*	*< 0.0013 U*	*< 0.0022 U*	*< 0.00070 U*	0.0047 J	*< 0.00071 U*	*< 0.00091 U*	*< 0.0010 U*	*< 0.0048 UJ*	*< 0.00096 U*	0.0026 J	*< 0.00064 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0014 U*	*< 0.0015 U*	*< 0.0023 U*	*< 0.0039 U*	*< 0.0013 U*	*< 0.0032 U*	*< 0.0013 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0013 UJ*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0011 U*
Ethyl benzene	mg/kg	*< 0.00053 U*	0.0016 J	*< 0.00089 U*	*< 0.0015 U*	*< 0.00048 U*	*< 0.0012 U*	0.0013 J	*< 0.00062 U*	*< 0.00069 U*	0.039 J	0.16	*< 0.00049 U*	0.00065 J
Isopropylbenzene	mg/kg	*< 0.00082 U*	*< 0.00089 U*	*< 0.0014 U*	*< 0.0023 U*	*< 0.00073 U*	0.0028 J	0.0017 J	*< 0.00095 U*	*< 0.0011 U*	0.045 J	0.14	*< 0.00074 U*	*< 0.00067 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.00094 U*	*< 0.0010 U*	*< 0.0016 U*	*< 0.0027 U*	*< 0.00084 U*	*< 0.0022 U*	*< 0.00085 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.00088 UJ*	*< 0.0011 U*	*< 0.00086 U*	*< 0.00077 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0013 U*	0.0018 J	*< 0.0022 U*	*< 0.0037 U*	*< 0.0012 U*	*< 0.0030 U*	0.0019 J	*< 0.0015 U*	*< 0.0017 U*	0.0041 J	0.0051 J	*< 0.0012 U*	*< 0.0011 U*
Styrene	mg/kg	*< 0.00049 U*	*< 0.00053 U*	*< 0.00081 U*	*< 0.0014 U*	*< 0.00044 U*	*< 0.0011 U*	*< 0.00044 U*	*< 0.00057 U*	*< 0.00063 U*	*< 0.00045 UJ*	*< 0.00059 U*	*< 0.00044 U*	*< 0.00040 U*
Tetrachloroethene	mg/kg	*< 0.00096 U*	0.031	*< 0.0016 U*	0.0051 J	*< 0.00086 U*	0.16 J	0.035	0.0020 J	0.0085 J	0.0017 J	0.011	0.0014 J	*< 0.00078 U*
Toluene	mg/kg	*< 0.00096 U*	0.0011 J	*< 0.0016 U*	*< 0.0027 U*	*< 0.00086 U*	*< 0.0022 U*	0.0015 J	*< 0.0011 U*	*< 0.0012 U*	0.025 J	0.039	*< 0.00087 U*	*< 0.00078 U*
Trichloroethene	mg/kg	*< 0.00094 U*	*< 0.0010 U*	*< 0.0016 U*	*< 0.0027 U*	*< 0.00084 U*	0.0057 J	0.0028 J	*< 0.0011 U*	*< 0.0012 U*	*< 0.00088 UJ*	0.0083 J	*< 0.00086 U*	*< 0.00077 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00053 U*	*< 0.00058 U*	*< 0.00089 U*	*< 0.0015 U*	*< 0.00048 U*	*< 0.0012 U*	*< 0.00048 U*	*< 0.00062 U*	0.00083 J	*< 0.00050 UJ*	*< 0.00065 U*	*< 0.00049 U*	*< 0.00044 U*
Vinyl chloride	mg/kg	*< 0.00057 U*	*< 0.00061 U*	*< 0.00094 U*	*< 0.0016 U*	*< 0.00051 U*	*< 0.0013 U*	*< 0.00051 U*	*< 0.00066 U*	*< 0.00073 U*	*< 0.00053 UJ*	*< 0.00069 U*	*< 0.00051 U*	*< 0.00046 U*
o-Xylene	mg/kg	*< 0.00052 U*	0.0025 J	*< 0.00086 U*	*< 0.0015 U*	*< 0.00046 U*	0.0039 J	0.0033 J	*< 0.00060 U*	*< 0.00067 U*	0.15 J	0.53	*< 0.00047 U*	*< 0.00042 U*
m,p Xylenes	mg/kg	*< 0.0013 U*	0.0072 J	*< 0.0021 U*	*< 0.0036 U*	*< 0.0011 U*	*< 0.0029 U*	0.0080	*< 0.0015 U*	*< 0.0016 U*	0.42 J	1.3	*< 0.0012 U*	0.0018 J
08-General Solids Parameters														
Perchlorate	mg/kg	*< 0.031 U*	0.00043 J	*< 0.03 U*	0.0017 J	*< 0.024 U*	*< 0.047 UJ*	*< 0.027 U*	0.00070 J	0.00028 J-	*< 0.029 U*	*< 0.028 U*	*< 0.028 UJ*	*< 0.026 U*
Total Organic Carbon	mg/kg	17,000	5,900	*< 1,700 U*	6,800	*< 1,700 U*	45,000	260,000	51,000	2,200	7,100	*< 1,700 U*	420	5,200
pH	pH units	9.61	9.07	6.78	6.11	7.00	1.57	6.28	6.17	6.97	9.50	9.79	9.39	7.30
Cyanide, Total	mg/kg	*< 0.33 U*	*< 0.29 U*	*< 0.31 U*	*< 0.53 U*	*< 0.26 U*	*< 0.47 UJ*	*< 0.31 U*	*< 0.32 U*	*< 0.29 UJ*	*< 0.32 U*	0.79	*< 0.28 UJ*	*< 0.27 U*
Percent finer than 0.25 millimeters	%	79.7	39.2	95.4	74.1	95	93	57.6	88	83.1	83.6	91.5	95	66.5

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-08**	**1-08**	**1-08**	**1-08**	**1-09**	**1-10**	**1-11**	**1-12**
	Sample Date	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**03-Dec-15**	**23-Nov-15**	**23-Nov-15**	**23-Nov-15**	**24-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**1 - 3 ft**	**3 - 5 ft**	**5 - 6 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-08-SB-01-1-3-120215**	**1-08-SB-01-3-5-120215**	**1-08-SB-01-5-6-120215**	**1-08-SS-01-120315**	**1-09-SS-01-112315**	**1-10-SS-01-112315**	**1-11-SS-01-112315**	**1-12-SS-01-112415**
Analyte	**Unit**								
01-Dioxins and Furans									
2,3,7,8-TCDD	pg/g	430 J	*< 63 U*	*< 3.6 U*	*< 350 U*	17	180	690	7.8 J
1,2,3,7,8-PeCDD	pg/g	*< 1,700 UQ*	*< 140 U*	16 J	3,600 J	100	1,100	5,500	35 J
1,2,3,4,7,8-HxCDD	pg/g	*< 2,600 UQ*	280 J	*< 15 UQ*	4,800 J	610	1,600	5,900	39 J
1,2,3,6,7,8-HxCDD	pg/g	8,200	690 J	43 J	17,000	820	5,000	18,000	150
1,2,3,7,8,9-HxCDD	pg/g	9,200	980 J	57 J	19,000	560	5,800	21,000	170
1,2,3,4,6,7,8-HpCDD	pg/g	59,000	5,100	400	120,000	3,500	35,000 J	160,000	1,100
OCDD	pg/g	160,000	14,000	2,600	300,000	10,000	53,000	340,000	2,600
2,3,7,8-TCDF	pg/g	32,000	4,600	380	29,000	1,400	15,000	49,000	1,100
1,2,3,7,8-PeCDF	pg/g	180,000	22,000	1,100	300,000	9,100	68,000 J+	320,000	2,700
2,3,4,7,8-PeCDF	pg/g	85,000	10,000	610	160,000	4,000	33,000	180,000	1,400
1,2,3,4,7,8-HxCDF	pg/g	620,000	68,000	3,100	1,100,000	40,000	300,000 J+	1,200,000	8,500
1,2,3,6,7,8-HxCDF	pg/g	420,000	46,000	2,100	730,000	22,000	200,000 J+	840,000	6,300
1,2,3,7,8,9-HxCDF	pg/g	62,000	5,300	380	110,000	3,800	26,000 J+	140,000	960
2,3,4,6,7,8-HxCDF	pg/g	72,000	8,700	450	130,000	3,100	28,000	160,000	1,200
1,2,3,4,6,7,8-HpCDF	pg/g	3,100,000 J	360,000	15,000	5,600,000 J	270,000	1,700,000	7,500,000 J	61,000
1,2,3,4,7,8,9-HpCDF	pg/g	1,100,000	140,000	5,600	2,100,000	98,000	610,000	2,900,000	16,000
OCDF	pg/g	15,000,000 J	3,000,000	97,000	24,000,000 J	2,600,000	9,600,000 J	25,000,000 J	380,000
Calculated TEQ (ND=0), Mammalian	pg/g	200,000	23,000	1,100	360,000	13,000	98,000	430,000	3,300
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	200,000	23,000	1,100	360,000	13,000	98,000	430,000	3,300
Calculated TEQ (ND=0), Avian	pg/g	21,000,000	2,400,000	110,000	56,000,000	2,200,000	9,400,000	55,000,000	410,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	21,000,000	2,400,000	110,000	56,000,000	2,200,000	9,400,000	55,000,000	410,000
02-PCBs									
PCB-77	pg/g	*< 8,560 U*	*< 162 U*	*< 149 U*	*< 8,870 U*	*< 1,890 U*	*< 6,830 U*	*< 33,900 U*	4,020
PCB-81	pg/g	*< 8,560 U*	*< 162 U*	*< 149 U*	*< 8,870 U*	*< 1,890 U*	*< 6,830 U*	*< 33,900 U*	*< 251 U*
PCB-105	pg/g	*< 8,560 U*	4,510	716	*< 8,870 U*	*< 1,890 U*	*< 6,830 U*	*< 33,900 U*	*< 251 U*
PCB-107/123	pg/g	26,400 J	*< 324 U*	*< 298 U*	69,300	*< 3,780 U*	*< 13,600 U*	*< 67,800 U*	*< 503 U*
PCB-114	pg/g	*< 8,560 U*	2,510	*< 149 U*	15,400 J	*< 1,890 U*	*< 6,830 U*	*< 33,900 U*	*< 251 U*
PCB-118	pg/g	31,900	12,200	1,920	38,700	2,150 J+	*< 6,830 U*	*< 33,900 U*	*< 251 U*
PCB-123	pg/g								
PCB-126	pg/g	*< 8,560 U*	*< 162 U*	*< 149 U*	*< 8,870 U*	*< 1,890 U*	*< 6,830 U*	*< 33,900 U*	*< 251 U*
PCB-156	pg/g	23,000	5,270	593	51,300	*< 1,890 U*	9,780 J+	52,100 J	939
PCB-157	pg/g	8,870 J	2,120	149 J	24,300	*< 1,890 U*	*< 6,830 U*	*< 33,900 U*	347 J
PCB-156/157	pg/g								
PCB-167	pg/g	28,700	5,030	604	53,100	*< 1,890 U*	7,730 J+	*< 33,900 U*	*< 251 U*
PCB-169	pg/g	*< 8,560 U*	1,000	*< 149 U*	*< 8,870 U*	*< 1,890 U*	*< 6,830 U*	*< 33,900 U*	*< 251 U*
PCB-189	pg/g	30,300	5,920	655	85,200	*< 1,890 U*	15,600 J+	*< 33,900 U*	*< 251 U*
Monochlorobiphenyls, Total	mg/kg	0.116	*< 0.000162 U*	*< 0.000149 U*	0.382	0.0294 J+	0.0858 J+	0.87	0.00313
Dichlorobiphenyls, Total	mg/kg	0.278	0.00767	0.00157	1.1	0.0664 J+	0.471 J+	2.08	0.0415
Trichlorobiphenyls, Total	mg/kg	0.321	0.0290	0.00536	0.789	0.0349 J+	0.227 J	0.51	0.0302
Tetrachlorobiphenyls, Total	mg/kg	0.156	0.0567	0.00891	0.246	0.0163 J+	0.166 J+	0.92	0.0236
Pentachlorobiphenyls, Total	mg/kg	0.712	0.126	0.0154	2.48	0.272 J+	0.581 J+	2.54	0.0649
Hexachlorobiphenyls, Total	mg/kg	0.743	0.156	0.0215	1.78	0.0105 J+	0.19 J+	1.09	0.0175
Heptachlorobiphenyls, Total	mg/kg	1.07	0.183	0.0230	2.23	0.101 J+	0.435 J+	2.34	0.0329
Octachlorobiphenyls, Total	mg/kg	1.86	0.296	0.0359	4.37	0.148 J+	0.76 J+	4	0.0536
Nonachlorobiphenyls, Total	mg/kg	4.44	0.609	0.0737	10.1	0.299 J+	1.64 J+	9.78	0.123
Decachlorobiphenyl (PCB-209)	mg/kg	65.7	8.11	0.522	131	5.69	33.4	148	2.24 J+
Total PCBs	mg/kg	75.4	9.57	0.707	154	6.67 J+	38 J+	172	2.63
03- Metals									
Total Aluminum	mg/kg	3,600	11,000	2,800	3,700	2,000	3,100	4,600	6,500
Total Antimony	mg/kg	11	2.4	0.74 J-	5.9 J-	3.5 J-	3.4 J-	9.3 J-	0.54
Total Arsenic	mg/kg	98	26	5.0	120	42	48	210	11
Total Barium	mg/kg	390	290	160	280	110	260	310	450
Total Beryllium	mg/kg	0.20	0.36	0.15	0.23	0.17	0.16	0.27	0.20
Total Cadmium	mg/kg	0.17	0.11	0.25 J-	*< 0.055 U*	0.056 J	*< 0.051 U*	*< 0.053 U*	*< 0.066 U*
Total Calcium	mg/kg	39,000	75,000	190,000	38,000 J	100,000	89,000	18,000	8,500
Total Chromium	mg/kg	88	90	9.2	63 J-	14	11	53	9.3
Total Cobalt	mg/kg	2.1	1.7	3.3	1.4	1.1	0.97	1.3	1.1

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-08**	**1-08**	**1-08**	**1-08**	**1-09**	**1-10**	**1-11**	**1-12**
	Sample Date	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**03-Dec-15**	**23-Nov-15**	**23-Nov-15**	**23-Nov-15**	**24-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**1 - 3 ft**	**3 - 5 ft**	**5 - 6 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-08-SB-01-1-3-120215**	**1-08-SB-01-3-5-120215**	**1-08-SB-01-5-6-120215**	**1-08-SS-01-120315**	**1-09-SS-01-112315**	**1-10-SS-01-112315**	**1-11-SS-01-112315**	**1-12-SS-01-112415**
Analyte	**Unit**								
Total Copper	mg/kg	29	43	3.3 J-	4.2	3.2	2.9	4.2	2.8 J-
Total Iron	mg/kg	140,000	57,000	6,400	230,000	57,000	49,000	210,000	11,000
Total Lead	mg/kg	19 J+	12 J+	6.3 J	2.4 J+	1.9 J+	1.9 J+	2.1 J+	2.0 J+
Total Magnesium	mg/kg	17,000	6,100	54,000	39,000	26,000 J-	18,000 J-	33,000 J-	3,400 J+
Total Manganese	mg/kg	87	54	250	51	180	52	24	33 J-
Total Mercury	mg/kg	0.21	0.044 J		*< 0.016 U*	0.035 J	*< 0.017 U*	0.11	0.017 J
Total Molybdenum	mg/kg	110	44	7.0	61 J-	18	36	110	6.7 J-
Total Nickel	mg/kg	17	7.9	11	23 J-	8.5	6.3	23	3.1 J-
Total Potassium	mg/kg	1,400	3,000	590	920	3,500	5,600	1,200	1,700
Total Selenium	mg/kg	1.1	0.57	0.21 J-	0.37 J-	0.17 J	0.16 J	0.51	*< 0.13 U*
Total Silver	mg/kg	0.18	0.055 J	0.046 J	*< 0.033 U*	*< 0.029 U*	*< 0.031 U*	*< 0.032 U*	*< 0.039 U*
Total Sodium	mg/kg	1,300	1,300	2,500	1,400	6,000	7,600	2,200	960
Total Thallium	mg/kg	0.10 J	0.11	0.047 J	0.13	0.087 J	0.098 J	0.16	*< 0.066 U*
Total Vanadium	mg/kg	110	100	18	330	72	51	440	23 J-
Total Zinc	mg/kg	33	28	42 J	12 J	16	8.6 J	13	12 J-
05-SVOCs									
1,1'-Biphenyl	mg/kg	*< 110 U*	*< 29 U*	*< 23 U*	*< 180 U*	*< 27 U*	*< 57 U*	*< 270 U*	*< 18 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 18 U*	*< 4.6 U*	*< 3.6 U*	*< 28 U*	*< 4.3 U*	*< 9.1 U*	*< 42 U*	*< 2.9 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 56 U*	*< 14 U*	*< 11 U*	*< 90 U*	*< 14 U*	*< 29 U*	*< 130 U*	*< 9.1 U*
2,4,5-Trichlorophenol	mg/kg	*< 57 U*	*< 15 U*	*< 12 U*	*< 91 U*	*< 14 U*	*< 29 U*	*< 140 U*	*< 9.2 U*
2,4,6-Trichlorophenol	mg/kg	0.72 J	*< 0.77 U*	*< 0.62 U*	*< 4.8 U*	*< 0.73 U*	*< 0.77 U*	*< 3.6 U*	*< 0.49 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 54 U*	*< 14 U*	*< 11 U*	*< 86 U*	*< 13 U*	*< 28 U*	*< 130 U*	*< 8.7 U*
2,4-Dichlorophenol	mg/kg	*< 61 U*	*< 16 U*	*< 12 U*	*< 97 U*	*< 15 U*	*< 31 U*	*< 150 U*	*< 9.8 U*
2,4-Dimethylphenol	mg/kg	*< 110 U*	*< 29 U*	*< 23 U*	*< 180 U*	*< 28 U*	*< 58 U*	*< 270 U*	*< 18 U*
2,4-Dinitrophenol	mg/kg	*< 150 U*	*< 38 U*	*< 30 U*	*< 230 U*	*< 36 U*	*< 75 U*	*< 350 U*	*< 24 U*
2,4-Dinitrotoluene	mg/kg	*< 61 U*	*< 16 U*	*< 12 U*	*< 97 U*	*< 15 U*	*< 31 U*	*< 150 U*	*< 9.8 U*
2,6-Dinitrotoluene	mg/kg	*< 68 U*	*< 17 U*	*< 14 U*	*< 110 U*	*< 16 U*	*< 34 U*	*< 160 U*	*< 11 U*
2-Chloronaphthalene	mg/kg	*< 56 U*	*< 14 U*	*< 11 U*	*< 89 U*	*< 13 U*	*< 28 U*	*< 130 U*	*< 9 U*
2-Chlorophenol	mg/kg	*< 61 U*	*< 15 U*	*< 12 U*	*< 96 U*	*< 15 U*	*< 31 U*	*< 140 U*	*< 9.7 U*
2-Methylphenol	mg/kg	*< 40 U*	*< 10 U*	*< 8.1 U*	*< 63 U*	*< 9.6 U*	*< 20 U*	*< 95 U*	*< 6.4 U*
2-Nitroaniline	mg/kg	*< 58 U*	*< 15 U*	*< 12 U*	*< 92 U*	*< 14 U*	*< 29 U*	*< 140 U*	*< 9.3 U*
2-Nitrophenol	mg/kg	*< 56 U*	*< 14 U*	*< 11 U*	*< 90 U*	*< 14 U*	*< 29 U*	*< 130 U*	*< 9.1 U*
3,3'-Dichlorobenzidine	mg/kg	*< 65 U*	*< 17 U*	*< 13 U*	*< 100 U*	*< 16 U*	*< 33 U*	*< 150 U*	*< 10 U*
3-Nitroaniline	mg/kg	*< 110 U*	*< 29 U*	*< 23 U*	*< 180 U*	*< 28 U*	*< 58 U*	*< 270 U*	*< 18 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 56 U*	*< 14 U*	*< 11 U*	*< 89 U*	*< 13 U*	*< 28 U*	*< 130 U*	*< 9 U*
4-Bromophenyl-phenylether	mg/kg	*< 58 U*	*< 15 U*	*< 12 U*	*< 93 U*	*< 14 U*	*< 30 U*	*< 140 U*	*< 9.4 U*
4-Chloro-3-methylphenol	mg/kg	*< 63 U*	*< 16 U*	*< 13 U*	*< 100 U*	*< 15 U*	*< 32 U*	*< 150 U*	*< 10 U*
4-Chloroaniline	mg/kg	*< 40 U*	*< 10 U*	*< 8.1 U*	*< 63 U*	*< 9.6 U*	*< 20 U*	*< 95 U*	*< 6.4 U*
4-Chlorophenyl-phenylether	mg/kg	*< 64 U*	*< 16 U*	*< 13 U*	*< 100 U*	*< 15 U*	*< 32 U*	*< 150 U*	*< 10 U*
3 & 4 Methylphenol	mg/kg	*< 230 U*	*< 58 U*	*< 46 U*	*< 360 U*	*< 55 U*	*< 110 U*	*< 540 U*	*< 36 U*
4-Nitroaniline	mg/kg	*< 61 U*	*< 15 U*	*< 12 U*	*< 96 U*	*< 15 U*	*< 31 U*	*< 140 U*	*< 9.7 U*
4-Nitrophenol	mg/kg	*< 190 U*	*< 49 U*	*< 39 U*	*< 310 U*	*< 46 U*	*< 98 U*	*< 460 U*	*< 31 U*
Acetophenone	mg/kg	*< 17 U*	*< 4.4 U*	*< 3.5 UJ*	*< 27 U*	*< 4.2 U*	*< 8.7 U*	*< 41 U*	*< 2.8 U*
Benzaldehyde	mg/kg	*< 110 U*	*< 29 U*	*< 23 U*	*< 180 U*	*< 27 U*	*< 57 U*	*< 270 U*	*< 18 U*
Benzylbutylphthalate	mg/kg	*< 65 U*	*< 17 U*	*< 13 U*	*< 100 U*	*< 16 U*	*< 33 U*	*< 160 U*	*< 11 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 61 U*	*< 15 U*	*< 12 U*	*< 96 U*	*< 15 U*	*< 31 U*	*< 140 U*	*< 9.7 U*
bis(2-Chloroethyl) ether	mg/kg	*< 56 U*	*< 14 U*	*< 11 U*	*< 89 U*	*< 13 U*	*< 28 U*	*< 130 U*	*< 9 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 67 U*	*< 17 U*	*< 14 U*	*< 110 U*	*< 16 U*	*< 34 U*	*< 160 U*	*< 11 U*
Carbazole	mg/kg	*< 65 U*	*< 17 U*	*< 13 U*	*< 100 U*	*< 16 U*	*< 33 U*	*< 160 U*	*< 11 U*
Dibenzofuran	mg/kg	*< 59 U*	*< 15 U*	*< 12 U*	*< 94 U*	*< 14 U*	*< 30 U*	*< 140 U*	*< 9.5 U*
Diethyl phthalate	mg/kg	*< 62 U*	*< 16 U*	*< 13 U*	*< 98 U*	*< 15 U*	*< 31 U*	*< 150 U*	*< 9.9 U*
Dimethylphthalate	mg/kg	*< 60 U*	*< 15 U*	*< 12 U*	*< 95 U*	*< 14 U*	*< 30 U*	*< 140 U*	*< 9.6 U*
Di-n-butylphthalate	mg/kg	*< 67 U*	*< 17 U*	*< 14 U*	*< 110 U*	*< 16 U*	*< 34 U*	*< 160 U*	*< 11 U*
Di-n-octylphthalate	mg/kg	*< 67 U*	*< 17 U*	*< 14 U*	*< 110 U*	*< 16 U*	*< 34 U*	*< 160 U*	*< 11 U*
Hexachlorobenzene	mg/kg	2,100	240	11	5,500	220	930	5,400	40
Hexachlorobutadiene	mg/kg	7.6	*< 0.65 U*	*< 0.52 U*	27	1.6 J	2.8 J	23	*< 0.41 U*
Hexachlorocyclopentadiene	mg/kg	*< 43 U*	*< 11 U*	*< 8.7 U*	*< 68 U*	*< 10 U*	*< 22 U*	*< 100 U*	*< 6.9 U*
Hexachloroethane	mg/kg	*< 56 U*	*< 14 U*	*< 11 U*	*< 89 U*	*< 13 U*	*< 28 U*	*< 130 U*	*< 9 U*
Isophorone	mg/kg	*< 64 U*	*< 16 U*	*< 13 U*	*< 100 U*	*< 15 U*	*< 32 U*	*< 150 U*	*< 10 U*

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-08**	**1-08**	**1-08**	**1-08**	**1-09**	**1-10**	**1-11**	**1-12**
	Sample Date	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**03-Dec-15**	**23-Nov-15**	**23-Nov-15**	**23-Nov-15**	**24-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**1 - 3 ft**	**3 - 5 ft**	**5 - 6 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-08-SB-01-1-3-120215**	**1-08-SB-01-3-5-120215**	**1-08-SB-01-5-6-120215**	**1-08-SS-01-120315**	**1-09-SS-01-112315**	**1-10-SS-01-112315**	**1-11-SS-01-112315**	**1-12-SS-01-112415**
Analyte	**Unit**								
Nitrobenzene	mg/kg	*< 52 U*	*< 13 U*	*< 11 U*	*< 83 U*	*< 13 U*	*< 26 U*	*< 120 U*	*< 8.4 U*
N-Nitrosodimethylamine	mg/kg	*< 13 U*	*< 17 U*	*< 13 U*	*< 110 U*	*< 16 U*	*< 17 U*	*< 78 U*	*< 11 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 58 U*	*< 15 U*	*< 12 U*	*< 92 U*	*< 14 U*	*< 29 U*	*< 140 U*	*< 9.3 U*
N-Nitrosodiphenylamine	mg/kg	*< 59 U*	*< 15 U*	*< 12 U*	*< 94 U*	*< 14 U*	*< 30 U*	*< 140 U*	*< 9.5 U*
Pentachlorobenzene	mg/kg	88 J	9.8 J	*< 1.8 U*	260 J	7.1 J	29 J	210 J	
Pentachlorophenol	mg/kg	10	*< 4.2 U*	*< 3.4 U*	*< 26 U*	*< 4 U*	*< 4.2 U*	*< 20 U*	*< 2.7 U*
Phenol	mg/kg	*< 57 U*	*< 15 U*	*< 12 U*	*< 91 U*	*< 14 U*	*< 29 U*	*< 140 U*	*< 9.2 U*
06-PAHs									
2-Methylnaphthalene	mg/kg	3.1	1.7	0.13 J-	0.051 J	*< 0.04 U*	0.89	1.1 J	0.0096 J
Acenaphthene	mg/kg	*< 0.041 U*	*< 0.044 U*	0.015 J-	0.15 J	*< 0.043 U*	*< 0.043 U*	*< 0.23 U*	*< 0.0064 U*
Acenaphthylene	mg/kg	*< 0.029 U*	*< 0.031 U*	0.0029 J-	0.5 J	*< 0.03 U*	*< 0.03 U*	*< 0.16 U*	*< 0.0045 U*
Anthracene	mg/kg	0.12 J	*< 0.037 U*	*< 0.00063 UJ*	0.13 J	*< 0.036 U*	*< 0.036 U*	*< 0.19 U*	*< 0.0054 U*
Benzo(a)anthracene	mg/kg	0.13 J	*< 0.028 U*	*< 0.00048 UJ*	*< 0.031 U*	*< 0.028 U*	*< 0.028 U*	*< 0.15 U*	*< 0.0041 U*
Benzo(a)pyrene	mg/kg	0.64	0.066 J	0.0036 J-	0.98	0.038 J	0.17 J	0.97 J	0.014 J
Benzo(b)fluoranthene	mg/kg	0.13 J	*< 0.047 U*	*< 0.00080 UJ*	*< 0.052 U*	*< 0.047 U*	*< 0.046 U*	*< 0.25 U*	*< 0.0069 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.087 U*	*< 0.093 U*	*< 0.0016 UJ*	*< 0.1 U*	*< 0.092 U*	*< 0.091 U*	*< 0.49 U*	*< 0.014 U*
Benzo(k)fluoranthene	mg/kg	*< 0.066 U*	*< 0.071 U*	*< 0.0012 UJ*	*< 0.079 U*	*< 0.07 U*	*< 0.069 U*	*< 0.37 U*	*< 0.01 U*
Chrysene	mg/kg	0.14 J	*< 0.032 U*	0.00083 J-	*< 0.036 U*	*< 0.032 U*	*< 0.032 U*	*< 0.17 U*	*< 0.0047 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.1 U*	*< 0.11 U*	*< 0.0019 UJ*	*< 0.12 U*	*< 0.11 U*	*< 0.11 U*	*< 0.58 U*	*< 0.016 U*
Fluoranthene	mg/kg	0.49	*< 0.027 U*	0.00085 J-	*< 0.03 U*	*< 0.027 U*	*< 0.027 U*	*< 0.14 U*	*< 0.0040 U*
Fluorene	mg/kg	0.18 J	0.063 J	0.018 J-	*< 0.051 U*	*< 0.045 U*	0.14 J	*< 0.24 U*	*< 0.0067 U*
Indeno(1,2,3-cd)pyrene	mg/kg	0.073 J	*< 0.044 U*	*< 0.00076 UJ*	*< 0.05 U*	*< 0.044 U*	*< 0.044 U*	*< 0.23 U*	*< 0.0065 U*
Naphthalene	mg/kg	1.2	*< 0.36 U*	0.02 J-	*< 0.032 U*	*< 0.028 U*	*< 0.23 U*	*< 0.15 U*	*< 0.0042 U*
Phenanthrene	mg/kg	0.71	*< 0.18 U*	0.038 J-	*< 0.093 U*	*< 0.032 U*	*< 0.13 U*	*< 0.29 U*	*< 0.0048 U*
Pyrene	mg/kg	0.4 J	*< 0.032 U*	0.0022 J-	*< 0.036 U*	*< 0.032 U*	*< 0.032 U*	*< 0.17 U*	*< 0.0048 U*
07-VOCs									
1,4-Dioxane	mg/kg	*< 0.13 U*	*< 0.082 UJ*	*< 0.063 U*	*< 0.095 UJ*	*< 0.1 U*	*< 0.14 U*	*< 0.25 UJ*	*< 0.065 UJ*
1,1-Dichloroethane	mg/kg	0.0044 J+	0.00093 J	*< 0.00047 U*	0.0075 J+	0.013 J+	0.0085 J+	0.013 J+	0.00066 J
1,1-Dichloroethene	mg/kg	0.0017 J+	*< 0.00055 U*	*< 0.00042 U*	0.0045 J+	0.0054 J+	0.0037 J+	0.0070 J+	*< 0.00043 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0029 UJ*	*< 0.0018 U*	*< 0.0014 U*	*< 0.0021 UJ*	*< 0.0023 UJ*	*< 0.0031 UJ*	*< 0.0056 UJ*	*< 0.0015 U*
1,2-Dibromoethane	mg/kg	*< 0.00088 U*	*< 0.00057 U*	*< 0.00044 U*	*< 0.00066 UJ*	*< 0.00072 UJ*	*< 0.00097 U*	*< 0.0017 U*	*< 0.00045 U*
1,2-Dichlorobenzene	mg/kg	*< 0.0021 UJ*	*< 0.0013 U*	*< 0.0010 U*	*< 0.0016 UJ*	*< 0.0017 UJ*	*< 0.0023 UJ*	*< 0.0041 UJ*	*< 0.0011 U*
1,2-Dichloroethane	mg/kg	*< 0.0024 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0018 U*	*< 0.0019 U*	*< 0.0026 U*	*< 0.0047 U*	*< 0.0012 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0029 U*	*< 0.0019 U*	*< 0.0014 U*	*< 0.0022 U*	0.0065 J+	0.0044 J+	*< 0.0057 U*	*< 0.0015 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.0012 U*	*< 0.00080 U*	*< 0.00061 U*	*< 0.00093 U*	*< 0.0010 U*	*< 0.0014 U*	*< 0.0024 U*	*< 0.00063 U*
1,2-Dichloropropane	mg/kg	*< 0.0020 U*	*< 0.0013 U*	*< 0.00097 U*	*< 0.0015 U*	*< 0.0016 U*	*< 0.0021 U*	*< 0.0038 U*	*< 0.0010 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00098 UJ*	*< 0.00063 U*	*< 0.00048 U*	*< 0.00073 UJ*	*< 0.00080 UJ*	*< 0.0011 UJ*	*< 0.0019 UJ*	*< 0.00050 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.0021 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.0016 U*	*< 0.0017 U*	*< 0.0023 U*	*< 0.0041 U*	*< 0.0011 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0024 U*	*< 0.0016 U*	*< 0.0012 U*	*< 0.0018 U*	*< 0.0020 U*	*< 0.0027 U*	*< 0.0048 U*	*< 0.0013 U*
1,4-Dichlorobenzene	mg/kg	0.31 J	*< 0.0016 U*	*< 0.0013 U*	0.05 J+	*< 0.0021 UJ*	*< 0.0028 UJ*	*< 0.0050 UJ*	*< 0.0013 U*
1,1,1-Trichloroethane	mg/kg	0.0070 J+	0.0019 J	0.00097 J	*< 0.00088 U*	0.0054 J+	0.0054 J+	0.011 J+	*< 0.00060 U*
1,1,2-Trichloroethane	mg/kg	*< 0.0014 U*	*< 0.00092 U*	*< 0.00071 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0016 U*	*< 0.0028 U*	*< 0.00073 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-11	mg/kg	*< 0.0027 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0020 U*	*< 0.0022 U*	*< 0.0030 U*	*< 0.0053 U*	*< 0.0014 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0024 UJ*	*< 0.0016 U*	*< 0.0012 U*	*< 0.0018 UJ*	*< 0.0020 UJ*	*< 0.0027 UJ*	*< 0.0048 UJ*	*< 0.0013 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0024 UJ*	0.0020 J	*< 0.0012 U*	0.0033 J+	*< 0.0020 UJ*	*< 0.0027 UJ*	*< 0.0048 UJ*	*< 0.0013 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0022 UJ*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0017 UJ*	*< 0.0018 UJ*	*< 0.0024 UJ*	*< 0.0043 UJ*	*< 0.0011 U*
2-Butanone	mg/kg	0.04 J+	0.03	0.023	0.025 J+	0.021 J+	0.018 J+	0.05 J+	0.043
2-Hexanone	mg/kg	*< 0.0024 U*	0.014 J	0.0069 J	*< 0.0018 U*	*< 0.0020 U*	*< 0.0026 U*	*< 0.0047 U*	*< 0.0012 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0030 U*	*< 0.0019 U*	0.0057 J	*< 0.0022 U*	0.043 J+	*< 0.0033 U*	*< 0.0059 U*	*< 0.0015 U*
Acetone	mg/kg	0.24 J+	0.18	0.097	0.08 J+	0.053 J+	*< 0.041 UJ*	0.18 J+	0.12
Benzene	mg/kg	0.0033 J+	0.00061 J	0.00044 J	*< 0.00063 U*	0.0019 J+	0.0011 J+	*< 0.0017 U*	0.00055 J
Bromochloromethane	mg/kg	0.016 J+	*< 0.0020 U*	0.0052 J	0.0042 J+	0.0033 J+	*< 0.0034 U*	*< 0.0060 U*	0.0037 J
Bromodichloromethane	mg/kg	7.9 J	0.35	*< 0.0016 U*	4.8 J-	1.5 J+	1.2 J	3.4	0.11
Bromoform	mg/kg	37 J	0.74	*< 0.00065 U*	22 J-	14 J+	4.6 J	12	0.52
Bromomethane	mg/kg	*< 0.0028 U*	*< 0.0018 U*	*< 0.0014 U*	0.0028 J+	*< 0.0023 U*	*< 0.0031 U*	*< 0.0055 U*	*< 0.0014 U*
Carbon disulfide	mg/kg	0.032 J+	0.0031 J	0.035	*< 0.0012 U*	0.0013 J+	0.0023 J+	*< 0.0031 U*	0.0049 J
Carbon tetrachloride	mg/kg	0.27 J+	0.0056 J	*< 0.00086 U*	1.8 J-	0.21 J+	0.44 J	1.1 J+	0.0044 J
Chlorobenzene	mg/kg	0.022 J+	*< 0.00061 U*	*< 0.00047 U*	*< 0.00071 UJ*	*< 0.00077 UJ*	0.0040 J+	*< 0.0018 U*	*< 0.00048 U*

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-08**	**1-08**	**1-08**	**1-08**	**1-09**	**1-10**	**1-11**	**1-12**
	Sample Date	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**03-Dec-15**	**23-Nov-15**	**23-Nov-15**	**23-Nov-15**	**24-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**1 - 3 ft**	**3 - 5 ft**	**5 - 6 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-08-SB-01-1-3-120215**	**1-08-SB-01-3-5-120215**	**1-08-SB-01-5-6-120215**	**1-08-SS-01-120315**	**1-09-SS-01-112315**	**1-10-SS-01-112315**	**1-11-SS-01-112315**	**1-12-SS-01-112415**
Analyte	**Unit**								
Cyclohexane	mg/kg	*< 0.0086 U*	*< 0.0055 U*	*< 0.0042 U*	0.047 J+	*< 0.0070 U*	*< 0.0094 U*	*< 0.017 U*	*< 0.0044 U*
Dibromochloromethane	mg/kg	20 J	0.43	0.0011 J	11 J-	5.7 J+	1.9 J	6.1	0.24
Chloroethane	mg/kg	0.021 J+	0.0036 J	*< 0.00073 U*	0.042 J+	0.017 J+	0.016 J+	0.041 J+	0.0037 J
Chloroform	mg/kg	3.5 J	0.25	0.11	1.7 J-	0.57 J+	0.46 J	0.83 J+	0.089
Chloromethane	mg/kg	0.024 J+	0.0070 J	*< 0.00081 U*	0.026 J+	0.024 J+	0.017 J+	0.029 J+	0.0061 J
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0029 U*	*< 0.0019 U*	*< 0.0014 U*	*< 0.0022 U*	*< 0.0024 U*	*< 0.0032 U*	*< 0.0057 U*	*< 0.0015 U*
Ethyl benzene	mg/kg	0.025 J+	0.0051 J	0.013	*< 0.00083 UJ*	*< 0.00091 UJ*	*< 0.0012 U*	*< 0.0022 U*	*< 0.00057 U*
Isopropylbenzene	mg/kg	0.021 J+	0.0094 J	0.022	*< 0.0013 UJ*	0.046 J+	0.019 J+	*< 0.0033 U*	*< 0.00087 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.0020 U*	*< 0.0013 U*	*< 0.00097 U*	*< 0.0015 U*	*< 0.0016 U*	*< 0.0021 U*	*< 0.0038 U*	*< 0.0010 U*
Dichloromethane (Methylene chloride)	mg/kg	0.068 J+	0.023	0.017	0.0055 J+	0.024 J+	0.02 J+	0.015 J+	0.0049 J
Styrene	mg/kg	*< 0.0010 U*	*< 0.00065 U*	*< 0.00050 U*	*< 0.00075 UJ*	*< 0.00083 UJ*	*< 0.0011 U*	*< 0.0020 U*	*< 0.00052 U*
Tetrachloroethene	mg/kg	0.12 J+	0.0031 J	0.0098	1.6 J-	0.075 J+	0.16 J	0.48 J+	0.0042 J
Toluene	mg/kg	0.017 J+	0.0037 J	0.0044 J	*< 0.0015 U*	0.0087 J+	0.0065 J+	*< 0.0039 U*	*< 0.0010 U*
Trichloroethene	mg/kg	0.013 J+	*< 0.0013 U*	0.0012 J	0.048 J+	0.031 J+	0.025 J+	0.046 J+	0.0012 J
Trichlorofluoromethane (Freon-11)	mg/kg	0.0020 J+	*< 0.00071 U*	*< 0.00055 U*	0.0036 J+	*< 0.00091 U*	*< 0.0012 U*	0.0036 J+	*< 0.00057 U*
Vinyl chloride	mg/kg	*< 0.0012 U*	*< 0.00076 U*	*< 0.00058 U*	*< 0.00088 U*	*< 0.00096 U*	*< 0.0013 U*	*< 0.0023 U*	*< 0.00060 U*
o-Xylene	mg/kg	0.053 J+	0.019	0.039	*< 0.00080 UJ*	0.048 J+	0.028 J+	*< 0.0021 U*	*< 0.00055 U*
m,p Xylenes	mg/kg	0.16 J+	0.041	0.087	*< 0.0020 UJ*	0.098 J+	0.063 J+	*< 0.0052 U*	*< 0.0014 U*
08-General Solids Parameters									
Perchlorate	mg/kg	*< 0.035 U*	*< 0.037 U*		*< 0.041 UJ*	*< 0.037 U*	*< 0.072 U*	0.0021 J	*< 0.027 U*
Total Organic Carbon	mg/kg	56,000	20,000		58,000	*< 1,700 U*	11,000	55,000	9,800
pH	pH units	4.99	4.03	6.31 J	1.94	9.13	2.15	1.63	4.07
Cyanide, Total	mg/kg	0.40 J-	*< 0.39 UJ*		*< 0.41 UJ*	*< 0.38 U*	0.40 J	1.5	*< 0.27 U*
Percent finer than 0.25 millimeters	%	88.9	90.4	48.3	96.7	95.9	95.3	94.8	91.2

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-13**	**1-13**	**1-13**	**1-13**	**1-13**	**1-13**	**1-14**	**1-14**	**1-14**	**1-14**	**1-14**	**1-14**	**1-14**
	Sample Date	**10-Nov-15**	**10-Nov-15**	**10-Nov-15**	**10-Nov-15**	**10-Nov-15**	**23-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**19-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0.5 - 4 ft**	**4 - 6 ft**	**6 - 8 ft**	**9 ft**	**9 - 11 ft**	**0 - 6 in**	**0.5 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**6 - 7 ft**	**7 - 8.5 ft**	**8.5 - 10 ft**	**0 - 6 in**
	Sample ID	**1-13-SB-01-0.5-4-111015**	**1-13-SB-01-4-6-111015**	**1-13-SB-01-6-8-111015**	**1-13-SB-01-8-9-111015**	**1-13-SB-01-9-11-111015**	**1-13-SS-01-112315**	**1-14-SB-01-0.5-2-110315**	**1-14-SB-01-2-4-110315**	**1-14-SB-01-4-6-110315**	**1-14-SB-01-6-7-110315**	**1-14-SB-01-7-8.5-110315**	**1-14-SB-01-8.5-10-110315**	**1-14-SS-01-111915**
Analyte	**Unit**													
01-Dioxins and Furans														
2,3,7,8-TCDD	pg/g	*< 0.048 U*	*< 0.038 U*	*< 0.062 U*	6.6 J	*< 0.32 U*	*< 0.057 U*	31	50	3.8	*< 4.2 U*	*< 1.8 U*	*< 0.74 U*	*< 31 UQ*
1,2,3,7,8-PeCDD	pg/g	*< 0.068 U*	*< 0.049 U*	*< 0.089 U*	21 J	0.70 J	0.38 J	140	230	*< 13 U*	*< 15 U*	*< 2.8 U*	*< 1.2 U*	*< 140 U*
1,2,3,4,7,8-HxCDD	pg/g	*< 0.073 U*	*< 0.044 U*	0.13 J	19 J	0.83 J	0.44 J	180	310	84	*< 24 UQ*	*< 7.6 UQ*	2.1 J	250
1,2,3,6,7,8-HxCDD	pg/g	*< 0.059 U*	*< 0.13 UQ*	*< 0.27 UQ*	52	2.5 J	1.0 J	470	710	130	58 J	21 J	5.9 J	560
1,2,3,7,8,9-HxCDD	pg/g	*< 0.22 UQ*	0.16 J	0.34 J	56	2.4 J	1.5 J	580	920	110	73 J	26 J	6.5 J	730
1,2,3,4,6,7,8-HpCDD	pg/g	1.3 J	0.84 J	1.7 J	380 J	26	6.9	3,200	4,300 J	380	310	140	34	3,700
OCDD	pg/g	3.5 J	*< 3.2 U*	6.3 J	1,500 J	130	20	8,700	16,000	1,300	710	390	110	10,000
2,3,7,8-TCDF	pg/g	1.5	1.8	3.2	720	24	9.2	2,900	4,900	460	640	130	55	4,000
1,2,3,7,8-PeCDF	pg/g	3.5 J	2.6 J	5.5 J	1,200	48	27	14,000 J+	21,000 J+	1,800	1,900	490	170	16,000
2,3,4,7,8-PeCDF	pg/g	*< 1.3 UQ*	1.4 J	2.6 J	550	20	13	8,300 J+	13,000 J+	1,200	1,200	260	110	9,800
1,2,3,4,7,8-HxCDF	pg/g	12	6.4	13	2,800	120	96	39,000 J+	80,000 J+	7,200	5,000	1,700	520	56,000
1,2,3,6,7,8-HxCDF	pg/g	8.3	4.9 J	9.4	2,100	85	69	25,000 J+	49,000 J+	4,400	3,700	1,100	300	41,000
1,2,3,7,8,9-HxCDF	pg/g	*< 0.84 U*	0.67 J	1.3 J	450	14	6.8	3,600 J+	6,600 J+	690	660	180	74	5,900
2,3,4,6,7,8-HxCDF	pg/g	2.3 J	1.3 J	1.9 J	320	14	16	7,600 J+	15,000 J+	1,100	870	250	68	11,000
1,2,3,4,6,7,8-HpCDF	pg/g	70	38	60	14,000 J	580	480	230,000 J	310,000 J	45,000	22,000	8,800	1,800	320,000 J
1,2,3,4,7,8,9-HpCDF	pg/g	19	10	23	5,700 J	230	160	78,000	100,000	14,000	9,900	3,300	830	100,000
OCDF	pg/g	410	260	500	140,000 J	4,800	2,600	1,000,000 J	1,900,000 J	250,000 J	120,000	52,000	13,000 J	1,600,000 J
Calculated TEQ (ND=0), Mammalian	pg/g	3.5	2.6	4.9	1,100	44	32	15,000	26,000	2,600	2,000	570	170	21,000
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	3.9	2.7	5.0	1,100	45	33	15,000	26,000	2,600	2,000	590	180	21,000
Calculated TEQ (ND=0), Avian	pg/g	480	360	550	140,000	4,700	630	2,700,000	4,000,000	420,000	380,000	890	11,000	2,800,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	480	360	550	140,000	4,700	630	2,700,000	4,000,000	420,000	380,000	2,200	11,000	2,800,000
02-PCBs														
PCB-77	pg/g	1.5 J	1.5 J	2.4 J	*< 234 U*	*< 7.4 U*	*< 3.7 U*	6,900	9,200	1,500	1,300	*< 296 UJ*	*< 63 U*	7,100
PCB-81	pg/g	*< 0.61 U*	*< 0.57 U*	*< 0.86 U*	*< 234 U*	*< 8.0 U*	*< 3.7 U*	3,900	4,100	710	740	*< 296 U*	*< 60 U*	3,200
PCB-105	pg/g	2.3 J	3.7 J	8.2	*< 234 U*	36	*< 4.0 U*	21,000	23,000	3,400	3,300	530 J	130 J	16,000
PCB-107/123	pg/g				*< 467 U*							*< 593 U*		
PCB-114	pg/g	*< 0.78 U*	*< 0.72 U*	*< 0.94 U*	*< 234 U*	*< 6.0 U*	*< 3.7 U*	7,300	8,500	1,300	1,300	*< 296 U*	*< 59 U*	6,800
PCB-118	pg/g	4.1 J	6.1	13	4,830	63	*< 8.2 UQ*	33,000	30,000	4,700	4,700	658	*< 180 UQ*	26,000
PCB-123	pg/g	*< 0.78 U*	*< 0.71 U*	1.0 J		*< 6.0 U*	*< 3.6 U*	6,200	7,000	1,100	1,100		*< 60 U*	7,100
PCB-126	pg/g	*< 0.91 U*	*< 0.74 U*	*< 0.95 U*	*< 234 U*	*< 6.4 U*	*< 4.9 U*	7,500	6,600 J	1,200	1,300	*< 296 U*	*< 75 U*	5,300
PCB-156	pg/g				617							433 J		
PCB-157	pg/g				*< 234 U*							*< 296 U*		
PCB-156/157	pg/g	2.0 J	1.9 J	4.0 J		15 J	*< 6.8 UQ*	23,000	22,000	4,400	3,300		140 J	22,000
PCB-167	pg/g	1.7 J	1.3 J	3.0 J	359 J	12 J	8.7 J	20,000	22,000	3,900	3,000	*< 296 U*	150 J	19,000
PCB-169	pg/g	*< 0.45 U*	*< 0.33 U*	*< 0.41 U*	*< 234 U*	*< 3.8 U*	*< 2.9 U*	*< 2,800 U*	*< 2,800 U*	500	*< 500 U*	*< 296 U*	*< 41 U*	*< 1,800 U*
PCB-189	pg/g	1.6 J	1.2 J	2.4 J	*< 234 U*	11 J	*< 6.9 UQ*	27,000	25,000	5,500	4,300	*< 296 U*	*< 160 UQ*	20,000
Monochlorobiphenyls, Total	mg/kg	*< 0.0000050 U*	*< 0.0000050 U*	0.0000063 J	*< 0.000234 U*	0.00016	*< 0.0000050 U*	0.0012	0.0016	0.00018	0.0045	*< 0.000296 U*	0.033	0.00067
Dichlorobiphenyls, Total	mg/kg	0.000038	*< 0.00001 U*	*< 0.00001 U*	0.000562	0.00012	*< 0.00001 U*	0.031	0.057	0.0055	0.0091	0.0108	0.014	0.026
Trichlorobiphenyls, Total	mg/kg	0.0000098 J	0.0000092 J	0.000045	0.00183	0.000026	0.000019 J	0.11	0.15	0.017	0.023	0.00145	0.00043	0.08
Tetrachlorobiphenyls, Total	mg/kg	0.000026	0.000038	0.0001	0.00502	0.00015	0.00006	0.3	0.25	0.041	0.037	0.00261 J-	0.00088	0.17
Pentachlorobiphenyls, Total	mg/kg	0.000039	0.000038	0.000079	0.0262	0.00027	0.000079	0.42	0.34	0.065	0.06	0.00756	0.0018	0.29
Hexachlorobiphenyls, Total	mg/kg	0.000066	0.000048	0.000093	0.00946	0.00016	0.00015	0.5	0.46 J	0.095	0.085	0.00972 J-	0.0028	0.39
Heptachlorobiphenyls, Total	mg/kg	0.000094	0.000062	0.00012	0.0150	0.00027	0.00031	0.65	0.68	0.14	0.12	0.0143	0.0041	0.51
Octachlorobiphenyls, Total	mg/kg	0.00012	0.000061	0.00012	0.0248	0.00048	0.00061	0.92	1.1	0.21	0.17	0.0227	0.0086	0.89
Nonachlorobiphenyls, Total	mg/kg	0.00031	0.00015	0.00026	0.0398	0.001	0.0015	1.7	1.8	0.36	0.31	0.0439	0.016	0.37
Decachlorobiphenyl (PCB-209)	mg/kg	0.0028	0.0024	0.0036	0.711	0.015	0.011	7.1 J	6.5 J	0.95 J	1.8	0.42	0.16	3.2 J
Total PCBs	mg/kg	0.0035	0.0028	0.0044	0.834	0.018	0.014	12	11	1.9	2.6	0.533	0.24	5.9
03- Metals														
Total Aluminum	mg/kg	5,600	5,600	5,900	6,900	2,000	6,200	4,100	4,200	5,400	12,000	17,000	20,000	4,700
Total Antimony	mg/kg	*< 0.11 UJ*	*< 0.12 UJ*	*< 0.12 UJ*	0.29 J-	0.87 J-	0.12 J-	0.72	0.74	0.21 J	0.33	0.45	0.61	1.0
Total Arsenic	mg/kg	4.8	4.8	5.2	7.3	21	5.0	12	16	7.7	10	15	27	15
Total Barium	mg/kg	190	170	180	160	680	160	360	360	220	330	290	420	330
Total Beryllium	mg/kg	0.21	0.23	0.26	0.27	0.13	0.24	0.23	0.18	0.23	0.62	0.83	1.0	0.25
Total Cadmium	mg/kg	0.087 J	0.083 J	0.097 J	0.097 J	0.56	0.11	0.13	0.13	0.16	0.29	0.45	0.34	0.15
Total Calcium	mg/kg	120,000	130,000	140,000	85,000	220,000	110,000	170,000	160,000	140,000	110,000	70,000	62,000	160,000
Total Chromium	mg/kg	6.2	5.6	6.2	12	3.5	6.2	36	40	9.6	22	23	26	32
Total Cobalt	mg/kg	1.9	1.9	2.1	2.6	6.9	2.1	2.1	2.1	2.1	5.3	11	9.8	2.5

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-13**	**1-13**	**1-13**	**1-13**	**1-13**	**1-13**	**1-14**	**1-14**	**1-14**	**1-14**	**1-14**	**1-14**	**1-14**
	Sample Date	**10-Nov-15**	**10-Nov-15**	**10-Nov-15**	**10-Nov-15**	**10-Nov-15**	**23-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**19-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0.5 - 4 ft**	**4 - 6 ft**	**6 - 8 ft**	**9 ft**	**9 - 11 ft**	**0 - 6 in**	**0.5 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**6 - 7 ft**	**7 - 8.5 ft**	**8.5 - 10 ft**	**0 - 6 in**
	Sample ID	**1-13-SB-01-0.5-4-111015**	**1-13-SB-01-4-6-111015**	**1-13-SB-01-6-8-111015**	**1-13-SB-01-8-9-111015**	**1-13-SB-01-9-11-111015**	**1-13-SS-01-112315**	**1-14-SB-01-0.5-2-110315**	**1-14-SB-01-2-4-110315**	**1-14-SB-01-4-6-110315**	**1-14-SB-01-6-7-110315**	**1-14-SB-01-7-8.5-110315**	**1-14-SB-01-8.5-10-110315**	**1-14-SS-01-111915**
Analyte	**Unit**													
Total Copper	mg/kg	3.8	3.8	4.1	6.9	4.3	4.4	17	14	6.9	15	19	21	21
Total Iron	mg/kg	4,800	4,400	4,600	9,600	2,500	5,300	32,000	32,000	6,600	15,000	17,000	19,000	26,000
Total Lead	mg/kg	4.4 J+	5.1 J+	5.0 J+	6.8 J+	3.7 J+	4.4 J+	12 J+	15 J+	7.9 J+	12 J+	13 J+	13 J+	26 J+
Total Magnesium	mg/kg	14,000 J-	13,000 J-	13,000 J-	13,000 J-	17,000 J-	15,000 J-	16,000	17,000	13,000	19,000	15,000	15,000	17,000
Total Manganese	mg/kg	110	110	140	130	270	120	190	95	120	290	500	540	120
Total Mercury	mg/kg	0.060	< 0.010 U	< 0.020 U	0.017 J	< 0.047 U	0.013 J	0.20	0.18	< 0.028 U	< 0.049 U	< 0.026 U	< 0.032 U	0.14
Total Molybdenum	mg/kg	0.38	0.40	0.41	1.9	9.0	0.60	6.4	7.2	1.1	4.1	6.0	4.9	7.4
Total Nickel	mg/kg	4.2	4.1	4.7	9.0	17	4.7	12	10	6.4	16	27	23	9.8
Total Potassium	mg/kg	2,400	2,000	2,100	2,300	880	2,900	1,600	1,700	1,600	3,400	4,300	5,300	2,100
Total Selenium	mg/kg	< 0.11 U	< 0.12 U	< 0.12 U	< 0.12 U	1.5	< 0.11 U	0.21 J	0.30	0.12 J	0.28	0.54	0.69	0.28
Total Silver	mg/kg	< 0.032 U	< 0.035 U	< 0.035 U	< 0.037 U	0.15	< 0.034 U	0.073 J	0.071 J	0.035 J	0.049 J	0.060 J	0.065 J	0.074 J
Total Sodium	mg/kg	3,100	2,400	2,400	1,700	3,600	3,400	3,600	3,100	2,300	2,600	2,000	2,000	3,900
Total Thallium	mg/kg	0.060 J	0.067 J	0.075 J	0.091 J	0.50	0.078 J	< 0.057 U	< 0.059 U	0.078 J	0.17	0.27	0.26	0.071 J
Total Vanadium	mg/kg	11	11	12	17	19	12	33	46	16	29	35	45	41
Total Zinc	mg/kg	15	16	18	26	19	18	43	47	30	67	66	66	69
05-SVOCs														
1,1'-Biphenyl	mg/kg	< 1.9 U	< 1.9 U	< 1.9 U	< 15 U	< 2.1 U	< 1.8 U	< 19 U	< 20 U	< 1.9 U	< 2.3 U	< 19 U	< 2.4 U	< 19 U
1,2,4,5-Tetrachlorobenzene	mg/kg	< 0.3 U	< 0.29 U	< 0.3 U	< 2.4 U	< 0.33 U	< 0.28 U	< 3 U	< 3.2 U	< 0.3 U	0.54 J	< 3.1 U	< 0.38 U	< 3 U
2,3,4,6-Tetrachlorophenol	mg/kg	< 0.93 U	< 0.93 U	< 0.95 U	< 7.6 U	< 1 U	< 0.89 U	< 9.5 U	< 9.9 U	< 0.94 U	< 1.1 U	< 9.6 U	< 1.2 U	< 9.3 U
2,4,5-Trichlorophenol	mg/kg	< 0.95 U	< 0.94 U	< 0.96 U	< 7.7 U	< 1 U	< 0.9 U	< 9.6 U	< 10 U	< 0.95 U	< 1.1 U	< 9.8 U	< 1.2 U	< 9.4 U
2,4,6-Trichlorophenol	mg/kg	< 0.05 U	< 0.05 U	< 0.051 U	< 0.41 U	< 0.055 U	< 0.048 U	< 0.051 U	< 0.053 U	< 0.05 U	< 0.061 U	< 0.52 U	< 0.064 U	< 0.05 U
2,2-Oxybis(1-chloropropane)	mg/kg	< 0.9 U	< 0.89 U	< 0.92 U	< 7.3 U	< 0.99 U	< 0.86 U	< 9.2 U	< 9.6 U	< 0.91 U	< 1.1 U	< 9.3 U	< 1.2 U	< 9 U
2,4-Dichlorophenol	mg/kg	< 1 U	< 1 U	< 1 U	< 8.3 U	< 1.1 U	< 0.96 U	< 10 U	< 11 U	< 1 U	< 1.2 U	< 10 U	< 1.3 U	< 10 U
2,4-Dimethylphenol	mg/kg	< 1.9 U	< 1.9 U	< 1.9 U	< 15 U	< 2.1 U	< 1.8 U	< 19 U	< 20 U	< 1.9 U	< 2.3 U	< 20 U	< 2.4 U	< 19 U
2,4-Dinitrophenol	mg/kg	< 2.4 U	< 2.4 U	< 2.5 U	< 20 U	< 2.7 U	< 2.3 U	< 25 U	< 26 U	< 2.5 U	< 3 U	< 25 U	< 3.1 U	< 24 U
2,4-Dinitrotoluene	mg/kg	< 1 U	< 1 U	< 1 U	< 8.3 U	< 1.1 U	< 0.96 U	< 10 U	< 11 U	< 1 U	< 1.2 U	< 10 U	< 1.3 U	< 10 U
2,6-Dinitrotoluene	mg/kg	< 1.1 U	< 1.1 U	< 1.1 U	< 9.2 U	< 1.2 U	< 1.1 U	< 12 U	< 12 U	< 1.1 U	< 1.4 U	< 12 U	< 1.4 U	< 11 U
2-Chloronaphthalene	mg/kg	< 0.92 U	< 0.91 U	< 0.94 U	< 7.5 U	< 1 U	< 0.88 U	< 9.4 U	< 9.8 U	< 0.93 U	< 1.1 U	< 9.5 U	< 1.2 U	< 9.2 U
2-Chlorophenol	mg/kg	< 1 U	< 0.99 U	< 1 U	< 8.2 U	< 1.1 U	< 0.95 U	< 10 U	< 11 U	< 1 U	< 1.2 U	< 10 U	< 1.3 U	< 10 U
2-Methylphenol	mg/kg	< 0.66 U	< 0.65 U	< 0.67 U	< 5.4 U	< 0.73 U	< 0.63 U	< 6.7 U	< 7 U	< 0.66 U	< 0.8 U	< 6.8 U	< 0.85 U	< 6.6 U
2-Nitroaniline	mg/kg	< 0.96 U	< 0.95 U	< 0.97 U	< 7.8 U	< 1.1 U	< 0.91 U	< 9.8 U	< 10 U	< 0.96 U	< 1.2 U	< 9.9 U	< 1.2 U	< 9.6 U
2-Nitrophenol	mg/kg	< 0.93 U	< 0.93 U	< 0.95 U	< 7.6 U	< 1 U	< 0.89 U	< 9.5 U	< 9.9 U	< 0.94 U	< 1.1 U	< 9.6 U	< 1.2 U	< 9.3 U
3,3'-Dichlorobenzidine	mg/kg	< 1.1 U	< 1.1 U	< 1.1 U	< 8.7 U	< 1.2 U	< 1 U	< 11 U	< 11 U	< 1.1 U	< 1.3 U	< 11 U	< 1.4 U	< 11 U
3-Nitroaniline	mg/kg	< 1.9 U	< 1.9 U	< 1.9 U	< 15 U	< 2.1 U	< 1.8 U	< 19 U	< 20 U	< 1.9 U	< 2.3 U	< 20 U	< 2.4 U	< 19 U
4,6-Dinitro-2-methylphenol	mg/kg	< 0.92 U	< 0.91 U	< 0.94 U	< 7.5 U	< 1 U	< 0.88 U	< 9.4 U	< 9.8 U	< 0.93 U	< 1.1 U	< 9.5 U	< 1.2 U	< 9.2 U
4-Bromophenyl-phenylether	mg/kg	< 0.97 U	< 0.96 U	< 0.99 U	< 7.9 U	< 1.1 U	< 0.92 U	< 9.9 U	< 10 U	< 0.97 U	< 1.2 U	< 10 U	< 1.2 U	< 9.7 U
4-Chloro-3-methylphenol	mg/kg	< 1 U	< 1 U	< 1.1 U	< 8.5 U	< 1.2 U	< 1 U	< 11 U	< 11 U	< 1.1 U	< 1.3 U	< 11 U	< 1.3 U	< 10 U
4-Chloroaniline	mg/kg	< 0.66 U	< 0.65 U	< 0.67 U	< 5.4 U	< 0.73 U	< 0.63 U	< 6.7 U	< 7 U	< 0.66 U	< 0.8 U	< 6.8 U	< 0.85 U	< 6.6 U
4-Chlorophenyl-phenylether	mg/kg	< 1.1 U	< 1 U	< 1.1 U	< 8.6 U	< 1.2 U	< 1 U	< 11 U	< 11 U	< 1.1 U	< 1.3 U	< 11 U	< 1.4 U	< 11 U
3 & 4 Methylphenol	mg/kg	< 3.8 U	< 3.7 U	< 3.8 U	< 31 U	< 4.1 U	< 3.6 U	< 38 U	< 40 U	< 3.8 U	< 4.6 U	< 39 U	< 4.8 U	< 38 U
4-Nitroaniline	mg/kg	< 1 U	< 0.99 U	< 1 U	< 8.2 U	< 1.1 U	< 0.95 U	< 10 U	< 11 U	< 1 U	< 1.2 U	< 10 U	< 1.3 U	< 10 U
4-Nitrophenol	mg/kg	< 3.2 U	< 3.2 U	< 3.2 U	< 26 U	< 3.5 U	< 3 U	< 33 U	< 34 U	< 3.2 U	< 3.9 U	< 33 U	< 4.1 U	< 32 U
Acetophenone	mg/kg	< 0.28 U	< 0.28 U	< 0.29 U	< 2.3 U	< 0.31 U	< 0.27 U	< 2.9 U	< 3 U	< 0.29 U	< 0.35 U	< 2.9 U	< 0.37 U	< 2.8 U
Benzaldehyde	mg/kg	< 1.9 U	< 1.9 U	< 1.9 U	< 15 U	< 2.1 U	< 1.8 U	< 19 U	< 20 U	< 1.9 U	< 2.3 U	< 19 U	< 2.4 U	< 19 U
Benzylbutylphthalate	mg/kg	< 1.1 U	< 1.1 U	< 1.1 U	< 8.8 U	< 1.2 U	< 1 U	< 11 U	< 12 U	< 1.1 U	< 1.3 U	< 11 U	< 1.4 U	< 11 U
Bis(2-chloroethoxy)methane	mg/kg	< 1 U	< 0.99 U	< 1 U	< 8.2 U	< 1.1 U	< 0.95 U	< 10 U	< 11 U	< 1 U	< 1.2 U	< 10 U	< 1.3 U	< 10 U
bis(2-Chloroethyl) ether	mg/kg	< 0.92 U	< 0.91 U	< 0.94 U	< 7.5 U	< 1 U	< 0.88 U	< 9.4 U	< 9.8 U	< 0.93 U	< 1.1 U	< 9.5 U	< 1.2 U	< 9.2 U
Bis(2-ethylhexyl)phthalate	mg/kg	< 1.1 U	< 1.1 U	< 1.1 U	< 9.1 U	< 1.2 U	< 1.1 U	< 11 U	< 12 U	< 1.1 U	< 1.4 U	< 12 U	< 1.4 U	< 11 U
Carbazole	mg/kg	< 1.1 U	< 1.1 U	< 1.1 U	< 8.8 U	< 1.2 U	< 1 U	< 11 U	< 12 U	< 1.1 U	< 1.3 U	< 11 U	< 1.4 U	< 11 U
Dibenzofuran	mg/kg	< 0.98 U	< 0.97 U	< 1 U	< 8 U	< 1.1 U	< 0.93 U	< 10 U	< 10 U	< 0.99 U	< 1.2 U	< 10 U	< 1.3 U	< 9.8 U
Diethyl phthalate	mg/kg	< 1 U	< 1 U	< 1 U	< 8.3 U	< 1.1 U	< 0.98 U	< 10 U	< 11 U	< 1 U	< 1.2 U	< 11 U	< 1.3 U	< 10 U
Dimethylphthalate	mg/kg	< 0.99 U	< 0.98 U	< 1 U	< 8.1 U	< 1.1 U	< 0.94 U	< 10 U	< 11 U	< 1 U	< 1.2 U	< 10 U	< 1.3 U	< 9.9 U
Di-n-butylphthalate	mg/kg	< 1.1 U	< 1.1 U	< 1.1 U	< 9 U	< 1.2 U	< 1.1 U	< 11 U	< 12 U	< 1.1 U	< 1.3 U	< 11 U	< 1.4 U	< 11 U
Di-n-octylphthalate	mg/kg	< 1.1 U	< 1.1 U	< 1.1 U	< 9 U	< 1.2 U	< 1.1 U	< 11 U	< 12 U	< 1.1 U	< 1.3 U	< 11 U	< 1.4 U	< 11 U
Hexachlorobenzene	mg/kg	0.047 J	0.035 J	0.054 J	14	0.46	0.058 J	270	400	42	38	< 0.26 U	1.1	280
Hexachlorobutadiene	mg/kg	< 0.042 U	< 0.042 U	< 0.043 U	< 0.34 U	< 0.046 U	< 0.04 U	< 0.043 U	< 0.045 U	< 0.042 U	< 0.051 U	< 0.43 U	< 0.054 U	< 0.042 U
Hexachlorocyclopentadiene	mg/kg	< 0.71 U	< 0.7 U	< 0.72 U	< 5.8 U	< 0.78 U	< 0.67 U	< 7.2 U	< 7.5 U	< 0.71 U	< 0.86 U	< 7.3 U	< 0.91 U	< 7.1 U
Hexachloroethane	mg/kg	< 0.92 U	< 0.91 U	< 0.94 U	< 7.5 U	< 1 U	< 0.88 U	< 9.4 U	< 9.8 U	< 0.93 U	< 1.1 U	< 9.5 U	< 1.2 U	< 9.2 U
Isophorone	mg/kg	< 1.1 U	< 1 U	< 1.1 U	< 8.6 U	< 1.2 U	< 1 U	< 11 U	< 11 U	< 1.1 U	< 1.3 U	< 11 U	< 1.4 U	< 11 U

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Location ID	1-13	1-13	1-13	1-13	1-13	1-13	1-14	1-14	1-14	1-14	1-14	1-14	1-14
	Sample Date	10-Nov-15	10-Nov-15	10-Nov-15	10-Nov-15	10-Nov-15	23-Nov-15	03-Nov-15	03-Nov-15	03-Nov-15	03-Nov-15	03-Nov-15	03-Nov-15	19-Nov-15
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N
	Depth	0.5 - 4 ft	4 - 6 ft	6 - 8 ft	9 ft	9 - 11 ft	0 - 6 in	0.5 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 7 ft	7 - 8.5 ft	8.5 - 10 ft	0 - 6 in
	Sample ID	1-13-SB-01-0.5-4-111015	1-13-SB-01-4-6-111015	1-13-SB-01-6-8-111015	1-13-SB-01-8-9-111015	1-13-SB-01-9-11-111015	1-13-SS-01-112315	1-14-SB-01-0.5-2-110315	1-14-SB-01-2-4-110315	1-14-SB-01-4-6-110315	1-14-SB-01-6-7-110315	1-14-SB-01-7-8.5-110315	1-14-SB-01-8.5-10-110315	1-14-SS-01-111915
Analyte	Unit													
Nitrobenzene	mg/kg	*< 0.87 U*	*< 0.86 U*	*< 0.88 U*	*< 7.1 U*	*< 0.95 U*	*< 0.82 U*	*< 8.8 U*	*< 9.2 U*	*< 0.87 U*	*< 1.1 U*	*< 8.9 U*	*< 1.1 U*	*< 8.6 U*
N-Nitrosodimethylamine	mg/kg	*< 1.1 U*	*< 1.1 U*	*< 1.1 U*	*< 8.9 U*	*< 1.2 U*	*< 1 U*	*< 1.1 U*	*< 1.2 U*	*< 1.1 U*	*< 1.3 U*	*< 11 U*	*< 1.4 U*	*< 1.1 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 0.96 U*	*< 0.95 U*	*< 0.97 U*	*< 7.8 U*	*< 1.1 U*	*< 0.91 U*	*< 9.8 U*	*< 10 U*	*< 0.96 U*	*< 1.2 U*	*< 9.9 U*	*< 1.2 U*	*< 9.6 U*
N-Nitrosodiphenylamine	mg/kg	*< 0.98 U*	*< 0.97 U*	*< 1 U*	*< 8 U*	*< 1.1 U*	*< 0.93 U*	*< 10 U*	*< 10 U*	*< 0.99 U*	*< 1.2 U*	*< 10 U*	*< 1.3 U*	*< 9.8 U*
Pentachlorobenzene	mg/kg	*< 0.15 UJ*	*< 0.15 UJ*	*< 0.15 UJ*	*< 1.2 U*	*< 0.16 UJ*	*< 0.14 U*	22 J-	38 J-	3.8 J-	3.2 J-	*< 1.5 U*	*< 0.19 UJ*	20 J
Pentachlorophenol	mg/kg	*< 0.27 U*	*< 0.27 U*	*< 0.28 U*	*< 2.2 U*	*< 0.3 U*	*< 0.26 U*	*< 0.28 U*	0.34 J	*< 0.28 U*	*< 0.33 U*	*< 2.8 U*	*< 0.35 U*	*< 0.27 U*
Phenol	mg/kg	*< 0.95 U*	*< 0.94 U*	*< 0.96 U*	*< 7.7 U*	*< 1 U*	*< 0.9 U*	*< 9.6 U*	*< 10 U*	*< 0.95 U*	*< 1.1 U*	*< 9.8 U*	*< 1.2 U*	*< 9.4 U*
06-PAHs														
2-Methylnaphthalene	mg/kg	*< 0.00048 U*	*< 0.00049 U*	*< 0.00052 U*	0.0052 J	0.0079	*< 0.0023 U*	0.0058 J	0.0088 J	0.01 J	2.5	6.5	3.3	0.025 J
Acenaphthene	mg/kg	*< 0.00053 U*	*< 0.00053 U*	*< 0.00057 U*	*< 0.0053 U*	*< 0.00058 U*	*< 0.0026 U*	*< 0.0054 U*	*< 0.0057 U*	*< 0.0057 U*	*< 0.029 U*	*< 0.043 U*	*< 0.062 U*	*< 0.011 U*
Acenaphthylene	mg/kg	*< 0.00037 U*	*< 0.00037 U*	*< 0.00040 U*	*< 0.0037 U*	*< 0.00041 U*	*< 0.0018 U*	*< 0.0038 U*	*< 0.0040 U*	*< 0.0040 U*	0.025 J	0.061 J	*< 0.043 U*	*< 0.0080 U*
Anthracene	mg/kg	*< 0.00045 U*	*< 0.00045 U*	*< 0.00048 U*	*< 0.0045 U*	*< 0.00049 U*	*< 0.0021 U*	*< 0.0045 U*	*< 0.0048 U*	*< 0.0048 U*	*< 0.024 U*	*< 0.037 U*	*< 0.052 U*	*< 0.0096 U*
Benzo(a)anthracene	mg/kg	*< 0.00034 U*	*< 0.00034 U*	*< 0.00037 U*	*< 0.0034 U*	*< 0.00038 U*	*< 0.0016 U*	*< 0.0035 U*	*< 0.0037 U*	*< 0.0037 U*	*< 0.018 U*	*< 0.028 U*	*< 0.04 U*	*< 0.0074 U*
Benzo(a)pyrene	mg/kg	*< 0.00045 U*	*< 0.00045 U*	*< 0.00049 U*	*< 0.0045 U*	*< 0.00050 U*	*< 0.0022 U*	0.076	0.12	0.013 J	*< 0.024 U*	*< 0.037 U*	*< 0.052 U*	0.088 J
Benzo(b)fluoranthene	mg/kg	*< 0.00057 U*	*< 0.00057 U*	*< 0.00061 U*	*< 0.0057 U*	*< 0.00063 U*	*< 0.0027 U*	*< 0.0058 U*	*< 0.0061 U*	*< 0.0061 U*	*< 0.031 U*	*< 0.047 U*	*< 0.066 U*	*< 0.012 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.0011 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.011 U*	*< 0.0012 U*	*< 0.0054 U*	*< 0.011 U*	*< 0.012 U*	*< 0.012 U*	*< 0.061 U*	*< 0.093 U*	*< 0.13 U*	*< 0.024 U*
Benzo(k)fluoranthene	mg/kg	*< 0.00086 U*	*< 0.00086 U*	*< 0.00092 U*	*< 0.0086 U*	*< 0.00095 U*	*< 0.0041 U*	*< 0.0087 U*	*< 0.0092 U*	*< 0.0092 U*	*< 0.046 U*	*< 0.07 U*	*< 0.1 U*	*< 0.019 U*
Chrysene	mg/kg	*< 0.00039 U*	*< 0.00039 U*	*< 0.00042 U*	*< 0.0039 U*	*< 0.00043 U*	*< 0.0019 U*	*< 0.0040 U*	*< 0.0042 U*	*< 0.0042 U*	*< 0.021 U*	*< 0.032 U*	*< 0.046 U*	*< 0.0085 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.0014 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.014 U*	*< 0.0015 U*	*< 0.0065 U*	*< 0.014 U*	*< 0.014 U*	*< 0.014 U*	*< 0.073 U*	*< 0.11 U*	*< 0.16 U*	*< 0.029 U*
Fluoranthene	mg/kg	0.00033 J	*< 0.00033 U*	*< 0.00036 U*	*< 0.0033 U*	*< 0.00036 U*	*< 0.0016 U*	0.0070 J	0.0084 J	*< 0.0035 U*	*< 0.018 U*	*< 0.027 U*	*< 0.038 U*	0.0077 J
Fluorene	mg/kg	*< 0.00055 U*	*< 0.00056 U*	*< 0.00060 U*	*< 0.0055 U*	*< 0.00076 U*	*< 0.0027 U*	*< 0.0056 U*	*< 0.0059 U*	*< 0.0059 U*	0.21 J	0.34 J	0.14 J	*< 0.012 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.00054 U*	*< 0.00054 U*	*< 0.00058 U*	*< 0.0054 U*	*< 0.00060 U*	*< 0.0026 U*	*< 0.0055 U*	0.0076 J	*< 0.0058 U*	*< 0.029 U*	*< 0.044 U*	*< 0.063 U*	*< 0.012 U*
Naphthalene	mg/kg	*< 0.00041 U*	*< 0.00047 U*	*< 0.00043 U*	*< 0.0035 U*	*< 0.0022 U*	*< 0.0017 U*	*< 0.0035 U*	*< 0.0037 U*	*< 0.0037 U*	0.45	1.2	0.55 J	*< 0.0075 U*
Phenanthrene	mg/kg	*< 0.00088 U*	*< 0.00092 U*	*< 0.0011 U*	*< 0.013 U*	*< 0.0018 U*	*< 0.0019 U*	*< 0.0049 U*	*< 0.0046 U*	*< 0.0042 U*	0.089 J	0.16 J	0.073 J	*< 0.0085 U*
Pyrene	mg/kg	*< 0.00039 U*	*< 0.00040 U*	*< 0.00043 U*	*< 0.0040 U*	*< 0.00044 U*	*< 0.0019 U*	0.0069 J	0.0098 J	*< 0.0042 U*	*< 0.021 U*	*< 0.032 U*	*< 0.046 U*	*< 0.0085 U*
07-VOCs														
1,4-Dioxane	mg/kg	*< 0.041 U*	*< 0.037 UJ*	*< 0.044 U*	*< 0.063 U*	*< 0.048 UJ*	*< 0.038 U*	*< 0.081 U*	*< 0.078 UJ*	*< 0.044 U*	*< 0.081 U*	*< 0.075 U*	*< 0.086 U*	*< 0.054 UJ*
1,1-Dichloroethane	mg/kg	*< 0.00031 U*	*< 0.00027 U*	*< 0.00033 U*	*< 0.00047 U*	*< 0.00036 U*	*< 0.00029 U*	*< 0.00060 U*	*< 0.00058 U*	*< 0.00033 U*	*< 0.00061 U*	*< 0.00056 U*	*< 0.00064 U*	*< 0.00040 U*
1,1-Dichloroethene	mg/kg	*< 0.00028 U*	*< 0.00024 U*	*< 0.00029 U*	*< 0.00042 U*	*< 0.00032 U*	*< 0.00026 U*	*< 0.00054 U*	*< 0.00052 U*	*< 0.00029 U*	*< 0.00054 U*	0.00061 J	*< 0.00057 U*	*< 0.00036 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.00093 U*	*< 0.00083 U*	*< 0.00099 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00087 U*	*< 0.0018 U*	*< 0.0018 U*	*< 0.00099 U*	*< 0.0018 U*	*< 0.0017 UJ*	*< 0.0019 U*	*< 0.0012 U*
1,2-Dibromoethane	mg/kg	*< 0.00029 U*	*< 0.00025 U*	*< 0.00030 U*	*< 0.00043 U*	*< 0.00033 U*	*< 0.00027 U*	*< 0.00056 U*	*< 0.00054 U*	*< 0.00030 U*	*< 0.00056 U*	*< 0.00052 U*	*< 0.00059 U*	*< 0.00038 U*
1,2-Dichlorobenzene	mg/kg	*< 0.00068 U*	*< 0.00060 U*	*< 0.00072 U*	*< 0.0010 U*	*< 0.00079 U*	*< 0.00063 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.00072 U*	*< 0.0013 U*	*< 0.0012 UJ*	*< 0.0014 U*	*< 0.00089 U*
1,2-Dichloroethane	mg/kg	*< 0.00077 U*	*< 0.00069 U*	*< 0.00082 U*	*< 0.0012 U*	*< 0.00090 U*	*< 0.00072 U*	*< 0.0015 U*	*< 0.0015 U*	*< 0.00082 U*	*< 0.0015 U*	*< 0.0014 U*	*< 0.0016 U*	*< 0.0010 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.00094 U*	*< 0.00084 U*	*< 0.0010 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00088 U*	*< 0.0018 U*	*< 0.0018 U*	*< 0.0010 U*	*< 0.0019 U*	0.0030 J	0.0033 J	*< 0.0012 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00040 U*	*< 0.00036 U*	*< 0.00043 U*	*< 0.00061 U*	*< 0.00047 U*	*< 0.00037 U*	*< 0.00079 U*	*< 0.00076 U*	*< 0.00043 U*	*< 0.00079 U*	*< 0.00073 U*	*< 0.00083 U*	*< 0.00053 U*
1,2-Dichloropropane	mg/kg	*< 0.00064 U*	*< 0.00056 U*	*< 0.00068 U*	*< 0.00096 U*	*< 0.00074 U*	*< 0.00059 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.00067 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.00083 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00032 U*	*< 0.00028 U*	*< 0.00034 U*	*< 0.00048 U*	*< 0.00037 U*	*< 0.00030 U*	*< 0.00062 U*	*< 0.00060 U*	*< 0.00034 U*	*< 0.00063 U*	*< 0.00058 UJ*	*< 0.00066 U*	*< 0.00042 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.00068 U*	*< 0.00060 U*	*< 0.00072 U*	*< 0.0010 U*	*< 0.00079 U*	*< 0.00063 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.00072 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.00089 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.00079 U*	*< 0.00071 U*	*< 0.00085 U*	*< 0.0012 U*	*< 0.00092 U*	*< 0.00074 U*	*< 0.0016 U*	*< 0.0015 U*	*< 0.00084 U*	*< 0.0016 U*	*< 0.0015 U*	*< 0.0016 U*	*< 0.0010 U*
1,4-Dichlorobenzene	mg/kg	*< 0.00083 U*	*< 0.00073 U*	*< 0.00088 U*	*< 0.0013 U*	*< 0.00096 U*	*< 0.00077 U*	*< 0.0016 U*	*< 0.0016 U*	*< 0.00088 U*	*< 0.0016 U*	*< 0.0015 UJ*	*< 0.0017 U*	*< 0.0011 U*
1,1,1-Trichloroethane	mg/kg	*< 0.00038 U*	*< 0.00034 U*	*< 0.00041 U*	*< 0.00058 U*	*< 0.00044 U*	*< 0.00035 U*	*< 0.00075 U*	*< 0.00072 U*	*< 0.00040 U*	*< 0.00075 U*	*< 0.00070 U*	*< 0.00079 U*	*< 0.00050 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00047 U*	*< 0.00041 U*	*< 0.00050 U*	*< 0.00071 U*	*< 0.00054 U*	*< 0.00043 U*	*< 0.00091 U*	*< 0.00088 U*	*< 0.00049 U*	*< 0.00092 U*	*< 0.00085 U*	*< 0.00097 U*	*< 0.00061 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-11	mg/kg	*< 0.00088 U*	*< 0.00078 U*	*< 0.00094 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.00082 U*	*< 0.0017 U*	*< 0.0017 U*	*< 0.00093 U*	*< 0.0017 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0012 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.00079 U*	*< 0.00071 U*	*< 0.00085 U*	*< 0.0012 U*	*< 0.00092 U*	*< 0.00074 U*	*< 0.0016 U*	*< 0.0015 U*	*< 0.00084 U*	*< 0.0016 U*	*< 0.0015 UJ*	*< 0.0016 U*	*< 0.0010 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.00079 U*	*< 0.00071 U*	*< 0.00085 U*	*< 0.0012 U*	*< 0.00092 U*	*< 0.00074 U*	*< 0.0016 U*	0.0017 J	*< 0.00084 U*	*< 0.0016 U*	*< 0.0015 UJ*	*< 0.0016 U*	0.0013 J
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.00072 U*	*< 0.00064 U*	*< 0.00077 U*	*< 0.0011 U*	*< 0.00083 U*	*< 0.00067 U*	*< 0.0014 U*	*< 0.0014 U*	*< 0.00076 U*	*< 0.0014 U*	*< 0.0013 UJ*	*< 0.0015 U*	*< 0.00095 U*
2-Butanone	mg/kg	*< 0.0015 U*	*< 0.0013 U*	*< 0.0039 U*	*< 0.011 U*	0.012	*< 0.0014 U*	*< 0.0029 U*	*< 0.0028 U*	0.0058 J	*< 0.0029 U*	0.061	0.096	*< 0.0019 U*
2-Hexanone	mg/kg	*< 0.00078 U*	*< 0.00070 U*	*< 0.00084 U*	*< 0.0012 U*	*< 0.00091 U*	*< 0.00073 U*	*< 0.0015 U*	*< 0.0015 U*	*< 0.00083 U*	*< 0.0015 U*	*< 0.0014 U*	*< 0.0016 U*	*< 0.0010 U*
4-Methyl-2-pentanone	mg/kg	*< 0.00098 U*	*< 0.00087 U*	*< 0.0010 U*	*< 0.0015 U*	*< 0.0011 U*	*< 0.00091 U*	*< 0.0019 U*	*< 0.0018 U*	*< 0.0010 U*	*< 0.0019 U*	0.036	0.017 J	*< 0.0013 U*
Acetone	mg/kg	*< 0.0015 U*	*< 0.0042 U*	*< 0.016 U*	0.04	0.067	*< 0.011 U*	*< 0.011 U*	*< 0.0028 U*	0.023	*< 0.011 U*	0.11	0.15	*< 0.0019 U*
Benzene	mg/kg	*< 0.00028 U*	*< 0.00024 U*	*< 0.00029 U*	*< 0.00042 U*	*< 0.00032 U*	*< 0.00026 U*	*< 0.00054 U*	*< 0.00052 U*	*< 0.00029 U*	*< 0.00054 U*	0.0029 J	0.0013 J	*< 0.00036 U*
Bromochloromethane	mg/kg	*< 0.0010 U*	*< 0.00088 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.00093 U*	*< 0.0019 U*	*< 0.0019 U*	*< 0.0011 U*	*< 0.0020 U*	*< 0.0018 U*	*< 0.0021 U*	*< 0.0013 U*
Bromodichloromethane	mg/kg	*< 0.00056 U*	*< 0.00050 U*	*< 0.00060 U*	*< 0.00085 U*	*< 0.00065 U*	*< 0.00052 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00060 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.00074 U*
Bromoform	mg/kg	*< 0.00042 U*	*< 0.00038 U*	*< 0.00045 U*	*< 0.00064 U*	*< 0.00049 U*	*< 0.00039 U*	*< 0.00083 U*	*< 0.00080 U*	*< 0.00045 U*	*< 0.00083 U*	*< 0.00077 U*	*< 0.00088 U*	*< 0.00056 U*
Bromomethane	mg/kg	*< 0.00091 U*	*< 0.00081 U*	*< 0.00097 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00085 U*	*< 0.0018 U*	*< 0.0017 U*	*< 0.00097 U*	*< 0.0018 U*	*< 0.0017 U*	*< 0.0019 U*	*< 0.0012 U*
Carbon disulfide	mg/kg	*< 0.00052 U*	*< 0.00046 U*	*< 0.00055 U*	*< 0.0011 U*	0.027	*< 0.00048 U*	*< 0.0010 U*	0.0018 J	*< 0.00055 U*	0.0012 J	0.0013 J	0.0011 J	0.0012 J
Carbon tetrachloride	mg/kg	*< 0.00056 U*	*< 0.00050 U*	*< 0.00060 U*	*< 0.00085 U*	*< 0.00065 U*	*< 0.00052 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00060 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.00074 U*
Chlorobenzene	mg/kg	*< 0.00031 U*	*< 0.00027 U*	*< 0.00033 U*	*< 0.00047 U*	*< 0.00036 U*	*< 0.00029 U*	*< 0.00060 U*	*< 0.00058 U*	*< 0.00033 U*	*< 0.00061 U*	*< 0.00056 U*	*< 0.00064 U*	*< 0.00040 U*

Table 5-1
Phase 1A-B RI Analytical Results for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-13**	**1-13**	**1-13**	**1-13**	**1-13**	**1-13**	**1-14**	**1-14**	**1-14**	**1-14**	**1-14**	**1-14**	**1-14**
	Sample Date	**10-Nov-15**	**10-Nov-15**	**10-Nov-15**	**10-Nov-15**	**10-Nov-15**	**23-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**03-Nov-15**	**19-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0.5 - 4 ft**	**4 - 6 ft**	**6 - 8 ft**	**9 ft**	**9 - 11 ft**	**0 - 6 in**	**0.5 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**6 - 7 ft**	**7 - 8.5 ft**	**8.5 - 10 ft**	**0 - 6 in**
	Sample ID	**1-13-SB-01-0.5-4-111015**	**1-13-SB-01-4-6-111015**	**1-13-SB-01-6-8-111015**	**1-13-SB-01-8-9-111015**	**1-13-SB-01-9-11-111015**	**1-13-SS-01-112315**	**1-14-SB-01-0.5-2-110315**	**1-14-SB-01-2-4-110315**	**1-14-SB-01-4-6-110315**	**1-14-SB-01-6-7-110315**	**1-14-SB-01-7-8.5-110315**	**1-14-SB-01-8.5-10-110315**	**1-14-SS-01-111915**
Analyte	**Unit**													
Cyclohexane	mg/kg	*< 0.0028 U*	*< 0.0025 U*	*< 0.0030 U*	*< 0.0042 U*	*< 0.0032 U*	*< 0.0026 U*	*< 0.0055 U*	*< 0.0053 U*	*< 0.0030 U*	*< 0.0055 U*	*< 0.0051 U*	*< 0.0058 U*	*< 0.0037 U*
Dibromochloromethane	mg/kg	*< 0.00022 U*	*< 0.00020 U*	*< 0.00024 U*	*< 0.00034 U*	*< 0.00026 U*	*< 0.00021 U*	*< 0.00044 U*	*< 0.00042 U*	*< 0.00024 U*	*< 0.00044 U*	*< 0.00041 U*	*< 0.00046 U*	*< 0.00029 U*
Chloroethane	mg/kg	*< 0.00048 U*	*< 0.00042 U*	*< 0.00051 U*	*< 0.00072 U*	*< 0.00055 U*	*< 0.00044 U*	*< 0.00093 U*	*< 0.00090 U*	*< 0.00051 U*	*< 0.00094 U*	*< 0.00087 U*	*< 0.00099 U*	*< 0.00063 U*
Chloroform	mg/kg	*< 0.00028 U*	*< 0.00024 U*	*< 0.00029 U*	*< 0.0073 U*	*< 0.0015 U*	*< 0.00026 U*	*< 0.00054 U*	*< 0.00052 U*	*< 0.00029 U*	*< 0.00054 U*	*< 0.00050 U*	*< 0.00057 U*	*< 0.00036 U*
Chloromethane	mg/kg	*< 0.00053 U*	*< 0.00047 U*	*< 0.00056 U*	*< 0.00080 U*	*< 0.00061 U*	*< 0.00049 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.00056 U*	*< 0.0010 U*	*< 0.00097 U*	*< 0.0011 U*	*< 0.00070 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.00094 U*	*< 0.00084 U*	*< 0.0010 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00088 U*	*< 0.0018 U*	*< 0.0018 U*	*< 0.0010 U*	*< 0.0019 U*	*< 0.0017 U*	*< 0.0020 U*	*< 0.0012 U*
Ethyl benzene	mg/kg	*< 0.00036 U*	*< 0.00032 U*	*< 0.00038 U*	*< 0.00055 U*	*< 0.00042 U*	*< 0.00034 U*	*< 0.00071 U*	*< 0.00068 U*	*< 0.00038 U*	*< 0.00071 U*	0.075	0.018	*< 0.00047 U*
Isopropylbenzene	mg/kg	*< 0.00055 U*	*< 0.00049 U*	*< 0.00059 U*	*< 0.00083 U*	*< 0.00064 U*	*< 0.00051 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.00058 U*	0.0015 J	0.037	0.016	*< 0.00072 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.00064 U*	*< 0.00056 U*	*< 0.00068 U*	*< 0.00096 U*	*< 0.00074 U*	*< 0.00059 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.00067 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.00083 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.00089 U*	*< 0.00079 U*	*< 0.00095 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.00083 U*	*< 0.0017 U*	*< 0.0017 U*	*< 0.00094 U*	*< 0.0018 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0012 U*
Styrene	mg/kg	*< 0.00033 U*	*< 0.00029 U*	*< 0.00035 U*	*< 0.00050 U*	*< 0.00038 U*	*< 0.00031 U*	*< 0.00064 U*	*< 0.00062 U*	*< 0.00035 U*	*< 0.00065 U*	*< 0.00060 U*	*< 0.00068 U*	*< 0.00043 U*
Tetrachloroethene	mg/kg	*< 0.00065 U*	*< 0.00057 U*	*< 0.00069 U*	*< 0.00098 U*	*< 0.00075 U*	*< 0.00060 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.00069 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.00085 U*
Toluene	mg/kg	*< 0.00065 U*	*< 0.00057 U*	*< 0.00069 U*	*< 0.00098 U*	*< 0.00075 U*	*< 0.00060 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.00069 U*	*< 0.0013 U*	0.099	0.019	*< 0.00085 U*
Trichloroethene	mg/kg	*< 0.00064 U*	*< 0.00056 U*	*< 0.00068 U*	*< 0.00096 U*	*< 0.00074 U*	*< 0.00059 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.00067 U*	*< 0.0013 U*	0.0093 J	0.0026 J	*< 0.00083 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00036 U*	*< 0.00032 U*	*< 0.00038 U*	*< 0.00055 U*	*< 0.00042 U*	*< 0.00034 U*	*< 0.00071 U*	*< 0.00068 U*	*< 0.00038 U*	*< 0.00071 U*	*< 0.00066 U*	*< 0.00075 U*	*< 0.00047 U*
Vinyl chloride	mg/kg	*< 0.00038 U*	*< 0.00034 U*	*< 0.00041 U*	*< 0.00058 U*	*< 0.00044 U*	*< 0.00035 U*	*< 0.00075 U*	*< 0.00072 U*	*< 0.00040 U*	*< 0.00075 U*	*< 0.00070 U*	0.0012 J	*< 0.00050 U*
o-Xylene	mg/kg	*< 0.00035 U*	*< 0.00031 U*	*< 0.00037 U*	*< 0.00053 U*	*< 0.00041 U*	*< 0.00033 U*	*< 0.00068 U*	*< 0.00066 U*	*< 0.00037 U*	0.0016 J	0.35	0.085	*< 0.00046 U*
m,p Xylenes	mg/kg	*< 0.00086 U*	*< 0.00076 U*	*< 0.00091 U*	*< 0.0013 U*	*< 0.00099 U*	*< 0.00080 U*	*< 0.0017 U*	*< 0.0016 U*	*< 0.00091 U*	0.0022 J	0.56 J+	0.16	*< 0.0011 U*
08-General Solids Parameters														
Perchlorate	mg/kg	*< 0.021 U*	*< 0.022 U*	*< 0.023 U*	*< 0.022 U*	*< 0.024 U*	*< 0.021 U*	0.00092 J-	*< 0.023 U*	*< 0.022 U*	*< 0.027 U*	*< 0.028 U*	*< 0.028 U*	0.0015 J
Total Organic Carbon	mg/kg	*< 1,700 U*	*< 1,700 U*	4,300	11,000	3,800 J	*< 1,700 U*	34,000	32,000	5,300	3,900 J	*< 1,700 U*	2,300 J	25,000
pH	pH units	8.19	8.24	8.24	7.86	7.66	7.95	7.54	7.63	8.09	8.06	8.05	7.92	7.52
Cyanide, Total	mg/kg	*< 0.23 U*	*< 0.23 U*	*< 0.24 U*	*< 0.25 U*	*< 0.26 U*	*< 0.23 U*	*< 0.24 U*	*< 0.25 U*	*< 0.24 U*	*< 0.28 U*	*< 0.31 U*	*< 0.31 U*	*< 0.24 U*
Percent finer than 0.25 millimeters	%	71.4	65.7	65.4	84.1	30.3	74.7	64.9	80.4	62.8	82.7	97.3	99.1	68.7

Notes:

% = percent
Empty cells = Not analyzed
ft = feet
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
VOC = Volatile organic compound
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:

J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Savannah, GA, TestAmerica - Denver, CO, Alpha Woods Hole Laboratories, TestAmerica - St. Louis, MO, GeoStrata.

Table 5-2
Phase 1A-B RI Prevalence Table for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2,3,7,8-TCDD	pg/g	34	15	690	1.4	140	160	2.1	0.038	350	1-11
1,2,3,7,8-PeCDD	pg/g	34	22	5,500	0.38	750	1,200	2.3	0.049	1,700	1-11
1,2,3,4,7,8-HxCDD	pg/g	34	23	5,900	0.13	950	1,500	2.1	0.044	2,600	1-11
1,2,3,6,7,8-HxCDD	pg/g	34	29	18,000	1	2,600	4,800	2.2	0.059	130	1-11
1,2,3,7,8,9-HxCDD	pg/g	34	32	21,000	0.16	2,600	5,400	2.2	0.22	13	1-11
1,2,3,4,6,7,8-HpCDD	pg/g	34	34	160,000	0.84	17,000	38,000	2.2			1-11
OCDD	pg/g	34	33	340,000	3.5	43,000	93,000	2.2	3.2	3.2	1-11
2,3,7,8-TCDF	pg/g	34	34	49,000	1.5	6,000	12,000	1.9			1-11
1,2,3,7,8-PeCDF	pg/g	34	34	320,000	2.6	42,000	87,000	2.1			1-11
2,3,4,7,8-PeCDF	pg/g	34	32	180,000	1.4	21,000	45,000	2.2	1.3	27,000	1-11
1,2,3,4,7,8-HxCDF	pg/g	34	34	1,200,000	6.4	150,000	310,000	2.1			1-11
1,2,3,6,7,8-HxCDF	pg/g	34	34	840,000	4.9	100,000	210,000	2.1			1-11
1,2,3,7,8,9-HxCDF	pg/g	34	32	140,000	0.67	18,000	35,000	2.1	0.84	31	1-11
2,3,4,6,7,8-HxCDF	pg/g	34	33	160,000	1.3	18,000	38,000	2.1	3.4	3.4	1-11
1,2,3,4,6,7,8-HpCDF	pg/g	34	34	7,500,000	38	840,000	1,800,000	2.2			1-11
1,2,3,4,7,8,9-HpCDF	pg/g	34	34	2,900,000	10	310,000	680,000	2.2			1-11
OCDF	pg/g	34	34	26,000,000	260	3,700,000	7,500,000	2.0			1-03
Calculated TEQ (ND=0), Mammalian	pg/g	34	34	430,000	2.6	50,000	110,000	2.1			1-11
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	34	34	430,000	2.7	50,000	110,000	2.1			1-11
Calculated TEQ (ND=0), Avian	pg/g	34	34	56,000,000	14	7,800,000	17,000,000	2.2			1-08
Calculated TEQ (ND=1/2 DL), Avian	pg/g	34	34	56,000,000	360	7,800,000	17,000,000	2.2			1-08
PCB-77	pg/g	34	13	9,200	1.5	2,400	6,200	2.0	1.7	34,000	1-14
PCB-81	pg/g	34	7	4,100	53	1,800	6,100	2.4	0.57	34,000	1-14
PCB-105	pg/g	34	20	23,000	1.4	5,100	8,200	1.7	4.0	34,000	1-14
PCB-107/123	pg/g	18	5	69,300	331	23,000	22,000	1.8	300	68,000	1-08
PCB-114	pg/g	34	9	15,400	32	4,800	6,500	2.0	0.72	34,000	1-08
PCB-118	pg/g	34	23	38,700	4.1	10,000	12,000	1.5	2.2	34,000	1-08
PCB-123	pg/g	16	8	7,100	1	2,800	2,700	1.9	0.71	60	1-14
PCB-126	pg/g	34	7	7,500	74	3,200	6,200	2.2	0.74	34,000	1-14
PCB-156	pg/g	18	14	52,100	433	15,000	17,000	1.5	140	1,900	1-11
PCB-157	pg/g	18	7	24,300	149	6,300	9,300	1.8	130	34,000	1-08
PCB-156/157	pg/g	16	14	23,000	1.9	5,400	8,800	1.8	3.6	6.8	1-14
PCB-167	pg/g	34	25	53,100	1.3	9,100	13,000	1.7	130	34,000	1-08
PCB-169	pg/g	34	2	1,000	500	750	6,100	2.5	0.33	34,000	1-08
PCB-189	pg/g	34	25	85,200	1.2	13,000	18,000	1.8	6.9	34,000	1-08
Monochlorobiphenyls	mg/kg	34	19	0.87	0.0000063	0.081	0.16	3.5	0.0000050	0.0057	1-11
Dichlorobiphenyls	mg/kg	34	25	2.08	0.000038	0.17	0.40	3.2	0.000010	0.0046	1-11
Trichlorobiphenyls	mg/kg	34	33	0.789	0.0000084	0.076	0.17	2.3	0.00027	0.00027	1-08
Tetrachlorobiphenyls	mg/kg	34	33	0.92	0.00002	0.081	0.17	2.2	0.00027	0.00027	1-11
Pentachlorobiphenyls	mg/kg	34	33	2.54	0.00002	0.27	0.60	2.3	0.00027	0.00027	1-11
Hexachlorobiphenyls	mg/kg	34	33	1.78	0.000048	0.22	0.39	1.8	0.00027	0.00027	1-08

Table 5-2
Phase 1A-B RI Prevalence Table for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Heptachlorobiphenyls	mg/kg	34	34	2.34	0.000062	0.33	0.60	1.8			1-11
Octachlorobiphenyls	mg/kg	34	34	4.37	0.000061	0.59	1.1	1.8			1-08
Nonachlorobiphenyls	mg/kg	34	34	10.1	0.00015	1.3	2.6	2.0			1-08
Decachlorobiphenyl (PCB-209)	mg/kg	34	34	148	0.0024	17	37	2.2			1-11
Total PCBs	mg/kg	34	34	172	0.0028	20	43	2.1			1-11
Total Aluminum	mg/kg	34	34	20,000	190	6,700	5,300	0.79			1-031-14
Total Antimony	mg/kg	34	31	23	0.12	3.0	4.6	1.7	0.11	0.12	1-04
Total Arsenic	mg/kg	34	34	210	4.8	34	44	1.3			1-11
Total Barium	mg/kg	34	34	1,200	35	320	240	0.75			1-03
Total Beryllium	mg/kg	34	33	1	0.077	0.36	0.26	0.73	0.12	0.12	1-031-14
Total Cadmium	mg/kg	34	27	0.58	0.045	0.21	0.15	0.83	0.035	0.066	1-02
Total Calcium	mg/kg	34	34	270,000	8,500	100,000	67,000	0.66			1-07
Total Chromium	mg/kg	34	34	90	2.8	25	22	0.88			1-08
Total Cobalt	mg/kg	34	34	11	0.78	3.4	2.8	0.83			1-14
Total Copper	mg/kg	34	34	150	1.3	16	27	1.6			1-02
Total Iron	mg/kg	34	34	230,000	2,500	41,000	55,000	1.3			1-08
Total Lead	mg/kg	34	34	57	1.1	9.2	10	1.1			1-02
Total Magnesium	mg/kg	34	34	54,000	3,400	18,000	9,800	0.55			1-08
Total Manganese	mg/kg	34	34	540	24	160	120	0.75			1-14
Total Mercury	mg/kg	33	16	0.21	0.013	0.091	0.059	1.1	0.010	0.049	1-08
Total Molybdenum	mg/kg	34	34	110	0.38	22	30	1.4			1-081-11
Total Nickel	mg/kg	34	34	52	2.3	14	12	0.81			1-01
Total Potassium	mg/kg	34	34	5,600	38	2,200	1,400	0.66			1-10
Total Selenium	mg/kg	34	28	1.7	0.12	0.50	0.38	0.87	0.11	0.13	1-08
Total Silver	mg/kg	34	17	0.2	0.035	0.085	0.043	0.72	0.021	0.047	1-02
Total Sodium	mg/kg	34	34	23,000	370	3,800	5,100	1.3			1-07
Total Thallium	mg/kg	34	31	0.52	0.04	0.15	0.12	0.83	0.057	0.066	1-08
Total Vanadium	mg/kg	34	34	440	11	60	89	1.5			1-11
Total Zinc	mg/kg	34	34	420	3.7	48	78	1.6			1-01
1,1'-Biphenyl	mg/kg	34	0				77	1.8	1.8	300	
1,2,4,5-Tetrachlorobenzene	mg/kg	34	2	0.54	0.4	0.47	12	1.7	0.28	48	1-14
2,3,4,6-Tetrachlorophenol	mg/kg	34	0				39	1.7	0.89	150	
2,4,5-Trichlorophenol	mg/kg	34	0				40	1.8	0.90	150	
2,4,6-Trichlorophenol	mg/kg	34	1	0.72	0.72	0.72	0.98	1.7	0.048	4.8	1-08
2,2-Oxybis(1-chloropropane)	mg/kg	34	0				38	1.8	0.86	150	
2,4-Dichlorophenol	mg/kg	34	0				42	1.8	0.96	160	
2,4-Dimethylphenol	mg/kg	34	0				79	1.8	1.8	310	
2,4-Dinitrophenol	mg/kg	34	0				100	1.7	2.3	390	
2,4-Dinitrotoluene	mg/kg	34	0				42	1.8	0.96	160	
2,6-Dinitrotoluene	mg/kg	34	0				47	1.8	1.1	180	

Table 5-2
Phase 1A-B RI Prevalence Table for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2-Chloronaphthalene	mg/kg	34	0				39	1.8	0.88	150	
2-Chlorophenol	mg/kg	34	0				41	1.7	0.95	160	
2-Methylphenol	mg/kg	34	0				28	1.8	0.63	110	
2-Nitroaniline	mg/kg	34	0				40	1.7	0.91	150	
2-Nitrophenol	mg/kg	34	0				39	1.7	0.89	150	
3,3'-Dichlorobenzidine	mg/kg	34	0				44	1.7	1.0	170	
3-Nitroaniline	mg/kg	34	0				79	1.8	1.8	310	
4,6-Dinitro-2-methylphenol	mg/kg	34	0				39	1.8	0.88	150	
4-Bromophenyl-phenylether	mg/kg	34	0				41	1.8	0.92	160	
4-Chloro-3-methylphenol	mg/kg	34	0				44	1.8	1.0	170	
4-Chloroaniline	mg/kg	34	0				28	1.8	0.63	110	
4-Chlorophenyl-phenylether	mg/kg	34	0				44	1.8	1.0	170	
3 & 4 Methylphenol	mg/kg	34	1	56	56	56	160	1.7	3.6	610	1-07
4-Nitroaniline	mg/kg	34	0				41	1.7	0.95	160	
4-Nitrophenol	mg/kg	34	0				130	1.8	3.0	520	
Acetophenone	mg/kg	34	1	5.6	5.6	5.6	12	1.7	0.27	46	1-07
Benzaldehyde	mg/kg	34	0				77	1.8	1.8	300	
Benzylbutylphthalate	mg/kg	34	0				45	1.8	1.0	180	
Bis(2-chloroethoxy)methane	mg/kg	34	0				41	1.7	0.95	160	
bis(2-Chloroethyl) ether	mg/kg	34	0				39	1.8	0.88	150	
Bis(2-ethylhexyl)phthalate	mg/kg	34	0				47	1.8	1.1	180	
Carbazole	mg/kg	34	0				45	1.8	1.0	180	
Dibenzofuran	mg/kg	34	0				41	1.8	0.93	160	
Diethyl phthalate	mg/kg	34	0				43	1.8	0.98	170	
Dimethylphthalate	mg/kg	34	0				41	1.8	0.94	160	
Di-n-butylphthalate	mg/kg	34	0				47	1.8	1.1	180	
Di-n-octylphthalate	mg/kg	34	0				47	1.8	1.1	180	
Hexachlorobenzene	mg/kg	34	31	5,500	0.035	840	1,700	2.2	0.069	2.0	1-08
Hexachlorobutadiene	mg/kg	34	8	27	0.9	10	6.2	2.4	0.040	0.65	1-08
Hexachlorocyclopentadiene	mg/kg	34	0				29	1.7	0.67	110	
Hexachloroethane	mg/kg	34	0				39	1.8	0.88	150	
Isophorone	mg/kg	34	0				44	1.8	1.0	170	
Nitrobenzene	mg/kg	34	0				36	1.7	0.82	140	
N-Nitrosodimethylamine	mg/kg	34	0				22	1.8	1.0	110	
N-Nitroso-di-n-propylamine	mg/kg	34	0				40	1.7	0.91	150	
N-Nitrosodiphenylamine	mg/kg	34	0				41	1.8	0.93	160	
Pentachlorobenzene	mg/kg	34	18	260	0.29	61	68	2.1	0.14	2.3	1-08
Pentachlorophenol	mg/kg	34	4	10	0.34	6.5	5.6	1.6	0.26	26	1-08
Phenol	mg/kg	34	0				40	1.8	0.90	150	
2-Methylnaphthalene	mg/kg	34	27	10	0.0008	1.2	2.1	2.3	0.00048	0.040	1-07

Table 5-2
Phase 1A-B RI Prevalence Table for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Acenaphthene	mg/kg	34	3	0.15	0.015	0.063	0.046	1.6	0.00053	0.23	1-08
Acenaphthylene	mg/kg	34	5	0.5	0.0029	0.13	0.088	2.7	0.00037	0.16	1-08
Anthracene	mg/kg	34	2	0.13	0.12	0.13	0.043	1.7	0.00045	0.19	1-08
Benzo(a)anthracene	mg/kg	34	4	0.13	0.0016	0.052	0.034	1.7	0.00034	0.15	1-08
Benzo(a)pyrene	mg/kg	34	22	0.98	0.0012	0.19	0.26	2.0	0.00045	0.052	1-08
Benzo(b)fluoranthene	mg/kg	34	4	0.13	0.0026	0.059	0.049	1.6	0.00057	0.25	1-08
Benzo(g,h,i)perylene	mg/kg	34	2	0.028	0.0025	0.015	0.089	1.7	0.0011	0.49	1-02
Benzo(k)fluoranthene	mg/kg	34	1	0.0065	0.0065	0.0065	0.067	1.7	0.00086	0.37	1-02
Chrysene	mg/kg	34	5	0.14	0.00083	0.059	0.039	1.6	0.00039	0.17	1-08
Dibenzo(a,h)anthracene	mg/kg	34	0				0.11	1.7	0.0014	0.58	
Fluoranthene	mg/kg	34	12	0.49	0.00033	0.060	0.087	2.6	0.00033	0.14	1-08
Fluorene	mg/kg	34	8	0.34	0.018	0.15	0.11	1.7	0.00055	0.49	1-14
Indeno(1,2,3-cd)pyrene	mg/kg	34	5	0.073	0.0012	0.026	0.042	1.6	0.00054	0.23	1-08
Naphthalene	mg/kg	34	7	2.8	0.02	0.95	0.55	2.4	0.00039	0.36	1-07
Phenanthrene	mg/kg	34	6	0.71	0.038	0.20	0.14	1.9	0.00057	0.29	1-08
Pyrene	mg/kg	34	8	0.4	0.0012	0.074	0.073	2.2	0.00039	0.17	1-08
1,4-Dioxane	mg/kg	34	0				0.043	0.54	0.037	0.25	
1,1-Dichloroethane	mg/kg	34	7	0.013	0.00066	0.0069	0.0034	1.9	0.00027	0.0013	1-091-11
1,1-Dichloroethene	mg/kg	34	7	0.007	0.00061	0.0036	0.0016	1.5	0.00024	0.0012	1-11
1,2-Dibromo-3-chloropropane	mg/kg	34	0				0.00098	0.54	0.00083	0.0056	
1,2-Dibromoethane	mg/kg	34	0				0.00030	0.54	0.00025	0.0017	
1,2-Dichlorobenzene	mg/kg	34	1	0.002	0.002	0.0020	0.00072	0.54	0.00060	0.0041	1-02
1,2-Dichloroethane	mg/kg	34	0				0.00081	0.54	0.00069	0.0047	
cis-1,2-Dichloroethene	mg/kg	34	4	0.0065	0.003	0.0043	0.0013	0.65	0.00084	0.0057	1-09
trans-1,2-Dichloroethene	mg/kg	34	0				0.00042	0.54	0.00036	0.0024	
1,2-Dichloropropane	mg/kg	34	0				0.00067	0.54	0.00056	0.0038	
1,3-Dichlorobenzene	mg/kg	34	3	0.0049	0.00061	0.0021	0.00080	1.1	0.00028	0.0019	1-03
cis-1,3-Dichloropropene	mg/kg	34	0				0.00071	0.54	0.00060	0.0041	
trans-1,3-Dichloropropene	mg/kg	34	0				0.00083	0.54	0.00071	0.0048	
1,4-Dichlorobenzene	mg/kg	34	3	0.31	0.0028	0.12	0.053	4.4	0.00073	0.0050	1-08
1,1,1-Trichloroethane	mg/kg	34	6	0.011	0.00097	0.0053	0.0023	1.6	0.00034	0.0016	1-11
1,1,2-Trichloroethane	mg/kg	34	0				0.00049	0.54	0.00041	0.0028	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	34	0				0.00092	0.54	0.00078	0.0053	
1,2,3-Trichlorobenzene	mg/kg	34	1	0.0078	0.0078	0.0078	0.0014	0.77	0.00071	0.0048	1-04
1,2,4-Trichlorobenzene	mg/kg	34	10	0.041	0.0013	0.0097	0.0076	1.9	0.00071	0.0048	1-03
1,1,2,2-Tetrachloroethane	mg/kg	34	0				0.00075	0.54	0.00064	0.0043	
2-Butanone	mg/kg	34	22	0.096	0.0025	0.022	0.021	1.3	0.0013	0.011	1-14
2-Hexanone	mg/kg	34	2	0.014	0.0069	0.010	0.0024	1.2	0.00070	0.0047	1-08
4-Methyl-2-pentanone	mg/kg	34	4	0.043	0.0057	0.025	0.0093	2.0	0.00087	0.0059	1-09
Acetone	mg/kg	34	12	0.24	0.023	0.11	0.061	1.2	0.0015	0.054	1-08

Table 5-2
Phase 1A-B RI Prevalence Table for PRI Area 1
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Benzene	mg/kg	34	10	0.0033	0.00044	0.0014	0.00072	0.93	0.00024	0.0017	1-08
Bromochloromethane	mg/kg	34	5	0.016	0.0033	0.0065	0.0027	1.0	0.00088	0.0060	1-08
Bromodichloromethane	mg/kg	34	14	7.9	0.013	1.4	1.6	2.8	0.00050	0.0064	1-08
Bromoform	mg/kg	34	15	37	0.0092	6.3	7.7	2.8	0.00038	0.00088	1-08
Bromomethane	mg/kg	34	1	0.0028	0.0028	0.0028	0.00097	0.54	0.00081	0.0055	1-08
Carbon disulfide	mg/kg	34	22	0.035	0.0011	0.0095	0.010	1.6	0.00046	0.0031	1-071-08
Carbon tetrachloride	mg/kg	34	14	1.8	0.0016	0.31	0.36	2.8	0.00050	0.0014	1-08
Chlorobenzene	mg/kg	34	6	0.022	0.00066	0.0059	0.0037	2.5	0.00027	0.0018	1-08
Cyclohexane	mg/kg	34	2	0.047	0.0044	0.026	0.0077	1.2	0.0025	0.017	1-08
Dibromochloromethane	mg/kg	34	17	20	0.0011	2.7	4.0	2.9	0.00020	0.00046	1-08
Chloroethane	mg/kg	34	7	0.042	0.0036	0.021	0.011	2.2	0.00042	0.0020	1-08
Chloroform	mg/kg	34	16	3.5	0.012	0.57	0.68	2.5	0.00024	0.017	1-08
Chloromethane	mg/kg	34	9	0.029	0.0026	0.016	0.0084	1.7	0.00047	0.0048	1-11
Dichlorodifluoromethane (Freon-12)	mg/kg	34	0				0.00099	0.54	0.00084	0.0057	
Ethyl benzene	mg/kg	34	10	0.16	0.00065	0.034	0.030	2.9	0.00032	0.0022	1-07
Isopropylbenzene	mg/kg	34	12	0.14	0.0015	0.030	0.026	2.3	0.00049	0.0033	1-07
Methyl tertbutyl ether (MTBE)	mg/kg	34	0				0.00067	0.54	0.00056	0.0038	
Dichloromethane (Methylene chloride)	mg/kg	34	12	0.068	0.0018	0.016	0.013	1.9	0.00079	0.0037	1-08
Styrene	mg/kg	34	0				0.00035	0.54	0.00029	0.0020	
Tetrachloroethene	mg/kg	34	17	1.6	0.0014	0.16	0.28	3.5	0.00057	0.0016	1-08
Toluene	mg/kg	34	11	0.099	0.0011	0.020	0.018	2.4	0.00057	0.0039	1-14
Trichloroethene	mg/kg	34	12	0.048	0.0012	0.016	0.012	1.9	0.00056	0.0027	1-08
Trichlorofluoromethane (Freon-11)	mg/kg	34	4	0.0036	0.00083	0.0025	0.00078	0.91	0.00032	0.0015	1-081-11
Vinyl chloride	mg/kg	34	1	0.0012	0.0012	0.0012	0.00041	0.54	0.00034	0.0023	1-14
o-Xylene	mg/kg	34	13	0.53	0.0016	0.10	0.11	2.8	0.00031	0.0021	1-07
m,p Xylenes	mg/kg	34	13	1.3	0.0018	0.22	0.25	2.8	0.00076	0.0052	1-07
Perchlorate	mg/kg	33	7	0.0021	0.00028	0.0011	0.015	0.64	0.021	0.072	1-11
Total Organic Carbon	mg/kg	33	25	260,000	420	29,000	46,000	2.1	1,700	1,700	1-04
pH	pH units	34	34	9.79	1.57	6.8	2.3	0.34			1-07
Cyanide, Total	mg/kg	33	4	1.5	0.4	0.77	0.23	0.65	0.23	0.53	1-11
Percent finer than 0.25 millimeters	%	34	34	99.1	30.3	79	17	0.22			1-14

Notes:
% = percent
Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-01**	**3-02**	**3-03**	**3-04**	**3-05**	**3-06**	**3-07**	**3-08**	**3-09**	**3-10**
	Sample Date	**17-Nov-15**	**16-Nov-15**	**16-Nov-15**	**17-Nov-15**	**17-Nov-15**	**17-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**3-01-SS-01-111715**	**3-02-SS-01-111615**	**3-03-SS-01-111615**	**3-04-SS-01-111715**	**3-05-SS-01-111715**	**3-06-SS-01-111715**	**3-07-SS-01-111815**	**3-08-SS-01-111815**	**3-09-SS-01-111815**	**3-10-SS-01-111815**
Analyte	**Unit**										
01-Dioxins and Furans											
2,3,7,8-TCDD	pg/g	36	15	*< 3.2 UQ*	4.3	*< 0.29 UQ*	51	0.51 J	1.2 J	0.64 J	0.51 J
1,2,3,7,8-PeCDD	pg/g	*< 110 U*	53	24 J	22	1.2 J	*< 120 U*	2.3 J	4.1 J	2.3 J	2.1 J
1,2,3,4,7,8-HxCDD	pg/g	220	86	26 J	43	1.2 J	580	2.4 J	4.9 J	2.4 J	2.0 J
1,2,3,6,7,8-HxCDD	pg/g	670	230	75	120	3.1 J	*< 870 UQ*	6.7 J	12	6.4 J	5.8 J
1,2,3,7,8,9-HxCDD	pg/g	910	220	89	110	3.6 J	1,200	6.2 J	12	6.5 J	5.2 J
1,2,3,4,6,7,8-HpCDD	pg/g	5,300	2,400	580	790	19	7,200	42	89	47	36
OCDD	pg/g	15,000	24,000	1,700	2,300	75	17,000	170	400	210	190
2,3,7,8-TCDF	pg/g	5,800	1,000	450	320	20	6,700	32	80	40	27
1,2,3,7,8-PeCDF	pg/g	17,000	2,600	2,200	1,500	60	29,000	98	240	120	65
2,3,4,7,8-PeCDF	pg/g	15,000	1,400	1,200	790	32	21,000	49	120	60	37
1,2,3,4,7,8-HxCDF	pg/g	98,000	10,000	8,300	5,800	170	130,000	260	650	300	190
1,2,3,6,7,8-HxCDF	pg/g	67,000	6,400	5,800	4,400	130	87,000	210	550	230	140
1,2,3,7,8,9-HxCDF	pg/g	8,900	780	780	640	18	12,000	30	80	35	19
2,3,4,6,7,8-HxCDF	pg/g	17,000	2,500	1,300	910	38	22,000	69	180	75	54
1,2,3,4,6,7,8-HpCDF	pg/g	720,000	130,000	53,000	37,000	1,100	920,000	1,800	5,000	1,700	1,300
1,2,3,4,7,8,9-HpCDF	pg/g	200,000	19,000	17,000	11,000	290	270,000	450	1,300	490	330
OCDF	pg/g	3,900,000 J	2,000,000 J	280,000	240,000	7,500	4,100,000 J	14,000	28,000	12,000	17,000
Calculated TEQ (ND=0), Mammalian	pg/g	36,000	4,800	2,900	2,100	69	48,000	110	290	130	86
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	36,000	4,900	2,900	2,100	69	48,000	110	290	130	86
Calculated TEQ (ND=0), Avian	pg/g	5,600,000	31,000	69,000	38,000	500	6,900,000	790	1,300	1,500	700
Calculated TEQ (ND=1/2 DL), Avian	pg/g	5,600,000	31,000	69,000	38,000	500	6,900,000	790	1,300	1,500	700
02-PCBs											
PCB-77	pg/g	*< 3,410 UJ*	1,600	601	890	*< 19 UQ*	71,700 J-	62	180	250	60
PCB-81	pg/g	*< 3,410 U*	*< 160 U*	*< 295 U*	*< 150 U*	*< 4.2 U*	14,600	*< 5.5 U*	24 J	34	*< 4.6 U*
PCB-105	pg/g	10,100	9,900	*< 295 U*	12,000	86	21,800	490	1,000	1,700	340
PCB-107/123	pg/g	48,400		*< 591 U*			53,400				
PCB-114	pg/g	*< 3,410 U*	*< 690 U*	*< 295 U*	820	*< 7.7 U*	15,000	25 J	*< 63 U*	81	*< 16 U*
PCB-118	pg/g	42,400	25,000	724	32,000	150	48,000	690	2,200	2,500	430
PCB-123	pg/g		*< 720 U*		650	*< 11 UQ*		25 J	*< 60 U*	84	23 J
PCB-126	pg/g	*< 3,410 U*	*< 800 U*	*< 295 U*	*< 530 U*	15 J	13,000	52	89	110	40
PCB-156	pg/g	40,700		670			38,000				
PCB-157	pg/g	*< 3,410 U*		445 J			22,500				
PCB-156/157	pg/g		5,500		4,900	74		310	520	820	210
PCB-167	pg/g	49,600	2,400	918	1,900	46	37,100 J	130	220	280	89
PCB-169	pg/g	7,590	*< 250 U*	*< 295 U*	*< 110 U*	*< 5.3 U*	8,610	*< 9.9 U*	*< 18 U*	26 J	8.4 J
PCB-189	pg/g	33,700	1,900	998	940	40	39,800	89	190	190	66

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-01**	**3-02**	**3-03**	**3-04**	**3-05**	**3-06**	**3-07**	**3-08**	**3-09**	**3-10**
	Sample Date	**17-Nov-15**	**16-Nov-15**	**16-Nov-15**	**17-Nov-15**	**17-Nov-15**	**17-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**3-01-SS-01-111715**	**3-02-SS-01-111615**	**3-03-SS-01-111615**	**3-04-SS-01-111715**	**3-05-SS-01-111715**	**3-06-SS-01-111715**	**3-07-SS-01-111815**	**3-08-SS-01-111815**	**3-09-SS-01-111815**	**3-10-SS-01-111815**
Analyte	**Unit**										
Monochlorobiphenyls, Total	mg/kg	*< 0.00341 U*	0.00026	*< 0.000295 U*	0.00012	*< 0.0000050 U*	*< 0.00251 U*	0.000015 J	0.000033	0.000038	0.0000068 J
Dichlorobiphenyls, Total	mg/kg	0.0287	0.002	0.000426 J	0.00038	*< 0.00001 U*	0.0414	*< 0.00001 U*	*< 0.00001 U*	*< 0.00001 U*	*< 0.00001 U*
Trichlorobiphenyls, Total	mg/kg	0.152	0.0071	0.00294	0.0028	0.000023	0.224	0.00013	0.00036	0.00052	0.0001
Tetrachlorobiphenyls, Total	mg/kg	0.412 J-	0.063	0.00260	0.042	0.00023	0.595 J-	0.00057	0.003	0.002	0.0004
Pentachlorobiphenyls, Total	mg/kg	0.76	0.15	0.00449	0.13	0.00076	0.96	0.0041	0.011	0.013	0.0026
Hexachlorobiphenyls, Total	mg/kg	1.16 J-	0.15	0.0195	0.08	0.0013	1.27 J-	0.0066	0.012	0.015	0.0044
Heptachlorobiphenyls, Total	mg/kg	1.54	0.11	0.0297	0.037	0.0016	1.47	0.005	0.0091	0.0089	0.0034
Octachlorobiphenyls, Total	mg/kg	2.35	0.12	0.0579	0.051	0.0034	2.15	0.006	0.012	0.011	0.0047
Nonachlorobiphenyls, Total	mg/kg	5.27	0.28	0.139	0.12	0.0092	4.57	0.017	0.028	0.03	0.013
Decachlorobiphenyl (PCB-209)	mg/kg	36.8	3.1 J	1.39	0.93 J	0.087	27.3	0.13	0.23	0.21	0.099
Total PCBs	mg/kg	48.5	4	1.65	1.4	0.1	38.6	0.17	0.31	0.29	0.13
03- Metals											
Total Aluminum	mg/kg	3,900	16,000	3,000	17,000	14,000	3,500	16,000	15,000	18,000	15,000
Total Antimony	mg/kg	1.5 J-	2.8 J-	0.34 J-	0.88 J-	0.44 J-	1.0 J-	0.36 J-	0.40 J-	0.43 J-	0.32 J-
Total Arsenic	mg/kg	13	13	9.1	5.5	5.5	19	4.5	7.2	8.8	7.2
Total Barium	mg/kg	150	560	270	180	280	450	250	330	280	330
Total Beryllium	mg/kg	0.28	1.1	0.15	0.88	0.79	0.22	0.89	0.82	1.1	0.77
Total Cadmium	mg/kg	0.32	3.4	0.13	0.97	0.45	0.12 J	0.64	1.1	1.0	0.54
Total Calcium	mg/kg	120,000	17,000	190,000	62,000	79,000	180,000	86,000	82,000	74,000	99,000
Total Chromium	mg/kg	61	130	19	46	20	34	24	29	30	22
Total Cobalt	mg/kg	2.6	6.0	1.4	6.9	6.3	2.2	6.5	6.4	7.8	5.8
Total Copper	mg/kg	110	570	9.8	110	19	24	32	45	41	22
Total Iron	mg/kg	35,000	39,000	13,000	22,000	14,000	45,000	18,000	19,000	21,000	14,000
Total Lead	mg/kg	28 J+	100	6.3 J+	25 J+	15 J+	20 J+	16 J+	18 J+	21 J+	13 J+
Total Magnesium	mg/kg	14,000 J-	13,000 J-	8,800 J-	17,000 J-	15,000 J-	16,000 J-	16,000	18,000	19,000	18,000
Total Manganese	mg/kg	81	140	79	240	420	82	360	360	480	360
Total Mercury	mg/kg	1.3	6.6	0.033 J	1.2	0.076	0.23	0.24 J	0.42 J	0.44 J	0.17 J
Total Molybdenum	mg/kg	3.4	9.0	6.3	1.9	0.99	8.4	1.2	0.75	1.1	1.1
Total Nickel	mg/kg	18	58	4.7	29	18	12	20	20	23	17
Total Potassium	mg/kg	1,100	4,000	1,100	4,400	4,000	1,800	4,800	4,500	5,400	4,000
Total Selenium	mg/kg	0.56	3.1	0.22	0.79	0.26 J	0.34	0.37	0.49	0.41	0.28
Total Silver	mg/kg	1.2	22	0.043 J	3.2	0.22	0.14	2.3	5.0	4.3	1.2
Total Sodium	mg/kg	2,500	3,300	3,400	1,400	2,400	5,100	5,100	3,300	3,000	4,000
Total Thallium	mg/kg	*< 0.051 U*	0.18 J	0.063 J	0.22	0.20	*< 0.068 U*	0.23	0.21	0.24	0.21
Total Vanadium	mg/kg	51	38	26	37	27	79	32	32	37	30
Total Zinc	mg/kg	630	2,300	25	580	76	61	130	260	220	100
05-SVOCs											
1,1'-Biphenyl	mg/kg	*< 28 U*	*< 5.8 U*	*< 19 U*	*< 3.2 U*	*< 2.6 U*	*< 36 U*	*< 2.4 U*	*< 2.6 U*	*< 2.4 U*	*< 2.3 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 4.4 U*	*< 0.91 U*	*< 3.1 U*	*< 0.5 U*	*< 0.4 U*	*< 5.6 U*	*< 0.38 U*	*< 0.4 U*	*< 0.38 U*	*< 0.36 U*

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-01**	**3-02**	**3-03**	**3-04**	**3-05**	**3-06**	**3-07**	**3-08**	**3-09**	**3-10**
	Sample Date	**17-Nov-15**	**16-Nov-15**	**16-Nov-15**	**17-Nov-15**	**17-Nov-15**	**17-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**3-01-SS-01-111715**	**3-02-SS-01-111615**	**3-03-SS-01-111615**	**3-04-SS-01-111715**	**3-05-SS-01-111715**	**3-06-SS-01-111715**	**3-07-SS-01-111815**	**3-08-SS-01-111815**	**3-09-SS-01-111815**	**3-10-SS-01-111815**
Analyte	**Unit**										
2,3,4,6-Tetrachlorophenol	mg/kg	< 14 U	< 2.9 U	< 9.7 U	< 1.6 U	< 1.3 U	< 18 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.1 U
2,4,5-Trichlorophenol	mg/kg	< 14 U	< 2.9 U	< 9.8 U	< 1.6 U	< 1.3 U	< 18 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.1 U
2,4,6-Trichlorophenol	mg/kg	< 0.74 U	< 0.15 U	< 0.52 U	< 0.084 U	< 0.068 U	< 0.47 U	< 0.064 U	< 0.068 U	< 0.064 U	< 0.061 U
2,2-Oxybis(1-chloropropane)	mg/kg	< 13 U	< 2.8 U	< 9.3 U	< 1.5 U	< 1.2 U	< 17 U	< 1.1 U	< 1.2 U	< 1.1 U	< 1.1 U
2,4-Dichlorophenol	mg/kg	< 15 U	< 3.1 U	< 10 U	< 1.7 U	< 1.4 U	< 19 U	< 1.3 U	< 1.4 U	< 1.3 U	< 1.2 U
2,4-Dimethylphenol	mg/kg	< 28 U	< 5.8 U	< 20 U	< 3.2 U	< 2.6 U	< 36 U	< 2.4 U	< 2.6 U	< 2.4 U	< 2.3 U
2,4-Dinitrophenol	mg/kg	< 36 U	< 7.5 U	< 25 U	< 4.1 U	< 3.3 U	< 46 U	< 3.1 U	< 3.3 U	< 3.1 U	< 3 U
2,4-Dinitrotoluene	mg/kg	< 15 U	< 3.1 U	< 10 U	< 1.7 U	< 1.4 U	< 19 U	< 1.3 U	< 1.4 U	< 1.3 U	< 1.2 U
2,6-Dinitrotoluene	mg/kg	< 17 U	< 3.5 U	< 12 U	< 1.9 U	< 1.5 U	< 21 U	< 1.4 U	< 1.5 U	< 1.4 U	< 1.4 U
2-Chloronaphthalene	mg/kg	< 14 U	< 2.8 U	< 9.5 U	< 1.6 U	< 1.3 U	< 17 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.1 U
2-Chlorophenol	mg/kg	< 15 U	< 3.1 U	< 10 U	< 1.7 U	< 1.4 U	< 19 U	< 1.3 U	< 1.4 U	< 1.3 U	< 1.2 U
2-Methylphenol	mg/kg	< 9.8 U	< 2 U	< 6.8 U	< 1.1 U	< 0.9 U	< 12 U	< 0.84 U	< 0.9 U	< 0.84 U	< 0.8 U
2-Nitroaniline	mg/kg	< 14 U	< 2.9 U	< 9.9 U	< 1.6 U	< 1.3 U	< 18 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.2 U
2-Nitrophenol	mg/kg	< 14 U	< 2.9 U	< 9.7 U	< 1.6 U	< 1.3 U	< 18 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.1 U
3,3'-Dichlorobenzidine	mg/kg	< 16 U	< 3.3 U	< 11 U	< 1.8 U	< 1.5 U	< 20 U	< 1.4 U	< 1.5 U	< 1.4 U	< 1.3 U
3-Nitroaniline	mg/kg	< 28 U	< 5.8 U	< 20 U	< 3.2 U	< 2.6 U	< 36 U	< 2.4 U	< 2.6 U	< 2.4 U	< 2.3 U
4,6-Dinitro-2-methylphenol	mg/kg	< 14 U	< 2.8 U	< 9.5 U	< 1.6 U	< 1.3 U	< 17 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.1 U
4-Bromophenyl-phenylether	mg/kg	< 14 U	< 3 U	< 10 U	< 1.6 U	< 1.3 U	< 18 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.2 U
4-Chloro-3-methylphenol	mg/kg	< 16 U	< 3.2 U	< 11 U	< 1.8 U	< 1.4 U	< 20 U	< 1.3 U	< 1.4 U	< 1.3 U	< 1.3 U
4-Chloroaniline	mg/kg	< 9.8 U	< 2 U	< 6.8 U	< 1.1 U	< 0.9 U	< 12 U	< 0.84 U	< 0.9 U	< 0.84 U	< 0.8 U
4-Chlorophenyl-phenylether	mg/kg	< 16 U	< 3.3 U	< 11 U	< 1.8 U	< 1.4 U	< 20 U	< 1.3 U	< 1.4 U	< 1.3 U	< 1.3 U
3 & 4 Methylphenol	mg/kg	< 56 U	< 12 U	< 39 U	< 6.3 U	< 5.1 U	< 71 U	< 4.8 U	< 5.1 U	< 4.8 U	< 4.6 U
4-Nitroaniline	mg/kg	< 15 U	< 3.1 U	< 10 U	< 1.7 U	< 1.4 U	< 19 U	< 1.3 U	< 1.4 U	< 1.3 U	< 1.2 U
4-Nitrophenol	mg/kg	< 47 U	< 9.8 U	< 33 U	< 5.4 U	< 4.4 U	< 60 U	< 4.1 U	< 4.3 U	< 4.1 U	< 3.9 U
Acetophenone	mg/kg	< 4.2 U	< 0.87 U	< 2.9 U	< 0.48 U	< 0.39 U	< 5.4 U	< 0.36 U	< 0.39 U	< 0.36 U	< 0.35 U
Benzaldehyde	mg/kg	< 28 U	< 5.8 U	< 19 U	< 3.2 U	< 2.6 U	< 36 U	< 2.4 U	< 2.6 U	< 2.4 U	< 2.3 U
Benzylbutylphthalate	mg/kg	< 16 U	< 3.3 U	< 11 U	< 1.8 U	< 1.5 U	< 20 U	< 1.4 U	< 1.5 U	< 1.4 U	< 1.3 U
Bis(2-chloroethoxy)methane	mg/kg	< 15 U	< 3.1 U	< 10 U	< 1.7 U	< 1.4 U	< 19 U	< 1.3 U	< 1.4 U	< 1.3 U	< 1.2 U
bis(2-Chloroethyl) ether	mg/kg	< 14 U	< 2.8 U	< 9.5 U	< 1.6 U	< 1.3 U	< 17 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.1 U
Bis(2-ethylhexyl)phthalate	mg/kg	< 17 U	< 4.8 U	< 12 U	< 4 U	< 1.5 U	< 21 U	< 1.4 U	< 1.5 U	< 1.4 U	< 1.4 U
Carbazole	mg/kg	< 16 U	< 3.3 U	< 11 U	< 1.8 U	< 1.5 U	< 20 U	< 1.4 U	< 1.5 U	< 1.4 U	< 1.3 U
Dibenzofuran	mg/kg	< 14 U	< 3 U	< 10 U	< 1.6 U	< 1.3 U	< 19 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.2 U
Diethyl phthalate	mg/kg	< 15 U	< 3.1 U	< 11 U	< 1.7 U	< 1.4 U	< 19 U	< 1.3 U	< 1.4 U	< 1.3 U	< 1.2 U
Dimethylphthalate	mg/kg	< 15 U	< 3 U	< 10 U	< 1.7 U	< 1.4 U	< 19 U	< 1.3 U	< 1.3 U	< 1.3 U	< 1.2 U
Di-n-butylphthalate	mg/kg	< 16 U	< 3.4 U	< 11 U	< 1.9 U	< 1.5 U	< 21 U	< 1.4 U	< 1.5 U	< 1.4 U	< 1.3 U
Di-n-octylphthalate	mg/kg	< 16 U	< 3.4 U	< 11 U	< 1.9 U	< 1.5 U	< 21 U	< 1.4 U	< 1.5 U	< 1.4 U	< 1.3 U
Hexachlorobenzene	mg/kg	550	2.4	6.5	3.5	0.039 J	680	0.061 J	0.085 J	0.13 J	0.056 J
Hexachlorobutadiene	mg/kg	< 0.62 U	< 0.13 U	< 0.44 U	< 0.071 U	< 0.057 U	< 0.4 U	< 0.054 U	< 0.057 U	< 0.054 U	< 0.051 U
Hexachlorocyclopentadiene	mg/kg	< 10 U	< 2.2 U	< 7.3 U	< 1.2 U	< 0.96 U	< 13 U	< 0.9 U	< 0.96 U	< 0.9 U	< 0.86 U
Hexachloroethane	mg/kg	< 14 U	< 2.8 U	< 9.5 U	< 1.6 U	< 1.3 U	< 17 U	< 1.2 U	< 1.3 U	< 1.2 U	< 1.1 U
Isophorone	mg/kg	< 16 U	< 3.3 U	< 11 U	< 1.8 U	< 1.4 U	< 20 U	< 1.3 U	< 1.4 U	< 1.3 U	< 1.3 U

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-01**	**3-02**	**3-03**	**3-04**	**3-05**	**3-06**	**3-07**	**3-08**	**3-09**	**3-10**
	Sample Date	**17-Nov-15**	**16-Nov-15**	**16-Nov-15**	**17-Nov-15**	**17-Nov-15**	**17-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**3-01-SS-01-111715**	**3-02-SS-01-111615**	**3-03-SS-01-111615**	**3-04-SS-01-111715**	**3-05-SS-01-111715**	**3-06-SS-01-111715**	**3-07-SS-01-111815**	**3-08-SS-01-111815**	**3-09-SS-01-111815**	**3-10-SS-01-111815**
Analyte	**Unit**										
Nitrobenzene	mg/kg	*< 13 U*	*< 2.7 U*	*< 9 U*	*< 1.5 U*	*< 1.2 U*	*< 16 U*	*< 1.1 U*	*< 1.2 U*	*< 1.1 U*	*< 1.1 U*
N-Nitrosodimethylamine	mg/kg	*< 16 U*	*< 3.4 U*	*< 11 U*	*< 1.8 U*	*< 1.5 U*	*< 10 U*	*< 1.4 U*	*< 1.5 U*	*< 1.4 U*	*< 1.3 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 14 U*	*< 2.9 U*	*< 9.9 U*	*< 1.6 U*	*< 1.3 U*	*< 18 U*	*< 1.2 U*	*< 1.3 U*	*< 1.2 U*	*< 1.2 U*
N-Nitrosodiphenylamine	mg/kg	*< 14 U*	*< 3 U*	*< 10 U*	*< 1.6 U*	*< 1.3 U*	*< 19 U*	*< 1.2 U*	*< 1.3 U*	*< 1.2 U*	*< 1.2 U*
Pentachlorobenzene	mg/kg	41 J	*< 0.45 UJ*	*< 1.5 U*	*< 0.25 U*	*< 0.2 U*	53 J	*< 0.19 U*	*< 0.2 U*	*< 0.19 U*	*< 0.18 U*
Pentachlorophenol	mg/kg	*< 4 U*	*< 0.84 U*	*< 2.8 U*	*< 0.46 U*	*< 0.37 U*	*< 2.6 U*	*< 0.35 U*	*< 0.37 U*	*< 0.35 U*	*< 0.33 U*
Phenol	mg/kg	*< 14 U*	*< 2.9 U*	*< 9.8 U*	*< 1.6 U*	*< 1.3 U*	*< 18 U*	*< 1.2 U*	*< 1.3 U*	*< 1.2 U*	*< 1.1 U*
06-PAHs											
2-Methylnaphthalene	mg/kg	0.015 J	*< 0.014 U*	*< 0.0031 U*	*< 0.015 U*	0.00072 J	*< 0.029 U*	*< 0.00062 U*	0.00092 J	0.0011 J	0.00090 J
Acenaphthene	mg/kg	*< 0.015 U*	*< 0.015 U*	*< 0.0034 U*	*< 0.017 U*	*< 0.00069 U*	*< 0.032 U*	*< 0.00068 U*	*< 0.00073 U*	*< 0.00068 U*	*< 0.00059 U*
Acenaphthylene	mg/kg	*< 0.011 U*	*< 0.011 U*	*< 0.0024 U*	*< 0.012 U*	*< 0.00048 U*	*< 0.022 U*	*< 0.00047 U*	*< 0.00051 U*	*< 0.00048 U*	*< 0.00042 U*
Anthracene	mg/kg	*< 0.013 U*	*< 0.013 U*	*< 0.0029 U*	*< 0.014 U*	*< 0.00058 U*	*< 0.027 U*	*< 0.00057 U*	0.0010 J	*< 0.00057 U*	*< 0.00050 U*
Benzo(a)anthracene	mg/kg	0.024 J	0.035 J	*< 0.0022 U*	0.012 J	0.00047 J	*< 0.021 U*	*< 0.00044 U*	0.0029 J	0.0013 J	0.00046 J
Benzo(a)pyrene	mg/kg	0.26	0.041 J	0.0065 J	*< 0.014 U*	*< 0.00058 U*	0.28 J	*< 0.00057 U*	0.0031 J	0.00090 J	0.00056 J
Benzo(b)fluoranthene	mg/kg	0.031 J	0.07 J	*< 0.0037 U*	*< 0.018 U*	*< 0.00074 U*	*< 0.034 U*	0.00081 J	0.0035 J	0.0017 J	*< 0.00064 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.033 U*	0.055 J	*< 0.0073 U*	*< 0.035 U*	*< 0.0015 U*	*< 0.068 U*	*< 0.0014 U*	0.0019 J	0.0018 J	*< 0.0013 U*
Benzo(k)fluoranthene	mg/kg	0.027 J	*< 0.024 U*	*< 0.0056 U*	*< 0.027 U*	*< 0.0011 U*	*< 0.052 U*	*< 0.0011 U*	0.0012 J	*< 0.0011 U*	*< 0.00096 U*
Chrysene	mg/kg	0.039 J	0.053 J	0.0028 J	*< 0.012 U*	0.00079 J	*< 0.024 U*	0.0014 J	0.0046 J	0.0041 J	0.0011 J
Dibenzo(a,h)anthracene	mg/kg	*< 0.039 U*	*< 0.038 U*	*< 0.0088 U*	*< 0.043 U*	*< 0.0017 U*	*< 0.082 U*	*< 0.0017 U*	*< 0.0019 U*	*< 0.0017 U*	*< 0.0015 U*
Fluoranthene	mg/kg	0.06 J	0.042 J	*< 0.0021 U*	0.023 J	*< 0.00043 U*	*< 0.02 U*	0.00084 J	0.0055 J	0.0016 J	0.00058 J
Fluorene	mg/kg	*< 0.016 U*	*< 0.016 U*	*< 0.0036 U*	*< 0.017 U*	*< 0.00071 U*	*< 0.033 U*	*< 0.00070 U*	*< 0.00081 U*	*< 0.00071 U*	*< 0.00062 U*
Indeno(1,2,3-cd)pyrene	mg/kg	0.035 J	0.041 J	*< 0.0035 U*	*< 0.017 U*	*< 0.00070 U*	*< 0.033 U*	*< 0.00069 U*	0.0017 J	0.00078 J	*< 0.00061 U*
Naphthalene	mg/kg	*< 0.01 U*	*< 0.0098 U*	*< 0.0022 U*	*< 0.011 U*	*< 0.00063 U*	*< 0.021 U*	*< 0.00044 U*	*< 0.00080 U*	*< 0.00087 U*	*< 0.00066 U*
Phenanthrene	mg/kg	*< 0.056 U*	*< 0.025 U*	*< 0.0026 U*	*< 0.016 U*	*< 0.00068 U*	*< 0.024 U*	*< 0.0011 U*	*< 0.0059 U*	*< 0.0023 U*	*< 0.0017 U*
Pyrene	mg/kg	0.07 J	0.049 J	*< 0.0026 U*	0.017 J	*< 0.00051 U*	*< 0.024 U*	0.00090 J	0.0051 J	0.0020 J	0.00053 J
07-VOCs											
1,4-Dioxane	mg/kg	*< 0.07 U*	*< 0.18 UJ*	*< 0.054 U*	*< 0.074 U*	*< 0.059 U*	*< 0.063 U*	*< 0.055 UJ*	*< 0.056 UJ*	*< 0.056 U*	*< 0.051 UJ*
1,1-Dichloroethane	mg/kg	*< 0.00052 U*	*< 0.0014 U*	*< 0.00040 U*	*< 0.00055 U*	*< 0.00044 U*	*< 0.00047 U*	*< 0.00041 U*	*< 0.00042 U*	*< 0.00042 U*	*< 0.00038 U*
1,1-Dichloroethene	mg/kg	*< 0.00047 U*	*< 0.0012 U*	*< 0.00036 U*	*< 0.00049 U*	*< 0.00039 U*	*< 0.00042 U*	*< 0.00037 U*	*< 0.00038 U*	*< 0.00037 U*	*< 0.00034 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0016 U*	*< 0.0041 U*	*< 0.0012 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0011 U*
1,2-Dibromoethane	mg/kg	*< 0.00049 U*	*< 0.0013 U*	*< 0.00038 U*	*< 0.00051 U*	*< 0.00041 U*	*< 0.00044 U*	*< 0.00038 U*	*< 0.00039 U*	*< 0.00039 U*	*< 0.00035 U*
1,2-Dichlorobenzene	mg/kg	*< 0.0012 U*	0.0044 J	*< 0.00089 U*	*< 0.0012 U*	*< 0.00097 U*	*< 0.0010 U*	*< 0.00090 U*	*< 0.00092 U*	*< 0.00092 U*	*< 0.00083 U*
1,2-Dichloroethane	mg/kg	*< 0.0013 U*	*< 0.0034 U*	*< 0.0010 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.00095 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0016 U*	*< 0.0042 U*	*< 0.0012 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0012 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00068 U*	*< 0.0018 U*	*< 0.00053 U*	*< 0.00072 U*	*< 0.00058 U*	*< 0.00062 U*	*< 0.00054 U*	*< 0.00055 U*	*< 0.00055 U*	*< 0.00049 U*
1,2-Dichloropropane	mg/kg	*< 0.0011 U*	*< 0.0028 U*	*< 0.00083 U*	*< 0.0011 U*	*< 0.00091 U*	*< 0.00098 U*	*< 0.00085 U*	*< 0.00087 U*	*< 0.00086 U*	*< 0.00078 U*
1,3-Dichlorobenzene	mg/kg	0.0087 J	0.015 J	*< 0.00042 U*	*< 0.00057 U*	*< 0.00045 U*	*< 0.00049 U*	*< 0.00042 U*	*< 0.00043 U*	*< 0.00043 U*	*< 0.00039 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.0012 U*	*< 0.0030 U*	*< 0.00089 U*	*< 0.0012 U*	*< 0.00097 U*	*< 0.0010 U*	*< 0.00090 U*	*< 0.00092 U*	*< 0.00092 U*	*< 0.00083 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0013 U*	*< 0.0035 U*	*< 0.0010 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00098 U*

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-01**	**3-02**	**3-03**	**3-04**	**3-05**	**3-06**	**3-07**	**3-08**	**3-09**	**3-10**
	Sample Date	**17-Nov-15**	**16-Nov-15**	**16-Nov-15**	**17-Nov-15**	**17-Nov-15**	**17-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**3-01-SS-01-111715**	**3-02-SS-01-111615**	**3-03-SS-01-111615**	**3-04-SS-01-111715**	**3-05-SS-01-111715**	**3-06-SS-01-111715**	**3-07-SS-01-111815**	**3-08-SS-01-111815**	**3-09-SS-01-111815**	**3-10-SS-01-111815**
Analyte	**Unit**										
1,4-Dichlorobenzene	mg/kg	0.03	0.0082 J	*< 0.0011 U*	0.0023 J	*< 0.0012 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.0010 U*
1,1,1-Trichloroethane	mg/kg	*< 0.00065 U*	*< 0.0017 U*	*< 0.00050 U*	*< 0.00068 U*	*< 0.00055 U*	*< 0.00059 U*	*< 0.00051 U*	*< 0.00052 U*	*< 0.00052 U*	*< 0.00047 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00079 U*	*< 0.0021 U*	*< 0.00061 U*	*< 0.00083 U*	*< 0.00067 U*	*< 0.00072 U*	*< 0.00062 U*	*< 0.00064 U*	*< 0.00063 U*	*< 0.00057 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	*< 0.0015 U*	*< 0.0039 U*	*< 0.0012 U*	*< 0.0016 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0011 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0013 U*	*< 0.0048 U*	*< 0.0010 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00098 U*
1,2,4-Trichlorobenzene	mg/kg	0.053	0.0089 J	*< 0.0010 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00098 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0012 U*	*< 0.0032 U*	*< 0.00095 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.00096 U*	*< 0.00098 U*	*< 0.00098 U*	*< 0.00089 U*
2-Butanone	mg/kg	*< 0.011 U*	*< 0.0065 U*	*< 0.0019 U*	*< 0.0027 U*	*< 0.0021 U*	*< 0.0023 U*	*< 0.0020 U*	*< 0.0020 U*	*< 0.0020 U*	*< 0.0018 U*
2-Hexanone	mg/kg	*< 0.0013 U*	*< 0.0035 U*	*< 0.0010 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00096 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0017 U*	*< 0.0043 U*	*< 0.0013 U*	*< 0.0017 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0012 U*
Acetone	mg/kg	*< 0.026 U*	*< 0.0065 U*	*< 0.0047 U*	*< 0.0027 U*	*< 0.0059 U*	*< 0.0023 U*	*< 0.0020 U*	*< 0.0020 U*	*< 0.0020 U*	*< 0.0018 U*
Benzene	mg/kg	*< 0.00047 U*	*< 0.0012 U*	*< 0.00036 U*	*< 0.00049 U*	*< 0.00039 U*	*< 0.00042 U*	*< 0.00037 U*	*< 0.00038 U*	*< 0.00037 U*	*< 0.00034 U*
Bromochloromethane	mg/kg	*< 0.0017 U*	*< 0.0044 U*	*< 0.0013 U*	*< 0.0018 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0014 U*	*< 0.0012 U*
Bromodichloromethane	mg/kg	*< 0.00095 U*	*< 0.0025 U*	*< 0.00074 U*	*< 0.0010 U*	*< 0.00080 U*	*< 0.00086 U*	*< 0.00075 U*	*< 0.00077 U*	*< 0.00076 U*	*< 0.00069 U*
Bromoform	mg/kg	*< 0.00072 U*	*< 0.0019 U*	*< 0.00056 U*	*< 0.00076 U*	*< 0.00061 U*	*< 0.00065 U*	*< 0.00056 U*	*< 0.00058 U*	*< 0.00058 U*	*< 0.00052 U*
Bromomethane	mg/kg	*< 0.0015 U*	*< 0.0040 U*	*< 0.0012 U*	*< 0.0016 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0011 U*
Carbon disulfide	mg/kg	*< 0.0021 U*	*< 0.0023 U*	*< 0.00068 U*	*< 0.00093 U*	*< 0.00074 U*	*< 0.00080 U*	*< 0.00069 U*	*< 0.00071 U*	*< 0.00070 U*	*< 0.00064 U*
Carbon tetrachloride	mg/kg	*< 0.00095 U*	*< 0.0025 U*	*< 0.00074 U*	*< 0.0010 U*	*< 0.00080 U*	*< 0.00086 U*	*< 0.00075 U*	*< 0.00077 U*	*< 0.00076 U*	*< 0.00069 U*
Chlorobenzene	mg/kg	*< 0.00052 U*	*< 0.0014 U*	*< 0.00040 U*	*< 0.00055 U*	*< 0.00044 U*	*< 0.00047 U*	*< 0.00041 U*	*< 0.00042 U*	*< 0.00042 U*	*< 0.00038 U*
Cyclohexane	mg/kg	*< 0.0047 U*	*< 0.012 U*	*< 0.0037 U*	*< 0.0050 U*	*< 0.0040 U*	*< 0.0043 U*	*< 0.0037 U*	*< 0.0038 U*	*< 0.0038 U*	*< 0.0034 U*
Dibromochloromethane	mg/kg	*< 0.00038 U*	*< 0.00098 U*	*< 0.00029 U*	*< 0.00040 U*	*< 0.00032 U*	*< 0.00034 U*	*< 0.00030 U*	*< 0.00030 U*	*< 0.00030 U*	*< 0.00027 U*
Chloroethane	mg/kg	*< 0.00081 U*	*< 0.0021 U*	*< 0.00063 U*	*< 0.00085 U*	*< 0.00068 U*	*< 0.00073 U*	*< 0.00064 U*	*< 0.00065 U*	*< 0.00065 U*	*< 0.00059 U*
Chloroform	mg/kg	*< 0.00047 U*	*< 0.0012 U*	*< 0.00036 U*	*< 0.00049 U*	*< 0.00039 U*	*< 0.00042 U*	*< 0.00037 U*	*< 0.00038 U*	*< 0.00037 U*	*< 0.00034 U*
Chloromethane	mg/kg	*< 0.00090 U*	*< 0.0023 U*	*< 0.00070 U*	*< 0.00095 U*	*< 0.00076 U*	*< 0.00081 U*	*< 0.00071 U*	*< 0.00072 U*	*< 0.00072 U*	*< 0.00065 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0016 U*	*< 0.0042 U*	*< 0.0012 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0012 U*
Ethyl benzene	mg/kg	*< 0.00061 U*	*< 0.0016 U*	*< 0.00047 U*	*< 0.00064 U*	*< 0.00051 U*	*< 0.00055 U*	*< 0.00048 U*	*< 0.00049 U*	*< 0.00049 U*	*< 0.00044 U*
Isopropylbenzene	mg/kg	*< 0.00093 U*	*< 0.0024 U*	*< 0.00072 U*	*< 0.00099 U*	*< 0.00079 U*	*< 0.00085 U*	*< 0.00073 U*	*< 0.00075 U*	*< 0.00075 U*	*< 0.00068 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.0011 U*	*< 0.0028 U*	*< 0.00083 U*	*< 0.0011 U*	*< 0.00091 U*	*< 0.00098 U*	*< 0.00085 U*	*< 0.00087 U*	*< 0.00086 U*	*< 0.00078 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0015 U*	*< 0.0039 U*	*< 0.0012 U*	*< 0.0016 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0011 U*
Styrene	mg/kg	*< 0.00056 U*	*< 0.0014 U*	*< 0.00043 U*	*< 0.00059 U*	*< 0.00047 U*	*< 0.00050 U*	*< 0.00044 U*	*< 0.00045 U*	*< 0.00045 U*	*< 0.00040 U*
Tetrachloroethene	mg/kg	*< 0.0011 U*	*< 0.0029 U*	*< 0.00085 U*	*< 0.0012 U*	*< 0.00092 U*	*< 0.00099 U*	*< 0.00086 U*	*< 0.00088 U*	*< 0.00088 U*	*< 0.00079 U*
Toluene	mg/kg	*< 0.0011 U*	*< 0.0029 U*	*< 0.00085 U*	*< 0.0012 U*	*< 0.00092 U*	*< 0.00099 U*	*< 0.00086 U*	*< 0.00088 U*	*< 0.00088 U*	*< 0.00079 U*
Trichloroethene	mg/kg	*< 0.0011 U*	*< 0.0028 U*	*< 0.00083 U*	*< 0.0011 U*	*< 0.00091 U*	*< 0.00098 U*	*< 0.00085 U*	*< 0.00087 U*	*< 0.00086 U*	*< 0.00078 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00061 U*	*< 0.0016 U*	*< 0.00047 U*	*< 0.00064 U*	*< 0.00051 U*	*< 0.00055 U*	*< 0.00048 U*	*< 0.00049 U*	*< 0.00049 U*	*< 0.00044 U*
Vinyl chloride	mg/kg	*< 0.00065 U*	*< 0.0017 U*	*< 0.00050 U*	*< 0.00068 U*	*< 0.00055 U*	*< 0.00059 U*	*< 0.00051 U*	*< 0.00052 U*	*< 0.00052 U*	*< 0.00047 U*
o-Xylene	mg/kg	*< 0.00059 U*	*< 0.0015 U*	*< 0.00046 U*	*< 0.00063 U*	*< 0.00050 U*	*< 0.00054 U*	*< 0.00047 U*	*< 0.00048 U*	*< 0.00047 U*	*< 0.00043 U*
m,p Xylenes	mg/kg	*< 0.0015 U*	*< 0.0038 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0011 U*

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-01**	**3-02**	**3-03**	**3-04**	**3-05**	**3-06**	**3-07**	**3-08**	**3-09**	**3-10**
	Sample Date	**17-Nov-15**	**16-Nov-15**	**16-Nov-15**	**17-Nov-15**	**17-Nov-15**	**17-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**	**18-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**3-01-SS-01-111715**	**3-02-SS-01-111615**	**3-03-SS-01-111615**	**3-04-SS-01-111715**	**3-05-SS-01-111715**	**3-06-SS-01-111715**	**3-07-SS-01-111815**	**3-08-SS-01-111815**	**3-09-SS-01-111815**	**3-10-SS-01-111815**
Analyte	**Unit**										
08-General Solids Parameters											
Perchlorate	mg/kg	*< 0.032 U*	*< 0.067 U*	*< 0.029 U*	*< 0.035 U*	*< 0.03 U*	*< 0.028 U*	*< 0.028 U*	*< 0.031 U*	*< 0.029 U*	*< 0.026 U*
Total Organic Carbon	mg/kg	54,000	160,000	12,000	58,000	12,000	24,000	11,000	29,000	19,000	13,000
pH	pH units	7.24	7.57	7.84	7.31	7.80	8.07	8.23	8.22	8.26	8.69
Cyanide, Total	mg/kg	0.68 J	0.83 J	*< 0.29 U*	0.39 J	*< 0.31 U*	*< 0.29 U*	*< 0.29 U*	*< 0.31 U*	*< 0.31 U*	*< 0.28 U*
Percent finer than 0.25 millimeters	%	87.1	51	84.8	89.1	95.9	91.2	98.1	85.9	91.7	91.3

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-11**	**3-12**	**3-13**	**3-14**	**3-14**	**3-14**
	Sample Date	**19-Nov-15**	**19-Nov-15**	**19-Nov-15**	**03-Nov-15**	**03-Nov-15**	**17-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 5 ft**	**0 - 6 in**
	Sample ID	**3-11-SS-01-111915**	**3-12-SS-01-111915**	**3-13-SS-01-111915**	**3-14-SB-01-0.5-3.5-110315**	**3-14-SB-01-3.5-5-110315**	**3-14-SS-01-111715**
Analyte	**Unit**						
01-Dioxins and Furans							
2,3,7,8-TCDD	pg/g	14	0.29 J	*< 0.61 UQ*	*< 20 UQ*	0.23 J	20
1,2,3,7,8-PeCDD	pg/g	98	*< 1.4 UQ*	2.5 J	99 J	*< 0.57 UQ*	91
1,2,3,4,7,8-HxCDD	pg/g	99	1.7 J	2.2 J	140 J	1.2 J	170
1,2,3,6,7,8-HxCDD	pg/g	280	4.5 J	6.7	390 J	2.9 J	460
1,2,3,7,8,9-HxCDD	pg/g	*< 290 UQ*	*< 4.7 UQ*	6.4	360 J	2.9 J	420
1,2,3,4,6,7,8-HpCDD	pg/g	1,700	27	43	3,000	23	3,800
OCDD	pg/g	5,200	100	170	18,000	150	22,000
2,3,7,8-TCDF	pg/g	1,800	23	29	1,400	13	1,500
1,2,3,7,8-PeCDF	pg/g	6,600 J+	77	87	4,500	34	5,700
2,3,4,7,8-PeCDF	pg/g	3,800 J+	38	45	2,000	16	2,800
1,2,3,4,7,8-HxCDF	pg/g	29,000 J+	190	230	16,000	110	20,000
1,2,3,6,7,8-HxCDF	pg/g	19,000 J+	160	190	13,000	79	15,000
1,2,3,7,8,9-HxCDF	pg/g	2,600 J+	23	28	1,700	8.7	1,800
2,3,4,6,7,8-HxCDF	pg/g	*< 4,800 UQ*	45	60	3,300	25	3,900
1,2,3,4,6,7,8-HpCDF	pg/g	160,000	1,300	1,700	150,000	970	190,000
1,2,3,4,7,8,9-HpCDF	pg/g	54,000	370	430	32,000	220	44,000
OCDF	pg/g	810,000 J	11,000	13,000	1,600,000 J	12,000	2,000,000 J
Calculated TEQ (ND=0), Mammalian	pg/g	9,300	81	100	6,800	46	8,400
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	9,600	82	100	6,900	47	8,500
Calculated TEQ (ND=0), Avian	pg/g	520,000	1,600	2,300	63,000	70	110,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	520,000	1,600	2,300	64,000	820	110,000
02-PCBs							
PCB-77	pg/g	2,300	31	91	1,900	33	1,700
PCB-81	pg/g	960	*< 3.9 U*	*< 5.1 U*	*< 260 U*	*< 6.2 U*	*< 260 U*
PCB-105	pg/g	6,800	93	260	12,000	170	9,400
PCB-107/123	pg/g						
PCB-114	pg/g	1,800	9.5 J	15 J	870	*< 14 U*	*< 810 U*
PCB-118	pg/g	8,200	110	360	34,000	520	27,000
PCB-123	pg/g	1,600	*< 15 UQ*	22 J	*< 860 U*	*< 15 U*	850
PCB-126	pg/g	1,900	23	43	*< 1,000 U*	*< 17 U*	*< 870 U*
PCB-156	pg/g						
PCB-157	pg/g						
PCB-156/157	pg/g	7,200	73	160	6,900	96	6,900
PCB-167	pg/g	6,300	45	70	3,200	45	3,500
PCB-169	pg/g	*< 630 U*	*< 4.9 U*	*< 7.6 U*	*< 290 U*	*< 4.9 U*	*< 370 U*
PCB-189	pg/g	8,900	53	59	2,900	33	4,200

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-11**	**3-12**	**3-13**	**3-14**	**3-14**	**3-14**
	Sample Date	**19-Nov-15**	**19-Nov-15**	**19-Nov-15**	**03-Nov-15**	**03-Nov-15**	**17-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 5 ft**	**0 - 6 in**
	Sample ID	**3-11-SS-01-111915**	**3-12-SS-01-111915**	**3-13-SS-01-111915**	**3-14-SB-01-0.5-3.5-110315**	**3-14-SB-01-3.5-5-110315**	**3-14-SS-01-111715**
Analyte	**Unit**						
Monochlorobiphenyls, Total	mg/kg	0.00032	*< 0.0000050 U*	0.0000099 J	0.00039	*< 0.0000050 U*	0.00048
Dichlorobiphenyls, Total	mg/kg	0.0049	*< 0.00001 U*	0.000088	0.0033	*< 0.00001 U*	0.0023
Trichlorobiphenyls, Total	mg/kg	0.013	0.000031	0.00024	0.017	0.0003	0.013
Tetrachlorobiphenyls, Total	mg/kg	0.04	0.00016	0.00049	0.1	0.0015	0.078
Pentachlorobiphenyls, Total	mg/kg	0.092	0.00072	0.002	0.18	0.0026	0.14
Hexachlorobiphenyls, Total	mg/kg	0.13	0.0013	0.003	0.19	0.0026	0.16
Heptachlorobiphenyls, Total	mg/kg	0.21	0.0019	0.0025	0.14	0.0017	0.16
Octachlorobiphenyls, Total	mg/kg	0.32	0.0035	0.0037	0.17	0.0019	0.21
Nonachlorobiphenyls, Total	mg/kg	0.58	0.0089	0.0093	0.41	0.0047	0.48
Decachlorobiphenyl (PCB-209)	mg/kg	0.8 J	0.055	0.071	2.7 J	0.1	3.3 J
Total PCBs	mg/kg	2.2	0.072	0.092	3.9	0.12	4.5
03- Metals							
Total Aluminum	mg/kg	5,200	4,000	4,700	14,000	15,000	13,000
Total Antimony	mg/kg	0.41	0.14 J	0.12 J	3.7	0.39	5.5 J-
Total Arsenic	mg/kg	9.8	5.1	4.2	13	8.6	17
Total Barium	mg/kg	200	100	160	270	290	360
Total Beryllium	mg/kg	0.24	0.18	0.20	1.2	0.78	1.4
Total Cadmium	mg/kg	0.21	0.19	0.25	3.0	0.41	3.0
Total Calcium	mg/kg	75,000	150,000	87,000	16,000	89,000	22,000
Total Chromium	mg/kg	19	5.1	8.2	170	22	210
Total Cobalt	mg/kg	2.3	1.6	1.7	5.4	6.4	4.5
Total Copper	mg/kg	20	9.2	14	730	26	870
Total Iron	mg/kg	22,000	3,800	5,800	33,000	13,000	38,000
Total Lead	mg/kg	14 J+	4.1 J+	6.0 J+	100	13 J+	130
Total Magnesium	mg/kg	12,000	12,000	9,300	13,000	16,000	11,000 J-
Total Manganese	mg/kg	110	120	95	130	360	120
Total Mercury	mg/kg	0.14	0.031 J	0.082	7.6	0.11	6.9
Total Molybdenum	mg/kg	3.4	0.55	0.70	10	1.2	14
Total Nickel	mg/kg	8.3	5.1	5.3	57	18	63
Total Potassium	mg/kg	1,800	1,300	1,500	3,200	3,500	2,600
Total Selenium	mg/kg	0.23	0.18 J	0.12 J	3.8	0.44	4.2
Total Silver	mg/kg	0.25	0.21	0.86	31	1.0	17
Total Sodium	mg/kg	1,200	2,600	1,600	2,800	1,400	3,300
Total Thallium	mg/kg	0.067 J	0.097 J	0.067 J	0.18 J	0.22	*< 0.19 U*
Total Vanadium	mg/kg	29	12	12	45	31	47
Total Zinc	mg/kg	69	20	61	1,400	100	1,400
05-SVOCs							
1,1'-Biphenyl	mg/kg	*< 1.7 U*	*< 1.9 U*	*< 1.9 U*	*< 5.2 U*	*< 2.1 U*	*< 6.5 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 0.27 U*	*< 0.3 U*	*< 0.3 U*	*< 0.82 U*	*< 0.33 U*	*< 1 U*

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-11**	**3-12**	**3-13**	**3-14**	**3-14**	**3-14**
	Sample Date	**19-Nov-15**	**19-Nov-15**	**19-Nov-15**	**03-Nov-15**	**03-Nov-15**	**17-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 5 ft**	**0 - 6 in**
	Sample ID	**3-11-SS-01-111915**	**3-12-SS-01-111915**	**3-13-SS-01-111915**	**3-14-SB-01-0.5-3.5-110315**	**3-14-SB-01-3.5-5-110315**	**3-14-SS-01-111715**
Analyte	**Unit**						
2,3,4,6-Tetrachlorophenol	mg/kg	< 0.84 U	< 0.95 U	< 0.94 U	< 2.6 U	< 1.1 U	< 3.2 U
2,4,5-Trichlorophenol	mg/kg	< 0.85 U	< 0.96 U	< 0.95 U	< 2.6 U	< 1.1 U	< 3.3 U
2,4,6-Trichlorophenol	mg/kg	< 0.045 U	< 0.051 U	< 0.05 U	< 0.14 U	< 0.057 U	< 0.17 U
2,2-Oxybis(1-chloropropane)	mg/kg	< 0.81 U	< 0.91 U	< 0.91 U	< 2.5 U	< 1 U	< 3.1 U
2,4-Dichlorophenol	mg/kg	< 0.91 U	< 1 U	< 1 U	< 2.8 U	< 1.1 U	< 3.5 U
2,4-Dimethylphenol	mg/kg	< 1.7 U	< 1.9 U	< 1.9 U	< 5.3 U	< 2.1 U	< 6.6 U
2,4-Dinitrophenol	mg/kg	< 2.2 U	< 2.5 U	< 2.5 U	< 6.8 U	< 2.7 U	< 8.5 U
2,4-Dinitrotoluene	mg/kg	< 0.91 U	< 1 U	< 1 U	< 2.8 U	< 1.1 U	< 3.5 U
2,6-Dinitrotoluene	mg/kg	< 1 U	< 1.1 U	< 1.1 U	< 3.1 U	< 1.3 U	< 3.9 U
2-Chloronaphthalene	mg/kg	< 0.83 U	< 0.93 U	< 0.93 U	< 2.6 U	< 1 U	< 3.2 U
2-Chlorophenol	mg/kg	< 0.9 U	< 1 U	< 1 U	< 2.8 U	< 1.1 U	< 3.5 U
2-Methylphenol	mg/kg	< 0.6 U	< 0.67 U	< 0.66 U	< 1.8 U	< 0.74 U	< 2.3 U
2-Nitroaniline	mg/kg	< 0.86 U	< 0.97 U	< 0.96 U	< 2.7 U	< 1.1 U	< 3.3 U
2-Nitrophenol	mg/kg	< 0.84 U	< 0.95 U	< 0.94 U	< 2.6 U	< 1.1 U	< 3.2 U
3,3'-Dichlorobenzidine	mg/kg	< 0.97 U	< 1.1 U	< 1.1 U	< 3 U	< 1.2 U	< 3.7 U
3-Nitroaniline	mg/kg	< 1.7 U	< 1.9 U	< 1.9 U	< 5.3 U	< 2.1 U	< 6.6 U
4,6-Dinitro-2-methylphenol	mg/kg	< 0.83 U	< 0.93 U	< 0.93 U	< 2.6 U	< 1 U	< 3.2 U
4-Bromophenyl-phenylether	mg/kg	< 0.87 U	< 0.98 U	< 0.97 U	< 2.7 U	< 1.1 U	< 3.4 U
4-Chloro-3-methylphenol	mg/kg	< 0.95 U	< 1.1 U	< 1.1 U	< 2.9 U	< 1.2 U	< 3.6 U
4-Chloroaniline	mg/kg	< 0.6 U	< 0.67 U	< 0.66 U	< 1.8 U	< 0.74 U	< 2.3 U
4-Chlorophenyl-phenylether	mg/kg	< 0.96 U	< 1.1 U	< 1.1 U	< 2.9 U	< 1.2 U	< 3.7 U
3 & 4 Methylphenol	mg/kg	< 3.4 U	< 3.8 U	< 3.8 U	< 10 U	< 4.2 U	< 13 U
4-Nitroaniline	mg/kg	< 0.9 U	< 1 U	< 1 U	< 2.8 U	< 1.1 U	< 3.5 U
4-Nitrophenol	mg/kg	< 2.9 U	< 3.2 U	< 3.2 U	< 8.9 U	< 3.6 U	< 11 U
Acetophenone	mg/kg	< 0.26 U	< 0.29 U	< 0.29 U	< 0.79 U	< 0.32 U	< 0.99 U
Benzaldehyde	mg/kg	< 1.7 U	< 1.9 U	< 1.9 U	< 5.2 U	< 2.1 U	< 6.5 U
Benzylbutylphthalate	mg/kg	< 0.98 U	< 1.1 U	< 1.1 U	< 3 U	< 1.2 U	< 3.8 U
Bis(2-chloroethoxy)methane	mg/kg	< 0.9 U	< 1 U	< 1 U	< 2.8 U	< 1.1 U	< 3.5 U
bis(2-Chloroethyl) ether	mg/kg	< 0.83 U	< 0.93 U	< 0.93 U	< 2.6 U	< 1 U	< 3.2 U
Bis(2-ethylhexyl)phthalate	mg/kg	< 1 U	< 1.1 U	< 1.1 U	13	< 1.3 U	28
Carbazole	mg/kg	< 0.98 U	< 1.1 U	< 1.1 U	< 3 U	< 1.2 U	< 3.8 U
Dibenzofuran	mg/kg	< 0.88 U	< 0.99 U	< 0.99 U	< 2.7 U	< 1.1 U	< 3.4 U
Diethyl phthalate	mg/kg	< 0.92 U	< 1 U	< 1 U	< 2.9 U	< 1.2 U	< 3.6 U
Dimethylphthalate	mg/kg	< 0.89 U	< 1 U	< 1 U	< 2.8 U	< 1.1 U	< 3.4 U
Di-n-butylphthalate	mg/kg	< 1 U	< 1.1 U	< 1.1 U	< 3.1 U	< 1.2 U	< 3.8 U
Di-n-octylphthalate	mg/kg	< 1 U	< 1.1 U	< 1.1 U	< 3.1 U	< 1.2 U	< 3.8 U
Hexachlorobenzene	mg/kg	51	0.15 J	0.21	5.4	< 0.15 U	9.8
Hexachlorobutadiene	mg/kg	< 0.038 U	< 0.043 U	< 0.042 U	< 0.12 U	< 0.048 U	< 0.15 U
Hexachlorocyclopentadiene	mg/kg	< 0.64 U	< 0.72 U	< 0.71 U	< 2 U	< 0.8 U	< 2.5 U
Hexachloroethane	mg/kg	< 0.83 U	< 0.93 U	< 0.93 U	< 2.6 U	< 1 U	< 3.2 U
Isophorone	mg/kg	< 0.96 U	< 1.1 U	< 1.1 U	< 2.9 U	< 1.2 U	< 3.7 U

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-11**	**3-12**	**3-13**	**3-14**	**3-14**	**3-14**
	Sample Date	**19-Nov-15**	**19-Nov-15**	**19-Nov-15**	**03-Nov-15**	**03-Nov-15**	**17-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 5 ft**	**0 - 6 in**
	Sample ID	**3-11-SS-01-111915**	**3-12-SS-01-111915**	**3-13-SS-01-111915**	**3-14-SB-01-0.5-3.5-110315**	**3-14-SB-01-3.5-5-110315**	**3-14-SS-01-111715**
Analyte	**Unit**						
Nitrobenzene	mg/kg	*< 0.78 U*	*< 0.88 U*	*< 0.87 U*	*< 2.4 U*	*< 0.98 U*	*< 3 U*
N-Nitrosodimethylamine	mg/kg	*< 0.99 U*	*< 1.1 U*	*< 1.1 U*	*< 3 U*	*< 1.2 U*	*< 3.8 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 0.86 U*	*< 0.97 U*	*< 0.96 U*	*< 2.7 U*	*< 1.1 U*	*< 3.3 U*
N-Nitrosodiphenylamine	mg/kg	*< 0.88 U*	*< 0.99 U*	*< 0.99 U*	*< 2.7 U*	*< 1.1 U*	*< 3.4 U*
Pentachlorobenzene	mg/kg	1.6 J	*< 0.15 U*	*< 0.15 U*	*< 0.41 UJ*	*< 0.17 UJ*	0.76 J
Pentachlorophenol	mg/kg	*< 0.25 U*	*< 0.28 U*	*< 0.28 U*	*< 0.76 U*	*< 0.31 U*	*< 0.95 U*
Phenol	mg/kg	*< 0.85 U*	*< 0.96 U*	*< 0.95 U*	*< 2.6 U*	*< 1.1 U*	*< 3.3 U*
06-PAHs							
2-Methylnaphthalene	mg/kg	*< 0.0043 U*	*< 0.0022 U*	*< 0.0024 U*	*< 0.052 U*	*< 0.0052 U*	*< 0.083 U*
Acenaphthene	mg/kg	*< 0.0047 U*	*< 0.0024 U*	*< 0.0026 U*	*< 0.057 U*	*< 0.0057 U*	*< 0.09 U*
Acenaphthylene	mg/kg	*< 0.0033 U*	*< 0.0017 U*	*< 0.0018 U*	*< 0.04 U*	*< 0.0040 U*	*< 0.063 U*
Anthracene	mg/kg	*< 0.0039 U*	*< 0.0020 U*	*< 0.0022 U*	*< 0.048 U*	*< 0.0048 U*	*< 0.076 U*
Benzo(a)anthracene	mg/kg	*< 0.0030 U*	*< 0.0015 U*	0.0021 J	0.065 J	*< 0.0037 U*	0.11 J
Benzo(a)pyrene	mg/kg	0.035 J	*< 0.0020 U*	*< 0.0022 U*	0.058 J	*< 0.0048 U*	0.15 J
Benzo(b)fluoranthene	mg/kg	*< 0.0050 U*	*< 0.0026 U*	*< 0.0028 U*	0.11 J	*< 0.0061 U*	0.15 J
Benzo(g,h,i)perylene	mg/kg	*< 0.01 U*	*< 0.0051 U*	*< 0.0055 U*	*< 0.12 U*	*< 0.012 U*	*< 0.19 U*
Benzo(k)fluoranthene	mg/kg	*< 0.0076 U*	*< 0.0039 U*	*< 0.0042 U*	*< 0.092 U*	*< 0.0092 U*	*< 0.15 U*
Chrysene	mg/kg	*< 0.0035 U*	*< 0.0018 U*	0.0025 J	0.14 J	*< 0.0042 U*	0.18 J
Dibenzo(a,h)anthracene	mg/kg	*< 0.012 U*	*< 0.0061 U*	*< 0.0066 U*	*< 0.15 U*	*< 0.015 U*	*< 0.23 U*
Fluoranthene	mg/kg	*< 0.0029 U*	*< 0.0015 U*	0.0020 J	0.065 J	*< 0.0035 U*	0.12 J
Fluorene	mg/kg	*< 0.0049 U*	*< 0.0025 U*	*< 0.0027 U*	*< 0.059 U*	*< 0.0059 U*	*< 0.094 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.0048 U*	*< 0.0024 U*	*< 0.0026 U*	0.063 J	*< 0.0058 U*	0.096 J
Naphthalene	mg/kg	*< 0.0031 U*	*< 0.0016 U*	*< 0.0017 U*	*< 0.037 U*	*< 0.0037 U*	*< 0.059 U*
Phenanthrene	mg/kg	*< 0.0035 U*	*< 0.0018 U*	*< 0.0019 U*	*< 0.05 U*	*< 0.0042 U*	*< 0.08 U*
Pyrene	mg/kg	*< 0.0035 U*	*< 0.0018 U*	*< 0.0019 U*	0.091 J	*< 0.0042 U*	0.13 J
07-VOCs							
1,4-Dioxane	mg/kg	*< 0.045 U*	*< 0.057 U*	*< 0.048 UJ*	*< 0.36 UJ*	*< 0.062 U*	*< 0.24 UJ*
1,1-Dichloroethane	mg/kg	*< 0.00033 U*	*< 0.00042 U*	*< 0.00036 U*	*< 0.0026 U*	*< 0.00046 U*	*< 0.0018 U*
1,1-Dichloroethene	mg/kg	*< 0.00030 U*	*< 0.00038 U*	*< 0.00032 U*	*< 0.0024 U*	*< 0.00042 U*	*< 0.0016 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0010 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0080 UJ*	*< 0.0014 U*	*< 0.0055 UJ*
1,2-Dibromoethane	mg/kg	*< 0.00031 U*	*< 0.00039 U*	*< 0.00033 U*	*< 0.0025 UJ*	*< 0.00043 U*	*< 0.0017 U*
1,2-Dichlorobenzene	mg/kg	*< 0.00073 U*	*< 0.00093 U*	*< 0.00078 U*	*< 0.0058 UJ*	*< 0.0010 U*	*< 0.0040 UJ*
1,2-Dichloroethane	mg/kg	*< 0.00084 U*	*< 0.0011 U*	*< 0.00090 U*	*< 0.0067 U*	*< 0.0012 U*	*< 0.0046 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0010 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0081 U*	*< 0.0014 U*	*< 0.0055 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00044 U*	*< 0.00055 U*	*< 0.00047 U*	*< 0.0035 U*	*< 0.00061 U*	*< 0.0024 U*
1,2-Dichloropropane	mg/kg	*< 0.00069 U*	*< 0.00088 U*	*< 0.00074 U*	*< 0.0055 U*	*< 0.00096 U*	*< 0.0037 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00034 U*	*< 0.00044 U*	*< 0.00037 U*	*< 0.0027 UJ*	*< 0.00048 U*	0.012 J+
cis-1,3-Dichloropropene	mg/kg	*< 0.00073 U*	*< 0.00093 U*	*< 0.00078 U*	*< 0.0058 U*	*< 0.0010 U*	*< 0.0040 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.00086 U*	*< 0.0011 U*	*< 0.00092 U*	*< 0.0068 U*	*< 0.0012 U*	*< 0.0047 U*

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**3-11**	**3-12**	**3-13**	**3-14**	**3-14**	**3-14**
	Sample Date	**19-Nov-15**	**19-Nov-15**	**19-Nov-15**	**03-Nov-15**	**03-Nov-15**	**17-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 5 ft**	**0 - 6 in**
	Sample ID	**3-11-SS-01-111915**	**3-12-SS-01-111915**	**3-13-SS-01-111915**	**3-14-SB-01-0.5-3.5-110315**	**3-14-SB-01-3.5-5-110315**	**3-14-SS-01-111715**
Analyte	**Unit**						
1,4-Dichlorobenzene	mg/kg	*< 0.00089 U*	*< 0.0011 U*	*< 0.00096 U*	*< 0.0071 UJ*	*< 0.0012 U*	0.074 J+
1,1,1-Trichloroethane	mg/kg	*< 0.00041 U*	*< 0.00053 U*	*< 0.00044 U*	*< 0.0033 U*	*< 0.00058 U*	*< 0.0022 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00050 U*	*< 0.00064 U*	*< 0.00054 U*	*< 0.0040 U*	*< 0.00070 U*	*< 0.0027 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	*< 0.00095 U*	*< 0.0012 U*	*< 0.0010 U*	*< 0.0076 U*	*< 0.0013 U*	*< 0.0052 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.00086 U*	*< 0.0011 U*	*< 0.00092 U*	*< 0.0068 UJ*	*< 0.0012 U*	0.0064 J+
1,2,4-Trichlorobenzene	mg/kg	*< 0.00086 U*	*< 0.0011 U*	*< 0.00092 U*	0.016 J+	*< 0.0012 U*	0.033 J+
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.00078 U*	*< 0.00099 U*	*< 0.00083 U*	*< 0.0062 UJ*	*< 0.0011 U*	*< 0.0042 UJ*
2-Butanone	mg/kg	*< 0.0016 U*	*< 0.0020 U*	*< 0.0017 U*	*< 0.013 U*	0.0049 J	*< 0.0087 U*
2-Hexanone	mg/kg	*< 0.00085 U*	*< 0.0011 U*	*< 0.00091 U*	*< 0.0067 U*	*< 0.0012 U*	*< 0.0046 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0011 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0084 U*	*< 0.0015 U*	*< 0.0057 U*
Acetone	mg/kg	*< 0.01 U*	*< 0.011 U*	*< 0.0075 U*	*< 0.013 U*	*< 0.012 U*	*< 0.0087 U*
Benzene	mg/kg	*< 0.00030 U*	*< 0.00038 U*	*< 0.00032 U*	*< 0.0024 U*	*< 0.00042 U*	*< 0.0016 U*
Bromochloromethane	mg/kg	*< 0.0011 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0086 U*	*< 0.0015 U*	*< 0.0059 U*
Bromodichloromethane	mg/kg	*< 0.00061 U*	*< 0.00077 U*	*< 0.00065 U*	*< 0.0048 U*	*< 0.00085 U*	*< 0.0033 U*
Bromoform	mg/kg	*< 0.00046 U*	*< 0.00058 U*	*< 0.00049 U*	*< 0.0036 UJ*	*< 0.00064 U*	*< 0.0025 U*
Bromomethane	mg/kg	*< 0.00099 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0078 U*	*< 0.0014 U*	*< 0.0054 U*
Carbon disulfide	mg/kg	*< 0.00056 U*	*< 0.00071 U*	*< 0.00060 U*	*< 0.0045 U*	*< 0.00079 U*	*< 0.0031 U*
Carbon tetrachloride	mg/kg	*< 0.00061 U*	*< 0.00077 U*	*< 0.00065 U*	*< 0.0048 U*	*< 0.00085 U*	0.0058 J
Chlorobenzene	mg/kg	*< 0.00033 U*	*< 0.00042 U*	*< 0.00036 U*	*< 0.0026 UJ*	*< 0.00046 U*	0.0039 J
Cyclohexane	mg/kg	*< 0.0030 U*	*< 0.0038 U*	*< 0.0032 U*	*< 0.024 U*	*< 0.0042 U*	*< 0.016 U*
Dibromochloromethane	mg/kg	*< 0.00024 U*	*< 0.00031 U*	*< 0.00026 U*	*< 0.0019 UJ*	*< 0.00034 U*	*< 0.0013 U*
Chloroethane	mg/kg	*< 0.00052 U*	*< 0.00066 U*	*< 0.00055 U*	*< 0.0041 U*	*< 0.00072 U*	*< 0.0028 U*
Chloroform	mg/kg	*< 0.00030 U*	*< 0.00038 U*	*< 0.00032 U*	*< 0.0024 U*	*< 0.00042 U*	*< 0.0027 U*
Chloromethane	mg/kg	*< 0.00057 U*	*< 0.00073 U*	*< 0.00061 U*	*< 0.0046 U*	*< 0.00080 U*	*< 0.0031 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0010 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0081 U*	*< 0.0014 U*	*< 0.0055 U*
Ethyl benzene	mg/kg	*< 0.00039 U*	*< 0.00050 U*	*< 0.00042 U*	*< 0.0031 UJ*	*< 0.00054 U*	*< 0.0021 U*
Isopropylbenzene	mg/kg	*< 0.00060 U*	*< 0.00076 U*	*< 0.00064 U*	*< 0.0047 UJ*	*< 0.00083 U*	*< 0.0032 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.00069 U*	*< 0.00088 U*	*< 0.00074 U*	*< 0.0055 U*	*< 0.00096 U*	*< 0.0037 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.00096 U*	*< 0.0012 U*	*< 0.0010 U*	*< 0.0077 U*	*< 0.0013 U*	*< 0.0052 U*
Styrene	mg/kg	*< 0.00036 U*	*< 0.00045 U*	*< 0.00038 U*	*< 0.0028 UJ*	*< 0.00050 U*	*< 0.0019 U*
Tetrachloroethene	mg/kg	*< 0.00070 U*	*< 0.00089 U*	*< 0.00075 U*	*< 0.0056 UJ*	*< 0.00098 U*	0.0050 J
Toluene	mg/kg	*< 0.00070 U*	*< 0.00089 U*	*< 0.00075 U*	*< 0.0056 U*	*< 0.00098 U*	*< 0.0038 U*
Trichloroethene	mg/kg	*< 0.00069 U*	*< 0.00088 U*	*< 0.00074 U*	*< 0.0055 U*	*< 0.00096 U*	*< 0.0037 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00039 U*	*< 0.00050 U*	*< 0.00042 U*	*< 0.0031 U*	*< 0.00054 U*	*< 0.0021 U*
Vinyl chloride	mg/kg	*< 0.00041 U*	*< 0.00053 U*	*< 0.00044 U*	*< 0.0033 U*	*< 0.00058 U*	*< 0.0022 U*
o-Xylene	mg/kg	*< 0.00038 U*	*< 0.00048 U*	*< 0.00040 U*	*< 0.0030 UJ*	*< 0.00053 U*	*< 0.0021 U*
m,p Xylenes	mg/kg	*< 0.00093 U*	*< 0.0012 U*	*< 0.00099 U*	*< 0.0074 UJ*	*< 0.0013 U*	*< 0.0051 U*

Table 5-3
Phase 1A-B RI Analytical Results for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	3-11	3-12	3-13	3-14	3-14	3-14
	Sample Date	19-Nov-15	19-Nov-15	19-Nov-15	03-Nov-15	03-Nov-15	17-Nov-15
	Sample Type	N	N	N	N	N	N
	Depth	0 - 6 in	0 - 6 in	0 - 6 in	0.5 - 3.5 ft	3.5 - 5 ft	0 - 6 in
	Sample ID	3-11-SS-01-111915	3-12-SS-01-111915	3-13-SS-01-111915	3-14-SB-01-0.5-3.5-110315	3-14-SB-01-3.5-5-110315	3-14-SS-01-111715
Analyte	**Unit**						
08-General Solids Parameters							
Perchlorate	mg/kg	*< 0.021 U*	*< 0.022 U*	*< 0.023 U*	*< 0.063 U*	*< 0.024 U*	*< 0.077 U*
Total Organic Carbon	mg/kg	16,000	10,000	11,000	140,000	3,200 J	240,000
pH	pH units	7.64	7.61	7.32	7.42	8.42	7.40
Cyanide, Total	mg/kg	0.28 J	*< 0.23 U*	0.39 J	2.2	*< 0.27 U*	1.4 J
Percent finer than 0.25 millimeters	%	83.1	63.2	77.2	51	91.2	47.8

Notes:

% = percent
Empty cells = Not analyzed
ft = feet
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
VOC = Volatile organic compound
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:

J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Savannah, GA, TestAmerica - Denver, CO, Alpha Woods Hole Laboratories, TestAmerica - St. Louis, MO, GeoStrata.

Table 5-4
Phase 1A-B RI Prevalence Table for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2,3,7,8-TCDD	pg/g	16	12	51	0.23	12	15	1.4	0.29	20	3-06
1,2,3,7,8-PeCDD	pg/g	16	12	99	1.2	33	47	1.2	0.57	120	3-14
1,2,3,4,7,8-HxCDD	pg/g	16	16	580	1.2	86	150	1.7			3-06
1,2,3,6,7,8-HxCDD	pg/g	16	15	670	2.9	150	270	1.4	870	870	3-01
1,2,3,7,8,9-HxCDD	pg/g	16	14	1,200	2.9	240	360	1.6	4.7	290	3-06
1,2,3,4,6,7,8-HpCDD	pg/g	16	16	7,200	19	1,600	2,200	1.4			3-06
OCDD	pg/g	16	16	24,000	75	6,700	9,000	1.4			3-02
2,3,7,8-TCDF	pg/g	16	16	6,700	13	1,200	2,100	1.7			3-06
1,2,3,7,8-PeCDF	pg/g	16	16	29,000	34	4,400	7,900	1.8			3-06
2,3,4,7,8-PeCDF	pg/g	16	16	21,000	16	3,000	6,100	2.0			3-06
1,2,3,4,7,8-HxCDF	pg/g	16	16	130,000	110	20,000	38,000	1.9			3-06
1,2,3,6,7,8-HxCDF	pg/g	16	16	87,000	79	14,000	26,000	1.9			3-06
1,2,3,7,8,9-HxCDF	pg/g	16	16	12,000	8.7	1,800	3,500	1.9			3-06
2,3,4,6,7,8-HxCDF	pg/g	16	15	22,000	25	3,400	6,500	1.8	4,800	4,800	3-06
1,2,3,4,6,7,8-HpCDF	pg/g	16	16	920,000	970	150,000	270,000	1.8			3-06
1,2,3,4,7,8,9-HpCDF	pg/g	16	16	270,000	220	41,000	79,000	1.9			3-06
OCDF	pg/g	16	16	4,100,000	7500	940,000	1,400,000	1.5			3-06
Calculated TEQ (ND=0), Mammalian	pg/g	16	16	48,000	46	7,500	14,000	1.9			3-06
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	16	16	48,000	47	7,500	14,000	1.9			3-06
Calculated TEQ (ND=0), Avian	pg/g	16	16	6,900,000	70	830,000	2,100,000	2.6			3-06
Calculated TEQ (ND=1/2 DL), Avian	pg/g	16	16	6,900,000	500	830,000	2,100,000	2.6			3-06
PCB-77	pg/g	16	14	71,700	31	5,800	18,000	3.3	19	3,400	3-06
PCB-81	pg/g	16	4	14,600	24	3,900	3,700	2.9	3.9	3,400	3-06
PCB-105	pg/g	16	15	21,800	86	5,700	6,500	1.2	300	300	3-06
PCB-107/123	pg/g	3	2	53,400	48400	51,000	29,000	0.85	590	590	3-06
PCB-114	pg/g	16	8	15,000	9.5	2,300	3,700	2.5	7.7	3,400	3-06
PCB-118	pg/g	16	16	48,000	110	14,000	17,000	1.2			3-06
PCB-123	pg/g	13	7	1,600	22	460	510	1.3	11	860	3-11
PCB-126	pg/g	16	9	13,000	15	1,700	3,200	2.3	17	3,400	3-06
PCB-156	pg/g	3	3	40,700	670	26,000	22,000	0.85			3-01
PCB-157	pg/g	3	2	22,500	445	11,000	12,000	1.4	3,400	3,400	3-06
PCB-156/157	pg/g	13	13	7,200	73	2,600	3,100	1.2			3-11
PCB-167	pg/g	16	16	49,600	45	6,600	15,000	2.2			3-01
PCB-169	pg/g	16	4	8,610	8.4	4,100	2,700	2.4	4.9	630	3-06
PCB-189	pg/g	16	16	39,800	33	5,900	12,000	2.1			3-06
Monochlorobiphenyls	mg/kg	16	10	0.00048	0.0000068	0.00017	0.00099	2.0	0.0000050	0.0034	3-14
Dichlorobiphenyls	mg/kg	16	9	0.0414	0.000088	0.0093	0.012	2.3	0.000010	0.000010	3-06
Trichlorobiphenyls	mg/kg	16	16	0.224	0.000023	0.027	0.064	2.4			3-06
Tetrachlorobiphenyls	mg/kg	16	16	0.595	0.00016	0.084	0.17	2.0			3-06
Pentachlorobiphenyls	mg/kg	16	16	0.96	0.00072	0.15	0.29	1.9			3-06
Hexachlorobiphenyls	mg/kg	16	16	1.27	0.0013	0.20	0.40	2.0			3-06
Heptachlorobiphenyls	mg/kg	16	16	1.54	0.0016	0.23	0.50	2.1			3-01
Octachlorobiphenyls	mg/kg	16	16	2.35	0.0019	0.34	0.75	2.2			3-01
Nonachlorobiphenyls	mg/kg	16	16	5.27	0.0047	0.75	1.6	2.2			3-01

Table 5-4
Phase 1A-B RI Prevalence Table for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Decachlorobiphenyl (PCB-209)	mg/kg	16	16	36.8	0.055	4.8	11	2.2			3-01
Total PCBs	mg/kg	16	16	48.5	0.072	6.6	15	2.2			3-01
Total Aluminum	mg/kg	16	16	18,000	3,000	11,000	5,800	0.52			3-09
Total Antimony	mg/kg	16	16	5.5	0.12	1.2	1.5	1.3			3-14
Total Arsenic	mg/kg	16	16	19	4.2	9.4	4.5	0.48			3-06
Total Barium	mg/kg	16	16	560	100	280	120	0.41			3-02
Total Beryllium	mg/kg	16	16	1.4	0.15	0.69	0.42	0.61			3-14
Total Cadmium	mg/kg	16	16	3.4	0.12	0.98	1.1	1.1			3-02
Total Calcium	mg/kg	16	16	190,000	16,000	89,000	51,000	0.58			3-03
Total Chromium	mg/kg	16	16	210	5.1	53	61	1.2			3-14
Total Cobalt	mg/kg	16	16	7.8	1.4	4.6	2.2	0.49			3-09
Total Copper	mg/kg	16	16	870	9.2	170	280	1.7			3-14
Total Iron	mg/kg	16	16	45,000	3,800	22,000	12,000	0.55			3-06
Total Lead	mg/kg	16	16	130	4.1	33	39	1.2			3-14
Total Magnesium	mg/kg	16	16	19,000	8,800	14,000	3,100	0.22			3-09
Total Manganese	mg/kg	16	16	480	79	220	140	0.65			3-09
Total Mercury	mg/kg	16	16	7.6	0.031	1.6	2.7	1.7			3-14
Total Molybdenum	mg/kg	16	16	14	0.55	4.0	4.2	1.1			3-14
Total Nickel	mg/kg	16	16	63	4.7	24	19	0.81			3-14
Total Potassium	mg/kg	16	16	5,400	1,100	3,100	1,500	0.48			3-09
Total Selenium	mg/kg	16	16	4.2	0.12	0.99	1.4	1.4			3-14
Total Silver	mg/kg	16	16	31	0.043	5.6	9.3	1.7			3-14
Total Sodium	mg/kg	16	16	5,100	1,200	2,900	1,200	0.41			3-063-07
Total Thallium	mg/kg	16	13	0.24	0.063	0.17	0.072	0.46	0.051	0.19	3-09
Total Vanadium	mg/kg	16	16	79	12	35	16	0.45			3-06
Total Zinc	mg/kg	16	16	2,300	20	460	670	1.4			3-02
1,1'-Biphenyl	mg/kg	16	0				10	1.4	1.7	36	
1,2,4,5-Tetrachlorobenzene	mg/kg	16	0				1.6	1.4	0.27	5.6	
2,3,4,6-Tetrachlorophenol	mg/kg	16	0				5.3	1.4	0.84	18	
2,4,5-Trichlorophenol	mg/kg	16	0				5.3	1.4	0.85	18	
2,4,6-Trichlorophenol	mg/kg	16	0				0.21	1.2	0.045	0.74	
2,2-Oxybis(1-chloropropane)	mg/kg	16	0				4.9	1.4	0.81	17	
2,4-Dichlorophenol	mg/kg	16	0				5.5	1.4	0.91	19	
2,4-Dimethylphenol	mg/kg	16	0				11	1.4	1.7	36	
2,4-Dinitrophenol	mg/kg	16	0				13	1.3	2.2	46	
2,4-Dinitrotoluene	mg/kg	16	0				5.5	1.4	0.91	19	
2,6-Dinitrotoluene	mg/kg	16	0				6.3	1.4	1.0	21	
2-Chloronaphthalene	mg/kg	16	0				5.1	1.3	0.83	17	
2-Chlorophenol	mg/kg	16	0				5.5	1.4	0.90	19	
2-Methylphenol	mg/kg	16	0				3.6	1.3	0.60	12	
2-Nitroaniline	mg/kg	16	0				5.3	1.3	0.86	18	
2-Nitrophenol	mg/kg	16	0				5.3	1.4	0.84	18	
3,3'-Dichlorobenzidine	mg/kg	16	0				5.9	1.3	0.97	20	

Table 5-4
Phase 1A-B RI Prevalence Table for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
3-Nitroaniline	mg/kg	16	0				11	1.4	1.7	36	
4,6-Dinitro-2-methylphenol	mg/kg	16	0				5.1	1.3	0.83	17	
4-Bromophenyl-phenylether	mg/kg	16	0				5.3	1.3	0.87	18	
4-Chloro-3-methylphenol	mg/kg	16	0				5.9	1.4	0.95	20	
4-Chloroaniline	mg/kg	16	0				3.6	1.3	0.60	12	
4-Chlorophenyl-phenylether	mg/kg	16	0				5.9	1.4	0.96	20	
3 & 4 Methylphenol	mg/kg	16	0				21	1.4	3.4	71	
4-Nitroaniline	mg/kg	16	0				5.5	1.4	0.90	19	
4-Nitrophenol	mg/kg	16	0				18	1.3	2.9	60	
Acetophenone	mg/kg	16	0				1.6	1.4	0.26	5.4	
Benzaldehyde	mg/kg	16	0				10	1.4	1.7	36	
Benzylbutylphthalate	mg/kg	16	0				5.9	1.3	0.98	20	
Bis(2-chloroethoxy)methane	mg/kg	16	0				5.5	1.4	0.90	19	
bis(2-Chloroethyl) ether	mg/kg	16	0				5.1	1.3	0.83	17	
Bis(2-ethylhexyl)phthalate	mg/kg	16	2	28	13	21	8.6	1.2	1.0	21	3-14
Carbazole	mg/kg	16	0				5.9	1.3	0.98	20	
Dibenzofuran	mg/kg	16	0				5.4	1.4	0.88	19	
Diethyl phthalate	mg/kg	16	0				5.6	1.3	0.92	19	
Dimethylphthalate	mg/kg	16	0				5.6	1.4	0.89	19	
Di-n-butylphthalate	mg/kg	16	0				6.1	1.4	1.0	21	
Di-n-octylphthalate	mg/kg	16	0				6.1	1.4	1.0	21	
Hexachlorobenzene	mg/kg	16	15	680	0.039	87	210	2.6	0.15	0.15	3-06
Hexachlorobutadiene	mg/kg	16	0				0.18	1.2	0.038	0.62	
Hexachlorocyclopentadiene	mg/kg	16	0				3.8	1.3	0.64	13	
Hexachloroethane	mg/kg	16	0				5.1	1.3	0.83	17	
Isophorone	mg/kg	16	0				5.9	1.4	0.96	20	
Nitrobenzene	mg/kg	16	0				4.7	1.3	0.78	16	
N-Nitrosodimethylamine	mg/kg	16	0				4.5	1.2	0.99	16	
N-Nitroso-di-n-propylamine	mg/kg	16	0				5.3	1.3	0.86	18	
N-Nitrosodiphenylamine	mg/kg	16	0				5.4	1.4	0.88	19	
Pentachlorobenzene	mg/kg	16	4	53	0.76	24	16	2.6	0.15	1.5	3-06
Pentachlorophenol	mg/kg	16	0				1.1	1.2	0.25	4.0	
Phenol	mg/kg	16	0				5.3	1.4	0.85	18	
2-Methylnaphthalene	mg/kg	16	5	0.015	0.00072	0.0037	0.023	1.6	0.00062	0.083	3-01
Acenaphthene	mg/kg	16	0				0.025	1.6	0.00059	0.090	
Acenaphthylene	mg/kg	16	0				0.017	1.6	0.00042	0.063	
Anthracene	mg/kg	16	1	0.001	0.001	0.0010	0.021	1.6	0.00050	0.076	3-08
Benzo(a)anthracene	mg/kg	16	10	0.11	0.00046	0.025	0.030	1.7	0.00044	0.021	3-14
Benzo(a)pyrene	mg/kg	16	10	0.28	0.00056	0.084	0.093	1.7	0.00057	0.014	3-06
Benzo(b)fluoranthene	mg/kg	16	7	0.15	0.00081	0.052	0.045	1.6	0.00064	0.034	3-14
Benzo(g,h,i)perylene	mg/kg	16	3	0.055	0.0018	0.020	0.053	1.5	0.0013	0.19	3-02
Benzo(k)fluoranthene	mg/kg	16	2	0.027	0.0012	0.014	0.041	1.6	0.00096	0.15	3-01
Chrysene	mg/kg	16	11	0.18	0.00079	0.039	0.054	1.8	0.0018	0.024	3-14

Table 5-4
Phase 1A-B RI Prevalence Table for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Dibenzo(a,h)anthracene	mg/kg	16	0				0.064	1.6	0.0015	0.23	
Fluoranthene	mg/kg	16	10	0.12	0.00058	0.032	0.034	1.5	0.00043	0.020	3-14
Fluorene	mg/kg	16	0				0.026	1.6	0.00062	0.094	
Indeno(1,2,3-cd)pyrene	mg/kg	16	6	0.096	0.00078	0.040	0.028	1.4	0.00061	0.033	3-14
Naphthalene	mg/kg	16	0				0.016	1.6	0.00044	0.059	
Phenanthrene	mg/kg	16	0				0.024	1.4	0.00068	0.080	
Pyrene	mg/kg	16	9	0.13	0.00053	0.041	0.039	1.6	0.00051	0.024	3-14
1,4-Dioxane	mg/kg	16	0				0.088	0.92	0.045	0.36	
1,1-Dichloroethane	mg/kg	16	0				0.00065	0.91	0.00033	0.0026	
1,1-Dichloroethene	mg/kg	16	0				0.00059	0.92	0.00030	0.0024	
1,2-Dibromo-3-chloropropane	mg/kg	16	0				0.0020	0.92	0.0010	0.0080	
1,2-Dibromoethane	mg/kg	16	0				0.00062	0.93	0.00031	0.0025	
1,2-Dichlorobenzene	mg/kg	16	1	0.0044	0.0044	0.0044	0.0016	0.95	0.00073	0.0058	3-02
1,2-Dichloroethane	mg/kg	16	0				0.0017	0.92	0.00084	0.0067	
cis-1,2-Dichloroethene	mg/kg	16	0				0.0020	0.92	0.0010	0.0081	
trans-1,2-Dichloroethene	mg/kg	16	0				0.00087	0.93	0.00044	0.0035	
1,2-Dichloropropane	mg/kg	16	0				0.0014	0.92	0.00069	0.0055	
1,3-Dichlorobenzene	mg/kg	16	3	0.015	0.0087	0.012	0.0047	1.7	0.00034	0.0027	3-02
cis-1,3-Dichloropropene	mg/kg	16	0				0.0014	0.92	0.00073	0.0058	
trans-1,3-Dichloropropene	mg/kg	16	0				0.0017	0.92	0.00086	0.0068	
1,4-Dichlorobenzene	mg/kg	16	4	0.074	0.0023	0.029	0.019	2.3	0.00089	0.0071	3-14
1,1,1-Trichloroethane	mg/kg	16	0				0.00081	0.92	0.00041	0.0033	
1,1,2-Trichloroethane	mg/kg	16	0				0.00099	0.92	0.00050	0.0040	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	16	0				0.0019	0.92	0.00095	0.0076	
1,2,3-Trichlorobenzene	mg/kg	16	1	0.0064	0.0064	0.0064	0.0020	1.00	0.00086	0.0068	3-14
1,2,4-Trichlorobenzene	mg/kg	16	4	0.053	0.0089	0.028	0.015	1.9	0.00086	0.0014	3-01
1,1,2,2-Tetrachloroethane	mg/kg	16	0				0.0015	0.92	0.00078	0.0062	
2-Butanone	mg/kg	16	1	0.0049	0.0049	0.0049	0.0037	0.89	0.0016	0.013	3-14
2-Hexanone	mg/kg	16	0				0.0017	0.92	0.00085	0.0067	
4-Methyl-2-pentanone	mg/kg	16	0				0.0021	0.92	0.0011	0.0084	
Acetone	mg/kg	16	0				0.0063	0.85	0.0018	0.026	
Benzene	mg/kg	16	0				0.00059	0.92	0.00030	0.0024	
Bromochloromethane	mg/kg	16	0				0.0021	0.92	0.0011	0.0086	
Bromodichloromethane	mg/kg	16	0				0.0012	0.92	0.00061	0.0048	
Bromoform	mg/kg	16	0				0.00090	0.91	0.00046	0.0036	
Bromomethane	mg/kg	16	0				0.0019	0.92	0.00099	0.0078	
Carbon disulfide	mg/kg	16	0				0.0011	0.88	0.00056	0.0045	
Carbon tetrachloride	mg/kg	16	1	0.0058	0.0058	0.0058	0.0016	1.1	0.00061	0.0048	3-14
Chlorobenzene	mg/kg	16	1	0.0039	0.0039	0.0039	0.0010	1.2	0.00033	0.0026	3-14
Cyclohexane	mg/kg	16	0				0.0059	0.92	0.0030	0.024	
Dibromochloromethane	mg/kg	16	0				0.00047	0.91	0.00024	0.0019	
Chloroethane	mg/kg	16	0				0.0010	0.92	0.00052	0.0041	
Chloroform	mg/kg	16	0				0.00075	1.1	0.00030	0.0027	

Table 5-4
Phase 1A-B RI Prevalence Table for PRI Area 3
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Chloromethane	mg/kg	16	0				0.0011	0.92	0.00057	0.0046	
Dichlorodifluoromethane (Freon-12)	mg/kg	16	0				0.0020	0.92	0.0010	0.0081	
Ethyl benzene	mg/kg	16	0				0.00077	0.92	0.00039	0.0031	
Isopropylbenzene	mg/kg	16	0				0.0012	0.91	0.00060	0.0047	
Methyl tertbutyl ether (MTBE)	mg/kg	16	0				0.0014	0.92	0.00069	0.0055	
Dichloromethane (Methylene chloride)	mg/kg	16	0				0.0019	0.92	0.00096	0.0077	
Styrene	mg/kg	16	0				0.00069	0.91	0.00036	0.0028	
Tetrachloroethene	mg/kg	16	1	0.005	0.005	0.0050	0.0015	0.98	0.00070	0.0056	3-14
Toluene	mg/kg	16	0				0.0014	0.92	0.00070	0.0056	
Trichloroethene	mg/kg	16	0				0.0014	0.92	0.00069	0.0055	
Trichlorofluoromethane (Freon-11)	mg/kg	16	0				0.00077	0.92	0.00039	0.0031	
Vinyl chloride	mg/kg	16	0				0.00081	0.92	0.00041	0.0033	
o-Xylene	mg/kg	16	0				0.00075	0.92	0.00038	0.0030	
m,p Xylenes	mg/kg	16	0				0.0018	0.92	0.00093	0.0074	
Perchlorate	mg/kg	16	0				0.017	0.49	0.021	0.077	
Total Organic Carbon	mg/kg	16	16	240,000	3,200	51,000	69,000	1.4			3-14
pH	pH units	16	16	8.69	7.24	7.8	0.45	0.057			3-10
Cyanide, Total	mg/kg	16	7	2.2	0.28	0.88	0.54	0.98	0.23	0.31	3-14
Percent finer than 0.25 millimeters	%	16	16	98.1	47.8	80	17	0.21			3-07

Notes:

% = percent
Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-01**	**4-02**	**4-03**	**4-04**	**4-05**	**4-05**	**4-05**	**4-05**	**4-05**
	Sample Date	**19-Oct-15**	**19-Oct-15**	**20-Oct-15**	**23-Oct-15**	**20-Oct-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3 ft**	**3 - 5 ft**	**5 - 7 ft**	**7 - 9 ft**
	Sample ID	**4-01-SS-01-101915**	**4-02-SS-01-101915**	**4-03-SS-01-102015**	**4-04-SS-01-102315**	**4-05-SS-01-102015**	**4-05-SB-01-0.5-3-110915**	**4-05-SB-01-3-5-110915**	**4-05-SB-01-5-7-110915**	**4-05-SB-01-7-9-110915**
Analyte	**Unit**									
01-Dioxins and Furans										
2,3,7,8-TCDD	pg/g	*< 9.1 UQ*	*< 2.1 UQ*	*< 0.68 UQ*	*< 2.1 U*	*< 0.50 U*	2.9 J	*< 7.2 UQ*	8.0 J	*< 0.061 U*
1,2,3,7,8-PeCDD	pg/g	83	28 J	5.0 J	73	7.9 J	18 J	52	61	*< 0.14 U*
1,2,3,4,7,8-HxCDD	pg/g	110	36 J	*< 7.0 UQ*	110	*< 10 UQ*	28 J	71	69	*< 0.17 UQ*
1,2,3,6,7,8-HxCDD	pg/g	410	140	21 J	430	31 J	79	210	200	0.57 J
1,2,3,7,8,9-HxCDD	pg/g	460	180	30 J	560	35 J	90	250	280	0.75 J
1,2,3,4,6,7,8-HpCDD	pg/g	3,100	1,000	180	3,200	280	710	1,600	1,300	3.4 J
OCDD	pg/g	7,200	2,200	640	6,600	1,100	2,200	4,500	3,000	7.9 J
2,3,7,8-TCDF	pg/g	740	240	53	650	75	190	710	860	2.0
1,2,3,7,8-PeCDF	pg/g	5,500	2,000	460	5,800	790	1,700	5,400	5,400	12 J
2,3,4,7,8-PeCDF	pg/g	3,100	1,100	160	3,400	300	650	2,100	2,700	6.4 J
1,2,3,4,7,8-HxCDF	pg/g	21,000	7,100	1,600	22,000	2,800	6,300	21,000	22,000	40 J
1,2,3,6,7,8-HxCDF	pg/g	14,000	5,200	1,300	15,000	2,100	4,800	12,000	12,000	30 J
1,2,3,7,8,9-HxCDF	pg/g	3,000	1,000	270	3,100	360	860	2,500	2,400	5.5 J
2,3,4,6,7,8-HxCDF	pg/g	2,500	970	160	2,800	240	640	1,900	2,400	6.2 J
1,2,3,4,6,7,8-HpCDF	pg/g	120,000	38,000	13,000	110,000	22,000	53,000	130,000	120,000	220
1,2,3,4,7,8,9-HpCDF	pg/g	45,000	15,000	4,400	43,000	7,000	17,000	47,000	43,000	90
OCDF	pg/g	820,000	240,000	140,000	520,000	190,000	470,000	1,100,000 J	690,000 J	1,200
Calculated TEQ (ND=0), Mammalian	pg/g	7,300	2,500	630	7,500	1,000	2,400	6,800	6,900	14
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	7,400	2,500	650	7,500	1,100	2,400	6,800	6,900	14
Calculated TEQ (ND=0), Avian	pg/g	220,000	61,000	43,000	150,000	54,000	240,000	430,000	140,000	1,100
Calculated TEQ (ND=1/2 DL), Avian	pg/g	220,000	61,000	43,000	150,000	54,000	240,000	430,000	140,000	1,100
02-PCBs										
PCB-77	pg/g	511 J	235 J	*< 278 U*	*< 238 U*	*< 276 U*	*< 247 UJ*	*< 281 UJ*	*< 300 UJ*	*< 0.47 U*
PCB-81	pg/g	*< 267 UJ*	*< 230 UJ*	*< 278 UJ*	*< 238 UJ*	*< 276 UJ*	*< 247 U*	*< 281 U*	*< 300 U*	*< 0.44 U*
PCB-105	pg/g	*< 267 U*	*< 230 U*	*< 278 U*	*< 238 U*	*< 276 U*	*< 247 UJ*	*< 281 UJ*	*< 300 UJ*	2.3
PCB-107/123	pg/g	*< 534 U*	*< 459 U*	*< 557 U*	*< 476 U*	*< 551 U*	*< 495 U*	*< 562 U*	*< 599 U*	
PCB-114	pg/g	*< 267 U*	*< 230 U*	*< 278 U*	*< 238 U*	*< 276 U*	*< 247 U*	*< 281 U*	*< 300 U*	1.1 J
PCB-118	pg/g	*< 267 U*	*< 230 U*	*< 278 U*	*< 238 U*	*< 276 U*	*< 247 U*	*< 281 U*	*< 300 U*	3.6
PCB-123	pg/g									0.99 J
PCB-126	pg/g	*< 267 U*	*< 230 U*	*< 278 U*	*< 238 U*	*< 276 U*	*< 247 U*	*< 281 U*	*< 300 U*	*< 0.73 U*
PCB-156	pg/g	595	329 J	*< 278 U*	649	*< 276 U*	*< 247 U*	*< 281 U*	*< 300 U*	
PCB-157	pg/g	*< 267 U*	*< 230 U*	*< 278 U*	*< 238 U*	*< 276 U*	*< 247 U*	*< 281 U*	*< 300 U*	
PCB-156/157	pg/g									4.5 J
PCB-167	pg/g	434 J	408 J	*< 278 U*	276 J	*< 276 U*	*< 247 U*	*< 281 U*	*< 300 U*	*< 0.67 U*
PCB-169	pg/g	*< 267 U*	*< 230 U*	*< 278 U*	*< 238 U*	*< 276 U*	*< 247 U*	*< 281 U*	*< 300 U*	*< 0.81 U*
PCB-189	pg/g	592	515	*< 278 U*	*< 238 U*	299 J	*< 247 U*	*< 281 U*	*< 300 U*	6.3

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-01**	**4-02**	**4-03**	**4-04**	**4-05**	**4-05**	**4-05**	**4-05**	**4-05**
	Sample Date	**19-Oct-15**	**19-Oct-15**	**20-Oct-15**	**23-Oct-15**	**20-Oct-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3 ft**	**3 - 5 ft**	**5 - 7 ft**	**7 - 9 ft**
	Sample ID	**4-01-SS-01-101915**	**4-02-SS-01-101915**	**4-03-SS-01-102015**	**4-04-SS-01-102315**	**4-05-SS-01-102015**	**4-05-SB-01-0.5-3-110915**	**4-05-SB-01-3-5-110915**	**4-05-SB-01-5-7-110915**	**4-05-SB-01-7-9-110915**
Analyte	**Unit**									
Monochlorobiphenyls, Total	mg/kg	*< 0.000267 U*	*< 0.000230 U*	*< 0.000278 U*	*< 0.000238 U*	*< 0.000276 U*	*< 0.000247 U*	*< 0.000281 U*	*< 0.000300 U*	*< 0.0000050 U*
Dichlorobiphenyls, Total	mg/kg	*< 0.000267 U*	*< 0.000230 U*	*< 0.000278 U*	*< 0.000238 U*	*< 0.000276 U*	*< 0.000247 U*	*< 0.000281 U*	*< 0.000300 U*	*< 0.00001 U*
Trichlorobiphenyls, Total	mg/kg	0.00180 J	0.000303 J	*< 0.000278 U*	*< 0.000238 U*	*< 0.000276 U*	*< 0.000247 UJ*	*< 0.000281 UJ*	*< 0.000300 UJ*	0.000018 J
Tetrachlorobiphenyls, Total	mg/kg	0.00749 J	0.00281 J	0.000315 J	0.000543 J	0.000886 J	*< 0.000247 UJ*	*< 0.000281 UJ*	*< 0.000300 UJ*	0.000039
Pentachlorobiphenyls, Total	mg/kg	0.000815 J-	*< 0.000230 UJ*	*< 0.000278 UJ*	*< 0.000238 U*	*< 0.000276 U*	*< 0.000247 UJ*	*< 0.000281 UJ*	*< 0.000300 UJ*	0.000053
Hexachlorobiphenyls, Total	mg/kg	0.0110 J	0.00401	*< 0.000278 U*	0.00520	*< 0.000276 U*	0.000257 J	*< 0.000281 UJ*	*< 0.000300 UJ*	0.000071
Heptachlorobiphenyls, Total	mg/kg	0.0170 J	0.0121	0.000909	0.0148	0.00399	0.00463	0.00382	0.00163	0.00013
Octachlorobiphenyls, Total	mg/kg	0.0309 J	0.0249 J+	0.00358 J+	0.0290	0.0120	0.0158	0.0115	0.00987	0.00029
Nonachlorobiphenyls, Total	mg/kg	0.0729 J	0.0565	0.0144	0.0687	0.0362	0.0472 J	0.0358	0.0339	0.00059
Decachlorobiphenyl (PCB-209)	mg/kg	1.18 J	0.746	0.33 J+	0.639	0.809	1.04 J	0.805	0.59	0.0062
Total PCBs	mg/kg	1.32	0.847	0.349	0.757	0.862	1.11	0.856	0.635	0.0074
03- Metals										
Total Aluminum	mg/kg	700	330	810	600	650	670	2,300	1,900	5,800
Total Antimony	mg/kg	1.7	0.85	2.3	1.4	2.8	3.1 J-	2.6 J-	0.41 J-	0.25 J-
Total Arsenic	mg/kg	23	9.2	17	18	20	24	23	9.3	6.1
Total Barium	mg/kg	87	63	100	35	120	130	210	270	220
Total Beryllium	mg/kg	0.15	0.084 J	0.10 J-	0.11 J-	0.14 J-	0.19	0.19	*< 0.099 U*	0.23
Total Cadmium	mg/kg	*< 0.068 U*	*< 0.054 U*	*< 0.073 U*	*< 0.042 U*	*< 0.067 U*	*< 0.045 U*	*< 0.046 U*	*< 0.084 U*	0.13
Total Calcium	mg/kg	210,000	300,000	240,000	190,000	230,000	230,000	180,000	240,000	110,000
Total Chromium	mg/kg	13	3.6	5.9	6.6	7.0	4.8	12	5.1	6.6
Total Cobalt	mg/kg	1.2	0.75	1.1	1.2	1.3	1.2	1.7	1.1	2.2
Total Copper	mg/kg	2.2	1.4	2.3	2.2	2.3	2.8	4.2	2.6	5.1
Total Iron	mg/kg	46,000	16,000 J	27,000	36,000	29,000	23,000	43,000	17,000	6,100
Total Lead	mg/kg	1.5 J+	0.89 J+	1.4 J+	0.83	1.2 J+	1.1 J+	2.9 J+	3.4 J+	5.3 J+
Total Magnesium	mg/kg	25,000	7,800	7,400	28,000	29,000	18,000	19,000	15,000	15,000
Total Manganese	mg/kg	280	170	240	220	160	270	240	59	160
Total Mercury	mg/kg	0.084	0.029 J	0.070	0.032 J	0.022 J	0.028 J	0.051 J	0.028 J	0.019 J
Total Molybdenum	mg/kg	4.3	1.4	1.8	3.1	2.2	1.9	3.8	2.4	0.26
Total Nickel	mg/kg	8.9	4.4	6.8	7.5	9.1	8.3	7.4	3.0	5.6
Total Potassium	mg/kg	440	*< 110 U*	500	580	390	470	1,000	960	2,200
Total Selenium	mg/kg	0.14 J-	*< 0.11 UJ*	*< 0.15 U*	*< 0.083 U*	*< 0.13 U*	*< 0.089 UJ*	0.18 J-	0.18 J-	0.14 J-
Total Silver	mg/kg	*< 0.041 U*	*< 0.032 U*	*< 0.044 U*	*< 0.025 U*	*< 0.040 U*	*< 0.027 U*	*< 0.028 U*	*< 0.050 U*	0.042 J
Total Sodium	mg/kg	920	330	1,300	1,300	940	890	1,700	2,100	1,500
Total Thallium	mg/kg	0.076 J	*< 0.054 U*	0.082 J	0.045 J	*< 0.067 U*	0.064 J	0.076 J	*< 0.084 U*	0.081 J
Total Vanadium	mg/kg	51	20	32	44	83	42	56	31	14
Total Zinc	mg/kg	7.4 J	8.4	5.2 J-	4.3 J-	4.5 J-	4.5	13	9.5	15
05-SVOCs										
1,1'-Biphenyl	mg/kg	*< 22 U*	*< 18 U*	*< 22 U*	*< 22 U*	*< 21 U*	*< 22 U*	*< 26 U*	*< 27 U*	*< 0.92 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 3.4 U*	*< 2.9 U*	*< 3.5 U*	*< 3.5 U*	*< 3.3 U*	*< 3.4 U*	*< 4.1 U*	*< 4.2 U*	*< 0.14 U*

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-01**	**4-02**	**4-03**	**4-04**	**4-05**	**4-05**	**4-05**	**4-05**	**4-05**
	Sample Date	**19-Oct-15**	**19-Oct-15**	**20-Oct-15**	**23-Oct-15**	**20-Oct-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3 ft**	**3 - 5 ft**	**5 - 7 ft**	**7 - 9 ft**
	Sample ID	**4-01-SS-01-101915**	**4-02-SS-01-101915**	**4-03-SS-01-102015**	**4-04-SS-01-102315**	**4-05-SS-01-102015**	**4-05-SB-01-0.5-3-110915**	**4-05-SB-01-3-5-110915**	**4-05-SB-01-5-7-110915**	**4-05-SB-01-7-9-110915**
Analyte	**Unit**									
2,3,4,6-Tetrachlorophenol	mg/kg	*< 11 U*	*< 9 U*	*< 11 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 0.46 U*
2,4,5-Trichlorophenol	mg/kg	*< 11 U*	*< 9.1 U*	*< 11 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 0.46 U*
2,4,6-Trichlorophenol	mg/kg	*< 0.58 U*	*< 0.48 U*	*< 0.59 U*	*< 0.59 U*	*< 0.55 U*	*< 0.58 U*	*< 0.69 U*	*< 0.71 U*	*< 0.024 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 10 U*	*< 8.7 U*	*< 11 U*	*< 11 U*	*< 9.9 U*	*< 10 U*	*< 12 U*	*< 13 U*	*< 0.44 U*
2,4-Dichlorophenol	mg/kg	*< 12 U*	*< 9.8 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 12 U*	*< 14 U*	*< 14 U*	*< 0.49 U*
2,4-Dimethylphenol	mg/kg	*< 22 U*	*< 18 U*	*< 23 U*	*< 22 U*	*< 21 U*	*< 22 U*	*< 26 U*	*< 27 U*	*< 0.93 U*
2,4-Dinitrophenol	mg/kg	*< 28 U*	*< 24 U*	*< 29 U*	*< 29 U*	*< 27 U*	*< 28 U*	*< 34 U*	*< 35 U*	*< 1.2 U*
2,4-Dinitrotoluene	mg/kg	*< 12 U*	*< 9.8 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 12 U*	*< 14 U*	*< 14 U*	*< 0.49 U*
2,6-Dinitrotoluene	mg/kg	*< 13 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 13 U*	*< 16 U*	*< 16 U*	*< 0.55 U*
2-Chloronaphthalene	mg/kg	*< 11 U*	*< 8.9 U*	*< 11 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 0.45 U*
2-Chlorophenol	mg/kg	*< 12 U*	*< 9.7 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 12 U*	*< 14 U*	*< 14 U*	*< 0.49 U*
2-Methylphenol	mg/kg	*< 7.7 U*	*< 6.4 U*	*< 7.8 U*	*< 7.8 U*	*< 7.3 U*	*< 7.6 U*	*< 9.1 U*	*< 9.4 U*	*< 0.32 U*
2-Nitroaniline	mg/kg	*< 11 U*	*< 9.2 U*	*< 11 U*	*< 11 U*	*< 11 U*	*< 11 U*	*< 13 U*	*< 14 U*	*< 0.47 U*
2-Nitrophenol	mg/kg	*< 11 U*	*< 9 U*	*< 11 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 0.46 U*
3,3'-Dichlorobenzidine	mg/kg	*< 12 U*	*< 10 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 12 U*	*< 15 U*	*< 15 U*	*< 0.52 U*
3-Nitroaniline	mg/kg	*< 22 U*	*< 18 U*	*< 23 U*	*< 22 U*	*< 21 U*	*< 22 U*	*< 26 U*	*< 27 U*	*< 0.93 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 11 U*	*< 8.9 U*	*< 11 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 0.45 U*
4-Bromophenyl-phenylether	mg/kg	*< 11 U*	*< 9.3 U*	*< 11 U*	*< 11 U*	*< 11 U*	*< 11 U*	*< 13 U*	*< 14 U*	*< 0.47 U*
4-Chloro-3-methylphenol	mg/kg	*< 12 U*	*< 10 U*	*< 12 U*	*< 12 U*	*< 12 U*	*< 12 U*	*< 14 U*	*< 15 U*	*< 0.51 U*
4-Chloroaniline	mg/kg	*< 7.7 U*	*< 6.4 U*	*< 7.8 U*	*< 7.8 U*	*< 7.3 U*	*< 7.6 U*	*< 9.1 U*	*< 9.4 U*	*< 0.32 U*
4-Chlorophenyl-phenylether	mg/kg	*< 12 U*	*< 10 U*	*< 13 U*	*< 12 U*	*< 12 U*	*< 12 U*	*< 15 U*	*< 15 U*	*< 0.52 U*
3 & 4 Methylphenol	mg/kg	*< 44 U*	54 J	*< 44 U*	*< 44 U*	*< 41 U*	*< 43 U*	*< 52 U*	*< 53 U*	*< 1.8 U*
4-Nitroaniline	mg/kg	*< 12 U*	*< 9.7 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 12 U*	*< 14 U*	*< 14 U*	*< 0.49 U*
4-Nitrophenol	mg/kg	*< 37 U*	*< 31 U*	*< 38 U*	*< 37 U*	*< 35 U*	*< 37 U*	*< 44 U*	*< 45 U*	*< 1.6 U*
Acetophenone	mg/kg	*< 3.3 U*	*< 5.4 U*	*< 3.4 U*	*< 3.8 U*	*< 3.5 U*	*< 3.3 U*	*< 3.9 U*	*< 4 U*	*< 0.14 U*
Benzaldehyde	mg/kg	*< 22 U*	*< 18 U*	*< 22 U*	*< 22 U*	*< 21 U*	*< 22 U*	*< 26 U*	*< 27 U*	*< 0.92 U*
Benzylbutylphthalate	mg/kg	*< 13 U*	*< 10 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 12 U*	*< 15 U*	*< 15 U*	*< 0.53 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 12 U*	*< 9.7 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 12 U*	*< 14 U*	*< 14 U*	*< 0.49 U*
bis(2-Chloroethyl) ether	mg/kg	*< 11 U*	*< 8.9 U*	*< 11 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 0.45 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 13 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 13 U*	*< 15 U*	*< 16 U*	*< 0.54 U*
Carbazole	mg/kg	*< 13 U*	*< 10 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 12 U*	*< 15 U*	*< 15 U*	*< 0.53 U*
Dibenzofuran	mg/kg	*< 11 U*	*< 9.5 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 11 U*	*< 14 U*	*< 14 U*	*< 0.48 U*
Diethyl phthalate	mg/kg	*< 12 U*	*< 9.9 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 12 U*	*< 14 U*	*< 15 U*	*< 0.5 U*
Dimethylphthalate	mg/kg	*< 12 U*	*< 9.6 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 11 U*	*< 14 U*	*< 14 U*	*< 0.48 U*
Di-n-butylphthalate	mg/kg	*< 13 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 13 U*	*< 15 U*	*< 16 U*	*< 0.54 U*
Di-n-octylphthalate	mg/kg	*< 13 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 13 U*	*< 15 U*	*< 16 U*	*< 0.54 U*
Hexachlorobenzene	mg/kg	21	5.7	4.2	14	5.3	24	42	13	0.11
Hexachlorobutadiene	mg/kg	*< 0.49 U*	*< 0.41 U*	*< 0.5 U*	*< 0.49 U*	*< 0.46 U*	*< 0.49 U*	*< 0.58 U*	*< 0.6 U*	*< 0.021 U*
Hexachlorocyclopentadiene	mg/kg	*< 8.2 U*	*< 6.8 U*	*< 8.4 U*	*< 8.3 U*	*< 7.8 U*	*< 8.1 U*	*< 9.7 U*	*< 10 U*	*< 0.34 U*
Hexachloroethane	mg/kg	*< 11 U*	*< 8.9 U*	*< 11 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 0.45 U*
Isophorone	mg/kg	*< 12 U*	*< 10 U*	*< 13 U*	*< 12 U*	*< 12 U*	*< 12 U*	*< 15 U*	*< 15 U*	*< 0.52 U*

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-01**	**4-02**	**4-03**	**4-04**	**4-05**	**4-05**	**4-05**	**4-05**	**4-05**
	Sample Date	**19-Oct-15**	**19-Oct-15**	**20-Oct-15**	**23-Oct-15**	**20-Oct-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3 ft**	**3 - 5 ft**	**5 - 7 ft**	**7 - 9 ft**
	Sample ID	**4-01-SS-01-101915**	**4-02-SS-01-101915**	**4-03-SS-01-102015**	**4-04-SS-01-102315**	**4-05-SS-01-102015**	**4-05-SB-01-0.5-3-110915**	**4-05-SB-01-3-5-110915**	**4-05-SB-01-5-7-110915**	**4-05-SB-01-7-9-110915**
Analyte	**Unit**									
Nitrobenzene	mg/kg	*< 10 U*	*< 8.4 U*	*< 10 U*	*< 10 U*	*< 9.5 U*	*< 10 U*	*< 12 U*	*< 12 U*	*< 0.42 U*
N-Nitrosodimethylamine	mg/kg	*< 13 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 13 U*	*< 15 U*	*< 16 U*	*< 0.53 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 11 U*	*< 9.2 U*	*< 11 U*	*< 11 U*	*< 11 U*	*< 11 U*	*< 13 U*	*< 14 U*	*< 0.47 U*
N-Nitrosodiphenylamine	mg/kg	*< 11 U*	*< 9.5 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 11 U*	*< 14 U*	*< 14 U*	*< 0.48 U*
Pentachlorobenzene	mg/kg	*< 1.7 U*	*< 1.4 U*	*< 1.8 U*	*< 1.7 U*	*< 1.6 U*	*< 1.7 U*	*< 2 U*	*< 2.1 U*	*< 0.072 U*
Pentachlorophenol	mg/kg	*< 3.2 U*	*< 2.6 U*	*< 3.2 U*	*< 3.2 U*	*< 3 U*	*< 3.1 U*	*< 3.8 U*	*< 3.9 U*	*< 0.13 U*
Phenol	mg/kg	*< 11 U*	*< 9.1 U*	*< 11 U*	*< 11 U*	*< 10 U*	*< 11 U*	*< 13 U*	*< 13 U*	*< 0.46 U*
06-PAHs										
2-Methylnaphthalene	mg/kg	*< 0.0064 U*	*< 0.0045 U*	*< 0.0064 U*	*< 0.0063 U*	*< 0.0061 U*	*< 0.0029 U*	*< 0.0036 U*	*< 0.0039 U*	*< 0.0023 U*
Acenaphthene	mg/kg	*< 0.0070 U*	*< 0.0050 U*	*< 0.0070 U*	*< 0.0069 U*	*< 0.0066 U*	*< 0.0031 U*	*< 0.0040 U*	*< 0.0043 U*	*< 0.0025 U*
Acenaphthylene	mg/kg	*< 0.0049 U*	*< 0.0035 U*	*< 0.0049 U*	*< 0.0048 U*	*< 0.0046 U*	*< 0.0022 U*	*< 0.0028 U*	*< 0.0030 U*	*< 0.0018 U*
Anthracene	mg/kg	*< 0.0059 U*	*< 0.0042 U*	*< 0.0059 U*	*< 0.0058 U*	*< 0.0056 U*	*< 0.0026 U*	*< 0.0034 U*	*< 0.0036 U*	*< 0.0021 U*
Benzo(a)anthracene	mg/kg	*< 0.0045 U*	*< 0.0032 U*	*< 0.0045 U*	*< 0.0044 U*	*< 0.0043 U*	*< 0.0020 U*	*< 0.0026 U*	*< 0.0028 U*	*< 0.0016 U*
Benzo(a)pyrene	mg/kg	*< 0.0060 U*	*< 0.0042 U*	*< 0.0059 U*	*< 0.0059 U*	*< 0.0056 U*	*< 0.0026 U*	0.0057 J	0.0044 J	*< 0.0022 U*
Benzo(b)fluoranthene	mg/kg	*< 0.0076 U*	*< 0.0053 U*	*< 0.0075 U*	*< 0.0074 U*	*< 0.0071 U*	*< 0.0034 U*	*< 0.0043 U*	*< 0.0046 U*	*< 0.0027 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.015 U*	*< 0.011 U*	*< 0.015 U*	*< 0.015 U*	*< 0.014 U*	*< 0.0066 U*	*< 0.0085 U*	*< 0.0091 U*	*< 0.0054 U*
Benzo(k)fluoranthene	mg/kg	*< 0.011 U*	*< 0.0080 U*	*< 0.011 U*	*< 0.011 U*	*< 0.011 U*	*< 0.0050 U*	*< 0.0064 U*	*< 0.0069 U*	*< 0.0041 U*
Chrysene	mg/kg	*< 0.0052 U*	*< 0.0037 U*	*< 0.0052 U*	*< 0.0051 U*	*< 0.0049 U*	*< 0.0023 U*	*< 0.0029 U*	*< 0.0032 U*	*< 0.0019 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.018 U*	*< 0.013 U*	*< 0.018 U*	*< 0.018 U*	*< 0.017 U*	*< 0.0080 U*	*< 0.01 U*	*< 0.011 U*	*< 0.0065 U*
Fluoranthene	mg/kg	*< 0.0044 U*	*< 0.0031 U*	*< 0.0044 U*	*< 0.0043 U*	*< 0.0041 U*	*< 0.0019 U*	*< 0.0025 U*	*< 0.0027 U*	*< 0.0016 U*
Fluorene	mg/kg	*< 0.0073 U*	*< 0.0052 U*	*< 0.0073 U*	*< 0.0072 U*	*< 0.0069 U*	*< 0.0033 U*	*< 0.0042 U*	*< 0.0044 U*	*< 0.0027 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.0072 U*	*< 0.0051 U*	*< 0.0071 U*	*< 0.0070 U*	*< 0.0067 U*	*< 0.0032 U*	*< 0.0041 U*	*< 0.0043 U*	*< 0.0026 U*
Naphthalene	mg/kg	*< 0.0046 U*	*< 0.0032 U*	*< 0.0046 U*	*< 0.0045 U*	*< 0.0043 U*	*< 0.0020 U*	*< 0.0026 U*	*< 0.0028 U*	*< 0.0017 U*
Phenanthrene	mg/kg	*< 0.0052 U*	*< 0.0037 U*	*< 0.0052 U*	*< 0.0051 U*	*< 0.0049 U*	*< 0.0023 U*	*< 0.0030 U*	*< 0.0032 U*	*< 0.0019 U*
Pyrene	mg/kg	*< 0.0052 U*	*< 0.0037 U*	*< 0.0052 U*	*< 0.0051 U*	*< 0.0049 U*	*< 0.0023 U*	*< 0.0030 U*	*< 0.0032 U*	*< 0.0019 U*
07-VOCs										
1,4-Dioxane	mg/kg	*< 0.065 U*	*< 0.047 U*	*< 0.07 U*	*< 0.069 U*	*< 0.054 U*	*< 0.05 U*	*< 0.07 U*	*< 0.095 U*	*< 0.045 UJ*
1,1-Dichloroethane	mg/kg	*< 0.00048 U*	*< 0.00035 U*	*< 0.00052 U*	*< 0.00052 U*	*< 0.00040 U*	*< 0.00037 U*	*< 0.00052 U*	*< 0.00070 U*	*< 0.00033 U*
1,1-Dichloroethene	mg/kg	*< 0.00043 U*	*< 0.00031 U*	*< 0.00046 U*	*< 0.00046 U*	*< 0.00036 U*	*< 0.00033 U*	*< 0.00047 U*	*< 0.00063 U*	*< 0.00030 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0015 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0016 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0021 U*	*< 0.0010 U*
1,2-Dibromoethane	mg/kg	*< 0.00045 U*	*< 0.00033 U*	*< 0.00048 U*	*< 0.00048 U*	*< 0.00037 U*	*< 0.00035 U*	*< 0.00049 U*	*< 0.00066 U*	*< 0.00031 U*
1,2-Dichlorobenzene	mg/kg	*< 0.0011 U*	*< 0.00077 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00089 U*	*< 0.00082 U*	*< 0.0012 U*	*< 0.0016 U*	*< 0.00073 U*
1,2-Dichloroethane	mg/kg	*< 0.0012 U*	*< 0.00088 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.00093 U*	*< 0.0013 U*	*< 0.0018 U*	*< 0.00083 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0015 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0016 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0022 U*	*< 0.0010 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00063 U*	*< 0.00046 U*	*< 0.00068 U*	*< 0.00068 U*	*< 0.00053 U*	*< 0.00049 U*	*< 0.00069 U*	*< 0.00092 U*	*< 0.00043 U*
1,2-Dichloropropane	mg/kg	*< 0.0010 U*	*< 0.00073 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00083 U*	*< 0.00077 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.00068 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00050 U*	*< 0.00036 U*	*< 0.00054 U*	*< 0.00053 U*	*< 0.00042 U*	*< 0.00038 U*	*< 0.00054 U*	*< 0.00073 U*	*< 0.00034 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.0011 U*	*< 0.00077 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00089 U*	*< 0.00082 U*	*< 0.0012 U*	*< 0.0016 U*	*< 0.00073 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0012 U*	*< 0.00091 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.00096 U*	*< 0.0014 U*	*< 0.0018 U*	*< 0.00086 U*

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-01**	**4-02**	**4-03**	**4-04**	**4-05**	**4-05**	**4-05**	**4-05**	**4-05**
	Sample Date	**19-Oct-15**	**19-Oct-15**	**20-Oct-15**	**23-Oct-15**	**20-Oct-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3 ft**	**3 - 5 ft**	**5 - 7 ft**	**7 - 9 ft**
	Sample ID	**4-01-SS-01-101915**	**4-02-SS-01-101915**	**4-03-SS-01-102015**	**4-04-SS-01-102315**	**4-05-SS-01-102015**	**4-05-SB-01-0.5-3-110915**	**4-05-SB-01-3-5-110915**	**4-05-SB-01-5-7-110915**	**4-05-SB-01-7-9-110915**
Analyte	**Unit**									
1,4-Dichlorobenzene	mg/kg	*< 0.0013 U*	*< 0.00094 U*	*< 0.0014 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0014 U*	*< 0.0019 U*	*< 0.00089 U*
1,1,1-Trichloroethane	mg/kg	*< 0.00060 U*	*< 0.00044 U*	*< 0.00064 U*	*< 0.00064 U*	*< 0.00050 U*	*< 0.00046 U*	*< 0.00065 U*	*< 0.00087 U*	*< 0.00041 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00073 U*	*< 0.00053 U*	*< 0.00078 U*	*< 0.00078 U*	*< 0.00061 U*	*< 0.00056 U*	*< 0.00079 U*	*< 0.0011 U*	*< 0.00050 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	*< 0.0014 U*	*< 0.0010 U*	*< 0.0015 U*	*< 0.0015 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.0020 U*	*< 0.00095 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0012 U*	*< 0.00091 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.00096 U*	*< 0.0014 U*	*< 0.0018 U*	*< 0.00086 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0012 U*	*< 0.00091 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.00096 U*	*< 0.0014 U*	*< 0.0018 U*	*< 0.00086 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0011 U*	*< 0.00082 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.00094 U*	*< 0.00087 U*	*< 0.0012 U*	*< 0.0017 U*	*< 0.00078 U*
2-Butanone	mg/kg	*< 0.0023 U*	*< 0.0017 U*	*< 0.0025 U*	*< 0.0025 U*	*< 0.0019 U*	*< 0.0018 U*	*< 0.0025 U*	*< 0.0034 U*	*< 0.0016 U*
2-Hexanone	mg/kg	*< 0.0012 U*	*< 0.00090 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.00095 U*	*< 0.0013 U*	*< 0.0018 U*	*< 0.00084 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0015 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0016 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0017 U*	*< 0.0022 U*	*< 0.0011 U*
Acetone	mg/kg	*< 0.011 U*	*< 0.0017 U*	*< 0.0025 U*	*< 0.0025 U*	*< 0.0019 U*	*< 0.0018 U*	*< 0.0025 U*	*< 0.0062 U*	*< 0.0032 U*
Benzene	mg/kg	*< 0.00043 U*	*< 0.00031 U*	*< 0.00046 U*	*< 0.00046 U*	*< 0.00036 U*	*< 0.00033 U*	*< 0.00047 U*	*< 0.00063 U*	*< 0.00030 U*
Bromochloromethane	mg/kg	*< 0.0016 U*	*< 0.0011 U*	*< 0.0017 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0017 U*	*< 0.0023 U*	*< 0.0011 U*
Bromodichloromethane	mg/kg	*< 0.00088 U*	*< 0.00064 U*	*< 0.0018 U*	*< 0.0044 U*	*< 0.00073 U*	*< 0.0012 U*	*< 0.0042 U*	0.018	*< 0.0013 U*
Bromoform	mg/kg	*< 0.00066 U*	*< 0.00048 U*	0.01	0.031	0.00064 J	0.012	0.022	0.11	0.018
Bromomethane	mg/kg	*< 0.0014 U*	*< 0.0010 U*	*< 0.0015 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0021 U*	*< 0.00098 U*
Carbon disulfide	mg/kg	*< 0.00081 U*	*< 0.00059 U*	*< 0.00087 U*	*< 0.00087 U*	*< 0.00068 U*	*< 0.00063 U*	*< 0.00089 U*	*< 0.0012 U*	*< 0.00056 U*
Carbon tetrachloride	mg/kg	*< 0.00088 U*	*< 0.00064 U*	*< 0.00095 U*	*< 0.00094 U*	*< 0.00073 U*	*< 0.00068 U*	*< 0.00096 U*	*< 0.0013 U*	*< 0.00060 U*
Chlorobenzene	mg/kg	*< 0.00048 U*	*< 0.00035 U*	*< 0.00052 U*	*< 0.00052 U*	*< 0.00040 U*	*< 0.00037 U*	*< 0.00052 U*	*< 0.00070 U*	*< 0.00033 U*
Cyclohexane	mg/kg	*< 0.0044 U*	*< 0.0032 U*	*< 0.0047 U*	*< 0.0047 U*	*< 0.0036 U*	*< 0.0034 U*	*< 0.0048 U*	*< 0.0064 U*	*< 0.0030 U*
Dibromochloromethane	mg/kg	*< 0.00035 U*	*< 0.00025 U*	*< 0.0039 U*	0.011	*< 0.00029 U*	0.0042 J	0.011	0.051	0.0060
Chloroethane	mg/kg	*< 0.00075 U*	*< 0.00054 U*	*< 0.00080 U*	*< 0.00080 U*	*< 0.00062 U*	*< 0.00058 U*	*< 0.00081 U*	*< 0.0011 U*	*< 0.00051 U*
Chloroform	mg/kg	*< 0.00043 U*	*< 0.00031 U*	*< 0.0034 U*	*< 0.0021 U*	*< 0.00036 U*	*< 0.00033 U*	*< 0.00089 U*	*< 0.0057 U*	*< 0.00030 U*
Chloromethane	mg/kg	*< 0.00083 U*	*< 0.00061 U*	*< 0.00089 U*	*< 0.00089 U*	*< 0.00069 U*	*< 0.00064 U*	*< 0.00090 U*	*< 0.0012 U*	*< 0.00057 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0015 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0016 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0022 U*	*< 0.0010 U*
Ethyl benzene	mg/kg	*< 0.00056 U*	*< 0.00041 U*	0.0010 J	*< 0.00060 U*	0.00058 J	*< 0.00043 U*	*< 0.00061 U*	*< 0.00083 U*	*< 0.00039 U*
Isopropylbenzene	mg/kg	*< 0.00086 U*	*< 0.00063 U*	*< 0.00093 U*	*< 0.00092 U*	*< 0.00072 U*	*< 0.00066 U*	*< 0.00094 U*	*< 0.0013 U*	*< 0.00059 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.0010 U*	*< 0.00073 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00083 U*	*< 0.00077 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.00068 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0014 U*	*< 0.0010 U*	*< 0.0015 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.0020 U*	*< 0.00096 U*
Styrene	mg/kg	*< 0.00052 U*	*< 0.00038 U*	*< 0.00055 U*	*< 0.00055 U*	*< 0.00043 U*	*< 0.00040 U*	*< 0.00056 U*	*< 0.00075 U*	*< 0.00035 U*
Tetrachloroethene	mg/kg	*< 0.0010 U*	*< 0.00074 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00085 U*	*< 0.00078 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.00070 U*
Toluene	mg/kg	*< 0.0010 U*	*< 0.00074 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00085 U*	*< 0.00078 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.00070 U*
Trichloroethene	mg/kg	*< 0.0010 U*	*< 0.00073 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.00083 U*	*< 0.00077 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.00068 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00056 U*	*< 0.00041 U*	*< 0.00061 U*	*< 0.00060 U*	*< 0.00047 U*	*< 0.00043 U*	*< 0.00061 U*	*< 0.00083 U*	*< 0.00039 U*
Vinyl chloride	mg/kg	*< 0.00060 U*	*< 0.00044 U*	*< 0.00064 U*	*< 0.00064 U*	*< 0.00050 U*	*< 0.00046 U*	*< 0.00065 U*	*< 0.00087 U*	*< 0.00041 U*
o-Xylene	mg/kg	*< 0.00055 U*	*< 0.00040 U*	0.0016 J	*< 0.00059 U*	0.0010 J	*< 0.00042 U*	*< 0.00060 U*	*< 0.00080 U*	*< 0.00038 U*
m,p Xylenes	mg/kg	*< 0.0013 U*	*< 0.00098 U*	0.0046 J	0.0017 J	0.0027 J	*< 0.0010 U*	*< 0.0015 U*	*< 0.0020 U*	*< 0.00092 U*

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-01**	**4-02**	**4-03**	**4-04**	**4-05**	**4-05**	**4-05**	**4-05**	**4-05**
	Sample Date	**19-Oct-15**	**19-Oct-15**	**20-Oct-15**	**23-Oct-15**	**20-Oct-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**	**09-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3 ft**	**3 - 5 ft**	**5 - 7 ft**	**7 - 9 ft**
	Sample ID	**4-01-SS-01-101915**	**4-02-SS-01-101915**	**4-03-SS-01-102015**	**4-04-SS-01-102315**	**4-05-SS-01-102015**	**4-05-SB-01-0.5-3-110915**	**4-05-SB-01-3-5-110915**	**4-05-SB-01-5-7-110915**	**4-05-SB-01-7-9-110915**
Analyte	**Unit**									
08-General Solids Parameters										
Perchlorate	mg/kg	0.00068 J	*< 0.023 U*	0.0016 J	*< 0.056 U*	0.00073 J	0.00067 J	0.00077 J	0.042 J	*< 0.021 U*
Total Organic Carbon	mg/kg	7,700	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	1,900 J	7,200
pH	pH units	6.90	7.14	7.20	6.99	7.28	6.99	6.80	7.12	7.65
Cyanide, Total	mg/kg	*< 0.28 U*	*< 0.24 U*	*< 0.40 U*	0.99	*< 0.28 U*	*< 0.27 U*	*< 0.32 U*	*< 0.35 U*	*< 0.24 U*
Percent finer than 0.25 millimeters	%	98.1	78	96.5	92	97.4	84	94.8	98.1	85.6

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-06**	**4-07**	**4-08**	**4-09**	**4-10**	**4-11**	**4-12**	**4-13**	**4-14**
	Sample Date	**20-Oct-15**	**20-Oct-15**	**23-Oct-15**	**23-Oct-15**	**21-Oct-15**	**21-Oct-15**	**29-Oct-15**	**29-Oct-15**	**29-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**4-06-SS-01-102015**	**4-07-SS-01-102015**	**4-08-SS-01-102315**	**4-09-SS-01-102315**	**4-10-SS-01-102115**	**4-11-SS-01-102115**	**4-12-SS-01-102915**	**4-13-SS-01-102915**	**4-14-SS-01-102915**
Analyte	**Unit**									
01-Dioxins and Furans										
2,3,7,8-TCDD	pg/g	*< 2.0 UQ*	*< 0.99 U*	*< 1.6 U*	*< 1.3 U*	*< 5.2 UQ*	*< 1.2 U*	*< 8.3 UQ*	4.9 J	*< 5.3 UQ*
1,2,3,7,8-PeCDD	pg/g	19 J	7.9 J	56 J	37 J	49 J	28 J	68	40 J	59 J
1,2,3,4,7,8-HxCDD	pg/g	26 J	12 J	82	*< 53 UQ*	70 J	40 J	120	68 J	100
1,2,3,6,7,8-HxCDD	pg/g	72	31 J	260	190	230	110	420	190	300
1,2,3,7,8,9-HxCDD	pg/g	83	38 J	320	290	270	130	480	230	340
1,2,3,4,6,7,8-HpCDD	pg/g	620	230	2,100	1,500	1,800	950	3,500	1,700	2,500
OCDD	pg/g	2,100	750	5,100	3,400	4,800	3,000	7,800	4,400	6,800
2,3,7,8-TCDF	pg/g	160	68	620	410	450	350	780	450	560
1,2,3,7,8-PeCDF	pg/g	1,500	910	4,500	4,800	4,100	2,800	6,300	3,800	5,400
2,3,4,7,8-PeCDF	pg/g	540	240	2,500	1,900	1,800	1,000	3,600	1,600	2,200
1,2,3,4,7,8-HxCDF	pg/g	5,300	2,800	17,000	15,000	15,000	8,500	29,000	14,000	22,000
1,2,3,6,7,8-HxCDF	pg/g	4,100	2,000	12,000	8,900	11,000	6,700	17,000	10,000	15,000
1,2,3,7,8,9-HxCDF	pg/g	800	400	2,500	1,900	2,300	1,400	3,000	2,200	2,400
2,3,4,6,7,8-HxCDF	pg/g	490	850	2,100	1,500	1,800	830	3,200	1,700	2,400
1,2,3,4,6,7,8-HpCDF	pg/g	39,000	18,000	97,000	70,000	94,000	55,000	170,000	110,000	160,000
1,2,3,4,7,8,9-HpCDF	pg/g	15,000	6,600	39,000	28,000	37,000	22,000	56,000	35,000	49,000
OCDF	pg/g	380,000	150,000	500,000	350,000	580,000	470,000	800,000	780,000	1,200,000 J
Calculated TEQ (ND=0), Mammalian	pg/g	2,000	1,000	6,000	4,700	5,300	3,100	9,300	5,200	7,700
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	2,000	1,000	6,000	4,700	5,300	3,200	9,300	5,200	7,700
Calculated TEQ (ND=0), Avian	pg/g	140,000	150,000	150,000	150,000	270,000	230,000	290,000	390,000	770,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	140,000	150,000	150,000	150,000	270,000	230,000	290,000	390,000	770,000
02-PCBs										
PCB-77	pg/g	*< 261 U*	*< 311 U*	*< 271 U*	*< 250 U*	*< 302 U*	*< 336 U*	*< 158 UJ*	*< 166 UJ*	*< 168 UJ*
PCB-81	pg/g	*< 261 UJ*	*< 311 UJ*	*< 271 UJ*	*< 250 UJ*	*< 302 UJ*	*< 336 UJ*	193 J	*< 166 U*	*< 168 U*
PCB-105	pg/g	*< 261 U*	*< 311 U*	*< 271 U*	*< 250 U*	*< 302 U*	*< 336 U*	318 J	*< 166 UJ*	*< 168 UJ*
PCB-107/123	pg/g	*< 522 U*	*< 622 U*	*< 542 U*	648 J	*< 603 U*	*< 671 U*	983	394 J	465 J
PCB-114	pg/g	*< 261 U*	*< 311 U*	*< 271 U*	*< 250 U*	*< 302 U*	*< 336 U*	274 J	*< 166 U*	*< 168 U*
PCB-118	pg/g	*< 261 U*	*< 311 U*	*< 271 U*	*< 250 U*	*< 302 U*	*< 336 U*	411	*< 166 U*	180 J
PCB-123	pg/g									
PCB-126	pg/g	*< 261 U*	*< 311 U*	*< 271 U*	*< 250 U*	*< 302 U*	*< 336 U*	*< 158 U*	*< 166 U*	*< 168 U*
PCB-156	pg/g	*< 261 U*	*< 311 U*	585	1,010	333 J	*< 336 U*	1,210	603	655
PCB-157	pg/g	*< 261 U*	*< 311 U*	*< 271 U*	*< 250 U*	*< 302 U*	*< 336 U*	390	172 J	168 J
PCB-156/157	pg/g									
PCB-167	pg/g	*< 261 U*	*< 311 U*	496 J	691	548 J	436 J	1,040	445	641
PCB-169	pg/g	*< 261 U*	*< 311 U*	*< 271 U*	*< 250 U*	*< 302 U*	*< 336 U*	*< 158 U*	*< 166 U*	*< 168 U*
PCB-189	pg/g	*< 261 U*	*< 311 U*	641	1,270	759	369 J	1,570	688	1,280

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-06**	**4-07**	**4-08**	**4-09**	**4-10**	**4-11**	**4-12**	**4-13**	**4-14**
	Sample Date	**20-Oct-15**	**20-Oct-15**	**23-Oct-15**	**23-Oct-15**	**21-Oct-15**	**21-Oct-15**	**29-Oct-15**	**29-Oct-15**	**29-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**4-06-SS-01-102015**	**4-07-SS-01-102015**	**4-08-SS-01-102315**	**4-09-SS-01-102315**	**4-10-SS-01-102115**	**4-11-SS-01-102115**	**4-12-SS-01-102915**	**4-13-SS-01-102915**	**4-14-SS-01-102915**
Analyte	**Unit**									
Monochlorobiphenyls, Total	mg/kg	*< 0.000261 U*	*< 0.000311 U*	*< 0.000271 U*	*< 0.000250 U*	*< 0.000302 U*	*< 0.000336 U*	*< 0.000158 U*	*< 0.000166 U*	*< 0.000168 U*
Dichlorobiphenyls, Total	mg/kg	*< 0.000261 U*	*< 0.000311 U*	*< 0.000271 U*	*< 0.000250 U*	*< 0.000302 U*	*< 0.000336 U*	*< 0.000158 U*	0.000175 J	*< 0.000168 U*
Trichlorobiphenyls, Total	mg/kg	*< 0.000261 U*	*< 0.000311 U*	*< 0.000271 U*	0.000271 J	*< 0.000302 U*	*< 0.000336 U*	0.00204 J	0.000635 J	0.000258 J
Tetrachlorobiphenyls, Total	mg/kg	*< 0.000261 UJ*	*< 0.000311 UJ*	*< 0.000271 UJ*	*< 0.000250 UJ*	*< 0.000302 UJ*	0.00243 J	0.00262 J	0.000186 J	0.000206 J
Pentachlorobiphenyls, Total	mg/kg	*< 0.000261 U*	*< 0.000311 U*	0.000373 J	0.00175	*< 0.000302 U*	0.000354 J	0.00961 J	0.00198 J	0.00255 J
Hexachlorobiphenyls, Total	mg/kg	*< 0.000261 U*	*< 0.000311 U*	0.00437	0.0182	0.00397	0.00202 J+	0.0245 J	0.00826 J	0.0110 J
Heptachlorobiphenyls, Total	mg/kg	0.000412 J	0.000739	0.0116	0.0341	0.0179	0.00902	0.0381	0.0166	0.0236
Octachlorobiphenyls, Total	mg/kg	0.00428	0.00382	0.0255	0.0612	0.0393	0.0213	0.0718 J	0.0379 J	0.0529 J
Nonachlorobiphenyls, Total	mg/kg	0.0165	0.0135	0.0666	0.158	0.11	0.0592	0.169 J	0.0964 J	0.151 J
Decachlorobiphenyl (PCB-209)	mg/kg	0.397 J+	0.318 J+	0.707	1.49	1.67	1.79	1.64 J	1.73 J	2.9 J
Total PCBs	mg/kg	0.418	0.336	0.815	1.76	1.84	1.88	1.96	1.89	3.14
03- Metals										
Total Aluminum	mg/kg	540	910	380	470	500	350	480	590	850
Total Antimony	mg/kg	1.8	4.2	1.3	1.2	1.8	1.2	1.8 J-	8.5 J-	2.5 J-
Total Arsenic	mg/kg	17	19	18	13	18	16	23	20	30
Total Barium	mg/kg	88	74	32	53	110	77	58	58	88
Total Beryllium	mg/kg	0.097 J-	0.13 J-	0.10 J-	0.080 J-	0.12 J-	0.13 J-	0.13	0.14	0.22
Total Cadmium	mg/kg	*< 0.066 U*	*< 0.047 U*	*< 0.041 U*	*< 0.035 U*	*< 0.045 U*	*< 0.049 U*	*< 0.039 U*	*< 0.041 U*	*< 0.043 U*
Total Calcium	mg/kg	250,000	190,000	180,000	220,000	190,000	220,000	190,000	180,000	160,000
Total Chromium	mg/kg	11	9.1	7.7	6.5	5.4	4.1	11	8.2	8.5
Total Cobalt	mg/kg	1.0	1.8	0.91	1.0	0.94	0.73	1.2	1.1	1.5
Total Copper	mg/kg	2.4	2.8	1.9	1.8	1.8	1.5	2.4	2.4	3.0
Total Iron	mg/kg	43,000	32,000	43,000	29,000	38,000	33,000	54,000	45,000	49,000
Total Lead	mg/kg	1.1 J+	1.2 J+	0.91	0.99	1.0 J+	0.66 J+	1.2 J+	0.93 J+	1.4 J+
Total Magnesium	mg/kg	17,000	12,000	22,000	17,000	24,000	21,000	24,000	19,000	21,000
Total Manganese	mg/kg	200	480	220	180	210	120	260 J	270 J	340 J
Total Mercury	mg/kg	0.050	0.053 J	0.067	0.031 J	0.056 J	0.068	0.24	0.064	0.089
Total Molybdenum	mg/kg	2.3	2.0	3.1	2.2	2.3	1.7	4.6	3.2	2.9
Total Nickel	mg/kg	7.1	9.2	7.2	6.4	7.6	4.7	9.7	8.4	13
Total Potassium	mg/kg	260	820	390	350	420	760	590	780	870
Total Selenium	mg/kg	*< 0.13 U*	0.10 J	0.082 J	*< 0.069 U*	0.093 J	*< 0.099 U*	0.15 J-	0.11 J-	0.18 J-
Total Silver	mg/kg	*< 0.039 U*	*< 0.028 U*	*< 0.024 U*	*< 0.021 U*	*< 0.027 U*	*< 0.030 U*	*< 0.024 U*	*< 0.025 U*	*< 0.026 U*
Total Sodium	mg/kg	1,200	4,200	1,400	980	1,500	3,600	2,000	3,100	2,800
Total Thallium	mg/kg	*< 0.066 U*	0.077 J	0.041 J	0.045 J	0.053 J	0.049 J	0.073 J	0.049 J	0.087
Total Vanadium	mg/kg	31	35	51	34	45	26	77	56	89
Total Zinc	mg/kg	5.6 J-	4.3 J-	4.0 J-	3.6 J-	3.7 J-	3.5 J-	13 J-	6.0 J-	5.2 J-
05-SVOCs										
1,1'-Biphenyl	mg/kg	*< 21 U*	*< 26 U*	*< 25 U*	*< 24 U*	*< 23 U*	*< 27 U*	*< 25 U*	*< 25 U*	*< 27 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 3.3 U*	*< 4.1 U*	*< 4 U*	*< 3.8 U*	*< 3.7 U*	*< 4.3 U*	*< 3.9 U*	*< 3.9 U*	*< 4.3 U*

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-06**	**4-07**	**4-08**	**4-09**	**4-10**	**4-11**	**4-12**	**4-13**	**4-14**
	Sample Date	**20-Oct-15**	**20-Oct-15**	**23-Oct-15**	**23-Oct-15**	**21-Oct-15**	**21-Oct-15**	**29-Oct-15**	**29-Oct-15**	**29-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**4-06-SS-01-102015**	**4-07-SS-01-102015**	**4-08-SS-01-102315**	**4-09-SS-01-102315**	**4-10-SS-01-102115**	**4-11-SS-01-102115**	**4-12-SS-01-102915**	**4-13-SS-01-102915**	**4-14-SS-01-102915**
Analyte	**Unit**									
2,3,4,6-Tetrachlorophenol	mg/kg	< 11 U	< 13 U	< 12 U	< 12 U	< 12 U	< 14 U	< 12 U	< 12 U	< 14 U
2,4,5-Trichlorophenol	mg/kg	< 11 U	< 13 U	< 13 U	< 12 U	< 12 U	< 14 U	< 13 U	< 12 U	< 14 U
2,4,6-Trichlorophenol	mg/kg	< 0.56 U	< 0.69 U	< 0.67 U	< 0.64 U	< 0.62 U	< 0.73 U	< 0.67 U	< 0.66 U	< 0.73 U
2,2-Oxybis(1-chloropropane)	mg/kg	< 10 U	< 12 U	< 12 U	< 11 U	< 11 U	< 13 U	< 12 U	< 12 U	< 13 U
2,4-Dichlorophenol	mg/kg	< 11 U	< 14 U	< 14 U	< 13 U	< 13 U	< 15 U	< 14 U	< 13 U	< 15 U
2,4-Dimethylphenol	mg/kg	< 21 U	< 26 U	< 25 U	< 24 U	< 24 U	< 28 U	< 25 U	< 25 U	< 28 U
2,4-Dinitrophenol	mg/kg	< 27 U	< 33 U	< 33 U	< 31 U	< 30 U	< 35 U	< 33 U	< 32 U	< 36 U
2,4-Dinitrotoluene	mg/kg	< 11 U	< 14 U	< 14 U	< 13 U	< 13 U	< 15 U	< 14 U	< 13 U	< 15 U
2,6-Dinitrotoluene	mg/kg	< 13 U	< 15 U	< 15 U	< 14 U	< 14 U	< 16 U	< 15 U	< 15 U	< 16 U
2-Chloronaphthalene	mg/kg	< 10 U	< 13 U	< 12 U	< 12 U	< 11 U	< 13 U	< 12 U	< 12 U	< 13 U
2-Chlorophenol	mg/kg	< 11 U	< 14 U	< 13 U	< 13 U	< 12 U	< 15 U	< 13 U	< 13 U	< 15 U
2-Methylphenol	mg/kg	< 7.4 U	< 9.1 U	< 8.8 U	< 8.4 U	< 8.2 U	< 9.6 U	< 8.8 U	< 8.7 U	< 9.6 U
2-Nitroaniline	mg/kg	< 11 U	< 13 U	< 13 U	< 12 U	< 12 U	< 14 U	< 13 U	< 13 U	< 14 U
2-Nitrophenol	mg/kg	< 11 U	< 13 U	< 12 U	< 12 U	< 12 U	< 14 U	< 12 U	< 12 U	< 14 U
3,3'-Dichlorobenzidine	mg/kg	< 12 U	< 15 U	< 14 U	< 14 U	< 13 U	< 16 U	< 14 U	< 14 U	< 16 U
3-Nitroaniline	mg/kg	< 21 U	< 26 U	< 25 U	< 24 U	< 24 U	< 28 U	< 25 U	< 25 U	< 28 U
4,6-Dinitro-2-methylphenol	mg/kg	< 10 U	< 13 U	< 12 U	< 12 U	< 11 U	< 13 U	< 12 U	< 12 U	< 13 U
4-Bromophenyl-phenylether	mg/kg	< 11 U	< 13 U	< 13 U	< 12 U	< 12 U	< 14 U	< 13 U	< 13 U	< 14 U
4-Chloro-3-methylphenol	mg/kg	< 12 U	< 14 U	< 14 U	< 13 U	< 13 U	< 15 U	< 14 U	< 14 U	< 15 U
4-Chloroaniline	mg/kg	< 7.4 U	< 9.1 U	< 8.8 U	< 8.4 U	< 8.2 U	< 9.6 U	< 8.8 U	< 8.7 U	< 9.6 U
4-Chlorophenyl-phenylether	mg/kg	< 12 U	< 15 U	< 14 U	< 14 U	< 13 U	< 15 U	< 14 U	< 14 U	< 15 U
3 & 4 Methylphenol	mg/kg	< 42 U	77 J	< 50 U	< 48 U	< 47 U	< 55 U	< 50 U	< 50 U	< 55 U
4-Nitroaniline	mg/kg	< 11 U	< 14 U	< 13 U	< 13 U	< 12 U	< 15 U	< 13 U	< 13 U	< 15 U
4-Nitrophenol	mg/kg	< 36 U	< 44 U	< 43 U	< 41 U	< 40 U	< 46 U	< 43 U	< 42 U	< 46 U
Acetophenone	mg/kg	< 3.2 U	< 3.9 U	< 3.8 U	< 4.4 U	< 3.5 U	< 4.1 U	< 3.8 U	< 3.8 U	< 4.1 U
Benzaldehyde	mg/kg	< 21 U	< 26 U	< 25 U	< 24 U	< 23 U	< 27 U	< 25 U	< 25 U	< 27 U
Benzylbutylphthalate	mg/kg	< 12 U	< 15 U	< 14 U	< 14 U	< 13 U	< 16 U	< 14 U	< 14 U	< 16 U
Bis(2-chloroethoxy)methane	mg/kg	< 11 U	< 14 U	< 13 U	< 13 U	< 12 U	< 15 U	< 13 U	< 13 U	< 15 U
bis(2-Chloroethyl) ether	mg/kg	< 10 U	< 13 U	< 12 U	< 12 U	< 11 U	< 13 U	< 12 U	< 12 U	< 13 U
Bis(2-ethylhexyl)phthalate	mg/kg	< 13 U	< 15 U	< 15 U	< 14 U	< 14 U	< 16 U	< 15 U	< 15 U	< 16 U
Carbazole	mg/kg	< 12 U	< 15 U	< 14 U	< 14 U	< 13 U	< 16 U	< 14 U	< 14 U	< 16 U
Dibenzofuran	mg/kg	< 11 U	< 13 U	< 13 U	< 13 U	< 12 U	< 14 U	< 13 U	< 13 U	< 14 U
Diethyl phthalate	mg/kg	< 12 U	< 14 U	< 14 U	< 13 U	< 13 U	< 15 U	< 14 U	< 14 U	< 15 U
Dimethylphthalate	mg/kg	< 11 U	< 14 U	< 13 U	< 13 U	< 12 U	< 14 U	< 13 U	< 13 U	< 14 U
Di-n-butylphthalate	mg/kg	< 12 U	< 15 U	< 15 U	< 14 U	< 14 U	< 16 U	< 15 U	< 15 U	< 16 U
Di-n-octylphthalate	mg/kg	< 12 U	< 15 U	< 15 U	< 14 U	< 14 U	< 16 U	< 15 U	< 15 U	< 16 U
Hexachlorobenzene	mg/kg	14	15	14	14	26	23	28	38	76
Hexachlorobutadiene	mg/kg	< 0.47 U	< 0.58 U	< 0.56 U	< 0.54 U	< 0.52 U	< 0.61 U	< 0.56 U	< 0.56 U	< 0.61 U
Hexachlorocyclopentadiene	mg/kg	< 8 U	< 9.7 U	< 9.4 U	< 9 U	< 8.8 U	< 10 U	< 9.4 U	< 9.3 U	< 10 U
Hexachloroethane	mg/kg	< 10 U	< 13 U	< 12 U	< 12 U	< 11 U	< 13 U	< 12 U	< 12 U	< 13 U
Isophorone	mg/kg	< 12 U	< 15 U	< 14 U	< 14 U	< 13 U	< 15 U	< 14 U	< 14 U	< 15 U

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-06**	**4-07**	**4-08**	**4-09**	**4-10**	**4-11**	**4-12**	**4-13**	**4-14**
	Sample Date	**20-Oct-15**	**20-Oct-15**	**23-Oct-15**	**23-Oct-15**	**21-Oct-15**	**21-Oct-15**	**29-Oct-15**	**29-Oct-15**	**29-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**4-06-SS-01-102015**	**4-07-SS-01-102015**	**4-08-SS-01-102315**	**4-09-SS-01-102315**	**4-10-SS-01-102115**	**4-11-SS-01-102115**	**4-12-SS-01-102915**	**4-13-SS-01-102915**	**4-14-SS-01-102915**
Analyte	**Unit**									
Nitrobenzene	mg/kg	*< 9.7 U*	*< 12 U*	*< 12 U*	*< 11 U*	*< 11 U*	*< 13 U*	*< 12 U*	*< 11 U*	*< 13 U*
N-Nitrosodimethylamine	mg/kg	*< 12 U*	*< 15 U*	*< 15 U*	*< 14 U*	*< 14 U*	*< 16 U*	*< 15 U*	*< 14 U*	*< 16 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 11 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 12 U*	*< 14 U*	*< 13 U*	*< 13 U*	*< 14 U*
N-Nitrosodiphenylamine	mg/kg	*< 11 U*	*< 13 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 14 U*	*< 13 U*	*< 13 U*	*< 14 U*
Pentachlorobenzene	mg/kg	*< 1.7 U*	*< 2 U*	*< 2 U*	*< 1.9 U*	*< 1.8 U*	*< 2.2 U*	*< 2 U*	*< 2 U*	*< 2.2 U*
Pentachlorophenol	mg/kg	*< 3.1 U*	*< 3.8 U*	*< 3.7 U*	*< 3.5 U*	*< 3.4 U*	*< 4 U*	*< 3.6 U*	*< 3.6 U*	*< 4 U*
Phenol	mg/kg	*< 11 U*	*< 13 U*	*< 13 U*	*< 12 U*	*< 12 U*	*< 14 U*	*< 13 U*	*< 12 U*	*< 14 U*
06-PAHs										
2-Methylnaphthalene	mg/kg	*< 0.0054 U*	*< 0.0067 U*	*< 0.0064 U*	*< 0.0060 U*	*< 0.0068 U*	*< 0.0071 U*	*< 0.0072 U*	*< 0.0069 U*	*< 0.0066 U*
Acenaphthene	mg/kg	*< 0.0059 U*	*< 0.0074 U*	*< 0.0070 U*	*< 0.0066 U*	*< 0.0074 U*	*< 0.0077 U*	*< 0.0079 U*	*< 0.0075 U*	*< 0.0072 U*
Acenaphthylene	mg/kg	*< 0.0041 U*	*< 0.0052 U*	*< 0.0049 U*	*< 0.0046 U*	*< 0.0052 U*	*< 0.0054 U*	*< 0.0055 U*	*< 0.0053 U*	*< 0.0051 U*
Anthracene	mg/kg	*< 0.0049 U*	*< 0.0062 U*	*< 0.0059 U*	*< 0.0055 U*	*< 0.0062 U*	*< 0.0065 U*	*< 0.0066 U*	*< 0.0063 U*	*< 0.0061 U*
Benzo(a)anthracene	mg/kg	*< 0.0038 U*	*< 0.0048 U*	*< 0.0045 U*	*< 0.0042 U*	*< 0.0048 U*	*< 0.0050 U*	*< 0.0051 U*	*< 0.0049 U*	*< 0.0047 U*
Benzo(a)pyrene	mg/kg	0.012 J	*< 0.0063 U*	*< 0.0059 U*	*< 0.0056 U*	0.0067 J	*< 0.0065 U*	0.0067 J	*< 0.0064 U*	0.0095 J
Benzo(b)fluoranthene	mg/kg	*< 0.0063 U*	*< 0.0079 U*	*< 0.0075 U*	*< 0.0070 U*	*< 0.0080 U*	*< 0.0083 U*	*< 0.0085 U*	*< 0.0081 U*	*< 0.0078 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.012 U*	*< 0.016 U*	*< 0.015 U*	*< 0.014 U*	*< 0.016 U*	*< 0.016 U*	*< 0.017 U*	*< 0.016 U*	*< 0.015 U*
Benzo(k)fluoranthene	mg/kg	*< 0.0095 U*	*< 0.012 U*	*< 0.011 U*	*< 0.011 U*	*< 0.012 U*	*< 0.012 U*	*< 0.013 U*	*< 0.012 U*	*< 0.012 U*
Chrysene	mg/kg	*< 0.0043 U*	*< 0.0054 U*	*< 0.0052 U*	*< 0.0048 U*	*< 0.0055 U*	*< 0.0057 U*	*< 0.0058 U*	*< 0.0056 U*	*< 0.0053 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.015 U*	*< 0.019 U*	*< 0.018 U*	*< 0.017 U*	*< 0.019 U*	*< 0.02 U*	*< 0.02 U*	*< 0.019 U*	*< 0.018 U*
Fluoranthene	mg/kg	*< 0.0036 U*	*< 0.0046 U*	*< 0.0044 U*	*< 0.0041 U*	*< 0.0046 U*	*< 0.0048 U*	*< 0.0049 U*	*< 0.0047 U*	*< 0.0045 U*
Fluorene	mg/kg	*< 0.0061 U*	*< 0.0077 U*	*< 0.0073 U*	*< 0.0068 U*	*< 0.0077 U*	*< 0.0080 U*	*< 0.0082 U*	*< 0.0078 U*	*< 0.0076 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.0060 U*	*< 0.0075 U*	*< 0.0071 U*	*< 0.0067 U*	*< 0.0076 U*	*< 0.0079 U*	*< 0.0080 U*	*< 0.0077 U*	*< 0.0074 U*
Naphthalene	mg/kg	*< 0.0038 U*	*< 0.0048 U*	*< 0.0046 U*	*< 0.0043 U*	*< 0.0048 U*	*< 0.0050 U*	*< 0.0051 U*	*< 0.0049 U*	*< 0.0047 U*
Phenanthrene	mg/kg	*< 0.0044 U*	*< 0.0055 U*	*< 0.0052 U*	*< 0.0049 U*	*< 0.0055 U*	*< 0.0057 U*	*< 0.0059 U*	*< 0.0056 U*	*< 0.0054 U*
Pyrene	mg/kg	*< 0.0044 U*	*< 0.0055 U*	*< 0.0052 U*	*< 0.0049 U*	*< 0.0055 U*	*< 0.0057 U*	*< 0.0059 U*	*< 0.0056 U*	*< 0.0054 U*
07-VOCs										
1,4-Dioxane	mg/kg	*< 0.063 U*	*< 0.083 U*	*< 0.071 U*	*< 0.066 U*	*< 0.078 U*	*< 0.084 U*	*< 0.098 U*	*< 0.087 U*	*< 0.095 U*
1,1-Dichloroethane	mg/kg	*< 0.00047 U*	*< 0.00061 U*	*< 0.00053 U*	*< 0.00049 U*	*< 0.00058 U*	*< 0.00063 U*	*< 0.00073 U*	*< 0.00065 U*	*< 0.00071 U*
1,1-Dichloroethene	mg/kg	*< 0.00042 U*	*< 0.00055 U*	*< 0.00048 U*	*< 0.00044 U*	*< 0.00052 U*	*< 0.00056 U*	0.00082 J	*< 0.00058 U*	*< 0.00064 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0014 U*	*< 0.0019 U*	*< 0.0016 U*	*< 0.0015 U*	*< 0.0018 U*	*< 0.0019 U*	*< 0.0022 U*	*< 0.0020 U*	*< 0.0022 U*
1,2-Dibromoethane	mg/kg	*< 0.00043 U*	*< 0.00057 U*	*< 0.00049 U*	*< 0.00046 U*	*< 0.00054 U*	*< 0.00058 U*	*< 0.00068 U*	*< 0.00060 U*	*< 0.00066 U*
1,2-Dichlorobenzene	mg/kg	*< 0.0010 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0016 U*	*< 0.0014 U*	*< 0.0016 U*
1,2-Dichloroethane	mg/kg	*< 0.0012 U*	*< 0.0015 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0015 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0016 U*	*< 0.0018 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0014 U*	*< 0.0019 U*	*< 0.0016 U*	*< 0.0015 U*	*< 0.0018 U*	*< 0.0019 U*	*< 0.0022 U*	*< 0.0020 U*	*< 0.0022 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00061 U*	*< 0.00081 U*	*< 0.00070 U*	*< 0.00064 U*	*< 0.00076 U*	*< 0.00082 U*	*< 0.00095 U*	*< 0.00085 U*	*< 0.00093 U*
1,2-Dichloropropane	mg/kg	*< 0.00096 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0013 U*	*< 0.0015 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00048 U*	*< 0.00064 U*	*< 0.00055 U*	*< 0.00051 U*	*< 0.00060 U*	*< 0.00065 U*	*< 0.00075 U*	*< 0.00067 U*	*< 0.00073 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.0010 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0016 U*	*< 0.0014 U*	*< 0.0016 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0012 U*	*< 0.0016 U*	*< 0.0014 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0016 U*	*< 0.0019 U*	*< 0.0017 U*	*< 0.0018 U*

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**4-06**	**4-07**	**4-08**	**4-09**	**4-10**	**4-11**	**4-12**	**4-13**	**4-14**
	Sample Date	**20-Oct-15**	**20-Oct-15**	**23-Oct-15**	**23-Oct-15**	**21-Oct-15**	**21-Oct-15**	**29-Oct-15**	**29-Oct-15**	**29-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**4-06-SS-01-102015**	**4-07-SS-01-102015**	**4-08-SS-01-102315**	**4-09-SS-01-102315**	**4-10-SS-01-102115**	**4-11-SS-01-102115**	**4-12-SS-01-102915**	**4-13-SS-01-102915**	**4-14-SS-01-102915**
Analyte	**Unit**									
1,4-Dichlorobenzene	mg/kg	*< 0.0013 U*	*< 0.0017 U*	*< 0.0014 U*	*< 0.0013 U*	*< 0.0016 U*	*< 0.0017 U*	*< 0.0020 U*	*< 0.0017 U*	*< 0.0019 U*
1,1,1-Trichloroethane	mg/kg	*< 0.00058 U*	*< 0.00076 U*	*< 0.00066 U*	*< 0.00061 U*	*< 0.00072 U*	*< 0.00078 U*	*< 0.00090 U*	*< 0.00081 U*	*< 0.00088 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00071 U*	*< 0.00093 U*	*< 0.00081 U*	*< 0.00074 U*	*< 0.00088 U*	*< 0.00095 U*	*< 0.0011 U*	*< 0.00099 U*	*< 0.0011 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	*< 0.0013 U*	*< 0.0018 U*	*< 0.0015 U*	*< 0.0014 U*	*< 0.0017 U*	*< 0.0018 U*	*< 0.0021 U*	*< 0.0019 U*	*< 0.0020 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0012 U*	*< 0.0016 U*	*< 0.0014 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0016 U*	*< 0.0019 U*	*< 0.0017 U*	*< 0.0018 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0012 U*	*< 0.0016 U*	*< 0.0014 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0016 U*	*< 0.0019 U*	*< 0.0017 U*	*< 0.0018 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0011 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0017 U*	*< 0.0015 U*	*< 0.0017 U*
2-Butanone	mg/kg	*< 0.0022 U*	*< 0.0041 U*	0.0045 J	*< 0.0024 U*	*< 0.0028 U*	*< 0.0053 U*	0.01 J	0.011 J	0.0047 J
2-Hexanone	mg/kg	*< 0.0012 U*	*< 0.0016 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0015 U*	*< 0.0016 U*	*< 0.0019 U*	*< 0.0017 U*	*< 0.0018 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0015 U*	*< 0.0020 U*	*< 0.0017 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0020 U*	*< 0.0023 U*	*< 0.0021 U*	*< 0.0023 U*
Acetone	mg/kg	*< 0.0086 U*	*< 0.011 U*	*< 0.022 U*	*< 0.0077 U*	*< 0.013 U*	*< 0.02 U*	0.092	0.061	*< 0.024 U*
Benzene	mg/kg	*< 0.00042 U*	*< 0.00055 U*	*< 0.00048 U*	*< 0.00044 U*	*< 0.00052 U*	*< 0.00056 U*	*< 0.00065 U*	*< 0.00058 U*	*< 0.00064 U*
Bromochloromethane	mg/kg	*< 0.0015 U*	*< 0.0020 U*	*< 0.0017 U*	*< 0.0016 U*	*< 0.0019 U*	*< 0.0020 U*	*< 0.0024 U*	*< 0.0021 U*	*< 0.0023 U*
Bromodichloromethane	mg/kg	*< 0.00085 U*	*< 0.0011 U*	*< 0.0058 U*	*< 0.00089 U*	*< 0.0025 U*	*< 0.0012 U*	0.16	0.042	*< 0.0064 U*
Bromoform	mg/kg	0.0028 J	0.0044 J	0.054	0.018	0.026	0.011	0.27	0.27	0.018
Bromomethane	mg/kg	*< 0.0014 U*	*< 0.0018 U*	*< 0.0016 U*	*< 0.0015 U*	*< 0.0017 U*	*< 0.0019 U*	*< 0.0022 U*	*< 0.0019 U*	*< 0.0021 U*
Carbon disulfide	mg/kg	*< 0.00079 U*	*< 0.0010 U*	*< 0.00090 U*	*< 0.00083 U*	*< 0.00098 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0012 U*
Carbon tetrachloride	mg/kg	*< 0.00085 U*	*< 0.0011 U*	*< 0.00097 U*	*< 0.00089 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0013 U*
Chlorobenzene	mg/kg	*< 0.00047 U*	*< 0.00061 U*	*< 0.00053 U*	*< 0.00049 U*	*< 0.00058 U*	*< 0.00063 U*	*< 0.00073 U*	*< 0.00065 U*	*< 0.00071 U*
Cyclohexane	mg/kg	*< 0.0042 U*	*< 0.0056 U*	*< 0.0048 U*	*< 0.0044 U*	*< 0.0052 U*	*< 0.0057 U*	*< 0.0066 U*	*< 0.0059 U*	*< 0.0064 U*
Dibromochloromethane	mg/kg	*< 0.00082 U*	*< 0.0012 U*	0.019	*< 0.0035 U*	0.01	*< 0.0031 U*	0.19	0.12	0.01 J
Chloroethane	mg/kg	*< 0.00072 U*	*< 0.00095 U*	*< 0.00082 U*	*< 0.00076 U*	*< 0.00090 U*	*< 0.00097 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0011 U*
Chloroform	mg/kg	*< 0.00042 U*	*< 0.00055 U*	*< 0.0014 U*	*< 0.00044 U*	*< 0.00068 U*	*< 0.00060 U*	0.082	0.018	0.013
Chloromethane	mg/kg	*< 0.00080 U*	*< 0.0011 U*	*< 0.00092 U*	*< 0.00084 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0025 U*	*< 0.0014 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0014 U*	*< 0.0019 U*	*< 0.0016 U*	*< 0.0015 U*	*< 0.0018 U*	*< 0.0019 U*	*< 0.0022 U*	*< 0.0020 U*	*< 0.0022 U*
Ethyl benzene	mg/kg	0.00056 J	0.00090 J	*< 0.00062 U*	*< 0.00057 U*	*< 0.00068 U*	0.00078 J	*< 0.00085 U*	*< 0.00076 U*	*< 0.00083 U*
Isopropylbenzene	mg/kg	*< 0.00083 U*	*< 0.0011 U*	*< 0.00095 U*	*< 0.00088 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0013 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.00096 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0013 U*	*< 0.0015 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0013 U*	*< 0.0018 U*	*< 0.0015 U*	*< 0.0014 U*	*< 0.0017 U*	*< 0.0018 U*	*< 0.0021 U*	*< 0.0019 U*	*< 0.0021 U*
Styrene	mg/kg	*< 0.00050 U*	*< 0.00066 U*	*< 0.00057 U*	*< 0.00052 U*	*< 0.00062 U*	*< 0.00067 U*	*< 0.00078 U*	*< 0.00069 U*	*< 0.00076 U*
Tetrachloroethene	mg/kg	*< 0.00098 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0015 U*	0.0072 J	*< 0.0015 U*
Toluene	mg/kg	*< 0.00098 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0014 U*	*< 0.0015 U*
Trichloroethene	mg/kg	*< 0.00096 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.0013 U*	0.0032 J	*< 0.0013 U*	*< 0.0015 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00055 U*	*< 0.00072 U*	*< 0.00062 U*	*< 0.00057 U*	*< 0.00068 U*	*< 0.00074 U*	*< 0.00085 U*	*< 0.00076 U*	*< 0.00083 U*
Vinyl chloride	mg/kg	*< 0.00058 U*	*< 0.00076 U*	*< 0.00066 U*	*< 0.00061 U*	*< 0.00072 U*	*< 0.00078 U*	*< 0.00090 U*	*< 0.00081 U*	*< 0.00088 U*
o-Xylene	mg/kg	0.00091 J	0.0013 J	0.00084 J	0.00059 J	0.0010 J	0.0015 J	*< 0.00083 U*	*< 0.00074 U*	*< 0.00081 U*
m,p Xylenes	mg/kg	0.0024 J	0.0037 J	0.0023 J	0.0018 J	0.0027 J	0.0037 J	*< 0.0020 U*	*< 0.0018 U*	*< 0.0020 U*

Table 5-5
Phase 1A-B RI Analytical Results for PRI Area 4
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US Magnesium LLC
Tooele County, Utah

	Location ID	**4-06**	**4-07**	**4-08**	**4-09**	**4-10**	**4-11**	**4-12**	**4-13**	**4-14**
	Sample Date	**20-Oct-15**	**20-Oct-15**	**23-Oct-15**	**23-Oct-15**	**21-Oct-15**	**21-Oct-15**	**29-Oct-15**	**29-Oct-15**	**29-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**4-06-SS-01-102015**	**4-07-SS-01-102015**	**4-08-SS-01-102315**	**4-09-SS-01-102315**	**4-10-SS-01-102115**	**4-11-SS-01-102115**	**4-12-SS-01-102915**	**4-13-SS-01-102915**	**4-14-SS-01-102915**
Analyte	**Unit**									
08-General Solids Parameters										
Perchlorate	mg/kg	0.0011 J	0.00051 J	0.00082 J	0.00047 J	0.0011 J	0.0010 J	0.0011 J	0.0013 J	0.0016 J
Total Organic Carbon	mg/kg	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*
pH	pH units	6.83	6.67	6.71	6.63	6.82	6.44	6.12	6.11	6.42
Cyanide, Total	mg/kg	*< 0.31 U*	*< 0.50 U*	*< 0.33 U*	*< 0.38 U*	*< 0.32 U*	*< 0.57 U*	*< 0.33 U*	*< 0.32 U*	*< 0.34 U*
Percent finer than 0.25 millimeters	%	96.5	97.2	99.8	89.4	98.4	94.9	93.8	99.4	98.7

Notes:

% = percent
Empty cells = Not analyzed
ft = feet
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
VOC = Volatile organic compound
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:

J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Savannah, GA, TestAmerica - Denver, CO, Alpha Woods Hole Laboratories, TestAmerica - St. Louis, MO, GeoStrata.

Table 5-6
Phase 1A-B RI Prevalence Table for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2,3,7,8-TCDD	pg/g	18	3	8	2.9	5.3	3.0	0.85	0.061	9.1	4-05
1,2,3,7,8-PeCDD	pg/g	18	17	83	5	41	26	0.66	0.14	0.14	4-01
1,2,3,4,7,8-HxCDD	pg/g	18	14	120	12	67	38	0.68	0.17	53	4-12
1,2,3,6,7,8-HxCDD	pg/g	18	18	430	0.57	180	140	0.75			4-04
1,2,3,7,8,9-HxCDD	pg/g	18	18	560	0.75	230	170	0.74			4-04
1,2,3,4,6,7,8-HpCDD	pg/g	18	18	3,500	3.4	1,500	1,100	0.74			4-12
OCDD	pg/g	18	18	7,800	7.9	3,600	2,400	0.66			4-12
2,3,7,8-TCDF	pg/g	18	18	860	2	410	280	0.68			4-05
1,2,3,7,8-PeCDF	pg/g	18	18	6,300	12	3,400	2,100	0.62			4-12
2,3,4,7,8-PeCDF	pg/g	18	18	3,600	6.4	1,600	1,200	0.73			4-12
1,2,3,4,7,8-HxCDF	pg/g	18	18	29,000	40	13,000	8,800	0.68			4-12
1,2,3,6,7,8-HxCDF	pg/g	18	18	17,000	30	8,500	5,300	0.63			4-12
1,2,3,7,8,9-HxCDF	pg/g	18	18	3,100	5.5	1,700	1,100	0.62			4-04
2,3,4,6,7,8-HxCDF	pg/g	18	18	3,200	6.2	1,500	980	0.67			4-12
1,2,3,4,6,7,8-HpCDF	pg/g	18	18	170,000	220	79,000	52,000	0.66			4-12
1,2,3,4,7,8,9-HpCDF	pg/g	18	18	56,000	90	28,000	18,000	0.62			4-12
OCDF	pg/g	18	18	1,200,000	1,200	520,000	330,000	0.63			4-14
Calculated TEQ (ND=0), Mammalian	pg/g	18	18	9,300	14	4,400	2,900	0.65			4-12
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	18	18	9,300	14	4,400	2,900	0.65			4-12
Calculated TEQ (ND=0), Avian	pg/g	18	18	770,000	1,100	220,000	180,000	0.83			4-14
Calculated TEQ (ND=1/2 DL), Avian	pg/g	18	18	770,000	1,100	220,000	180,000	0.83			4-14
PCB-77	pg/g	18	2	511	235	370	100	0.39	0.47	340	4-01
PCB-81	pg/g	18	1	193	193	190	76	0.31	0.44	340	4-12
PCB-105	pg/g	18	2	318	2.3	160	77	0.31	170	340	4-12
PCB-107/123	pg/g	17	4	983	394	620	130	0.23	460	670	4-12
PCB-114	pg/g	18	2	274	1.1	140	75	0.30	170	340	4-12
PCB-118	pg/g	18	3	411	3.6	200	83	0.33	170	340	4-12
PCB-123	pg/g	1	1	0.99	0.99	0.99					4-05
PCB-126	pg/g	18	0				78	0.32	0.73	340	
PCB-156	pg/g	17	9	1,210	329	660	280	0.58	250	340	4-12
PCB-157	pg/g	17	3	390	168	240	54	0.20	230	340	4-12
PCB-156/157	pg/g	1	1	4.5	4.5	4.5					4-05
PCB-167	pg/g	18	10	1,040	276	540	230	0.55	0.67	310	4-12
PCB-169	pg/g	18	0				78	0.32	0.81	340	
PCB-189	pg/g	18	11	1,570	6.3	730	430	0.78	240	310	4-12
Monochlorobiphenyls	mg/kg	18	0				0.000077	0.32	0.0000050	0.00034	
Dichlorobiphenyls	mg/kg	18	1	0.000175	0.000175	0.00018	0.000076	0.31	0.000010	0.00034	4-13
Trichlorobiphenyls	mg/kg	18	7	0.00204	0.000018	0.00076	0.00054	1.2	0.00024	0.00034	4-12
Tetrachlorobiphenyls	mg/kg	18	10	0.00749	0.000039	0.0018	0.0018	1.7	0.00025	0.00031	4-01
Pentachlorobiphenyls	mg/kg	18	8	0.00961	0.000053	0.0022	0.0022	2.0	0.00023	0.00031	4-12
Hexachlorobiphenyls	mg/kg	18	12	0.0245	0.000071	0.0077	0.0070	1.3	0.00026	0.00031	4-12
Heptachlorobiphenyls	mg/kg	18	18	0.0381	0.00013	0.012	0.011	0.97			4-12
Octachlorobiphenyls	mg/kg	18	18	0.0718	0.00029	0.025	0.021	0.82			4-12
Nonachlorobiphenyls	mg/kg	18	18	0.169	0.00059	0.067	0.051	0.76			4-12

Table 5-6
Phase 1A-B RI Prevalence Table for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Decachlorobiphenyl (PCB-209)	mg/kg	18	18	2.9	0.0062	1.0	0.71	0.68			4-14
Total PCBs	mg/kg	18	18	3.14	0.0074	1.2	0.79	0.68			4-14
Total Aluminum	mg/kg	18	18	5,800	330	1,000	1,300	1.2			4-05
Total Antimony	mg/kg	18	18	8.5	0.25	2.2	1.8	0.84			4-13
Total Arsenic	mg/kg	18	18	30	6.1	18	5.9	0.33			4-14
Total Barium	mg/kg	18	18	270	32	100	66	0.63			4-05
Total Beryllium	mg/kg	18	17	0.23	0.08	0.14	0.045	0.33	0.099	0.099	4-05
Total Cadmium	mg/kg	18	1	0.13	0.13	0.13	0.023	0.41	0.035	0.084	4-05
Total Calcium	mg/kg	18	18	300,000	110,000	210,000	41,000	0.20			4-02
Total Chromium	mg/kg	18	18	13	3.6	7.6	2.8	0.36			4-01
Total Cobalt	mg/kg	18	18	2.2	0.73	1.2	0.37	0.31			4-05
Total Copper	mg/kg	18	18	5.1	1.4	2.5	0.91	0.36			4-05
Total Iron	mg/kg	18	18	54,000	6,100	34,000	13,000	0.38			4-12
Total Lead	mg/kg	18	18	5.3	0.66	1.6	1.2	0.75			4-05
Total Magnesium	mg/kg	18	18	29,000	7,400	19,000	6,100	0.32			4-05
Total Manganese	mg/kg	18	18	480	59	230	91	0.40			4-07
Total Mercury	mg/kg	18	18	0.24	0.019	0.060	0.050	0.83			4-12
Total Molybdenum	mg/kg	18	18	4.6	0.26	2.5	1.1	0.42			4-12
Total Nickel	mg/kg	18	18	13	3	7.5	2.3	0.30			4-14
Total Potassium	mg/kg	18	17	2,200	260	690	460	0.69	110	110	4-05
Total Selenium	mg/kg	18	10	0.18	0.082	0.14	0.036	0.29	0.069	0.15	4-054-14
Total Silver	mg/kg	18	1	0.042	0.042	0.042	0.0085	0.27	0.021	0.050	4-05
Total Sodium	mg/kg	18	18	4200	330	1,800	1,000	0.59			4-07
Total Thallium	mg/kg	18	14	0.087	0.041	0.064	0.015	0.24	0.054	0.084	4-14
Total Vanadium	mg/kg	18	18	89	14	45	21	0.46			4-14
Total Zinc	mg/kg	18	18	15	3.5	6.7	3.6	0.54			4-05
1,1'-Biphenyl	mg/kg	18	0				5.9	0.26	0.92	27	
1,2,4,5-Tetrachlorobenzene	mg/kg	18	0				0.94	0.26	0.14	4.3	
2,3,4,6-Tetrachlorophenol	mg/kg	18	0				3.0	0.27	0.46	14	
2,4,5-Trichlorophenol	mg/kg	18	0				3.0	0.27	0.46	14	
2,4,6-Trichlorophenol	mg/kg	18	0				0.16	0.27	0.024	0.73	
2,2-Oxybis(1-chloropropane)	mg/kg	18	0				2.8	0.27	0.44	13	
2,4-Dichlorophenol	mg/kg	18	0				3.3	0.27	0.49	15	
2,4-Dimethylphenol	mg/kg	18	0				6.0	0.27	0.93	28	
2,4-Dinitrophenol	mg/kg	18	0				7.7	0.26	1.2	36	
2,4-Dinitrotoluene	mg/kg	18	0				3.3	0.27	0.49	15	
2,6-Dinitrotoluene	mg/kg	18	0				3.5	0.26	0.55	16	
2-Chloronaphthalene	mg/kg	18	0				2.9	0.26	0.45	13	
2-Chlorophenol	mg/kg	18	0				3.2	0.27	0.49	15	
2-Methylphenol	mg/kg	18	0				2.1	0.26	0.32	9.6	
2-Nitroaniline	mg/kg	18	0				3.1	0.27	0.47	14	
2-Nitrophenol	mg/kg	18	0				3.0	0.27	0.46	14	
3,3'-Dichlorobenzidine	mg/kg	18	0				3.4	0.27	0.52	16	

Table 5-6
Phase 1A-B RI Prevalence Table for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
3-Nitroaniline	mg/kg	18	0				6.0	0.27	0.93	28	
4,6-Dinitro-2-methylphenol	mg/kg	18	0				2.9	0.26	0.45	13	
4-Bromophenyl-phenylether	mg/kg	18	0				3.1	0.27	0.47	14	
4-Chloro-3-methylphenol	mg/kg	18	0				3.3	0.26	0.51	15	
4-Chloroaniline	mg/kg	18	0				2.1	0.26	0.32	9.6	
4-Chlorophenyl-phenylether	mg/kg	18	0				3.4	0.27	0.52	15	
3 & 4 Methylphenol	mg/kg	18	2	77	54	66	14	0.30	1.8	55	4-07
4-Nitroaniline	mg/kg	18	0				3.2	0.27	0.49	15	
4-Nitrophenol	mg/kg	18	0				10	0.26	1.6	46	
Acetophenone	mg/kg	18	0				1.0	0.28	0.14	5.4	
Benzaldehyde	mg/kg	18	0				5.9	0.26	0.92	27	
Benzylbutylphthalate	mg/kg	18	0				3.4	0.27	0.53	16	
Bis(2-chloroethoxy)methane	mg/kg	18	0				3.2	0.27	0.49	15	
bis(2-Chloroethyl) ether	mg/kg	18	0				2.9	0.26	0.45	13	
Bis(2-ethylhexyl)phthalate	mg/kg	18	0				3.5	0.26	0.54	16	
Carbazole	mg/kg	18	0				3.4	0.27	0.53	16	
Dibenzofuran	mg/kg	18	0				3.1	0.26	0.48	14	
Diethyl phthalate	mg/kg	18	0				3.3	0.27	0.50	15	
Dimethylphthalate	mg/kg	18	0				3.1	0.26	0.48	14	
Di-n-butylphthalate	mg/kg	18	0				3.5	0.26	0.54	16	
Di-n-octylphthalate	mg/kg	18	0				3.5	0.26	0.54	16	
Hexachlorobenzene	mg/kg	18	18	76	0.11	21	18	0.85			4-14
Hexachlorobutadiene	mg/kg	18	0				0.13	0.26	0.021	0.61	
Hexachlorocyclopentadiene	mg/kg	18	0				2.2	0.26	0.34	10	
Hexachloroethane	mg/kg	18	0				2.9	0.26	0.45	13	
Isophorone	mg/kg	18	0				3.4	0.27	0.52	15	
Nitrobenzene	mg/kg	18	0				2.8	0.27	0.42	13	
N-Nitrosodimethylamine	mg/kg	18	0				3.5	0.26	0.53	16	
N-Nitroso-di-n-propylamine	mg/kg	18	0				3.1	0.27	0.47	14	
N-Nitrosodiphenylamine	mg/kg	18	0				3.1	0.26	0.48	14	
Pentachlorobenzene	mg/kg	18	0				0.47	0.27	0.072	2.2	
Pentachlorophenol	mg/kg	18	0				0.87	0.27	0.13	4.0	
Phenol	mg/kg	18	0				3.0	0.27	0.46	14	
2-Methylnaphthalene	mg/kg	18	0				0.0015	0.27	0.0023	0.0072	
Acenaphthene	mg/kg	18	0				0.0017	0.27	0.0025	0.0079	
Acenaphthylene	mg/kg	18	0				0.0012	0.27	0.0018	0.0055	
Anthracene	mg/kg	18	0				0.0014	0.27	0.0021	0.0066	
Benzo(a)anthracene	mg/kg	18	0				0.0011	0.27	0.0016	0.0051	
Benzo(a)pyrene	mg/kg	18	6	0.012	0.0044	0.0075	0.0022	0.37	0.0022	0.0065	4-06
Benzo(b)fluoranthene	mg/kg	18	0				0.0018	0.27	0.0027	0.0085	
Benzo(g,h,i)perylene	mg/kg	18	0				0.0035	0.27	0.0054	0.017	
Benzo(k)fluoranthene	mg/kg	18	0				0.0027	0.27	0.0041	0.013	
Chrysene	mg/kg	18	0				0.0012	0.27	0.0019	0.0058	

Table 5-6
Phase 1A-B RI Prevalence Table for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Dibenzo(a,h)anthracene	mg/kg	18	0				0.0042	0.27	0.0065	0.020	
Fluoranthene	mg/kg	18	0				0.0010	0.27	0.0016	0.0049	
Fluorene	mg/kg	18	0				0.0017	0.27	0.0027	0.0082	
Indeno(1,2,3-cd)pyrene	mg/kg	18	0				0.0017	0.27	0.0026	0.0080	
Naphthalene	mg/kg	18	0				0.0011	0.27	0.0017	0.0051	
Phenanthrene	mg/kg	18	0				0.0012	0.27	0.0019	0.0059	
Pyrene	mg/kg	18	0				0.0012	0.27	0.0019	0.0059	
1,4-Dioxane	mg/kg	18	0				0.016	0.23	0.045	0.098	
1,1-Dichloroethane	mg/kg	18	0				0.00012	0.23	0.00033	0.00073	
1,1-Dichloroethene	mg/kg	18	1	0.00082	0.00082	0.00082	0.00013	0.27	0.00030	0.00064	4-12
1,2-Dibromo-3-chloropropane	mg/kg	18	0				0.00038	0.23	0.0010	0.0022	
1,2-Dibromoethane	mg/kg	18	0				0.00011	0.23	0.00031	0.00068	
1,2-Dichlorobenzene	mg/kg	18	0				0.00028	0.24	0.00073	0.0016	
1,2-Dichloroethane	mg/kg	18	0				0.00031	0.23	0.00083	0.0018	
cis-1,2-Dichloroethene	mg/kg	18	0				0.00039	0.24	0.0010	0.0022	
trans-1,2-Dichloroethene	mg/kg	18	0				0.00016	0.23	0.00043	0.00095	
1,2-Dichloropropane	mg/kg	18	0				0.00026	0.23	0.00068	0.0015	
1,3-Dichlorobenzene	mg/kg	18	0				0.00013	0.23	0.00034	0.00075	
cis-1,3-Dichloropropene	mg/kg	18	0				0.00028	0.24	0.00073	0.0016	
trans-1,3-Dichloropropene	mg/kg	18	0				0.00032	0.23	0.00086	0.0019	
1,4-Dichlorobenzene	mg/kg	18	0				0.00033	0.23	0.00089	0.0020	
1,1,1-Trichloroethane	mg/kg	18	0				0.00015	0.23	0.00041	0.00090	
1,1,2-Trichloroethane	mg/kg	18	0				0.00019	0.24	0.00050	0.0011	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	18	0				0.00036	0.23	0.00095	0.0021	
1,2,3-Trichlorobenzene	mg/kg	18	0				0.00032	0.23	0.00086	0.0019	
1,2,4-Trichlorobenzene	mg/kg	18	0				0.00032	0.23	0.00086	0.0019	
1,1,2,2-Tetrachloroethane	mg/kg	18	0				0.00030	0.24	0.00078	0.0017	
2-Butanone	mg/kg	18	4	0.011	0.0045	0.0076	0.0027	0.72	0.0016	0.0053	4-13
2-Hexanone	mg/kg	18	0				0.00033	0.24	0.00084	0.0019	
4-Methyl-2-pentanone	mg/kg	18	0				0.00039	0.23	0.0011	0.0023	
Acetone	mg/kg	18	2	0.092	0.061	0.077	0.024	1.5	0.0017	0.024	4-12
Benzene	mg/kg	18	0				0.00011	0.23	0.00030	0.00065	
Bromochloromethane	mg/kg	18	0				0.00040	0.23	0.0011	0.0024	
Bromodichloromethane	mg/kg	18	3	0.16	0.018	0.073	0.038	2.7	0.00064	0.0064	4-12
Bromoform	mg/kg	18	16	0.27	0.00064	0.055	0.084	1.7	0.00048	0.00066	4-124-13
Bromomethane	mg/kg	18	0				0.00037	0.23	0.00098	0.0022	
Carbon disulfide	mg/kg	18	0				0.00021	0.23	0.00056	0.0012	
Carbon tetrachloride	mg/kg	18	0				0.00022	0.23	0.00060	0.0013	
Chlorobenzene	mg/kg	18	0				0.00012	0.23	0.00033	0.00073	
Cyclohexane	mg/kg	18	0				0.0011	0.23	0.0030	0.0066	
Dibromochloromethane	mg/kg	18	10	0.19	0.0042	0.043	0.050	2.0	0.00025	0.0039	4-12
Chloroethane	mg/kg	18	0				0.00019	0.23	0.00051	0.0011	
Chloroform	mg/kg	18	3	0.082	0.013	0.038	0.019	2.7	0.00030	0.0057	4-12

Table 5-6
Phase 1A-B RI Prevalence Table for PRI Area 4
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Chloromethane	mg/kg	18	0				0.00045	0.44	0.00057	0.0025	
Dichlorodifluoromethane (Freon-12)	mg/kg	18	0				0.00039	0.24	0.0010	0.0022	
Ethyl benzene	mg/kg	18	5	0.001	0.00056	0.00076	0.00018	0.26	0.00039	0.00085	4-03
Isopropylbenzene	mg/kg	18	0				0.00023	0.24	0.00059	0.0013	
Methyl tertbutyl ether (MTBE)	mg/kg	18	0				0.00026	0.23	0.00068	0.0015	
Dichloromethane (Methylene chloride)	mg/kg	18	0				0.00036	0.23	0.00096	0.0021	
Styrene	mg/kg	18	0				0.00013	0.23	0.00035	0.00078	
Tetrachloroethene	mg/kg	18	1	0.0072	0.0072	0.0072	0.0015	1.0	0.00070	0.0015	4-13
Toluene	mg/kg	18	0				0.00026	0.23	0.00070	0.0015	
Trichloroethene	mg/kg	18	1	0.0032	0.0032	0.0032	0.00055	0.46	0.00068	0.0015	4-12
Trichlorofluoromethane (Freon-11)	mg/kg	18	0				0.00014	0.23	0.00039	0.00085	
Vinyl chloride	mg/kg	18	0				0.00015	0.23	0.00041	0.00090	
o-Xylene	mg/kg	18	8	0.0016	0.00059	0.0011	0.00035	0.43	0.00038	0.00083	4-03
m,p Xylenes	mg/kg	18	9	0.0046	0.0017	0.0028	0.0010	0.47	0.00092	0.0020	4-03
Perchlorate	mg/kg	18	15	0.042	0.00047	0.0037	0.016	1.9	0.021	0.056	4-05
Total Organic Carbon	mg/kg	18	3	7700	1900	5,600	1,900	0.79	1,700	1,700	4-01
pH	pH units	18	18	7.65	6.11	6.8	0.40	0.058			4-05
Cyanide, Total	mg/kg	18	1	0.99	0.99	0.99	0.17	0.46	0.24	0.57	4-04
Percent finer than 0.25 millimeters	%	18	18	99.8	78	94	6.1	0.064			4-08

Notes:

% = percent
Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-01**	**5-02**	**5-03**	**5-04**	**5-05**	**5-06**	**5-07**	**5-08**	**5-09**	**5-10**
	Sample Date	**15-Oct-15**	**27-Oct-15**	**25-Sep-15**	**25-Sep-15**	**25-Sep-15**	**15-Oct-15**	**27-Oct-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-01-SS-01-101515**	**5-02-SS-01-102715**	**5-03-SS-01-092515**	**5-04-SS-01-092515**	**5-05-SS-01-092515**	**5-06-SS-01-101515**	**5-07-SS-01-102715**	**5-08-SS-01-102715**	**5-09-SS-01-091715**	**5-10-SS-01-101515**
Analyte	**Unit**										
01-Dioxins and Furans											
2,3,7,8-TCDD	pg/g	< *0.062 UJ*	370 J	< *0.031 U*	< *0.041 U*	< *0.034 U*	< *0.052 U*	1.1 J	< *1.8 U*	< *0.036 U*	0.33 J
1,2,3,7,8-PeCDD	pg/g	< *0.11 U*	< *1,700 UQ*	< *0.038 U*	< *0.039 U*	< *0.044 U*	0.24 J	5.0 J	< *8.0 UQ*	< *0.058 U*	1.2 J
1,2,3,4,7,8-HxCDD	pg/g	< *0.095 U*	< *310 UQ*	< *0.056 U*	< *0.042 U*	< *0.059 U*	< *0.075 U*	< *4.5 UQ*	10 J	< *0.038 U*	0.86 J
1,2,3,6,7,8-HxCDD	pg/g	0.49 J	1,100 J	< *0.049 U*	< *0.036 U*	< *0.051 U*	0.53 J	15 J	37 J	0.062 J	2.6 J
1,2,3,7,8,9-HxCDD	pg/g	0.64 J	1,100 J	< *0.046 U*	< *0.034 U*	< *0.048 U*	0.84 J	16 J	50 J	< *0.033 U*	3.6 J
1,2,3,4,6,7,8-HpCDD	pg/g	3.6 J	5,600 J	0.51 J	< *0.094 UQ*	0.63 J	2.2 J	99	280	0.49 J	25
OCDD	pg/g	13	14,000 J	1.7 J	< *0.40 UQ*	2.5 J	3.2 J	390	890	< *2.5 U*	78
2,3,7,8-TCDF	pg/g	6.7 J	9,300 J	0.97 J	0.19 J	0.92 J	1.2	270	510	0.93 J	34
1,2,3,7,8-PeCDF	pg/g	12	12,000 J	1.1 J	0.22 J	1.3 J	1.8 J	290	760	0.94 J	80
2,3,4,7,8-PeCDF	pg/g	7.7	4,400 J	0.56 J	< *0.038 U*	0.70 J	0.79 J	130	270	0.49 J	38
1,2,3,4,7,8-HxCDF	pg/g	41 J	46,000	3.9 J	0.38 J	3.1 J	4.1 J	810	1,700	3.5 J	240 J
1,2,3,6,7,8-HxCDF	pg/g	31 J	30,000	3.0 J	< *0.29 UQ*	2.3 J	3.4 J	720	1,700	2.7 J	160 J
1,2,3,7,8,9-HxCDF	pg/g	2.1 J	4,700 J	< *0.32 U*	< *0.085 U*	< *0.27 U*	0.49 J	85	220	< *0.32 U*	20 J
2,3,4,6,7,8-HxCDF	pg/g	9.3 J	5,400 J	0.98 J	0.087 J	< *0.71 UQ*	1.1 J	170	310	< *0.83 UQ*	34 J
1,2,3,4,6,7,8-HpCDF	pg/g	290	300,000	34	2.5 J	16	28	7,900	18,000	26	1,400
1,2,3,4,7,8,9-HpCDF	pg/g	74	79,000	3.4 J	0.52 J	3.9 J	8.5	1,500	5,500	3.5 J	470
OCDF	pg/g	2,200	2,800,000	200	13	110	220	66,000	130,000	160	7,700
Calculated TEQ (ND=0), Mammalian	pg/g	17	17,000	1.5	0.11	1.1	2.2	380	830	1.2	87
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	17	17,000	1.6	0.19	1.2	2.2	390	850	1.4	87
Calculated TEQ (ND=0), Avian	pg/g	700	3,100,000	2.8	0.29	190	3.9	37,000	110,000	120	920
Calculated TEQ (ND=1/2 DL), Avian	pg/g	700	3,100,000	63	65	190	69	37,000	110,000	120	920
02-PCBs											
PCB-77	pg/g	7.8	< *239 U*	< *0.34 U*	< *0.31 U*	0.99 J	1.6 J	< *219 U*	< *216 U*	< *0.30 U*	23
PCB-81	pg/g	3.3	< *239 UJ*	< *0.32 U*	< *0.29 U*	< *0.27 U*	< *0.41 U*	< *219 UJ*	649 J	< *0.27 U*	5.1
PCB-105	pg/g	17	< *239 U*	< *0.23 U*	< *0.23 U*	1.1 J	3.7	< *219 U*	< *216 U*	< *0.88 U*	37
PCB-107/123	pg/g		< *479 U*					< *439 U*	< *432 U*		
PCB-114	pg/g	4.5	< *239 U*	< *0.22 U*	< *0.21 U*	< *0.24 U*	< *0.41 U*	< *219 U*	< *216 U*	< *0.25 U*	6.2
PCB-118	pg/g	24	< *239 U*	0.64 J	0.47 J	1.5 J	5.3	< *219 U*	< *216 U*	< *1.1 U*	45
PCB-123	pg/g	< *4.6 UQ*		< *0.21 U*	< *0.20 U*	< *0.22 U*	< *0.40 U*			< *0.24 U*	9.0
PCB-126	pg/g	6.7	< *239 U*	< *0.26 U*	< *0.25 U*	< *0.29 U*	< *0.46 U*	< *219 U*	< *216 U*	< *0.29 U*	12
PCB-156	pg/g		2,320					< *219 U*	< *216 U*		
PCB-157	pg/g		879					< *219 U*	< *216 U*		
PCB-156/157	pg/g	17		< *0.17 U*	< *0.23 U*	< *0.31 U*	< *1.4 U*			< *0.51 U*	34
PCB-167	pg/g	12	< *239 U*	< *0.045 U*	< *0.17 U*	< *0.22 U*	0.75 J	< *219 U*	< *216 U*	< *0.14 U*	27
PCB-169	pg/g	< *1.9 UJ*	< *239 U*	< *0.14 U*	< *0.20 U*	< *0.27 U*	< *0.27 U*	< *219 U*	< *216 U*	< *0.16 U*	< *3.2 U*
PCB-189	pg/g	17	2,980	1.4 J	2.5	1.6 J	0.74 J	< *219 U*	< *216 U*	0.45 J	36
Monochlorobiphenyls, Total	mg/kg	0.0000079 J	0.00284	0.00000051 J	0.0000016 J	0.0000015 J	< *0.0000016 U*	< *0.000219 U*	0.000254 J	< *0.00000055 U*	0.0000011 J

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-01**	**5-02**	**5-03**	**5-04**	**5-05**	**5-06**	**5-07**	**5-08**	**5-09**	**5-10**
	Sample Date	**15-Oct-15**	**27-Oct-15**	**25-Sep-15**	**25-Sep-15**	**25-Sep-15**	**15-Oct-15**	**27-Oct-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-01-SS-01-101515**	**5-02-SS-01-102715**	**5-03-SS-01-092515**	**5-04-SS-01-092515**	**5-05-SS-01-092515**	**5-06-SS-01-101515**	**5-07-SS-01-102715**	**5-08-SS-01-102715**	**5-09-SS-01-091715**	**5-10-SS-01-101515**
Analyte	**Unit**										
Dichlorobiphenyls, Total	mg/kg	0.000094 J	0.121	0.000022 J	0.000011 J	0.000014 J	*< 0.000021 U*	0.00335	0.0101	0.000035 J	0.000015 J
Trichlorobiphenyls, Total	mg/kg	0.000056 J	0.264	*< 0.0000010 U*	0.0000014 J	*< 0.00000084 U*	*< 0.0000068 U*	0.000454	0.00996	0.0000018 J	0.000013 J
Tetrachlorobiphenyls, Total	mg/kg	0.00011 J	0.119 J	0.0000022 J	0.0000012 J	0.0000051 J	*< 0.000017 U*	0.000418 J	0.00198 J	0.0000051 J	0.00009 J
Pentachlorobiphenyls, Total	mg/kg	0.00021 J	0.0888	0.0000020 J	0.0000018 J	0.00001 J	*< 0.000035 U*	0.00205	0.00366	0.0000070 J	0.00039
Hexachlorobiphenyls, Total	mg/kg	0.00029 J	0.132	0.0000048 J	0.0000016 J	0.000022 J	*< 0.000028 U*	0.00132	0.00349	0.0000092 J	0.00082
Heptachlorobiphenyls, Total	mg/kg	0.00054	0.126	0.000016 J	0.0000049 J	0.000037 J	*< 0.000042 U*	*< 0.000219 U*	0.00328	0.000019 J	0.0011
Octachlorobiphenyls, Total	mg/kg	0.00097	0.211	0.000053 J	0.0000072 J	0.000061 J	*< 0.000077 U*	0.00128	0.00967	0.00005 J	0.002
Nonachlorobiphenyls, Total	mg/kg	0.0025	0.656	0.0002 J	0.00002 J	0.00012 J	0.00023 J	0.00531	0.0332	0.00017 J	0.0043
Decachlorobiphenyl (PCB-209)	mg/kg	0.018	25.7	0.0013	0.00014	0.00059	0.002	0.162	0.921	0.0013	0.026
Total PCBs	mg/kg	0.023	27.4	0.0016	0.00019	0.00086	0.0025	0.176	0.997	0.0016	0.035
03- Metals											
Total Aluminum	mg/kg	8,200	4,700	2,500	4,700	3,200	7,700	5,400	2,600	1,700	2,500
Total Antimony	mg/kg	0.18 J	3.3 J-	*< 0.10 UJ*	*< 0.086 UJ*	*< 0.10 UJ*	0.23	0.48 J-	0.99 J-	*< 0.10 UJ*	0.14 J
Total Arsenic	mg/kg	4.6	5.7	4.3	5.1	4.9	8.6	4.5	2.6	4.0	5.6
Total Barium	mg/kg	180	1,300	180	160	210	120	200	500	230	240
Total Beryllium	mg/kg	0.33	0.17	0.11 J-	0.18 J-	0.14 J-	0.29	0.17	*< 0.084 U*	*< 0.096 U*	0.10
Total Cadmium	mg/kg	0.20	*< 0.069 U*	*< 0.052 U*	0.070 J	0.064 J	0.21	0.045 J	*< 0.064 U*	*< 0.052 U*	0.085 J
Total Calcium	mg/kg	82,000	5,500	290,000	110,000	200,000	65,000	74,000	3,600	310,000	180,000
Total Chromium	mg/kg	9.1	8.0	2.9	5.3	4.0	7.9	7.9	6.4	2.0	3.3
Total Cobalt	mg/kg	2.5	0.57	1.2	1.8	1.4	2.4	1.3	0.32	0.94	1.2
Total Copper	mg/kg	8.4	2.7	2.4 J-	3.3 J-	3.0 J-	7.3	5.9	1.8	1.9	4.8
Total Iron	mg/kg	8,000	5,700	2,400	4,200	3,400	7,000	7,300	2,500	1,800	2,700
Total Lead	mg/kg	8.6 J+	4.1	4.7 J+	4.3 J+	4.0 J+	6.2 J+	3.7	2.7	5.0	9.8 J+
Total Magnesium	mg/kg	18,000	4,200	12,000	24,000	9,900	23,000	20,000	3,200	8,700	9,900
Total Manganese	mg/kg	210	21	70	130	80	190	83	13	52	78
Total Mercury	mg/kg	0.019 J	0.025 J	*< 0.0083 U*	*< 0.0094 U*	*< 0.0080 U*	0.018 J	0.040 J	0.019 J	*< 0.0090 U*	0.018 J
Total Molybdenum	mg/kg	1.2	11	0.13 J	0.28	0.45	0.70	6.8	8.7	0.078 J	0.17 J
Total Nickel	mg/kg	6.4	2.2	2.7 J-	4.1 J-	3.2 J-	5.6	3.8	1.7	1.8	2.6
Total Potassium	mg/kg	4,700	2,200	1,100	2,700	1,100	6,000	4,400	1,600	*< 820 U*	1,100
Total Selenium	mg/kg	0.25	0.23 J-	*< 0.10 UJ*	*< 0.086 UJ*	0.16 J-	0.19 J	0.21 J-	*< 0.13 UJ*	*< 0.10 UJ*	0.14 J
Total Silver	mg/kg	*< 0.034 U*	*< 0.041 U*	*< 0.031 U*	*< 0.026 U*	*< 0.031 U*	*< 0.034 U*	0.020 J	*< 0.038 U*	*< 0.031 U*	*< 0.031 U*
Total Sodium	mg/kg	5,000	2,500	4,400	8,100	2,300	8,200	5,500	2,100	4,100	3,400
Total Thallium	mg/kg	0.12	*< 0.069 U*	*< 0.052 U*	0.043 J	0.077 J	0.11	0.11	*< 0.064 U*	*< 0.052 U*	*< 0.052 U*
Total Vanadium	mg/kg	15	13	5.6 J-	9.5 J-	7.8 J-	13	13	7.9	4.5	6.7
Total Zinc	mg/kg	33	5.2	9.1 J-	13 J-	10 J-	29	12	5.0	8.9	24
05-SVOCs											
1,1'-Biphenyl	mg/kg	*< 0.97 U*	*< 33 U*	*< 0.88 U*	*< 0.95 U*	*< 0.85 U*	*< 0.97 U*	*< 18 U*	*< 26 U*	*< 0.17 U*	*< 0.85 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 0.15 U*	*< 5.2 U*	*< 0.14 U*	*< 0.15 U*	*< 0.13 U*	*< 0.15 U*	*< 2.8 U*	*< 4 U*	*< 0.028 U*	*< 0.13 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 0.48 U*	*< 16 U*	*< 0.44 U*	*< 0.47 U*	*< 0.42 U*	*< 0.48 U*	*< 8.8 U*	*< 13 U*	*< 0.087 U*	*< 0.42 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-01**	**5-02**	**5-03**	**5-04**	**5-05**	**5-06**	**5-07**	**5-08**	**5-09**	**5-10**
	Sample Date	**15-Oct-15**	**27-Oct-15**	**25-Sep-15**	**25-Sep-15**	**25-Sep-15**	**15-Oct-15**	**27-Oct-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-01-SS-01-101515**	**5-02-SS-01-102715**	**5-03-SS-01-092515**	**5-04-SS-01-092515**	**5-05-SS-01-092515**	**5-06-SS-01-101515**	**5-07-SS-01-102715**	**5-08-SS-01-102715**	**5-09-SS-01-091715**	**5-10-SS-01-101515**
Analyte	**Unit**										
2,4,5-Trichlorophenol	mg/kg	< 0.49 U	< 17 U	< 0.44 U	< 0.48 U	< 0.43 U	< 0.49 U	< 9 U	< 13 U	< 0.088 U	< 0.43 U
2,4,6-Trichlorophenol	mg/kg	< 0.026 U	< 0.88 U	< 0.024 U	< 0.025 U	< 0.023 U	< 0.026 U	< 0.47 U	< 0.68 U	< 0.0047 U	< 0.023 U
2,2-Oxybis(1-chloropropane)	mg/kg	< 0.47 U	< 16 U	< 0.42 U	< 0.45 U	< 0.41 U	< 0.46 U	< 8.5 U	< 12 U	< 0.084 U	< 0.41 U
2,4-Dichlorophenol	mg/kg	< 0.53 U	< 18 U	< 0.48 U	< 0.51 U	< 0.46 U	< 0.52 U	< 9.6 U	< 14 U	< 0.094 U	< 0.46 U
2,4-Dimethylphenol	mg/kg	< 0.99 U	< 33 U	< 0.89 U	< 0.96 U	< 0.86 U	< 0.98 U	< 18 U	< 26 U	< 0.18 U	< 0.86 U
2,4-Dinitrophenol	mg/kg	< 1.3 U	< 43 U	< 1.1 U	< 1.2 U	< 1.1 U	< 1.3 U	< 23 U	< 33 U	< 0.23 U	< 1.1 U
2,4-Dinitrotoluene	mg/kg	< 0.53 U	< 18 U	< 0.48 U	< 0.51 U	< 0.46 U	< 0.52 U	< 9.6 U	< 14 U	< 0.094 U	< 0.46 U
2,6-Dinitrotoluene	mg/kg	< 0.58 U	< 20 U	< 0.53 U	< 0.57 U	< 0.51 U	< 0.58 U	< 11 U	< 15 U	< 0.1 U	< 0.51 U
2-Chloronaphthalene	mg/kg	< 0.48 U	< 16 U	< 0.43 U	< 0.47 U	< 0.42 U	< 0.48 U	< 8.7 U	< 13 U	< 0.086 U	< 0.42 U
2-Chlorophenol	mg/kg	< 0.52 U	< 18 U	< 0.47 U	< 0.51 U	< 0.45 U	< 0.52 U	< 9.5 U	< 14 U	< 0.093 U	< 0.45 U
2-Methylphenol	mg/kg	< 0.34 U	< 12 U	< 0.31 U	< 0.33 U	< 0.3 U	< 0.34 U	< 6.3 U	< 9 U	< 0.061 U	< 0.3 U
2-Nitroaniline	mg/kg	< 0.5 U	< 17 U	< 0.45 U	< 0.48 U	< 0.43 U	< 0.49 U	< 9.1 U	< 13 U	< 0.089 U	< 0.43 U
2-Nitrophenol	mg/kg	< 0.48 U	< 16 U	< 0.44 U	< 0.47 U	< 0.42 U	< 0.48 U	< 8.8 U	< 13 U	< 0.087 U	< 0.42 U
3,3'-Dichlorobenzidine	mg/kg	< 0.56 U	< 19 U	< 0.5 U	< 0.54 U	< 0.49 U	< 0.55 U	< 10 U	< 15 U	< 0.099 U	< 0.49 U
3-Nitroaniline	mg/kg	< 0.99 U	< 33 U	< 0.89 U	< 0.96 U	< 0.86 U	< 0.98 U	< 18 U	< 26 U	< 0.18 U	< 0.86 U
4,6-Dinitro-2-methylphenol	mg/kg	< 0.48 U	< 16 U	< 0.43 U	< 0.47 U	< 0.42 U	< 0.48 U	< 8.7 U	< 13 U	< 0.086 U	< 0.42 U
4-Bromophenyl-phenylether	mg/kg	< 0.5 U	< 17 U	< 0.45 U	< 0.49 U	< 0.44 U	< 0.5 U	< 9.2 U	< 13 U	< 0.09 U	< 0.44 U
4-Chloro-3-methylphenol	mg/kg	< 0.54 U	< 18 U	< 0.49 U	< 0.53 U	< 0.48 U	< 0.54 U	< 9.9 U	< 14 U	< 0.097 U	< 0.48 U
4-Chloroaniline	mg/kg	< 0.34 U	< 12 U	< 0.31 U	< 0.33 U	< 0.3 U	< 0.34 U	< 6.3 U	< 9 U	< 0.061 U	< 0.3 U
4-Chlorophenyl-phenylether	mg/kg	< 0.55 U	< 19 U	< 0.5 U	< 0.54 U	< 0.48 U	< 0.55 U	< 10 U	< 14 U	< 0.098 U	< 0.48 U
3 & 4 Methylphenol	mg/kg	< 1.9 U	< 66 U	< 1.8 U	< 1.9 U	< 1.7 U	< 1.9 U	< 36 U	< 51 U	< 0.35 U	< 1.7 U
4-Nitroaniline	mg/kg	< 0.52 U	< 18 U	< 0.47 U	< 0.51 U	< 0.45 U	< 0.52 U	< 9.5 U	< 14 U	< 0.093 U	< 0.45 U
4-Nitrophenol	mg/kg	< 1.7 U	< 56 U	< 1.5 U	< 1.6 U	< 1.4 U	< 1.6 U	< 30 U	< 43 U	< 0.3 U	< 1.4 U
Acetophenone	mg/kg	< 0.15 U	240	< 0.13 U	< 0.14 U	< 0.13 U	< 0.15 U	< 15 U	70	< 0.032 U	< 0.13 U
Benzaldehyde	mg/kg	< 0.97 U	< 33 U	< 0.88 U	< 0.95 U	< 0.85 U	< 0.97 U	< 18 U	< 26 U	< 0.17 U	< 0.85 U
Benzylbutylphthalate	mg/kg	< 0.56 U	< 19 U	< 0.51 U	< 0.55 U	< 0.49 U	< 0.56 U	< 10 U	< 15 U	< 0.1 U	< 0.49 U
Bis(2-chloroethoxy)methane	mg/kg	< 0.52 U	< 18 U	< 0.47 U	< 0.51 U	< 0.45 U	< 0.52 U	< 9.5 U	< 14 U	< 0.093 U	< 0.45 U
bis(2-Chloroethyl) ether	mg/kg	< 0.48 U	< 16 U	< 0.43 U	< 0.47 U	< 0.42 U	< 0.48 U	< 8.7 U	< 13 U	< 0.086 U	< 0.42 U
Bis(2-ethylhexyl)phthalate	mg/kg	< 0.58 U	< 20 U	< 0.52 U	< 0.56 U	< 0.51 U	< 0.58 U	< 11 U	< 15 U	< 0.1 U	< 0.51 U
Carbazole	mg/kg	< 0.56 U	< 19 U	< 0.51 U	< 0.55 U	< 0.49 U	< 0.56 U	< 10 U	< 15 U	< 0.1 U	< 0.49 U
Dibenzofuran	mg/kg	< 0.51 U	< 17 U	< 0.46 U	< 0.5 U	< 0.44 U	< 0.51 U	< 9.3 U	< 13 U	< 0.091 U	< 0.44 U
Diethyl phthalate	mg/kg	< 0.53 U	< 18 U	< 0.48 U	< 0.52 U	< 0.46 U	< 0.53 U	< 9.7 U	< 14 U	< 0.095 U	< 0.46 U
Dimethylphthalate	mg/kg	< 0.51 U	< 17 U	< 0.47 U	< 0.5 U	< 0.45 U	< 0.51 U	< 9.4 U	< 13 U	< 0.092 U	< 0.45 U
Di-n-butylphthalate	mg/kg	< 0.57 U	< 19 U	< 0.52 U	< 0.56 U	< 0.5 U	< 0.57 U	< 10 U	< 15 U	< 0.1 U	< 0.5 U
Di-n-octylphthalate	mg/kg	< 0.57 U	< 19 U	< 0.52 U	< 0.56 U	< 0.5 U	< 0.57 U	< 10 U	< 15 U	< 0.1 U	< 0.5 U
Hexachlorobenzene	mg/kg	0.067 J	310	< 0.012 U	< 0.013 U	0.019 J	< 0.013 U	3.6	11	0.012 J	0.077 J
Hexachlorobutadiene	mg/kg	< 0.022 U	< 0.74 U	< 0.02 U	< 0.021 U	< 0.019 U	< 0.022 U	< 0.4 U	< 0.57 U	< 0.0039 U	< 0.019 U
Hexachlorocyclopentadiene	mg/kg	< 0.37 U	< 12 U	< 0.33 U	< 0.36 U	< 0.32 U	< 0.36 U	< 6.7 U	< 9.6 U	< 0.066 U	< 0.32 U
Hexachloroethane	mg/kg	< 0.48 U	< 16 U	< 0.43 U	< 0.47 U	< 0.42 U	< 0.48 U	< 8.7 U	< 13 U	< 0.086 U	< 0.42 U
Isophorone	mg/kg	< 0.55 U	< 19 U	< 0.5 U	< 0.54 U	< 0.48 U	< 0.55 U	< 10 U	< 14 U	< 0.098 U	< 0.48 U
Nitrobenzene	mg/kg	< 0.45 U	< 15 U	< 0.41 U	< 0.44 U	< 0.39 U	< 0.45 U	< 8.2 U	< 12 U	< 0.08 U	< 0.39 U

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-01**	**5-02**	**5-03**	**5-04**	**5-05**	**5-06**	**5-07**	**5-08**	**5-09**	**5-10**
	Sample Date	**15-Oct-15**	**27-Oct-15**	**25-Sep-15**	**25-Sep-15**	**25-Sep-15**	**15-Oct-15**	**27-Oct-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-01-SS-01-101515**	**5-02-SS-01-102715**	**5-03-SS-01-092515**	**5-04-SS-01-092515**	**5-05-SS-01-092515**	**5-06-SS-01-101515**	**5-07-SS-01-102715**	**5-08-SS-01-102715**	**5-09-SS-01-091715**	**5-10-SS-01-101515**
Analyte	**Unit**										
N-Nitrosodimethylamine	mg/kg	*< 0.57 U*	*< 19 U*	*< 0.51 U*	*< 0.55 U*	*< 0.5 U*	*< 0.57 U*	*< 10 U*	*< 15 U*	*< 0.1 U*	*< 0.5 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 0.5 U*	*< 17 U*	*< 0.45 U*	*< 0.48 U*	*< 0.43 U*	*< 0.49 U*	*< 9.1 U*	*< 13 U*	*< 0.089 U*	*< 0.43 U*
N-Nitrosodiphenylamine	mg/kg	*< 0.51 U*	*< 17 U*	*< 0.46 U*	*< 0.5 U*	*< 0.44 U*	*< 0.51 U*	*< 9.3 U*	*< 13 U*	*< 0.091 U*	*< 0.44 U*
Pentachlorobenzene	mg/kg	*< 0.077 U*	3.8 J-	*< 0.07 U*	*< 0.075 U*	*< 0.067 U*	*< 0.077 U*	*< 1.4 UJ*	*< 2 UJ*	*< 0.014 U*	*< 0.067 U*
Pentachlorophenol	mg/kg	*< 0.14 U*	*< 4.8 U*	*< 0.13 U*	*< 0.14 U*	*< 0.12 U*	*< 0.14 U*	*< 2.6 U*	*< 3.7 U*	*< 0.025 U*	*< 0.12 U*
Phenol	mg/kg	*< 0.49 U*	17 J	*< 0.44 U*	*< 0.48 U*	*< 0.43 U*	*< 0.49 U*	34 J	210	*< 0.088 U*	*< 0.43 U*
06-PAHs											
2-Methylnaphthalene	mg/kg	*< 0.00052 U*	*< 0.0089 U*	*< 0.00044 U*	*< 0.00047 U*	*< 0.00042 U*	*< 0.00048 U*	*< 0.0055 U*	*< 0.0081 U*	*< 0.00041 U*	*< 0.0022 U*
Acenaphthene	mg/kg	*< 0.00056 U*	*< 0.0097 U*	*< 0.00048 U*	*< 0.00052 U*	*< 0.00046 U*	*< 0.00053 U*	*< 0.0060 U*	*< 0.0088 U*	*< 0.00045 U*	*< 0.0024 U*
Acenaphthylene	mg/kg	*< 0.00040 U*	*< 0.0068 U*	*< 0.00034 U*	*< 0.00036 U*	*< 0.00032 U*	*< 0.00037 U*	*< 0.0042 U*	*< 0.0062 U*	*< 0.00032 U*	*< 0.0017 U*
Anthracene	mg/kg	*< 0.00047 U*	*< 0.0081 U*	*< 0.00040 U*	*< 0.00044 U*	*< 0.00039 U*	*< 0.00045 U*	*< 0.0050 U*	*< 0.0074 U*	*< 0.00038 U*	*< 0.0021 U*
Benzo(a)anthracene	mg/kg	*< 0.00036 U*	*< 0.0062 U*	*< 0.00031 U*	*< 0.00033 U*	*< 0.00030 U*	*< 0.00034 U*	*< 0.0039 U*	*< 0.0057 U*	*< 0.00029 U*	*< 0.0016 U*
Benzo(a)pyrene	mg/kg	*< 0.00048 U*	0.13	*< 0.00041 U*	*< 0.00044 U*	*< 0.00039 U*	*< 0.00045 U*	*< 0.0051 U*	*< 0.0075 U*	*< 0.00038 U*	*< 0.0021 U*
Benzo(b)fluoranthene	mg/kg	*< 0.00061 U*	*< 0.01 U*	*< 0.00052 U*	*< 0.00056 U*	*< 0.00050 U*	*< 0.00057 U*	*< 0.0064 U*	*< 0.0095 U*	*< 0.00049 U*	*< 0.0026 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.0012 U*	*< 0.021 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.00098 U*	*< 0.0011 U*	*< 0.013 U*	*< 0.019 U*	*< 0.00096 U*	*< 0.0052 U*
Benzo(k)fluoranthene	mg/kg	*< 0.00091 U*	*< 0.016 U*	*< 0.00078 U*	*< 0.00084 U*	*< 0.00075 U*	*< 0.00086 U*	*< 0.0097 U*	*< 0.014 U*	*< 0.00073 U*	*< 0.0039 U*
Chrysene	mg/kg	*< 0.00042 U*	*< 0.0072 U*	*< 0.00036 U*	*< 0.00038 U*	0.00046 J	*< 0.00039 U*	*< 0.0044 U*	*< 0.0065 U*	*< 0.00033 U*	*< 0.0018 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.0014 U*	*< 0.025 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.015 U*	*< 0.022 U*	*< 0.0012 U*	*< 0.0062 U*
Fluoranthene	mg/kg	*< 0.00035 U*	*< 0.0060 U*	*< 0.00030 U*	*< 0.00032 U*	0.00034 J	*< 0.00033 U*	*< 0.0037 U*	*< 0.0055 U*	*< 0.00028 U*	*< 0.0015 U*
Fluorene	mg/kg	*< 0.00059 U*	*< 0.01 U*	*< 0.00050 U*	*< 0.00054 U*	*< 0.00048 U*	*< 0.00055 U*	*< 0.0062 U*	*< 0.0092 U*	*< 0.00047 U*	*< 0.0025 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.00057 U*	*< 0.0099 U*	*< 0.00049 U*	*< 0.00053 U*	*< 0.00047 U*	*< 0.00054 U*	*< 0.0061 U*	*< 0.0090 U*	*< 0.00046 U*	*< 0.0025 U*
Naphthalene	mg/kg	*< 0.00037 U*	*< 0.0063 U*	*< 0.00031 U*	*< 0.00034 U*	*< 0.00030 U*	*< 0.00035 U*	*< 0.0039 U*	*< 0.0057 U*	*< 0.00030 U*	*< 0.0016 U*
Phenanthrene	mg/kg	*< 0.00042 U*	*< 0.01 U*	*< 0.00036 U*	*< 0.00039 U*	*< 0.00034 U*	*< 0.00039 U*	*< 0.0045 U*	*< 0.0066 U*	*< 0.00034 U*	*< 0.0018 U*
Pyrene	mg/kg	*< 0.00042 U*	*< 0.0072 U*	*< 0.00036 U*	*< 0.00039 U*	*< 0.00034 U*	*< 0.00039 U*	*< 0.0045 U*	*< 0.0066 U*	*< 0.00034 U*	*< 0.0018 U*
07-VOCs											
1,4-Dioxane	mg/kg	*< 0.055 U*	*< 0.13 U*	*< 0.055 U*	*< 0.041 U*	*< 0.049 UJ*	*< 0.04 U*	*< 0.05 U*	*< 0.083 U*	*< 0.042 U*	*< 0.078 U*
1,1-Dichloroethane	mg/kg	*< 0.00041 U*	*< 0.00099 U*	*< 0.00041 U*	*< 0.00031 U*	*< 0.00036 U*	*< 0.00030 U*	*< 0.00037 U*	*< 0.00062 U*	*< 0.00031 U*	*< 0.00058 U*
1,1-Dichloroethene	mg/kg	*< 0.00036 U*	*< 0.00089 U*	*< 0.00037 U*	*< 0.00027 U*	*< 0.00032 U*	*< 0.00027 U*	*< 0.00033 U*	*< 0.00055 U*	*< 0.00028 U*	*< 0.00052 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0012 U*	*< 0.0030 U*	*< 0.0012 U*	*< 0.00093 U*	*< 0.0011 U*	*< 0.00091 U*	*< 0.0011 U*	*< 0.0019 U*	*< 0.00094 U*	*< 0.0018 U*
1,2-Dibromoethane	mg/kg	*< 0.00038 U*	*< 0.00093 U*	*< 0.00038 U*	*< 0.00028 U*	*< 0.00034 U*	*< 0.00028 U*	*< 0.00034 U*	*< 0.00058 U*	*< 0.00029 U*	*< 0.00054 U*
1,2-Dichlorobenzene	mg/kg	*< 0.00090 U*	*< 0.0022 U*	*< 0.00090 U*	*< 0.00067 U*	*< 0.00080 U*	*< 0.00066 U*	*< 0.00082 U*	*< 0.0014 U*	*< 0.00069 U*	*< 0.0013 U*
1,2-Dichloroethane	mg/kg	*< 0.0010 U*	*< 0.0025 U*	*< 0.0010 U*	*< 0.00077 U*	*< 0.00091 U*	*< 0.00075 U*	*< 0.00093 U*	*< 0.0016 U*	*< 0.00078 U*	*< 0.0015 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0012 U*	*< 0.0031 U*	*< 0.0013 U*	*< 0.00094 U*	*< 0.0011 U*	*< 0.00092 U*	*< 0.0011 U*	*< 0.0019 U*	*< 0.00095 U*	*< 0.0018 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00053 U*	*< 0.0013 U*	*< 0.00053 U*	*< 0.00040 U*	*< 0.00047 U*	*< 0.00039 U*	*< 0.00049 U*	*< 0.00081 U*	*< 0.00041 U*	*< 0.00076 U*
1,2-Dichloropropane	mg/kg	*< 0.00084 U*	*< 0.0021 U*	*< 0.00084 U*	*< 0.00063 U*	*< 0.00075 U*	*< 0.00062 U*	*< 0.00077 U*	*< 0.0013 U*	*< 0.00064 U*	*< 0.0012 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00042 U*	*< 0.0010 U*	*< 0.00042 U*	*< 0.00032 U*	*< 0.00037 U*	*< 0.00031 U*	*< 0.00038 U*	*< 0.00064 U*	*< 0.00032 U*	*< 0.00060 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.00090 U*	*< 0.0022 U*	*< 0.00090 U*	*< 0.00067 U*	*< 0.00080 U*	*< 0.00066 U*	*< 0.00082 U*	*< 0.0014 U*	*< 0.00069 U*	*< 0.0013 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0010 U*	*< 0.0026 U*	*< 0.0011 U*	*< 0.00079 U*	*< 0.00093 U*	*< 0.00077 U*	*< 0.00096 U*	*< 0.0016 U*	*< 0.00080 U*	*< 0.0015 U*
1,4-Dichlorobenzene	mg/kg	*< 0.0011 U*	*< 0.0027 U*	*< 0.0011 U*	*< 0.00082 U*	*< 0.00097 U*	*< 0.00080 U*	*< 0.0010 U*	*< 0.0017 U*	*< 0.00084 U*	*< 0.0016 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-01**	**5-02**	**5-03**	**5-04**	**5-05**	**5-06**	**5-07**	**5-08**	**5-09**	**5-10**
	Sample Date	**15-Oct-15**	**27-Oct-15**	**25-Sep-15**	**25-Sep-15**	**25-Sep-15**	**15-Oct-15**	**27-Oct-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-01-SS-01-101515**	**5-02-SS-01-102715**	**5-03-SS-01-092515**	**5-04-SS-01-092515**	**5-05-SS-01-092515**	**5-06-SS-01-101515**	**5-07-SS-01-102715**	**5-08-SS-01-102715**	**5-09-SS-01-091715**	**5-10-SS-01-101515**
Analyte	**Unit**										
1,1,1-Trichloroethane	mg/kg	*< 0.00050 U*	*< 0.0012 U*	*< 0.00051 U*	*< 0.00038 U*	*< 0.00045 U*	*< 0.00037 U*	*< 0.00046 U*	*< 0.00077 U*	*< 0.00039 U*	*< 0.00072 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00062 U*	*< 0.0015 U*	*< 0.00062 U*	*< 0.00046 U*	*< 0.00055 U*	*< 0.00045 U*	*< 0.00056 U*	*< 0.00094 U*	*< 0.00047 U*	*< 0.00088 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	*< 0.0012 U*	*< 0.0028 U*	*< 0.0012 U*	*< 0.00088 U*	*< 0.0010 U*	*< 0.00085 U*	*< 0.0011 U*	*< 0.0018 U*	*< 0.00089 U*	*< 0.0017 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0010 U*	*< 0.0026 U*	*< 0.0011 U*	*< 0.00079 U*	*< 0.00093 U*	*< 0.00077 U*	*< 0.00096 U*	*< 0.0016 U*	*< 0.00080 U*	*< 0.0015 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0010 U*	*< 0.0026 U*	*< 0.0011 U*	*< 0.00079 U*	*< 0.00093 U*	*< 0.00077 U*	*< 0.00096 U*	*< 0.0016 U*	*< 0.00080 U*	*< 0.0015 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.00095 U*	*< 0.0023 U*	*< 0.00096 U*	*< 0.00072 U*	*< 0.00085 U*	*< 0.00070 U*	*< 0.00087 U*	*< 0.0014 U*	*< 0.00073 U*	*< 0.0014 U*
2-Butanone	mg/kg	*< 0.0020 U*	0.024 J	*< 0.0020 U*	0.0068 J	0.0093 J	*< 0.0014 U*	0.0032 J	0.013 J	*< 0.0069 U*	*< 0.0028 U*
2-Hexanone	mg/kg	*< 0.0010 U*	*< 0.0025 U*	*< 0.0010 U*	*< 0.00078 U*	*< 0.00092 U*	*< 0.00076 U*	*< 0.00095 U*	*< 0.0016 U*	*< 0.00079 U*	*< 0.0015 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0013 U*	*< 0.0032 U*	*< 0.0013 U*	*< 0.00097 U*	*< 0.0011 U*	*< 0.00095 U*	*< 0.0012 U*	*< 0.0020 U*	*< 0.00099 U*	*< 0.0018 U*
Acetone	mg/kg	*< 0.021 U*	0.11	*< 0.0020 U*	0.015 J	*< 0.0017 U*	0.032	*< 0.0079 U*	0.06	*< 0.0015 U*	*< 0.026 U*
Benzene	mg/kg	*< 0.00036 U*	*< 0.00089 U*	*< 0.00037 U*	*< 0.00027 U*	*< 0.00032 U*	*< 0.00027 U*	*< 0.00033 U*	*< 0.00055 U*	*< 0.00028 U*	*< 0.00052 U*
Bromochloromethane	mg/kg	*< 0.0013 U*	*< 0.0032 U*	*< 0.0013 U*	*< 0.00099 U*	*< 0.0012 U*	*< 0.00097 U*	*< 0.0012 U*	*< 0.0020 U*	*< 0.0010 U*	*< 0.0019 U*
Bromodichloromethane	mg/kg	*< 0.00074 U*	0.039	*< 0.00074 U*	*< 0.00056 U*	*< 0.00066 U*	*< 0.00055 U*	0.0087	0.023	*< 0.00057 U*	*< 0.0011 U*
Bromoform	mg/kg	0.0060 J	0.25	*< 0.00056 U*	0.0013 J	*< 0.00050 U*	0.00066 J	0.049	0.11	*< 0.00043 U*	*< 0.00080 U*
Bromomethane	mg/kg	*< 0.0012 U*	*< 0.0030 U*	*< 0.0012 U*	*< 0.00091 U*	*< 0.0011 U*	*< 0.00089 U*	*< 0.0011 U*	*< 0.0018 U*	*< 0.00092 U*	*< 0.0017 U*
Carbon disulfide	mg/kg	*< 0.00069 U*	0.0086 J	*< 0.00069 U*	*< 0.00052 U*	*< 0.00061 U*	*< 0.00050 U*	*< 0.00063 U*	*< 0.0010 U*	*< 0.00053 U*	*< 0.00098 U*
Carbon tetrachloride	mg/kg	*< 0.00074 U*	0.0036 J	*< 0.00074 U*	*< 0.00056 U*	*< 0.00066 U*	*< 0.00055 U*	*< 0.00068 U*	0.0016 J	*< 0.00057 U*	*< 0.0011 U*
Chlorobenzene	mg/kg	*< 0.00041 U*	*< 0.00099 U*	*< 0.00041 U*	*< 0.00031 U*	*< 0.00036 U*	*< 0.00030 U*	*< 0.00037 U*	*< 0.00062 U*	*< 0.00031 U*	*< 0.00058 U*
Cyclohexane	mg/kg	*< 0.0037 U*	*< 0.0090 U*	*< 0.0037 U*	*< 0.0028 U*	*< 0.0033 U*	*< 0.0027 U*	*< 0.0034 U*	*< 0.0056 U*	*< 0.0028 U*	*< 0.0053 U*
Dibromochloromethane	mg/kg	*< 0.00069 U*	0.12	*< 0.00030 U*	*< 0.00022 U*	*< 0.00026 U*	*< 0.00022 U*	0.017	0.059	*< 0.00023 U*	*< 0.00042 U*
Chloroethane	mg/kg	*< 0.00063 U*	*< 0.0015 U*	*< 0.00063 U*	*< 0.00047 U*	*< 0.00056 U*	*< 0.00046 U*	*< 0.00057 U*	*< 0.00096 U*	*< 0.00048 U*	*< 0.00090 U*
Chloroform	mg/kg	*< 0.00050 U*	*< 0.012 U*	*< 0.00037 U*	*< 0.00027 U*	*< 0.00032 U*	*< 0.00027 U*	0.032	*< 0.0064 U*	*< 0.00028 U*	*< 0.00052 U*
Chloromethane	mg/kg	*< 0.00070 U*	0.0065 J	*< 0.00070 U*	*< 0.00053 U*	*< 0.00062 U*	*< 0.00051 U*	*< 0.00064 U*	0.0040 J	*< 0.00054 U*	*< 0.0010 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0012 U*	*< 0.0031 U*	*< 0.0013 U*	*< 0.00094 U*	*< 0.0011 U*	*< 0.00092 U*	*< 0.0011 U*	*< 0.0019 U*	*< 0.00095 U*	*< 0.0018 U*
Ethyl benzene	mg/kg	*< 0.00048 U*	*< 0.0012 U*	*< 0.00048 U*	*< 0.00036 U*	*< 0.00042 U*	*< 0.00035 U*	*< 0.00043 U*	*< 0.00072 U*	*< 0.00036 U*	*< 0.00068 U*
Isopropylbenzene	mg/kg	*< 0.00073 U*	*< 0.0018 U*	*< 0.00073 U*	*< 0.00055 U*	*< 0.00065 U*	*< 0.00054 U*	*< 0.00066 U*	*< 0.0011 U*	*< 0.00056 U*	*< 0.0010 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.00084 U*	*< 0.0021 U*	*< 0.00084 U*	*< 0.00063 U*	*< 0.00075 U*	*< 0.00062 U*	*< 0.00077 U*	*< 0.0013 U*	*< 0.00064 U*	*< 0.0012 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0012 U*	*< 0.0029 U*	*< 0.0012 U*	*< 0.00089 U*	*< 0.0010 U*	*< 0.00086 U*	*< 0.0011 U*	*< 0.0018 U*	*< 0.00090 U*	*< 0.0017 U*
Styrene	mg/kg	*< 0.00043 U*	*< 0.0011 U*	*< 0.00044 U*	*< 0.00033 U*	*< 0.00039 U*	*< 0.00032 U*	*< 0.00040 U*	*< 0.00066 U*	*< 0.00033 U*	*< 0.00062 U*
Tetrachloroethene	mg/kg	*< 0.00085 U*	*< 0.0021 U*	*< 0.00086 U*	*< 0.00064 U*	*< 0.00076 U*	*< 0.00063 U*	*< 0.00078 U*	*< 0.0013 U*	*< 0.00065 U*	*< 0.0012 U*
Toluene	mg/kg	*< 0.00085 U*	*< 0.0021 U*	*< 0.00086 U*	*< 0.00064 U*	*< 0.00076 U*	*< 0.00063 U*	*< 0.00078 U*	*< 0.0013 U*	*< 0.00065 U*	*< 0.0012 U*
Trichloroethene	mg/kg	*< 0.00084 U*	*< 0.0021 U*	*< 0.00084 U*	*< 0.00063 U*	*< 0.00075 U*	*< 0.00062 U*	*< 0.00077 U*	*< 0.0013 U*	*< 0.00064 U*	*< 0.0012 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00048 U*	*< 0.0012 U*	*< 0.00048 U*	*< 0.00036 U*	*< 0.00042 U*	*< 0.00035 U*	*< 0.00043 U*	*< 0.00072 U*	*< 0.00036 U*	*< 0.00068 U*
Vinyl chloride	mg/kg	*< 0.00050 U*	*< 0.0012 U*	*< 0.00051 U*	*< 0.00038 U*	*< 0.00045 U*	*< 0.00037 U*	*< 0.00046 U*	*< 0.00077 U*	*< 0.00039 U*	*< 0.00072 U*
o-Xylene	mg/kg	*< 0.00046 U*	*< 0.0011 U*	*< 0.00046 U*	*< 0.00035 U*	*< 0.00041 U*	*< 0.00034 U*	*< 0.00042 U*	*< 0.00070 U*	*< 0.00035 U*	*< 0.00066 U*
m,p Xylenes	mg/kg	*< 0.0011 U*	*< 0.0028 U*	*< 0.0011 U*	*< 0.00085 U*	*< 0.0010 U*	*< 0.00083 U*	*< 0.0010 U*	*< 0.0017 U*	*< 0.00087 U*	*< 0.0016 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-01**	**5-02**	**5-03**	**5-04**	**5-05**	**5-06**	**5-07**	**5-08**	**5-09**	**5-10**
	Sample Date	**15-Oct-15**	**27-Oct-15**	**25-Sep-15**	**25-Sep-15**	**25-Sep-15**	**15-Oct-15**	**27-Oct-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-01-SS-01-101515**	**5-02-SS-01-102715**	**5-03-SS-01-092515**	**5-04-SS-01-092515**	**5-05-SS-01-092515**	**5-06-SS-01-101515**	**5-07-SS-01-102715**	**5-08-SS-01-102715**	**5-09-SS-01-091715**	**5-10-SS-01-101515**
Analyte	**Unit**										
08-General Solids Parameters											
Perchlorate	mg/kg	0.00056 J	0.0018 J	*< 0.021 U*	*< 0.023 U*	*< 0.021 U*	*< 0.00018 U*	*< 0.027 U*	*< 0.038 U*	*< 0.02 U*	0.00019 J
Total Organic Carbon	mg/kg	*< 1,700 U*	7,900	*< 3,000 U*	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*	5,300	9,400	*< 1,700 UJ*	1,700 J
pH	pH units	7.80	1.16	8.63	7.71	9.34	8.33	5.58	1.12	9.26	8.47
Cyanide, Total	mg/kg	1.3	*< 0.46 U*	*< 0.21 U*	*< 0.24 U*	*< 0.21 U*	0.47 J	*< 0.28 U*	*< 0.39 U*	*< 0.22 U*	1.4
Percent finer than 0.25 millimeters	%	88.6	88	11.7	80.4	54.2	88.8	98.1	70.8	5.7	43

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-11**	**5-12**	**5-13**	**5-14**	**5-14SB**	**5-14SB**	**5-14SB**	**5-14SB**	**5-15**
	Sample Date	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**17-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 4 in**	**0 - 3 in**	**0 - 5 in**	**0 - 6 in**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**8 - 10 ft**	**0 - 6 in**
	Sample ID	**5-11-SS-01-102715**	**5-12-SS-01-102715**	**5-13-SS-01-102715**	**5-14-SS-01-102715**	**5-14SB-SB-01-0-2-120115**	**5-14SB-SB-01-2-4-120115**	**5-14SB-SB-01-4-6-120115**	**5-14SB-SB-01-8-10-120115**	**5-15-SS-01-091715**
Analyte	**Unit**									
01-Dioxins and Furans										
2,3,7,8-TCDD	pg/g	*< 1.8 U*	*< 0.27 U*	*< 61 U*	*< 90 U*	380	210	120	*< 0.056 U*	*< 0.044 U*
1,2,3,7,8-PeCDD	pg/g	15 J	*< 0.40 U*	*< 470 UQ*	*< 2,600 UQ*	2,400	750	380	*< 0.088 U*	*< 0.064 U*
1,2,3,4,7,8-HxCDD	pg/g	17 J	*< 0.42 U*	*< 140 U*	500 J	3,500	1,900	510	0.23 J	*< 0.046 U*
1,2,3,6,7,8-HxCDD	pg/g	61	*< 1.4 UQ*	290 J	1,400 J	9,800	3,400	1,300	0.59 J	*< 0.060 U*
1,2,3,7,8,9-HxCDD	pg/g	80	1.5 J	*< 120 U*	1,700 J	13,000	4,200	1,800	0.89 J	0.12 J
1,2,3,4,6,7,8-HpCDD	pg/g	500	6.9 J	2,200 J	8,700 J	89,000	16,000	8,000	3.7 J	0.57 J
OCDD	pg/g	1,400	24 J	6,100 J	30,000 J	230,000	61,000	29,000	10 J	*< 2.1 U*
2,3,7,8-TCDF	pg/g	570	24	3,500 J	14,000	24,000	21,000	14,000	4.1	1.4
1,2,3,7,8-PeCDF	pg/g	1,400	27 J	4,100 J	22,000 J	210,000	73,000	34,000	9.0	1.6 J
2,3,4,7,8-PeCDF	pg/g	510	12 J	1,900 J	8,000 J	83,000	34,000	19,000	3.7 J	0.76 J
1,2,3,4,7,8-HxCDF	pg/g	4,100	59	16,000 J	78,000	600,000	240,000	110,000	31	5.1 J
1,2,3,6,7,8-HxCDF	pg/g	2,500	55 J	9,600 J	51,000	450,000	160,000	80,000	22	4.0 J
1,2,3,7,8,9-HxCDF	pg/g	1,100	*< 2.5 UQ*	1,500 J	8,000 J	76,000	24,000	12,000	4.4 J	*< 0.36 U*
2,3,4,6,7,8-HxCDF	pg/g	*< 790 UQ*	17 J	2,000 J	9,800 J	70,000	26,000	12,000	3.9 J	1.2 J
1,2,3,4,6,7,8-HpCDF	pg/g	24,000	550	91,000	460,000	2,200,000 J	1,200,000	570,000	200	39
1,2,3,4,7,8,9-HpCDF	pg/g	8,900	52 J	25,000 J	140,000	1,200,000	430,000	210,000	76	6.1
OCDF	pg/g	180,000	1,800	1,100,000	6,900,000 J	9,100,000 J	8,600,000 J	4,000,000 J	2,100	230
Calculated TEQ (ND=0), Mammalian	pg/g	1,400	27	5,500	28,000	200,000	80,000	40,000	12	2.0
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	1,500	28	5,800	29,000	200,000	82,000	40,000	12	2.1
Calculated TEQ (ND=0), Avian	pg/g	170,000	3,300	640,000	6,100,000	31,000,000	11,000,000	5,500,000	1,300	260
Calculated TEQ (ND=1/2 DL), Avian	pg/g	170,000	3,300	640,000	6,100,000	31,000,000	11,000,000	5,500,000	1,300	260
02-PCBs										
PCB-77	pg/g	*< 192 U*	*< 7.4 U*	*< 236 U*	*< 212 U*	33,300 J	*< 25,000 UJ*	*< 1,970 UJ*	*< 3.6 U*	*< 0.38 U*
PCB-81	pg/g	*< 192 UJ*	*< 6.7 U*	*< 236 UJ*	*< 212 UJ*	*< 19,200 U*	*< 25,000 U*	*< 1,970 U*	*< 3.6 U*	*< 0.36 U*
PCB-105	pg/g	*< 192 U*	*< 14 U*	*< 236 U*	*< 212 U*	*< 19,200 UJ*	*< 25,000 UJ*	7,870 J	*< 3.1 U*	*< 0.47 U*
PCB-107/123	pg/g	*< 384 U*		*< 471 U*	3,760	*< 38,400 U*	*< 50,000 U*	10,700		
PCB-114	pg/g	*< 192 U*	*< 12 U*	*< 236 U*	*< 212 U*	*< 19,200 U*	*< 25,000 U*	3,970	*< 3.0 U*	*< 0.46 U*
PCB-118	pg/g	*< 192 U*	*< 12 U*	*< 236 U*	*< 212 U*	20,000 J	32,700 J	33,600	*< 2.9 U*	*< 0.96 U*
PCB-123	pg/g		*< 12 U*						*< 3.0 U*	*< 0.43 U*
PCB-126	pg/g	*< 192 U*	*< 22 U*	*< 236 U*	*< 212 U*	*< 19,200 U*	*< 25,000 U*	3,400 J	*< 4.1 U*	*< 0.51 U*
PCB-156	pg/g	374 J		966	3,370	22,000 J	35,500 J	8,720		
PCB-157	pg/g	*< 192 U*		*< 236 U*	1,540	*< 19,200 U*	*< 25,000 U*	*< 1,970 U*		
PCB-156/157	pg/g		*< 7.1 UQ*						*< 2.1 UQ*	*< 0.45 U*
PCB-167	pg/g	*< 192 U*	*< 5.3 UQ*	*< 236 U*	*< 212 U*	67,200	*< 25,000 U*	*< 1,970 U*	1.2 J	*< 0.13 U*
PCB-169	pg/g	*< 192 U*	*< 3.9 U*	*< 236 U*	*< 212 U*	*< 19,200 U*	*< 25,000 U*	*< 1,970 U*	*< 0.88 U*	*< 0.15 U*
PCB-189	pg/g	*< 192 U*	*< 5.1 UQ*	1,160	3,990	59,900	*< 25,000 U*	10,700	5.4	*< 0.95 U*
Monochlorobiphenyls, Total	mg/kg	0.000395	0.000023	0.00144	0.00423	0.463	0.282	0.0576 J+	0.0006	0.0000026 J

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-11**	**5-12**	**5-13**	**5-14**	**5-14SB**	**5-14SB**	**5-14SB**	**5-14SB**	**5-15**
	Sample Date	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**17-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 4 in**	**0 - 3 in**	**0 - 5 in**	**0 - 6 in**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**8 - 10 ft**	**0 - 6 in**
	Sample ID	**5-11-SS-01-102715**	**5-12-SS-01-102715**	**5-13-SS-01-102715**	**5-14-SS-01-102715**	**5-14SB-SB-01-0-2-120115**	**5-14SB-SB-01-2-4-120115**	**5-14SB-SB-01-4-6-120115**	**5-14SB-SB-01-8-10-120115**	**5-15-SS-01-091715**
Analyte	**Unit**									
Dichlorobiphenyls, Total	mg/kg	0.0169	0.0016	0.0437	0.139	1.52	1.48	0.228	0.0017	0.000074 J
Trichlorobiphenyls, Total	mg/kg	0.0278	0.00013	0.0485	0.0779	0.328 J	0.5 J	0.0765 J	0.00018	0.0000068 J
Tetrachlorobiphenyls, Total	mg/kg	0.00531 J	0.000057	0.00731 J	0.0732 J	0.4 J	0.117 J	0.202 J	0.00034	0.000011 J
Pentachlorobiphenyls, Total	mg/kg	0.0103	0.00017	0.0257	0.12 J-	1.27 J	1.84 J	1.25 J	0.00012	0.0000097 J
Hexachlorobiphenyls, Total	mg/kg	0.0122	0.0001	0.0395	0.175	0.672 J	0.28 J	0.222 J	0.000055	0.000013 J
Heptachlorobiphenyls, Total	mg/kg	0.0108	0.00036	0.0318	0.139	1.35	0.668	0.323	0.0001	0.000026 J
Octachlorobiphenyls, Total	mg/kg	0.0229	0.00097	0.0527	0.23	2.61	1.06	0.482	0.00018	0.000072 J
Nonachlorobiphenyls, Total	mg/kg	0.0631	0.0038	0.138	0.622	6.57	2.37	0.981	0.00045	0.00024
Decachlorobiphenyl (PCB-209)	mg/kg	1.78	0.028	6.14	34.7	84.4	66.5	19.8	0.014	0.0017
Total PCBs	mg/kg	1.95	0.035	6.53	36.3	99.6	75.1	23.6	0.018	0.0022
03- Metals										
Total Aluminum	mg/kg	4,400	12,000	2,300	4,400	4,500	9,900	9,100	2,000	3,100
Total Antimony	mg/kg	0.53 J-	0.29 J-	1.5 J-	4.3 J-	11	7.9	3.9	0.46	0.11 J-
Total Arsenic	mg/kg	5.5	4.9	3.7	17	130	67	60	4.4	4.9
Total Barium	mg/kg	380	260	1,500	1,900	400	1,300	650	500	350
Total Beryllium	mg/kg	0.14	0.54	*< 0.088 U*	0.18	0.30	0.33	0.28	0.092	0.15
Total Cadmium	mg/kg	*< 0.047 U*	0.30	*< 0.074 U*	*< 0.070 U*	*< 0.052 U*	0.084 J	0.088 J	0.58	0.063 J
Total Calcium	mg/kg	19,000	93,000	5,400	18,000	55,000	24,000	63,000	220,000	290,000
Total Chromium	mg/kg	6.6	14	5.5	9.2	31	66	110	3.2	3.7
Total Cobalt	mg/kg	0.68	4.4	0.32	0.75	1.4	1.8	2.2	2.3	1.5
Total Copper	mg/kg	2.0	14	1.7	2.3	4.6	6.1	11	4.9	3.2
Total Iron	mg/kg	4,300	11,000	3,600	8,000	160,000	47,000	69,000	1,200	2,600
Total Lead	mg/kg	1.9	6.8	4.4	5.5	3.6 J+	12 J+	9.7 J+	4.0 J+	5.6
Total Magnesium	mg/kg	2,400	42,000	4,400	5,100	23,000	9,000	11,000	18,000	12,000
Total Manganese	mg/kg	21	350	15	18	49	75	74	170	98
Total Mercury	mg/kg	0.032 J	0.036 J	0.022 J	0.026 J	*< 0.017 U*	0.040 J	0.052 J	0.024 J	*< 0.0082 U*
Total Molybdenum	mg/kg	7.2	1.1	13	20	86	150	160	0.94	0.10 J
Total Nickel	mg/kg	1.9	12	1.1	4.3	18	9.1	9.7	5.1	3.2
Total Potassium	mg/kg	1,900	6,500	1,700	2,600	2,600	3,400	3,000	1,400	1,200
Total Selenium	mg/kg	0.19 J-	0.21 J-	0.25 J-	0.22 J-	0.53	1.0	0.85	0.88	*< 0.10 UJ*
Total Silver	mg/kg	*< 0.028 U*	0.043 J	*< 0.044 U*	*< 0.042 U*	*< 0.031 U*	0.045 J	0.050 J	0.082	*< 0.030 U*
Total Sodium	mg/kg	1,300	4,800	2,900	2,800	2,300	2,300	3,400	5,400	3,500
Total Thallium	mg/kg	0.049 J	0.13	*< 0.074 U*	0.098 J	0.19	0.15	0.13 J	0.23	*< 0.051 U*
Total Vanadium	mg/kg	11	22	8.2	15	190	100	130	17	7.3
Total Zinc	mg/kg	5.6	35	2.6	6.8	13	22	22	78	13
05-SVOCs										
1,1'-Biphenyl	mg/kg	*< 20 U*	*< 14 U*	*< 37 U*	*< 31 U*	*< 130 U*	*< 88 U*	*< 28 U*	*< 1 U*	*< 0.18 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 3.1 U*	*< 2.2 U*	*< 5.8 U*	*< 4.9 U*	*< 21 U*	*< 14 U*	*< 4.4 U*	*< 0.16 U*	*< 0.028 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 9.9 U*	*< 7.1 U*	*< 18 U*	*< 16 U*	*< 66 U*	*< 44 U*	*< 14 U*	*< 0.51 U*	*< 0.088 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-11**	**5-12**	**5-13**	**5-14**	**5-14SB**	**5-14SB**	**5-14SB**	**5-14SB**	**5-15**
	Sample Date	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**17-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 4 in**	**0 - 3 in**	**0 - 5 in**	**0 - 6 in**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**8 - 10 ft**	**0 - 6 in**
	Sample ID	**5-11-SS-01-102715**	**5-12-SS-01-102715**	**5-13-SS-01-102715**	**5-14-SS-01-102715**	**5-14SB-SB-01-0-2-120115**	**5-14SB-SB-01-2-4-120115**	**5-14SB-SB-01-4-6-120115**	**5-14SB-SB-01-8-10-120115**	**5-15-SS-01-091715**
Analyte	**Unit**									
2,4,5-Trichlorophenol	mg/kg	< 10 U	< 7.2 U	< 18 U	< 16 U	< 67 U	< 44 U	< 14 U	< 0.51 U	< 0.089 U
2,4,6-Trichlorophenol	mg/kg	< 0.53 U	< 0.38 U	< 0.98 U	< 0.84 U	< 3.6 U	< 2.3 U	< 0.74 U	< 0.027 U	< 0.0047 U
2,2-Oxybis(1-chloropropane)	mg/kg	< 9.5 U	< 6.8 U	< 18 U	< 15 U	< 64 U	< 42 U	< 13 U	< 0.49 U	< 0.085 U
2,4-Dichlorophenol	mg/kg	< 11 U	< 7.7 U	< 20 U	< 17 U	< 72 U	< 47 U	< 15 U	< 0.55 U	< 0.096 U
2,4-Dimethylphenol	mg/kg	< 20 U	< 14 U	< 37 U	< 32 U	< 130 U	< 89 U	< 28 U	< 1 U	< 0.18 U
2,4-Dinitrophenol	mg/kg	< 26 U	< 18 U	< 47 U	< 41 U	< 170 U	< 110 U	< 36 U	< 1.3 U	< 0.23 U
2,4-Dinitrotoluene	mg/kg	< 11 U	< 7.7 U	< 20 U	< 17 U	< 72 U	< 47 U	< 15 U	< 0.55 U	< 0.096 U
2,6-Dinitrotoluene	mg/kg	< 12 U	< 8.5 U	< 22 U	< 19 U	< 80 U	< 53 U	< 17 U	< 0.61 U	< 0.11 U
2-Chloronaphthalene	mg/kg	< 9.8 U	< 7 U	< 18 U	< 15 U	< 65 U	< 43 U	< 14 U	< 0.5 U	< 0.087 U
2-Chlorophenol	mg/kg	< 11 U	< 7.6 U	< 20 U	< 17 U	< 71 U	< 47 U	< 15 U	< 0.55 U	< 0.095 U
2-Methylphenol	mg/kg	< 7 U	< 5 U	< 13 U	< 11 U	< 47 U	< 31 U	< 9.8 U	< 0.36 U	< 0.062 U
2-Nitroaniline	mg/kg	< 10 U	< 7.3 U	< 19 U	< 16 U	< 68 U	< 45 U	< 14 U	< 0.52 U	< 0.09 U
2-Nitrophenol	mg/kg	< 9.9 U	< 7.1 U	< 18 U	< 16 U	< 66 U	< 44 U	< 14 U	< 0.51 U	< 0.088 U
3,3'-Dichlorobenzidine	mg/kg	< 11 U	< 8.1 U	< 21 U	< 18 U	< 76 U	< 50 U	< 16 U	< 0.58 U	< 0.1 U
3-Nitroaniline	mg/kg	< 20 U	< 14 U	< 37 U	< 32 U	< 130 U	< 89 U	< 28 U	< 1 U	< 0.18 U
4,6-Dinitro-2-methylphenol	mg/kg	< 9.8 U	< 7 U	< 18 U	< 15 U	85 J	< 43 U	< 14 U	< 0.5 U	< 0.087 U
4-Bromophenyl-phenylether	mg/kg	< 10 U	< 7.3 U	< 19 U	< 16 U	< 69 U	< 45 U	< 14 U	< 0.53 U	< 0.091 U
4-Chloro-3-methylphenol	mg/kg	< 11 U	< 7.9 U	< 20 U	< 17 U	< 74 U	< 49 U	< 15 U	< 0.57 U	< 0.099 U
4-Chloroaniline	mg/kg	< 7 U	< 5 U	< 13 U	< 11 U	< 47 U	< 31 U	< 9.8 U	< 0.36 U	< 0.062 U
4-Chlorophenyl-phenylether	mg/kg	< 11 U	< 8 U	< 21 U	< 18 U	< 75 U	< 49 U	< 16 U	< 0.58 U	< 0.1 U
3 & 4 Methylphenol	mg/kg	< 40 U	< 28 U	< 73 U	< 63 U	< 270 U	< 180 U	< 56 U	< 2 U	< 0.35 U
4-Nitroaniline	mg/kg	< 11 U	< 7.6 U	< 20 U	< 17 U	< 71 U	< 47 U	< 15 U	< 0.55 U	< 0.095 U
4-Nitrophenol	mg/kg	< 34 U	< 24 U	< 62 U	< 53 U	< 230 U	< 150 U	< 47 U	< 1.7 U	< 0.3 U
Acetophenone	mg/kg	< 36 U	< 2.2 U	< 24 U	110	< 20 U	< 13 U	< 4.2 U	< 0.15 U	< 0.038 U
Benzaldehyde	mg/kg	< 20 U	< 14 U	< 37 U	< 31 U	< 130 U	< 88 U	< 28 U	< 1 U	< 0.18 U
Benzylbutylphthalate	mg/kg	< 11 U	< 8.2 U	< 21 U	< 18 U	< 77 U	< 50 U	< 16 U	< 0.59 U	< 0.1 U
Bis(2-chloroethoxy)methane	mg/kg	< 11 U	< 7.6 U	< 20 U	< 17 U	< 71 U	< 47 U	< 15 U	< 0.55 U	< 0.095 U
bis(2-Chloroethyl) ether	mg/kg	< 9.8 U	< 7 U	< 18 U	< 15 U	< 65 U	< 43 U	< 14 U	< 0.5 U	< 0.087 U
Bis(2-ethylhexyl)phthalate	mg/kg	< 12 U	< 8.5 U	< 22 U	< 19 U	< 79 U	< 52 U	< 16 U	< 0.61 U	< 0.11 U
Carbazole	mg/kg	< 11 U	< 8.2 U	< 21 U	< 18 U	< 77 U	< 50 U	< 16 U	< 0.59 U	< 0.1 U
Dibenzofuran	mg/kg	< 10 U	< 7.4 U	< 19 U	< 16 U	< 69 U	< 46 U	< 14 U	< 0.53 U	< 0.092 U
Diethyl phthalate	mg/kg	< 11 U	< 7.8 U	< 20 U	< 17 U	< 73 U	< 48 U	< 15 U	< 0.56 U	< 0.097 U
Dimethylphthalate	mg/kg	< 11 U	< 7.5 U	< 19 U	< 17 U	< 70 U	< 46 U	< 15 U	< 0.54 U	< 0.094 U
Di-n-butylphthalate	mg/kg	< 12 U	< 8.4 U	< 21 U	< 18 U	< 78 U	< 52 U	< 16 U	< 0.6 U	< 0.1 U
Di-n-octylphthalate	mg/kg	< 12 U	< 8.4 U	< 21 U	< 18 U	< 78 U	< 52 U	< 16 U	< 0.6 U	< 0.1 U
Hexachlorobenzene	mg/kg	17	0.32 J	63	610	3,100	1,100	540	0.13	0.026
Hexachlorobutadiene	mg/kg	< 0.45 U	< 0.32 U	< 0.82 U	< 0.7 U	15	< 2 U	0.75 J	< 0.023 U	< 0.0040 U
Hexachlorocyclopentadiene	mg/kg	< 7.5 U	< 5.4 U	< 14 U	< 12 U	< 50 U	< 33 U	< 10 U	< 0.38 U	< 0.067 U
Hexachloroethane	mg/kg	< 9.8 U	< 7 U	< 18 U	< 15 U	< 65 U	< 43 U	< 14 U	< 0.5 U	< 0.087 U
Isophorone	mg/kg	< 11 U	< 8 U	< 21 U	< 18 U	< 75 U	< 49 U	< 16 U	< 0.58 U	< 0.1 U
Nitrobenzene	mg/kg	< 9.2 U	< 6.6 U	< 17 U	< 14 U	< 61 U	< 40 U	< 13 U	< 0.47 U	< 0.082 U

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-11**	**5-12**	**5-13**	**5-14**	**5-14SB**	**5-14SB**	**5-14SB**	**5-14SB**	**5-15**
	Sample Date	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**17-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 4 in**	**0 - 3 in**	**0 - 5 in**	**0 - 6 in**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**8 - 10 ft**	**0 - 6 in**
	Sample ID	**5-11-SS-01-102715**	**5-12-SS-01-102715**	**5-13-SS-01-102715**	**5-14-SS-01-102715**	**5-14SB-SB-01-0-2-120115**	**5-14SB-SB-01-2-4-120115**	**5-14SB-SB-01-4-6-120115**	**5-14SB-SB-01-8-10-120115**	**5-15-SS-01-091715**
Analyte	**Unit**									
N-Nitrosodimethylamine	mg/kg	*< 12 U*	*< 8.3 U*	*< 21 U*	*< 18 U*	*< 78 U*	*< 51 U*	*< 16 U*	*< 0.59 U*	*< 0.1 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 10 U*	*< 7.3 U*	*< 19 U*	*< 16 U*	*< 68 U*	*< 45 U*	*< 14 U*	*< 0.52 U*	*< 0.09 U*
N-Nitrosodiphenylamine	mg/kg	*< 10 U*	*< 7.4 U*	*< 19 U*	*< 16 U*	*< 69 U*	*< 46 U*	*< 14 U*	*< 0.53 U*	*< 0.092 U*
Pentachlorobenzene	mg/kg	*< 1.6 UJ*	*< 1.1 UJ*	*< 2.9 UJ*	11 J-	200 J	29 J	20 J	*< 0.081 U*	*< 0.014 U*
Pentachlorophenol	mg/kg	*< 2.9 U*	*< 2.1 U*	*< 5.3 U*	*< 4.6 U*	*< 19 U*	*< 13 U*	*< 4 U*	*< 0.15 U*	*< 0.026 U*
Phenol	mg/kg	87	*< 7.2 U*	43 J	200	*< 67 U*	*< 44 U*	*< 14 U*	*< 0.51 U*	*< 0.089 U*
06-PAHs										
2-Methylnaphthalene	mg/kg	*< 0.0069 U*	*< 0.0049 U*	*< 0.011 U*	*< 0.0099 U*	0.062 J	1	0.44	0.0014 J	*< 0.00043 U*
Acenaphthene	mg/kg	*< 0.0075 U*	*< 0.0053 U*	*< 0.012 U*	*< 0.011 U*	*< 0.0098 U*	0.049 J	0.062 J	*< 0.00059 U*	*< 0.00047 U*
Acenaphthylene	mg/kg	*< 0.0053 U*	*< 0.0037 U*	*< 0.0082 U*	*< 0.0076 U*	0.52	*< 0.0089 U*	*< 0.0067 U*	*< 0.00041 U*	*< 0.00033 U*
Anthracene	mg/kg	*< 0.0063 U*	*< 0.0045 U*	*< 0.0098 U*	*< 0.0091 U*	0.057 J	*< 0.011 U*	*< 0.0081 U*	*< 0.00049 U*	*< 0.00039 U*
Benzo(a)anthracene	mg/kg	*< 0.0048 U*	*< 0.0034 U*	*< 0.0075 U*	*< 0.0069 U*	*< 0.0063 U*	0.016 J	*< 0.0062 U*	*< 0.00038 U*	*< 0.00030 U*
Benzo(a)pyrene	mg/kg	*< 0.0064 U*	*< 0.0045 U*	0.042 J	0.2	0.85	0.44	0.098 J	*< 0.00050 U*	*< 0.00040 U*
Benzo(b)fluoranthene	mg/kg	*< 0.0081 U*	*< 0.0057 U*	*< 0.013 U*	*< 0.012 U*	*< 0.01 U*	*< 0.014 U*	*< 0.01 U*	*< 0.00063 U*	*< 0.00050 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.016 U*	*< 0.011 U*	*< 0.025 U*	*< 0.023 U*	*< 0.021 U*	*< 0.027 U*	*< 0.02 U*	*< 0.0012 U*	*< 0.00099 U*
Benzo(k)fluoranthene	mg/kg	*< 0.012 U*	*< 0.0086 U*	*< 0.019 U*	*< 0.017 U*	*< 0.016 U*	*< 0.02 U*	*< 0.016 U*	*< 0.00095 U*	*< 0.00076 U*
Chrysene	mg/kg	*< 0.0055 U*	*< 0.0039 U*	*< 0.0086 U*	*< 0.0080 U*	*< 0.0072 U*	0.032 J	*< 0.0071 U*	*< 0.00043 U*	*< 0.00034 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.019 U*	*< 0.014 U*	*< 0.03 U*	*< 0.028 U*	*< 0.025 U*	*< 0.032 U*	*< 0.024 U*	*< 0.0015 U*	*< 0.0012 U*
Fluoranthene	mg/kg	*< 0.0047 U*	*< 0.0033 U*	*< 0.0073 U*	*< 0.0067 U*	*< 0.0061 U*	0.015 J	0.0096 J	*< 0.00037 U*	0.00053 J
Fluorene	mg/kg	*< 0.0078 U*	*< 0.0055 U*	*< 0.012 U*	*< 0.011 U*	*< 0.01 U*	0.09 J	0.053 J	*< 0.00061 U*	*< 0.00049 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.0076 U*	*< 0.0054 U*	*< 0.012 U*	*< 0.011 U*	0.013 J	*< 0.013 U*	*< 0.0098 U*	*< 0.00060 U*	*< 0.00048 U*
Naphthalene	mg/kg	*< 0.0049 U*	*< 0.0035 U*	*< 0.0076 U*	*< 0.0070 U*	*< 0.0064 U*	0.21	*< 0.073 U*	*< 0.00062 U*	*< 0.00051 U*
Phenanthrene	mg/kg	*< 0.0056 U*	*< 0.0040 U*	*< 0.0087 U*	*< 0.0080 U*	0.22	*< 0.12 U*	0.15	*< 0.00085 U*	*< 0.00058 U*
Pyrene	mg/kg	*< 0.0056 U*	*< 0.0040 U*	*< 0.0087 U*	*< 0.0080 U*	0.016 J	0.021 J	0.011 J	*< 0.00044 U*	0.00038 J
07-VOCs										
1,4-Dioxane	mg/kg	*< 0.072 U*	*< 0.063 U*	*< 0.13 U*	*< 0.074 U*	*< 0.08 U*	*< 0.14 UJ*	*< 0.099 UJ*	*< 0.05 U*	*< 0.041 U*
1,1-Dichloroethane	mg/kg	*< 0.00053 U*	*< 0.00047 U*	*< 0.00096 U*	*< 0.00055 U*	0.0069 J+	0.014 J+	0.0047 J+	0.00053 J	*< 0.00030 U*
1,1-Dichloroethene	mg/kg	*< 0.00048 U*	*< 0.00042 U*	*< 0.00086 U*	*< 0.00049 U*	0.0050 J+	0.0042 J+	*< 0.00066 U*	*< 0.00033 U*	*< 0.00027 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0016 U*	*< 0.0014 U*	*< 0.0029 U*	*< 0.0017 U*	*< 0.0018 UJ*	*< 0.0032 UJ*	*< 0.0022 U*	*< 0.0011 U*	*< 0.00092 U*
1,2-Dibromoethane	mg/kg	*< 0.00050 U*	*< 0.00043 U*	*< 0.00089 U*	*< 0.00051 U*	*< 0.00055 UJ*	*< 0.00098 U*	*< 0.00069 U*	*< 0.00035 U*	*< 0.00028 U*
1,2-Dichlorobenzene	mg/kg	*< 0.0012 U*	*< 0.0010 U*	*< 0.0021 U*	*< 0.0012 U*	*< 0.0013 UJ*	*< 0.0023 UJ*	*< 0.0016 U*	*< 0.00082 U*	*< 0.00067 U*
1,2-Dichloroethane	mg/kg	*< 0.0013 U*	*< 0.0012 U*	*< 0.0024 U*	*< 0.0014 U*	0.0025 J+	0.0055 J+	*< 0.0019 U*	*< 0.00094 U*	*< 0.00076 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0016 U*	*< 0.0014 U*	*< 0.0029 U*	*< 0.0017 U*	*< 0.0018 U*	*< 0.0032 U*	*< 0.0023 U*	*< 0.0011 U*	*< 0.00093 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00070 U*	*< 0.00061 U*	*< 0.0013 U*	*< 0.00072 U*	*< 0.00078 U*	*< 0.0014 U*	*< 0.00096 U*	*< 0.00049 U*	*< 0.00040 U*
1,2-Dichloropropane	mg/kg	*< 0.0011 U*	*< 0.00096 U*	*< 0.0020 U*	*< 0.0011 U*	*< 0.0012 U*	0.0061 J+	*< 0.0015 U*	*< 0.00077 U*	*< 0.00063 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00055 U*	*< 0.00048 U*	*< 0.00099 U*	*< 0.00057 U*	*< 0.00062 UJ*	*< 0.0011 UJ*	*< 0.00076 U*	*< 0.00039 U*	*< 0.00031 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.0012 U*	*< 0.0010 U*	*< 0.0021 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0023 U*	*< 0.0016 U*	*< 0.00082 U*	*< 0.00067 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0014 U*	*< 0.0012 U*	*< 0.0025 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0027 U*	*< 0.0019 U*	*< 0.00096 U*	*< 0.00078 U*
1,4-Dichlorobenzene	mg/kg	*< 0.0014 U*	*< 0.0013 U*	*< 0.0026 U*	*< 0.0015 U*	*< 0.0016 UJ*	*< 0.0028 UJ*	*< 0.0020 U*	*< 0.0010 U*	*< 0.00082 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-11**	**5-12**	**5-13**	**5-14**	**5-14SB**	**5-14SB**	**5-14SB**	**5-14SB**	**5-15**
	Sample Date	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**17-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 4 in**	**0 - 3 in**	**0 - 5 in**	**0 - 6 in**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**8 - 10 ft**	**0 - 6 in**
	Sample ID	**5-11-SS-01-102715**	**5-12-SS-01-102715**	**5-13-SS-01-102715**	**5-14-SS-01-102715**	**5-14SB-SB-01-0-2-120115**	**5-14SB-SB-01-2-4-120115**	**5-14SB-SB-01-4-6-120115**	**5-14SB-SB-01-8-10-120115**	**5-15-SS-01-091715**
Analyte	**Unit**									
1,1,1-Trichloroethane	mg/kg	*< 0.00066 U*	*< 0.00058 U*	*< 0.0012 U*	*< 0.00068 U*	0.0052 J+	0.0065 J+	0.0013 J+	*< 0.00046 U*	*< 0.00038 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00081 U*	*< 0.00071 U*	*< 0.0015 U*	*< 0.00083 U*	*< 0.00090 U*	*< 0.0016 U*	*< 0.0011 U*	*< 0.00057 U*	*< 0.00046 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	*< 0.0015 U*	*< 0.0013 U*	*< 0.0027 U*	*< 0.0016 U*	*< 0.0017 U*	*< 0.0030 U*	*< 0.0021 U*	*< 0.0011 U*	*< 0.00087 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0014 U*	*< 0.0012 U*	*< 0.0025 U*	*< 0.0014 U*	*< 0.0015 UJ*	*< 0.0027 UJ*	*< 0.0019 U*	*< 0.00096 U*	*< 0.00078 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0014 U*	*< 0.0012 U*	*< 0.0025 U*	*< 0.0014 U*	*< 0.0015 UJ*	*< 0.0027 UJ*	*< 0.0019 U*	*< 0.00096 U*	*< 0.00078 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0013 U*	*< 0.0011 U*	*< 0.0022 U*	*< 0.0013 U*	*< 0.0014 UJ*	*< 0.0025 UJ*	*< 0.0017 U*	*< 0.00087 U*	*< 0.00071 U*
2-Butanone	mg/kg	0.012 J	0.011 J	0.027 J	*< 0.0026 U*	0.04 J+	0.15 J+	0.077 J+	0.012 J	*< 0.0015 U*
2-Hexanone	mg/kg	*< 0.0014 U*	*< 0.0012 U*	*< 0.0024 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0027 U*	0.013 J+	0.0015 J	*< 0.00077 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0017 U*	*< 0.0015 U*	*< 0.0030 U*	*< 0.0017 U*	*< 0.0019 U*	*< 0.0033 U*	*< 0.0023 U*	*< 0.0012 U*	*< 0.00096 U*
Acetone	mg/kg	0.046	0.039	0.11	*< 0.0069 U*	0.23 J+	1.4 J-	0.46 J+	0.04	*< 0.0015 U*
Benzene	mg/kg	*< 0.00048 U*	*< 0.00042 U*	*< 0.00086 U*	*< 0.00049 U*	0.0011 J+	0.0017 J+	0.00086 J+	*< 0.00033 U*	*< 0.00027 U*
Bromochloromethane	mg/kg	*< 0.0017 U*	*< 0.0015 U*	*< 0.0031 U*	*< 0.0018 U*	*< 0.0019 U*	*< 0.0034 U*	0.0045 J+	*< 0.0012 U*	*< 0.00098 U*
Bromodichloromethane	mg/kg	0.019	0.023	0.075	0.012	2.1 J-	1.9 J-	0.37 J+	*< 0.00068 U*	*< 0.00055 U*
Bromoform	mg/kg	0.12	0.16	0.38	0.026	10 J-	7.2 J-	2.8 J-	0.0021 J	*< 0.00042 U*
Bromomethane	mg/kg	*< 0.0016 U*	*< 0.0014 U*	*< 0.0028 U*	*< 0.0016 U*	0.011 J+	*< 0.0031 U*	*< 0.0022 U*	*< 0.0011 U*	*< 0.00090 U*
Carbon disulfide	mg/kg	0.011 J	0.0013 J	0.024 J	*< 0.00093 U*	0.0011 J+	0.0026 J+	0.0042 J+	0.0037 J	*< 0.00051 U*
Carbon tetrachloride	mg/kg	0.0030 J	0.0018 J	0.0028 J	*< 0.0010 U*	0.4 J+	0.33 J+	0.021 J+	*< 0.00068 U*	*< 0.00055 U*
Chlorobenzene	mg/kg	*< 0.00053 U*	*< 0.00047 U*	*< 0.00096 U*	*< 0.00055 U*	*< 0.00060 UJ*	*< 0.0011 U*	*< 0.00074 U*	*< 0.00037 U*	*< 0.00030 U*
Cyclohexane	mg/kg	*< 0.0048 U*	*< 0.0042 U*	*< 0.0087 U*	*< 0.0050 U*	*< 0.0054 U*	*< 0.0096 U*	*< 0.0067 U*	*< 0.0034 U*	*< 0.0027 U*
Dibromochloromethane	mg/kg	0.052	0.067	0.21	0.016	4.4 J-	3.3 J-	0.66 J+	0.00068 J	*< 0.00022 U*
Chloroethane	mg/kg	*< 0.00083 U*	*< 0.00072 U*	0.0020 J	*< 0.00085 U*	0.044 J+	0.03 J+	0.0049 J+	*< 0.00058 U*	*< 0.00047 U*
Chloroform	mg/kg	*< 0.0059 U*	*< 0.0069 U*	0.022	*< 0.0066 U*	0.51 J+	0.96 J+	0.26 J+	0.0050 J	*< 0.00027 U*
Chloromethane	mg/kg	0.0050 J	0.0030 J	0.0089 J	*< 0.00094 U*	0.038 J+	0.059 J+	0.014 J+	*< 0.00064 U*	*< 0.00052 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0016 U*	*< 0.0014 U*	*< 0.0029 U*	*< 0.0017 U*	*< 0.0018 U*	*< 0.0032 U*	*< 0.0023 U*	*< 0.0011 U*	*< 0.00093 U*
Ethyl benzene	mg/kg	*< 0.00063 U*	*< 0.00055 U*	*< 0.0011 U*	*< 0.00064 U*	*< 0.00070 UJ*	*< 0.0012 U*	0.0033 J+	*< 0.00044 U*	*< 0.00036 U*
Isopropylbenzene	mg/kg	*< 0.00096 U*	*< 0.00084 U*	*< 0.0017 U*	*< 0.00098 U*	*< 0.0011 UJ*	0.0079 J+	0.0043 J+	*< 0.00067 U*	*< 0.00054 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.0011 U*	*< 0.00096 U*	*< 0.0020 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0022 U*	*< 0.0015 U*	*< 0.00077 U*	*< 0.00063 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0015 U*	*< 0.0014 U*	*< 0.0028 U*	*< 0.0016 U*	0.012 J+	0.085 J+	0.075 J+	*< 0.0011 U*	*< 0.00088 U*
Styrene	mg/kg	*< 0.00057 U*	*< 0.00050 U*	*< 0.0010 U*	*< 0.00059 U*	*< 0.00064 UJ*	*< 0.0011 U*	*< 0.00079 U*	*< 0.00040 U*	*< 0.00032 U*
Tetrachloroethene	mg/kg	*< 0.0011 U*	*< 0.00098 U*	*< 0.0020 U*	*< 0.0012 U*	0.37 J+	0.071 J+	0.019 J+	*< 0.00078 U*	*< 0.00064 U*
Toluene	mg/kg	*< 0.0011 U*	*< 0.00098 U*	*< 0.0020 U*	*< 0.0012 U*	0.0021 J+	0.0027 J+	0.0025 J+	*< 0.00078 U*	*< 0.00064 U*
Trichloroethene	mg/kg	*< 0.0011 U*	*< 0.00096 U*	*< 0.0020 U*	*< 0.0011 U*	0.013 J+	0.014 J+	0.0036 J+	0.0025 J	*< 0.00063 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00063 U*	*< 0.00055 U*	*< 0.0011 U*	*< 0.00064 U*	0.0025 J+	0.0027 J+	*< 0.00086 U*	*< 0.00044 U*	*< 0.00036 U*
Vinyl chloride	mg/kg	*< 0.00066 U*	*< 0.00058 U*	*< 0.0012 U*	*< 0.00068 U*	*< 0.00074 U*	*< 0.0013 U*	*< 0.00091 U*	*< 0.00046 U*	*< 0.00038 U*
o-Xylene	mg/kg	*< 0.00061 U*	0.0059 J	*< 0.0011 U*	*< 0.00062 U*	*< 0.00068 UJ*	*< 0.0012 U*	0.0092 J+	*< 0.00042 U*	*< 0.00034 U*
m,p Xylenes	mg/kg	*< 0.0015 U*	0.0067 J	*< 0.0027 U*	*< 0.0015 U*	*< 0.0017 UJ*	0.033 J+	0.018 J+	*< 0.0010 U*	*< 0.00085 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-11**	**5-12**	**5-13**	**5-14**	**5-14SB**	**5-14SB**	**5-14SB**	**5-14SB**	**5-15**
	Sample Date	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**27-Oct-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**01-Dec-15**	**17-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 4 in**	**0 - 3 in**	**0 - 5 in**	**0 - 6 in**	**0 - 2 ft**	**2 - 4 ft**	**4 - 6 ft**	**8 - 10 ft**	**0 - 6 in**
	Sample ID	**5-11-SS-01-102715**	**5-12-SS-01-102715**	**5-13-SS-01-102715**	**5-14-SS-01-102715**	**5-14SB-SB-01-0-2-120115**	**5-14SB-SB-01-2-4-120115**	**5-14SB-SB-01-4-6-120115**	**5-14SB-SB-01-8-10-120115**	**5-15-SS-01-091715**
Analyte	**Unit**									
08-General Solids Parameters										
Perchlorate	mg/kg	< *0.031 U*	< *0.023 U*	< *0.045 U*	< *0.047 U*	< *0.038 U*	< *0.05 U*	0.00071 J	< *0.025 U*	< *0.021 U*
Total Organic Carbon	mg/kg	2,600 J	4,400	3,600 J	12,000	30,000	44,000	27,000	2,400 J	< *1,700 UJ*
pH	pH units	1.34	7.59	1.06	1.21	1.86	2.26	5.16	6.91	8.95
Cyanide, Total	mg/kg	< *0.30 U*	< *0.23 U*	< *0.47 U*	< *0.47 U*	< *0.41 U*	< *0.53 U*	< *0.41 U*	< *0.26 U*	< *0.21 U*
Percent finer than 0.25 millimeters	%	87	97.1	84.6	96.4	94.6	85.3	90.7	22.2	12.9

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-16**	**5-16**	**5-16**	**5-16**	**5-16**	**5-17**	**5-18**	**5-19**	**5-20**
	Sample Date	**15-Oct-15**	**05-Nov-15**	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**6.5 - 8 ft**	**0.5 - 2 ft**	**2 - 4 ft**	**4 - 5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-16-SS-01-101515**	**5-16-SB-01-6.5-8-110515**	**5-16-SB-01-0.5-2-120215**	**5-16-SB-01-2-4-120215**	**5-16-SB-01-4-5-120215**	**5-17-SS-01-091815**	**5-18-SS-01-091815**	**5-19-SS-01-091815**	**5-20-SS-01-091815**
Analyte	**Unit**									
01-Dioxins and Furans										
2,3,7,8-TCDD	pg/g	*< 1.1 U*	*< 0.86 U*	*< 17 UQ*	*< 27 U*	*< 14 U*	5.7 J	*< 0.078 U*	*< 0.030 U*	*< 0.069 U*
1,2,3,7,8-PeCDD	pg/g	7.6 J	*< 1.4 U*	180	*< 120 U*	*< 68 U*	33 J	*< 0.11 U*	*< 0.047 U*	0.38 J
1,2,3,4,7,8-HxCDD	pg/g	9.0 J	*< 1.8 UQ*	190	*< 250 UQ*	*< 150 UQ*	30 J	*< 0.10 U*	*< 0.091 U*	*< 0.24 UQ*
1,2,3,6,7,8-HxCDD	pg/g	29 J	5.2 J	560	600	470	95	0.22 J	*< 0.079 U*	*< 0.72 UQ*
1,2,3,7,8,9-HxCDD	pg/g	35 J	6.4 J	680	760	470	130	*< 0.23 U*	*< 0.074 U*	1.3 J
1,2,3,4,6,7,8-HpCDD	pg/g	190	39	3,400	4,100	2,100	700	2.0 J	0.33 J	6.8
OCDD	pg/g	580	310	10,000 J	*< 15,000 UQ*	8,300	2,900	8.6 J	*< 1.2 U*	24
2,3,7,8-TCDF	pg/g	310	54	2,700	5,000	2,500	910	5.9	0.86 J	27
1,2,3,7,8-PeCDF	pg/g	500	210	12,000	18,000	9,700	2,500	5.8 J	1.1 J	32
2,3,4,7,8-PeCDF	pg/g	230	170	7,900	14,000	7,000	1,600	3.6 J	0.62 J	17
1,2,3,4,7,8-HxCDF	pg/g	1,600	730	50,000	85,000	46,000	8,100	12	3.6 J	79
1,2,3,6,7,8-HxCDF	pg/g	1,200	470	29,000	52,000	25,000	5,700	11	2.5 J	73
1,2,3,7,8,9-HxCDF	pg/g	170	82	5,000	7,500	3,900	750	*< 1.3 U*	*< 0.30 U*	*< 7.3 U*
2,3,4,6,7,8-HxCDF	pg/g	250	160	7,400	14,000	7,000	1,300	3.2 J	*< 0.77 UQ*	26
1,2,3,4,6,7,8-HpCDF	pg/g	12,000	4,400	280,000	500,000	270,000	49,000	96	21	880
1,2,3,4,7,8,9-HpCDF	pg/g	2,900	1,400	89,000	*< 140,000 UQ*	87,000	17,000	23	4.0 J	96
OCDF	pg/g	91,000	28,000	1,700,000 J	3,100,000	1,600,000	490,000	780	130	4,700
Calculated TEQ (ND=0), Mammalian	pg/g	630	300	17,000	30,000	15,000	3,100	6.6	1.2	38
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	650	300	17,000	31,000	16,000	3,100	6.8	1.3	39
Calculated TEQ (ND=0), Avian	pg/g	32,000	19,000	1,800,000	5,000,000	1,100,000	85,000	16	71	340
Calculated TEQ (ND=1/2 DL), Avian	pg/g	32,000	19,000	1,800,000	5,000,000	1,100,000	85,000	140	72	340
02-PCBs										
PCB-77	pg/g	*< 248 U*	220	*< 1,930 UJ*	*< 1,870 UJ*	*< 1,700 UJ*	*< 256 U*	12	0.61 J	*< 4.6 U*
PCB-81	pg/g	*< 248 UJ*	120	4,000	17,500	3,680	*< 256 UJ*	3.4	*< 0.29 U*	*< 4.0 U*
PCB-105	pg/g	*< 248 U*	520	9,400 J	37,100 J	7,650 J	*< 256 U*	56	*< 0.82 U*	*< 11 UQ*
PCB-107/123	pg/g	*< 497 U*		13,700	63,100	*< 3,400 U*	*< 512 U*			
PCB-114	pg/g	*< 248 U*	270	3,360 J	22,300	3,730	*< 256 U*	6.5	*< 0.30 U*	*< 4.6 U*
PCB-118	pg/g	*< 248 U*	680	15,600	76,400	14,000	441 J	76	*< 1.5 U*	*< 22 UQ*
PCB-123	pg/g		220					5.4	*< 0.29 U*	*< 4.6 U*
PCB-126	pg/g	*< 248 U*	180	5,050	25,200	4,300	*< 256 U*	6.5	*< 0.35 U*	*< 7.6 U*
PCB-156	pg/g	*< 248 U*		7,960	50,100	9,600	*< 256 U*			
PCB-157	pg/g	*< 248 U*		3,440 J	22,600	3,860	*< 256 U*			
PCB-156/157	pg/g		690					25	1.1 J	19 J
PCB-167	pg/g	*< 248 U*	630	5,740	56,000	6,590	*< 256 U*	13	1.2 J	20 J
PCB-169	pg/g	*< 248 U*	76	*< 1,930 U*	*< 1,870 U*	*< 1,700 U*	*< 256 U*	*< 1.7 U*	*< 0.19 U*	*< 4.5 U*
PCB-189	pg/g	*< 248 U*	910	12,800	57,600	7,770	*< 256 U*	14	2.2	*< 20 UQ*
Monochlorobiphenyls, Total	mg/kg	*< 0.000248 U*	0.00019	0.00446 J+	0.0207 J+	0.00301 J+	*< 0.000256 U*	0.000021 J	0.0000024 J	*< 0.0000020 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-16**	**5-16**	**5-16**	**5-16**	**5-16**	**5-17**	**5-18**	**5-19**	**5-20**
	Sample Date	**15-Oct-15**	**05-Nov-15**	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**6.5 - 8 ft**	**0.5 - 2 ft**	**2 - 4 ft**	**4 - 5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-16-SS-01-101515**	**5-16-SB-01-6.5-8-110515**	**5-16-SB-01-0.5-2-120215**	**5-16-SB-01-2-4-120215**	**5-16-SB-01-4-5-120215**	**5-17-SS-01-091815**	**5-18-SS-01-091815**	**5-19-SS-01-091815**	**5-20-SS-01-091815**
Analyte	**Unit**									
Dichlorobiphenyls, Total	mg/kg	0.00309	0.0023	0.0274	0.228	0.0312	0.000443 J	0.00025	0.000045 J	0.00011 J
Trichlorobiphenyls, Total	mg/kg	0.00254	0.0045	0.108 J	0.547 J	0.0901 J	0.000281 J	0.000087 J	0.0000056 J	0.000023 J
Tetrachlorobiphenyls, Total	mg/kg	0.00182 J	0.0064	0.178 J	0.788 J	0.138 J	0.000258 J	0.00016 J	0.0000054 J	0.00003 J
Pentachlorobiphenyls, Total	mg/kg	0.00335	0.01	0.299 J	1.28 J	0.241 J	0.00103	0.00046	0.000012 J	0.00016 J
Hexachlorobiphenyls, Total	mg/kg	0.00106	0.014	0.322 J	1.41 J	0.288 J	*< 0.000256 U*	0.0004	0.000023 J	0.00046 J
Heptachlorobiphenyls, Total	mg/kg	0.000602	0.022	0.4	1.77	0.535	0.000624	0.00044	0.000049 J	0.00088 J
Octachlorobiphenyls, Total	mg/kg	0.00394 J+	0.032	0.578	2.55	0.532	0.00360	0.00075	0.000082 J	0.0025
Nonachlorobiphenyls, Total	mg/kg	0.0120 J+	0.06	1.09	4.89	0.975	0.0111	0.0019	0.00019 J	0.0058
Decachlorobiphenyl (PCB-209)	mg/kg	0.193 J+	0.36 J	6.84	18.2	6.66	0.154	0.015	0.0012	0.043
Total PCBs	mg/kg	0.221	0.51	9.85	31.7	9.49	0.171	0.019	0.0016	0.053
03- Metals										
Total Aluminum	mg/kg	5,600	19,000	2,400	4,600	3,500	16,000	8,700	3,800	6,500
Total Antimony	mg/kg	0.28	1.5	0.97 J-	1.2 J-	0.98 J-	0.57 J-	0.41 J-	0.18 J-	0.20 J-
Total Arsenic	mg/kg	13	34	23	30	23	19	15	7.5	6.9
Total Barium	mg/kg	230	270	150	200	210	430	360	330	280
Total Beryllium	mg/kg	0.25	0.88	0.094 J	0.23	0.17	0.70	0.38	0.17	0.29
Total Cadmium	mg/kg	0.051 J	1.0	*< 0.049 U*	0.068 J	0.063 J	0.12 J	0.14	0.076 J	0.12
Total Calcium	mg/kg	130,000	87,000	150,000	120,000	130,000	45,000	140,000	250,000	200,000
Total Chromium	mg/kg	11	24	34 J-	36 J-	25 J-	28	15	4.4	9.1
Total Cobalt	mg/kg	1.1	8.5	0.78	1.8	1.6	4.2	2.8	1.7	2.4
Total Copper	mg/kg	6.3	20	4.6	9.0	7.2	15	9.8	3.4	10
Total Iron	mg/kg	12,000	19,000	28,000	41,000	28,000	35,000	19,000	3,700	8,900
Total Lead	mg/kg	7.1 J+	12 J+	7.5 J+	8.4 J+	8.5 J+	12	12	4.9	11
Total Magnesium	mg/kg	8,300	23,000	8,400	16,000	16,000	15,000	18,000	14,000	12,000
Total Manganese	mg/kg	40	360	23	51	67	140	170	94	140
Total Mercury	mg/kg	0.078	*< 0.047 U*	0.030 J	*< 0.017 U*	*< 0.014 U*	0.027 J	0.017 J	*< 0.0083 U*	0.015 J
Total Molybdenum	mg/kg	9.2	13	24	45	31	15	4.8	0.15 J	3.4
Total Nickel	mg/kg	3.5	24	3.0	8.0	5.9	13	7.6	3.9	6.0
Total Potassium	mg/kg	1,900	9,100	2,100	3,100	3,600	4,300	3,600	1,300	2,500
Total Selenium	mg/kg	0.21	5.3	0.30	0.41	0.27	0.44 J-	0.22 J-	*< 0.10 UJ*	0.12 J-
Total Silver	mg/kg	*< 0.027 U*	0.47	*< 0.030 U*	*< 0.030 U*	*< 0.028 U*	*< 0.042 U*	*< 0.035 U*	*< 0.031 U*	*< 0.034 U*
Total Sodium	mg/kg	6,800	10,000	5,900	8,300	11,000	3,500	5,900	4,200	2,900
Total Thallium	mg/kg	0.045 J	1.3	*< 0.049 U*	0.069 J	0.051 J	0.21	0.10 J	0.064 J	0.10 J
Total Vanadium	mg/kg	27	49	64 J-	62 J-	41 J-	54	41	8.9	16
Total Zinc	mg/kg	18	59	10	35	21	49	420	90	47
05-SVOCs										
1,1'-Biphenyl	mg/kg	*< 20 U*	*< 1.2 U*	*< 25 U*	*< 36 U*	*< 27 U*	*< 1.8 U*	*< 1.8 U*	*< 0.17 U*	*< 0.18 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 3.1 U*	*< 0.19 U*	*< 3.9 U*	*< 5.6 U*	*< 4.2 U*	*< 0.29 U*	*< 0.28 U*	*< 0.027 U*	*< 0.028 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 9.8 U*	*< 0.61 U*	*< 12 U*	*< 18 U*	*< 13 U*	*< 0.92 U*	*< 0.89 U*	*< 0.087 U*	*< 0.088 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-16**	**5-16**	**5-16**	**5-16**	**5-16**	**5-17**	**5-18**	**5-19**	**5-20**
	Sample Date	**15-Oct-15**	**05-Nov-15**	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**6.5 - 8 ft**	**0.5 - 2 ft**	**2 - 4 ft**	**4 - 5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-16-SS-01-101515**	**5-16-SB-01-6.5-8-110515**	**5-16-SB-01-0.5-2-120215**	**5-16-SB-01-2-4-120215**	**5-16-SB-01-4-5-120215**	**5-17-SS-01-091815**	**5-18-SS-01-091815**	**5-19-SS-01-091815**	**5-20-SS-01-091815**
Analyte	**Unit**									
2,4,5-Trichlorophenol	mg/kg	*< 10 U*	*< 0.62 U*	*< 12 U*	*< 18 U*	*< 13 U*	*< 0.93 U*	*< 0.9 U*	*< 0.088 U*	*< 0.089 U*
2,4,6-Trichlorophenol	mg/kg	*< 0.53 U*	*< 0.033 U*	*< 0.65 U*	*< 0.95 U*	*< 0.71 U*	*< 0.049 U*	*< 0.048 U*	*< 0.0047 U*	*< 0.0047 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 9.5 U*	*< 0.59 U*	*< 12 UJ*	*< 17 UJ*	*< 13 UJ*	*< 0.89 U*	*< 0.86 U*	*< 0.084 U*	*< 0.085 U*
2,4-Dichlorophenol	mg/kg	*< 11 U*	*< 0.66 U*	*< 13 U*	*< 19 U*	*< 14 U*	*< 1 U*	*< 0.97 U*	*< 0.094 U*	*< 0.095 U*
2,4-Dimethylphenol	mg/kg	*< 20 U*	*< 1.2 U*	*< 25 U*	*< 36 U*	*< 27 U*	*< 1.9 U*	*< 1.8 U*	*< 0.18 U*	*< 0.18 U*
2,4-Dinitrophenol	mg/kg	*< 26 U*	*< 1.6 U*	*< 32 U*	*< 46 U*	*< 35 U*	*< 2.4 U*	*< 2.3 U*	*< 0.23 U*	*< 0.23 U*
2,4-Dinitrotoluene	mg/kg	*< 11 U*	*< 0.66 U*	*< 13 U*	*< 19 U*	*< 14 U*	*< 1 U*	*< 0.97 U*	*< 0.094 U*	*< 0.095 U*
2,6-Dinitrotoluene	mg/kg	*< 12 U*	*< 0.74 U*	*< 15 U*	*< 21 U*	*< 16 U*	*< 1.1 U*	*< 1.1 U*	*< 0.1 U*	*< 0.11 U*
2-Chloronaphthalene	mg/kg	*< 9.7 U*	*< 0.6 U*	*< 12 U*	*< 18 U*	*< 13 U*	*< 0.91 U*	*< 0.88 U*	*< 0.086 U*	*< 0.087 U*
2-Chlorophenol	mg/kg	*< 11 U*	*< 0.65 U*	*< 13 U*	*< 19 U*	*< 14 U*	*< 0.99 U*	*< 0.96 U*	*< 0.093 U*	*< 0.094 U*
2-Methylphenol	mg/kg	*< 7 U*	*< 0.43 U*	*< 8.6 U*	*< 13 U*	*< 9.4 U*	*< 0.65 U*	*< 0.63 U*	*< 0.061 U*	*< 0.062 U*
2-Nitroaniline	mg/kg	*< 10 U*	*< 0.62 U*	*< 12 U*	*< 18 U*	*< 14 U*	*< 0.94 U*	*< 0.91 U*	*< 0.089 U*	*< 0.09 U*
2-Nitrophenol	mg/kg	*< 9.8 U*	*< 0.61 U*	*< 12 U*	*< 18 U*	*< 13 U*	*< 0.92 U*	*< 0.89 U*	*< 0.087 U*	*< 0.088 U*
3,3'-Dichlorobenzidine	mg/kg	*< 11 U*	*< 0.7 U*	*< 14 U*	*< 20 U*	*< 15 U*	*< 1.1 U*	*< 1 U*	*< 0.099 U*	*< 0.1 U*
3-Nitroaniline	mg/kg	*< 20 U*	*< 1.2 U*	*< 25 U*	*< 36 U*	*< 27 U*	*< 1.9 U*	*< 1.8 U*	*< 0.18 U*	*< 0.18 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 9.7 U*	*< 0.6 U*	*< 12 U*	*< 18 U*	*< 13 U*	*< 0.91 U*	*< 0.88 U*	*< 0.086 U*	*< 0.087 U*
4-Bromophenyl-phenylether	mg/kg	*< 10 U*	*< 0.63 U*	*< 13 U*	*< 18 U*	*< 14 U*	*< 0.95 U*	*< 0.92 U*	*< 0.09 U*	*< 0.091 U*
4-Chloro-3-methylphenol	mg/kg	*< 11 U*	*< 0.68 U*	*< 14 U*	*< 20 U*	*< 15 U*	*< 1 U*	*< 1 U*	*< 0.097 U*	*< 0.099 U*
4-Chloroaniline	mg/kg	*< 7 U*	*< 0.43 U*	*< 8.6 U*	*< 13 U*	*< 9.4 U*	*< 0.65 U*	*< 0.63 U*	*< 0.061 U*	*< 0.062 U*
4-Chlorophenyl-phenylether	mg/kg	*< 11 U*	*< 0.69 U*	*< 14 U*	*< 20 U*	*< 15 U*	*< 1 U*	*< 1 U*	*< 0.098 U*	*< 0.1 U*
3 & 4 Methylphenol	mg/kg	*< 40 U*	*< 2.5 U*	*< 49 U*	*< 72 U*	*< 53 U*	*< 3.7 U*	*< 3.6 U*	*< 0.35 U*	*< 0.35 U*
4-Nitroaniline	mg/kg	*< 11 U*	*< 0.65 U*	*< 13 U*	*< 19 U*	*< 14 U*	*< 0.99 U*	*< 0.96 U*	*< 0.093 U*	*< 0.094 U*
4-Nitrophenol	mg/kg	*< 34 U*	*< 2.1 U*	*< 42 U*	*< 61 U*	*< 45 U*	*< 3.1 U*	*< 3 U*	*< 0.3 U*	*< 0.3 U*
Acetophenone	mg/kg	*< 3 U*	*< 0.19 U*	*< 3.7 U*	*< 5.4 U*	*< 4 U*	*< 0.68 U*	*< 0.72 U*	0.35	*< 0.31 U*
Benzaldehyde	mg/kg	*< 20 U*	*< 1.2 U*	*< 25 U*	*< 36 U*	*< 27 U*	*< 1.8 U*	*< 1.8 U*	*< 0.17 U*	*< 0.18 U*
Benzylbutylphthalate	mg/kg	*< 11 U*	*< 0.71 U*	*< 14 U*	*< 21 U*	*< 15 U*	*< 1.1 U*	*< 1 U*	*< 0.1 U*	*< 0.1 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 11 U*	*< 0.65 U*	*< 13 U*	*< 19 U*	*< 14 U*	*< 0.99 U*	*< 0.96 U*	*< 0.093 U*	*< 0.094 U*
bis(2-Chloroethyl) ether	mg/kg	*< 9.7 U*	*< 0.6 U*	*< 12 U*	*< 18 U*	*< 13 U*	*< 0.91 U*	*< 0.88 U*	*< 0.086 U*	*< 0.087 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 12 U*	*< 0.73 U*	*< 15 U*	*< 21 U*	*< 16 U*	*< 1.1 U*	*< 1.1 U*	*< 0.1 U*	*< 0.11 U*
Carbazole	mg/kg	*< 11 U*	*< 0.71 U*	*< 14 U*	*< 21 U*	*< 15 U*	*< 1.1 U*	*< 1 U*	*< 0.1 U*	*< 0.1 U*
Dibenzofuran	mg/kg	*< 10 U*	*< 0.64 U*	*< 13 U*	*< 19 U*	*< 14 U*	*< 0.96 U*	*< 0.93 U*	*< 0.091 U*	*< 0.092 U*
Diethyl phthalate	mg/kg	*< 11 U*	*< 0.67 U*	*< 13 U*	*< 20 U*	*< 15 U*	*< 1 U*	*< 0.98 U*	*< 0.095 U*	*< 0.097 U*
Dimethylphthalate	mg/kg	*< 10 U*	*< 0.65 U*	*< 13 U*	*< 19 U*	*< 14 U*	*< 0.97 U*	*< 0.94 U*	*< 0.092 U*	*< 0.093 U*
Di-n-butylphthalate	mg/kg	*< 12 U*	*< 0.72 U*	*< 14 U*	*< 21 U*	*< 16 U*	*< 1.1 U*	*< 1.1 U*	*< 0.1 U*	*< 0.1 U*
Di-n-octylphthalate	mg/kg	*< 12 U*	*< 0.72 U*	*< 14 U*	*< 21 U*	*< 16 U*	*< 1.1 U*	*< 1.1 U*	*< 0.1 U*	*< 0.1 U*
Hexachlorobenzene	mg/kg	3.1	1.9	180	500	110	8	*< 0.024 U*	0.0069 J	0.026
Hexachlorobutadiene	mg/kg	*< 0.44 U*	*< 0.027 U*	*< 0.55 U*	1.6 J	*< 0.6 U*	*< 0.041 U*	*< 0.04 U*	*< 0.0039 U*	*< 0.0040 U*
Hexachlorocyclopentadiene	mg/kg	*< 7.4 U*	*< 0.46 U*	*< 9.2 UJ*	*< 13 UJ*	*< 10 UJ*	*< 0.69 U*	*< 0.67 U*	*< 0.066 U*	*< 0.067 U*
Hexachloroethane	mg/kg	*< 9.7 U*	*< 0.6 U*	*< 12 U*	*< 18 U*	*< 13 U*	*< 0.91 U*	*< 0.88 U*	*< 0.086 U*	*< 0.087 U*
Isophorone	mg/kg	*< 11 U*	*< 0.69 U*	*< 14 U*	*< 20 U*	*< 15 U*	*< 1 U*	*< 1 U*	*< 0.098 U*	*< 0.1 U*
Nitrobenzene	mg/kg	*< 9.1 U*	*< 0.56 U*	*< 11 U*	*< 16 U*	*< 12 U*	*< 0.85 U*	*< 0.83 U*	*< 0.08 U*	*< 0.082 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-16**	**5-16**	**5-16**	**5-16**	**5-16**	**5-17**	**5-18**	**5-19**	**5-20**
	Sample Date	**15-Oct-15**	**05-Nov-15**	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**6.5 - 8 ft**	**0.5 - 2 ft**	**2 - 4 ft**	**4 - 5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-16-SS-01-101515**	**5-16-SB-01-6.5-8-110515**	**5-16-SB-01-0.5-2-120215**	**5-16-SB-01-2-4-120215**	**5-16-SB-01-4-5-120215**	**5-17-SS-01-091815**	**5-18-SS-01-091815**	**5-19-SS-01-091815**	**5-20-SS-01-091815**
Analyte	**Unit**									
N-Nitrosodimethylamine	mg/kg	*< 12 U*	*< 0.71 U*	*< 14 U*	*< 21 U*	*< 15 U*	*< 1.1 U*	*< 1 U*	*< 0.1 U*	*< 0.1 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 10 U*	*< 0.62 U*	*< 12 U*	*< 18 U*	*< 14 U*	*< 0.94 U*	*< 0.91 U*	*< 0.089 U*	*< 0.09 U*
N-Nitrosodiphenylamine	mg/kg	*< 10 U*	*< 0.64 U*	*< 13 U*			*< 0.96 U*	*< 0.93 U*	*< 0.091 U*	*< 0.092 U*
Pentachlorobenzene	mg/kg	*< 1.6 U*	0.28 J	18 J	65 J	14 J	*< 0.15 U*	*< 0.14 U*	*< 0.014 U*	*< 0.014 U*
Pentachlorophenol	mg/kg	*< 2.9 U*	*< 0.18 U*	*< 3.6 U*	*< 5.2 U*	*< 3.9 U*	*< 0.27 U*	*< 0.26 U*	*< 0.025 U*	*< 0.026 U*
Phenol	mg/kg	*< 10 U*	*< 0.62 U*	*< 12 U*	*< 18 U*	*< 13 U*	*< 0.93 U*	*< 0.9 U*	*< 0.088 U*	*< 0.089 U*
06-PAHs										
2-Methylnaphthalene	mg/kg	*< 0.0052 U*	0.0088	0.15	0.28	0.13	*< 0.0059 U*	*< 0.0055 U*	*< 0.00048 U*	*< 0.00047 U*
Acenaphthene	mg/kg	*< 0.0056 U*	*< 0.00077 U*	0.016 J	0.021 J	0.0090 J	*< 0.0064 U*	*< 0.0060 U*	*< 0.00053 U*	*< 0.00051 U*
Acenaphthylene	mg/kg	*< 0.0040 U*	*< 0.00054 U*	*< 0.0069 U*	*< 0.0064 U*	*< 0.0057 U*	*< 0.0045 U*	*< 0.0042 U*	*< 0.00037 U*	*< 0.00036 U*
Anthracene	mg/kg	*< 0.0047 U*	*< 0.00065 U*	*< 0.0082 U*	*< 0.0077 U*	*< 0.0069 U*	*< 0.0054 U*	*< 0.0051 U*	*< 0.00044 U*	*< 0.00043 U*
Benzo(a)anthracene	mg/kg	*< 0.0036 U*	*< 0.00050 U*	*< 0.0063 U*	*< 0.0059 U*	*< 0.0053 U*	*< 0.0041 U*	*< 0.0039 U*	*< 0.00034 U*	*< 0.00033 U*
Benzo(a)pyrene	mg/kg	*< 0.0048 U*	0.0012 J	0.055 J	0.14	0.053 J	*< 0.0054 U*	*< 0.0051 U*	*< 0.00045 U*	*< 0.00044 U*
Benzo(b)fluoranthene	mg/kg	*< 0.0061 U*	*< 0.00083 U*	*< 0.01 U*	*< 0.0098 U*	*< 0.0088 U*	*< 0.0069 U*	*< 0.0065 U*	*< 0.00057 U*	*< 0.00055 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.012 U*	*< 0.0016 U*	*< 0.021 U*	*< 0.019 U*	*< 0.017 U*	*< 0.014 U*	*< 0.013 U*	*< 0.0011 U*	*< 0.0011 U*
Benzo(k)fluoranthene	mg/kg	*< 0.0091 U*	*< 0.0012 U*	*< 0.016 U*	*< 0.015 U*	*< 0.013 U*	*< 0.01 U*	*< 0.0097 U*	*< 0.00086 U*	*< 0.00083 U*
Chrysene	mg/kg	*< 0.0042 U*	*< 0.00057 U*	*< 0.0072 U*	*< 0.0068 U*	*< 0.0060 U*	*< 0.0047 U*	*< 0.0044 U*	*< 0.00039 U*	*< 0.00038 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.014 U*	*< 0.0020 U*	*< 0.025 U*	*< 0.023 U*	*< 0.021 U*	*< 0.016 U*	*< 0.015 U*	*< 0.0014 U*	*< 0.0013 U*
Fluoranthene	mg/kg	*< 0.0035 U*	*< 0.00048 U*	*< 0.0061 U*	0.013 J	0.0053 J	*< 0.0040 U*	*< 0.0038 U*	0.00064 J	*< 0.00032 U*
Fluorene	mg/kg	*< 0.0059 U*	*< 0.00080 U*	0.015 J	0.019 J	0.0088 J	*< 0.0067 U*	*< 0.0063 U*	*< 0.00055 U*	*< 0.00054 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.0058 U*	*< 0.00078 U*	*< 0.01 U*	*< 0.0093 U*	*< 0.0083 U*	*< 0.0065 U*	*< 0.0061 U*	*< 0.00054 U*	*< 0.00052 U*
Naphthalene	mg/kg	*< 0.0037 U*	*< 0.0075 U*	*< 0.015 U*	*< 0.07 U*	*< 0.04 U*	*< 0.0042 U*	*< 0.0039 U*	*< 0.00040 U*	*< 0.00034 U*
Phenanthrene	mg/kg	*< 0.0042 U*	*< 0.00090 U*	*< 0.043 U*	*< 0.041 U*	*< 0.018 U*	*< 0.0048 U*	*< 0.0045 U*	0.00064 J	*< 0.00038 U*
Pyrene	mg/kg	*< 0.0042 U*	*< 0.00057 U*	*< 0.0073 U*	0.01 J	*< 0.0061 U*	*< 0.0048 U*	*< 0.0045 U*	0.00046 J	*< 0.00038 U*
07-VOCs										
1,4-Dioxane	mg/kg	*< 0.091 U*	*< 0.062 U*	*< 0.098 U*	*< 0.13 UJ*	*< 0.089 UJ*	*< 0.056 UJ*	*< 0.041 U*	*< 0.026 U*	*< 0.037 U*
1,1-Dichloroethane	mg/kg	*< 0.00068 U*	*< 0.00046 U*	*< 0.00073 U*	*< 0.00096 U*	*< 0.00066 U*	*< 0.00041 U*	*< 0.00031 U*	*< 0.00020 U*	*< 0.00028 U*
1,1-Dichloroethene	mg/kg	0.0014 J	*< 0.00041 U*	0.0011 J	*< 0.00086 U*	*< 0.00060 U*	*< 0.00037 U*	*< 0.00027 U*	*< 0.00018 U*	*< 0.00025 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0021 U*	*< 0.0014 U*	*< 0.0022 U*	*< 0.0029 U*	*< 0.0020 U*	*< 0.0013 U*	*< 0.00093 U*	*< 0.00060 U*	*< 0.00084 U*
1,2-Dibromoethane	mg/kg	*< 0.00063 U*	*< 0.00043 U*	*< 0.00068 U*	*< 0.00089 U*	*< 0.00062 U*	*< 0.00039 U*	*< 0.00028 U*	*< 0.00018 U*	*< 0.00026 U*
1,2-Dichlorobenzene	mg/kg	*< 0.0015 U*	*< 0.0010 U*	*< 0.0016 U*	0.0090 J	0.0046 J	*< 0.00091 U*	*< 0.00068 U*	*< 0.00043 U*	*< 0.00061 U*
1,2-Dichloroethane	mg/kg	*< 0.0017 U*	*< 0.0012 U*	*< 0.0018 U*	*< 0.0024 U*	*< 0.0017 U*	*< 0.0010 U*	*< 0.00077 U*	*< 0.00049 U*	*< 0.00070 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0021 U*	*< 0.0014 U*	*< 0.0022 U*	*< 0.0029 U*	*< 0.0020 U*	*< 0.0013 U*	*< 0.00094 U*	*< 0.00060 U*	*< 0.00085 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00089 U*	*< 0.00060 U*	*< 0.00095 U*	*< 0.0013 U*	*< 0.00087 U*	*< 0.00054 U*	*< 0.00040 U*	*< 0.00026 U*	*< 0.00036 U*
1,2-Dichloropropane	mg/kg	*< 0.0014 U*	*< 0.00095 U*	*< 0.0015 U*	*< 0.0020 U*	*< 0.0014 U*	*< 0.00086 U*	*< 0.00063 U*	*< 0.00041 U*	*< 0.00057 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00070 U*	*< 0.00047 U*	*< 0.00075 U*	0.0071 J	0.0039 J	*< 0.00043 U*	*< 0.00032 U*	*< 0.00020 U*	*< 0.00029 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.0015 U*	*< 0.0010 U*	*< 0.0016 U*	*< 0.0021 U*	*< 0.0015 U*	*< 0.00091 U*	*< 0.00068 U*	*< 0.00043 U*	*< 0.00061 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0018 U*	*< 0.0012 U*	*< 0.0019 U*	*< 0.0025 U*	*< 0.0017 U*	*< 0.0011 U*	*< 0.00079 U*	*< 0.00051 U*	*< 0.00071 U*
1,4-Dichlorobenzene	mg/kg	*< 0.0018 U*	*< 0.0012 U*	*< 0.0020 U*	0.0044 J	0.0025 J	*< 0.0011 U*	*< 0.00082 U*	*< 0.00053 U*	*< 0.00074 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-16**	**5-16**	**5-16**	**5-16**	**5-16**	**5-17**	**5-18**	**5-19**	**5-20**
	Sample Date	**15-Oct-15**	**05-Nov-15**	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**6.5 - 8 ft**	**0.5 - 2 ft**	**2 - 4 ft**	**4 - 5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-16-SS-01-101515**	**5-16-SB-01-6.5-8-110515**	**5-16-SB-01-0.5-2-120215**	**5-16-SB-01-2-4-120215**	**5-16-SB-01-4-5-120215**	**5-17-SS-01-091815**	**5-18-SS-01-091815**	**5-19-SS-01-091815**	**5-20-SS-01-091815**
Analyte	**Unit**									
1,1,1-Trichloroethane	mg/kg	*< 0.00084 U*	*< 0.00057 U*	*< 0.00090 U*	*< 0.0012 U*	*< 0.00082 U*	*< 0.00051 U*	*< 0.00038 U*	*< 0.00024 U*	*< 0.00034 U*
1,1,2-Trichloroethane	mg/kg	*< 0.0010 U*	*< 0.00070 U*	*< 0.0011 U*	*< 0.0015 U*	*< 0.0010 U*	*< 0.00063 U*	*< 0.00046 U*	*< 0.00030 U*	*< 0.00042 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	*< 0.0019 U*	*< 0.0013 U*	*< 0.0021 U*	*< 0.0027 U*	*< 0.0019 U*	*< 0.0012 U*	*< 0.00088 U*	*< 0.00056 U*	*< 0.00079 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0018 U*	*< 0.0015 U*	0.01 J	0.046	0.027	*< 0.0011 U*	*< 0.00079 U*	*< 0.00051 U*	*< 0.00071 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0018 U*	*< 0.0025 U*	0.041	0.17	0.083	*< 0.0011 U*	*< 0.00079 U*	*< 0.00051 U*	*< 0.00071 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0016 U*	*< 0.0011 U*	*< 0.0017 U*	*< 0.0022 U*	*< 0.0016 U*	*< 0.00097 U*	*< 0.00072 U*	*< 0.00046 U*	*< 0.00065 U*
2-Butanone	mg/kg	0.037	0.013 J	0.04	0.099	0.033	0.023	*< 0.0036 U*	*< 0.0014 U*	*< 0.0035 U*
2-Hexanone	mg/kg	*< 0.0017 U*	*< 0.0012 U*	0.0037 J	*< 0.0024 U*	0.0019 J	0.0020 J	*< 0.00078 U*	*< 0.00050 U*	*< 0.00071 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0022 U*	0.0019 J	*< 0.0023 U*	0.0074 J	0.0096 J	*< 0.0013 U*	*< 0.00097 U*	*< 0.00062 U*	*< 0.00088 U*
Acetone	mg/kg	0.16	0.047	0.26	0.36	0.1	0.12	0.0048 J	*< 0.00095 U*	*< 0.0013 U*
Benzene	mg/kg	*< 0.00061 U*	*< 0.00041 U*	*< 0.00065 U*	*< 0.00086 U*	*< 0.00060 U*	*< 0.00037 U*	*< 0.00027 U*	*< 0.00018 U*	*< 0.00025 U*
Bromochloromethane	mg/kg	*< 0.0022 U*	*< 0.0015 U*	*< 0.0024 U*	0.0077 J	*< 0.0022 U*	*< 0.0013 U*	*< 0.00099 U*	*< 0.00064 U*	*< 0.00090 U*
Bromodichloromethane	mg/kg	0.072	*< 0.00084 U*	0.18	0.039	*< 0.0012 U*	*< 0.0024 U*	*< 0.00085 U*	*< 0.00036 U*	*< 0.00051 U*
Bromoform	mg/kg	0.24	*< 0.00063 U*	0.44	0.032	*< 0.00092 U*	0.026	*< 0.0040 U*	*< 0.00027 U*	*< 0.00038 U*
Bromomethane	mg/kg	*< 0.0020 U*	*< 0.0014 U*	*< 0.0022 U*	*< 0.0028 U*	*< 0.0020 U*	*< 0.0012 U*	*< 0.00091 U*	*< 0.00058 U*	*< 0.00082 U*
Carbon disulfide	mg/kg	*< 0.0025 U*	0.0060 J	0.0032 J	0.0024 J	*< 0.0011 U*	*< 0.00070 U*	*< 0.00052 U*	*< 0.00033 U*	*< 0.00047 U*
Carbon tetrachloride	mg/kg	0.0013 J	*< 0.00084 U*	*< 0.0013 U*	*< 0.0017 U*	*< 0.0012 U*	*< 0.00076 U*	*< 0.00056 U*	*< 0.00036 U*	*< 0.00051 U*
Chlorobenzene	mg/kg	*< 0.00068 U*	*< 0.00046 U*	*< 0.00073 U*	*< 0.00096 U*	*< 0.00066 U*	*< 0.00041 U*	*< 0.00031 U*	*< 0.00020 U*	*< 0.00028 U*
Cyclohexane	mg/kg	*< 0.0062 U*	*< 0.0042 U*	*< 0.0066 U*	*< 0.0087 U*	*< 0.0060 U*	*< 0.0038 U*	*< 0.0028 U*	*< 0.0018 U*	*< 0.0025 U*
Dibromochloromethane	mg/kg	0.16	*< 0.00033 U*	0.38	0.046	*< 0.00048 U*	0.0090	*< 0.0018 U*	*< 0.00014 U*	*< 0.00020 U*
Chloroethane	mg/kg	*< 0.0011 U*	*< 0.00071 U*	0.0016 J	*< 0.0015 U*	*< 0.0010 U*	*< 0.00064 U*	*< 0.00047 U*	*< 0.00030 U*	*< 0.00043 U*
Chloroform	mg/kg	0.075	*< 0.00041 U*	0.11	0.076	0.012	*< 0.0021 U*	*< 0.0016 U*	*< 0.00018 U*	*< 0.00025 U*
Chloromethane	mg/kg	0.013	*< 0.00079 U*	0.018	0.0032 J	*< 0.0011 U*	*< 0.00071 U*	*< 0.00053 U*	*< 0.00034 U*	*< 0.00048 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0021 U*	*< 0.0014 U*	*< 0.0022 U*	*< 0.0029 U*	*< 0.0020 U*	*< 0.0013 U*	*< 0.00094 U*	*< 0.00060 U*	*< 0.00085 U*
Ethyl benzene	mg/kg	*< 0.00080 U*	*< 0.00054 U*	*< 0.00085 U*	0.0036 J	0.0022 J	*< 0.00049 U*	*< 0.00036 U*	*< 0.00023 U*	*< 0.00032 U*
Isopropylbenzene	mg/kg	*< 0.0012 U*	*< 0.00082 U*	0.0015 J	0.0076 J	0.0031 J	*< 0.00074 U*	*< 0.00055 U*	*< 0.00035 U*	*< 0.00050 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.0014 U*	*< 0.00095 U*	*< 0.0015 U*	*< 0.0020 U*	*< 0.0014 U*	*< 0.00086 U*	*< 0.00063 U*	*< 0.00041 U*	*< 0.00057 U*
Dichloromethane (Methylene chloride)	mg/kg	0.0022 J	*< 0.0013 U*	0.0037 J	0.0080 J	0.0041 J	*< 0.0012 U*	*< 0.00089 U*	*< 0.00057 U*	*< 0.00080 U*
Styrene	mg/kg	*< 0.00073 U*	*< 0.00049 U*	*< 0.00078 U*	*< 0.0010 U*	*< 0.00071 U*	*< 0.00044 U*	*< 0.00033 U*	*< 0.00021 U*	*< 0.00030 U*
Tetrachloroethene	mg/kg	*< 0.0014 U*	0.011	0.0099 J	0.1	0.069	0.00088 J	*< 0.00064 U*	*< 0.00041 U*	*< 0.00058 U*
Toluene	mg/kg	*< 0.0014 U*	*< 0.00096 U*	*< 0.0015 U*	*< 0.0020 U*	*< 0.0014 U*	*< 0.00087 U*	*< 0.00064 U*	*< 0.00041 U*	*< 0.00058 U*
Trichloroethene	mg/kg	0.0025 J	*< 0.00095 U*	0.0016 J	*< 0.0020 U*	0.0016 J	*< 0.00086 U*	*< 0.00063 U*	*< 0.00041 U*	*< 0.00057 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00080 U*	*< 0.00054 U*	*< 0.00085 U*	*< 0.0011 U*	*< 0.00078 U*	*< 0.00049 U*	*< 0.00036 U*	*< 0.00023 U*	*< 0.00032 U*
Vinyl chloride	mg/kg	*< 0.00084 U*	*< 0.00057 U*	*< 0.00090 U*	*< 0.0012 U*	*< 0.00082 U*	*< 0.00051 U*	*< 0.00038 U*	*< 0.00024 U*	*< 0.00034 U*
o-Xylene	mg/kg	*< 0.00077 U*	0.0024 J	0.0015 J	0.015 J	0.0090 J	*< 0.00047 U*	*< 0.00035 U*	*< 0.00022 U*	*< 0.00031 U*
m,p Xylenes	mg/kg	*< 0.0019 U*	0.0043 J	0.0042 J	0.033	0.019	*< 0.0012 U*	*< 0.00085 U*	*< 0.00055 U*	*< 0.00077 U*

Table 5-7
Phase 1A-B RI Analytical Results for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**5-16**	**5-16**	**5-16**	**5-16**	**5-16**	**5-17**	**5-18**	**5-19**	**5-20**
	Sample Date	**15-Oct-15**	**05-Nov-15**	**02-Dec-15**	**02-Dec-15**	**02-Dec-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**6.5 - 8 ft**	**0.5 - 2 ft**	**2 - 4 ft**	**4 - 5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-16-SS-01-101515**	**5-16-SB-01-6.5-8-110515**	**5-16-SB-01-0.5-2-120215**	**5-16-SB-01-2-4-120215**	**5-16-SB-01-4-5-120215**	**5-17-SS-01-091815**	**5-18-SS-01-091815**	**5-19-SS-01-091815**	**5-20-SS-01-091815**
Analyte	**Unit**									
08-General Solids Parameters										
Perchlorate	mg/kg	0.0016 J	*< 0.00023 U*	*< 0.037 U*	*< 0.038 U*	*< 0.035 U*	*< 0.0031 U*	*< 0.0015 U*	*< 0.022 U*	*< 0.022 U*
Total Organic Carbon	mg/kg	*< 1,700 U*	4,000	2,700 J	4,400	5,000	3,100 J	3,300 J	*< 1,700 U*	4,700
pH	pH units	6.39	7.27	2.62	6.05	6.47	6.10	6.77	8.02	7.69
Cyanide, Total	mg/kg	*< 0.25 U*	*< 0.31 U*	*< 0.39 U*	*< 0.40 U*	*< 0.36 U*	*< 0.29 U*	*< 0.25 U*	0.26 J	*< 0.23 U*
Percent finer than 0.25 millimeters	%	62.4	92.2	86.2	93.2	87.9	76.9	58.3	23.6	36.5

Notes:

% = percent
Empty cells = Not analyzed
ft = feet
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
VOC = Volatile organic compound
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Savannah, GA, TestAmerica - Denver, CO, Alpha Woods Hole Laboratories, TestAmerica - St. Louis, MO, GeoStrata.

Table 5-8
Phase 1A-B RI Prevalence Table for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2,3,7,8-TCDD	pg/g	28	7	380	0.33	160	100	2.2	0.030	90	5-14SB
1,2,3,7,8-PeCDD	pg/g	28	11	2,400	0.24	340	710	2.3	0.038	2,600	5-14SB
1,2,3,4,7,8-HxCDD	pg/g	28	11	3,500	0.23	610	740	2.7	0.038	310	5-14SB
1,2,3,6,7,8-HxCDD	pg/g	28	21	9,800	0.062	910	1,900	2.8	0.036	1.4	5-14SB
1,2,3,7,8,9-HxCDD	pg/g	28	21	13,000	0.12	1,100	2,500	2.9	0.033	120	5-14SB
1,2,3,4,6,7,8-HpCDD	pg/g	28	27	89,000	0.33	5,200	17,000	3.3	0.094	0.094	5-14SB
OCDD	pg/g	28	23	230,000	1.7	17,000	44,000	3.0	0.40	15,000	5-14SB
2,3,7,8-TCDF	pg/g	28	28	24,000	0.19	3,500	6,700	1.9			5-14SB
1,2,3,7,8-PeCDF	pg/g	28	28	210,000	0.22	14,000	41,000	2.9			5-14SB
2,3,4,7,8-PeCDF	pg/g	28	27	83,000	0.49	6,700	17,000	2.6	0.038	0.038	5-14SB
1,2,3,4,7,8-HxCDF	pg/g	28	28	600,000	0.38	46,000	120,000	2.6			5-14SB
1,2,3,6,7,8-HxCDF	pg/g	28	27	450,000	2.3	33,000	89,000	2.8	0.29	0.29	5-14SB
1,2,3,7,8,9-HxCDF	pg/g	28	19	76,000	0.49	7,600	15,000	2.9	0.085	7.3	5-14SB
2,3,4,6,7,8-HxCDF	pg/g	28	24	70,000	0.087	6,500	14,000	2.5	0.71	790	5-14SB
1,2,3,4,6,7,8-HpCDF	pg/g	28	28	2,200,000	2.5	210,000	470,000	2.2			5-14SB
1,2,3,4,7,8,9-HpCDF	pg/g	28	27	1,200,000	0.52	85,000	240,000	2.7	140,000	140,000	5-14SB
OCDF	pg/g	28	28	9,100,000	13	1,400,000	2,600,000	1.9			5-14SB
Calculated TEQ (ND=0), Mammalian	pg/g	28	28	200,000	0.11	16,000	40,000	2.6			5-14SB
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	28	28	200,000	0.19	16,000	40,000	2.5			5-14SB
Calculated TEQ (ND=0), Avian	pg/g	28	28	31,000,000	0.29	2,300,000	6,200,000	2.6			5-14SB
Calculated TEQ (ND=1/2 DL), Avian	pg/g	28	28	31,000,000	63	2,300,000	6,200,000	2.6			5-14SB
PCB-77	pg/g	28	8	33,300	0.61	4,200	7,700	3.2	0.30	25,000	5-14SB
PCB-81	pg/g	28	8	17,500	3.3	3,200	6,500	2.5	0.27	25,000	5-16
PCB-105	pg/g	28	10	37,100	1.1	6,300	8,900	2.3	0.23	25,000	5-16
PCB-107/123	pg/g	14	4	63,100	3,760	23,000	21,000	1.6	380	50,000	5-16
PCB-114	pg/g	28	8	22,300	4.5	4,200	7,000	2.4	0.21	25,000	5-16
PCB-118	pg/g	28	15	76,400	0.47	13,000	17,000	2.4	0.96	250	5-16
PCB-123	pg/g	14	3	220	5.4	78	58	3.1	0.20	12	5-16
PCB-126	pg/g	28	8	25,200	6.5	4,800	7,300	2.4	0.25	25,000	5-16
PCB-156	pg/g	14	10	50,100	374	14,000	15,000	1.5	220	260	5-16
PCB-157	pg/g	14	5	22,600	879	6,500	9,100	1.6	190	25,000	5-16
PCB-156/157	pg/g	14	6	690	1.1	130	180	3.2	0.17	7.1	5-16
PCB-167	pg/g	28	12	67,200	0.75	11,000	17,000	2.8	0.045	25,000	5-14SB
PCB-169	pg/g	28	1	76	76	76	5,800	3.0	0.14	25,000	5-16
PCB-189	pg/g	28	19	59,900	0.45	8,300	16,000	2.4	0.95	25,000	5-14SB
Monochlorobiphenyls	mg/kg	28	22	0.463	0.00000051	0.038	0.10	3.3	0.00000055	0.00026	5-14SB
Dichlorobiphenyls	mg/kg	28	27	1.52	0.000011	0.14	0.39	2.8	0.000021	0.000021	5-14SB
Trichlorobiphenyls	mg/kg	28	25	0.547	0.0000014	0.083	0.15	2.0	0.00000084	0.0000068	5-16
Tetrachlorobiphenyls	mg/kg	28	27	0.788	0.0000012	0.076	0.17	2.3	0.000017	0.000017	5-16
Pentachlorobiphenyls	mg/kg	28	27	1.84	0.0000018	0.24	0.51	2.2	0.000035	0.000035	5-14SB
Hexachlorobiphenyls	mg/kg	28	26	1.41	0.0000016	0.14	0.29	2.3	0.000028	0.00026	5-16
Heptachlorobiphenyls	mg/kg	28	26	1.77	0.0000049	0.21	0.43	2.2	0.000042	0.00022	5-16
Octachlorobiphenyls	mg/kg	28	27	2.61	0.0000072	0.31	0.69	2.3	0.000077	0.000077	5-14SB
Nonachlorobiphenyls	mg/kg	28	28	6.57	0.00002	0.66	1.5	2.3			5-14SB

Table 5-8
Phase 1A-B RI Prevalence Table for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	**Units**	**Number of Samples**	**Number of Detections**	**Maximum Detection**	**Minimum Detection**	**Average Result**	**Standard Deviation**	**Coefficient of Variation**	**Minimum Detection Limit**	**Maximum Detection Limit**	**Location with Maximum Detection**
Decachlorobiphenyl (PCB-209)	mg/kg	28	28	84.4	0.00014	9.7	21	2.1			5-14SB
Total PCBs	mg/kg	28	28	99.6	0.00019	12	24	2.1			5-14SB
Total Aluminum	mg/kg	28	28	19,000	1,700	5,900	4,200	0.72			5-16
Total Antimony	mg/kg	28	24	11	0.11	1.7	2.5	1.7	0.086	0.10	5-14SB
Total Arsenic	mg/kg	28	28	130	2.6	19	27	1.5			5-14SB
Total Barium	mg/kg	28	28	1,900	120	470	460	0.98			5-14
Total Beryllium	mg/kg	28	25	0.88	0.092	0.27	0.19	0.76	0.084	0.096	5-16
Total Cadmium	mg/kg	28	19	1	0.045	0.18	0.20	1.4	0.047	0.074	5-16
Total Calcium	mg/kg	28	28	310,000	3,600	120,000	92,000	0.77			5-09
Total Chromium	mg/kg	28	28	110	2	18	23	1.3			5-14SB
Total Cobalt	mg/kg	28	28	8.5	0.32	1.9	1.6	0.85			5-16
Total Copper	mg/kg	28	28	20	1.7	6.3	4.5	0.72			5-16
Total Iron	mg/kg	28	28	160,000	1,200	20,000	32,000	1.6			5-14SB
Total Lead	mg/kg	28	28	12	1.9	6.8	3.1	0.46			SB5-165-175-18
Total Magnesium	mg/kg	28	28	42,000	2,400	14,000	8,400	0.60			5-12
Total Manganese	mg/kg	28	28	360	13	100	90	0.88			5-16
Total Mercury	mg/kg	28	18	0.078	0.015	0.030	0.016	0.65	0.0080	0.047	5-16
Total Molybdenum	mg/kg	28	28	160	0.078	22	42	1.9			5-14SB
Total Nickel	mg/kg	28	28	24	1.1	6.2	5.2	0.85			5-16
Total Potassium	mg/kg	28	27	9,100	1,100	3,000	1,900	0.65	820	820	5-16
Total Selenium	mg/kg	28	22	5.3	0.12	0.57	0.98	2.1	0.086	0.13	5-16
Total Silver	mg/kg	28	6	0.47	0.02	0.12	0.083	1.6	0.026	0.044	5-16
Total Sodium	mg/kg	28	28	11,000	1,300	4,700	2,500	0.53			5-16
Total Thallium	mg/kg	28	20	1.3	0.043	0.17	0.23	1.7	0.049	0.074	5-16
Total Vanadium	mg/kg	28	28	190	4.5	34	43	1.3			5-14SB
Total Zinc	mg/kg	28	28	420	2.6	39	78	2.0			5-18
1,1'-Biphenyl	mg/kg	28	0				29	1.5	0.17	130	
1,2,4,5-Tetrachlorobenzene	mg/kg	28	0				4.7	1.5	0.027	21	
2,3,4,6-Tetrachlorophenol	mg/kg	28	0				15	1.5	0.087	66	
2,4,5-Trichlorophenol	mg/kg	28	0				15	1.5	0.088	67	
2,4,6-Trichlorophenol	mg/kg	28	0				0.79	1.5	0.0047	3.6	
2,2-Oxybis(1-chloropropane)	mg/kg	28	0				14	1.5	0.084	64	
2,4-Dichlorophenol	mg/kg	28	0				16	1.5	0.094	72	
2,4-Dimethylphenol	mg/kg	28	0				29	1.5	0.18	130	
2,4-Dinitrophenol	mg/kg	28	0				38	1.5	0.23	170	
2,4-Dinitrotoluene	mg/kg	28	0				16	1.5	0.094	72	
2,6-Dinitrotoluene	mg/kg	28	0				18	1.5	0.10	80	
2-Chloronaphthalene	mg/kg	28	0				14	1.5	0.086	65	
2-Chlorophenol	mg/kg	28	0				16	1.5	0.093	71	
2-Methylphenol	mg/kg	28	0				10	1.5	0.061	47	
2-Nitroaniline	mg/kg	28	0				15	1.5	0.089	68	
2-Nitrophenol	mg/kg	28	0				15	1.5	0.087	66	
3,3'-Dichlorobenzidine	mg/kg	28	0				17	1.5	0.099	76	

Table 5-8
Phase 1A-B RI Prevalence Table for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
3-Nitroaniline	mg/kg	28	0				29	1.5	0.18	130	
4,6-Dinitro-2-methylphenol	mg/kg	28	1	85	85	85	17	1.7	0.086	43	5-14SB
4-Bromophenyl-phenylether	mg/kg	28	0				15	1.5	0.090	69	
4-Chloro-3-methylphenol	mg/kg	28	0				16	1.5	0.097	74	
4-Chloroaniline	mg/kg	28	0				10	1.5	0.061	47	
4-Chlorophenyl-phenylether	mg/kg	28	0				17	1.5	0.098	75	
3 & 4 Methylphenol	mg/kg	28	0				60	1.5	0.35	270	
4-Nitroaniline	mg/kg	28	0				16	1.5	0.093	71	
4-Nitrophenol	mg/kg	28	0				51	1.5	0.30	230	
Acetophenone	mg/kg	28	4	240	0.35	110	50	2.5	0.032	36	5-02
Benzaldehyde	mg/kg	28	0				29	1.5	0.17	130	
Benzylbutylphthalate	mg/kg	28	0				17	1.5	0.10	77	
Bis(2-chloroethoxy)methane	mg/kg	28	0				16	1.5	0.093	71	
bis(2-Chloroethyl) ether	mg/kg	28	0				14	1.5	0.086	65	
Bis(2-ethylhexyl)phthalate	mg/kg	28	0				18	1.5	0.10	79	
Carbazole	mg/kg	28	0				17	1.5	0.10	77	
Dibenzofuran	mg/kg	28	0				15	1.5	0.091	69	
Diethyl phthalate	mg/kg	28	0				16	1.5	0.095	73	
Dimethylphthalate	mg/kg	28	0				16	1.5	0.092	70	
Di-n-butylphthalate	mg/kg	28	0				17	1.5	0.10	78	
Di-n-octylphthalate	mg/kg	28	0				17	1.5	0.10	78	
Hexachlorobenzene	mg/kg	28	24	3,100	0.0069	270	620	2.6	0.012	0.024	5-14SB
Hexachlorobutadiene	mg/kg	28	3	15	0.75	5.8	2.8	3.1	0.0039	2.0	5-14SB
Hexachlorocyclopentadiene	mg/kg	28	0				11	1.5	0.066	50	
Hexachloroethane	mg/kg	28	0				14	1.5	0.086	65	
Isophorone	mg/kg	28	0				17	1.5	0.098	75	
Nitrobenzene	mg/kg	28	0				13	1.5	0.080	61	
N-Nitrosodimethylamine	mg/kg	28	0				17	1.5	0.10	78	
N-Nitroso-di-n-propylamine	mg/kg	28	0				15	1.5	0.089	68	
N-Nitrosodiphenylamine	mg/kg	28	0				15	1.5	0.091	69	
Pentachlorobenzene	mg/kg	28	9	200	0.28	40	39	2.9	0.014	2.9	5-14SB
Pentachlorophenol	mg/kg	28	0				4.3	1.5	0.025	19	
Phenol	mg/kg	28	6	210	17	99	55	2.0	0.088	67	5-08
2-Methylnaphthalene	mg/kg	28	8	1	0.0014	0.26	0.21	2.7	0.00041	0.011	5-14SB
Acenaphthene	mg/kg	28	5	0.062	0.009	0.031	0.014	1.6	0.00045	0.012	5-14SB
Acenaphthylene	mg/kg	28	1	0.52	0.52	0.52	0.098	4.4	0.00032	0.0089	5-14SB
Anthracene	mg/kg	28	1	0.057	0.057	0.057	0.011	1.7	0.00038	0.011	5-14SB
Benzo(a)anthracene	mg/kg	28	1	0.016	0.016	0.016	0.0036	0.98	0.00029	0.0075	5-14SB
Benzo(a)pyrene	mg/kg	28	10	0.85	0.0012	0.20	0.18	2.4	0.00038	0.0075	5-14SB
Benzo(b)fluoranthene	mg/kg	28	0				0.0046	0.84	0.00049	0.014	
Benzo(g,h,i)perylene	mg/kg	28	0				0.0092	0.83	0.00096	0.027	
Benzo(k)fluoranthene	mg/kg	28	0				0.0070	0.83	0.00073	0.020	
Chrysene	mg/kg	28	2	0.032	0.00046	0.016	0.0061	1.3	0.00033	0.0086	5-14SB

Table 5-8
Phase 1A-B RI Prevalence Table for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Dibenzo(a,h)anthracene	mg/kg	28	0				0.011	0.83	0.0012	0.032	
Fluoranthene	mg/kg	28	7	0.015	0.00034	0.0063	0.0039	1.0	0.00028	0.0073	5-14SB
Fluorene	mg/kg	28	5	0.09	0.0088	0.037	0.019	1.8	0.00047	0.012	5-14SB
Indeno(1,2,3-cd)pyrene	mg/kg	28	1	0.013	0.013	0.013	0.0046	0.85	0.00046	0.013	5-14SB
Naphthalene	mg/kg	28	1	0.21	0.21	0.21	0.042	2.5	0.00030	0.073	5-14SB
Phenanthrene	mg/kg	28	3	0.22	0.00064	0.12	0.052	2.2	0.00034	0.12	5-14SB
Pyrene	mg/kg	28	6	0.021	0.00038	0.0098	0.0052	1.1	0.00034	0.0087	5-14SB
1,4-Dioxane	mg/kg	28	0				0.032	0.45	0.026	0.14	
1,1-Dichloroethane	mg/kg	28	4	0.014	0.00053	0.0065	0.0029	2.1	0.00020	0.00099	5-14SB
1,1-Dichloroethene	mg/kg	28	4	0.005	0.0011	0.0029	0.0011	1.4	0.00018	0.00089	5-14SB
1,2-Dibromo-3-chloropropane	mg/kg	28	0				0.00073	0.45	0.00060	0.0032	
1,2-Dibromoethane	mg/kg	28	0				0.00022	0.45	0.00018	0.00098	
1,2-Dichlorobenzene	mg/kg	28	2	0.009	0.0046	0.0068	0.0017	1.1	0.00043	0.0023	5-16
1,2-Dichloroethane	mg/kg	28	2	0.0055	0.0025	0.0040	0.00099	0.67	0.00049	0.0025	5-14SB
cis-1,2-Dichloroethene	mg/kg	28	0				0.00073	0.45	0.00060	0.0032	
trans-1,2-Dichloroethene	mg/kg	28	0				0.00032	0.46	0.00026	0.0014	
1,2-Dichloropropane	mg/kg	28	1	0.0061	0.0061	0.0061	0.0011	0.85	0.00041	0.0021	5-14SB
1,3-Dichlorobenzene	mg/kg	28	2	0.0071	0.0039	0.0055	0.0014	1.6	0.00020	0.0011	5-16
cis-1,3-Dichloropropene	mg/kg	28	0				0.00053	0.45	0.00043	0.0023	
trans-1,3-Dichloropropene	mg/kg	28	0				0.00062	0.45	0.00051	0.0027	
1,4-Dichlorobenzene	mg/kg	28	2	0.0044	0.0025	0.0035	0.00085	0.56	0.00053	0.0028	5-16
1,1,1-Trichloroethane	mg/kg	28	3	0.0065	0.0013	0.0043	0.0014	1.4	0.00024	0.0012	5-14SB
1,1,2-Trichloroethane	mg/kg	28	0				0.00037	0.46	0.00030	0.0016	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	28	0				0.00067	0.44	0.00056	0.0030	
1,2,3-Trichlorobenzene	mg/kg	28	3	0.046	0.01	0.028	0.0097	2.3	0.00051	0.0027	5-16
1,2,4-Trichlorobenzene	mg/kg	28	3	0.17	0.041	0.098	0.035	3.0	0.00051	0.0027	5-16
1,1,2,2-Tetrachloroethane	mg/kg	28	0				0.00056	0.45	0.00046	0.0025	
2-Butanone	mg/kg	28	18	0.15	0.0032	0.035	0.034	1.4	0.0014	0.0069	5-14SB
2-Hexanone	mg/kg	28	5	0.013	0.0015	0.0044	0.0023	1.2	0.00050	0.0027	5-14SB
4-Methyl-2-pentanone	mg/kg	28	3	0.0096	0.0019	0.0063	0.0020	0.92	0.00062	0.0033	5-16
Acetone	mg/kg	28	18	1.4	0.0048	0.20	0.27	2.1	0.00095	0.026	5-14SB
Benzene	mg/kg	28	3	0.0017	0.00086	0.0012	0.00033	0.62	0.00018	0.00089	5-14SB
Bromochloromethane	mg/kg	28	2	0.0077	0.0045	0.0061	0.0014	0.73	0.00064	0.0034	5-16
Bromodichloromethane	mg/kg	28	13	2.1	0.0087	0.37	0.52	3.0	0.00036	0.0024	5-14SB
Bromoform	mg/kg	28	18	10	0.00066	1.2	2.3	3.0	0.00027	0.0040	5-14SB
Bromomethane	mg/kg	28	1	0.011	0.011	0.011	0.0019	1.0	0.00058	0.0031	5-14SB
Carbon disulfide	mg/kg	28	11	0.024	0.0011	0.0062	0.0049	1.7	0.00033	0.0025	5-13
Carbon tetrachloride	mg/kg	28	9	0.4	0.0013	0.085	0.096	3.4	0.00036	0.0017	5-14SB
Chlorobenzene	mg/kg	28	0				0.00024	0.46	0.00020	0.0011	
Cyclohexane	mg/kg	28	0				0.0022	0.45	0.0018	0.0096	
Dibromochloromethane	mg/kg	28	15	4.4	0.00068	0.63	1.0	3.0	0.00014	0.0018	5-14SB
Chloroethane	mg/kg	28	5	0.044	0.0016	0.017	0.0097	2.7	0.00030	0.0015	5-14SB
Chloroform	mg/kg	28	10	0.96	0.005	0.21	0.20	2.7	0.00018	0.012	5-14SB

Table 5-8
Phase 1A-B RI Prevalence Table for PRI Area 5
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Chloromethane	mg/kg	28	11	0.059	0.003	0.016	0.013	2.0	0.00034	0.0011	5-14SB
Dichlorodifluoromethane (Freon-12)	mg/kg	28	0				0.00073	0.45	0.00060	0.0032	
Ethyl benzene	mg/kg	28	3	0.0036	0.0022	0.0030	0.00084	0.98	0.00023	0.0012	5-16
Isopropylbenzene	mg/kg	28	5	0.0079	0.0015	0.0049	0.0019	1.2	0.00035	0.0018	5-14SB
Methyl tertbutyl ether (MTBE)	mg/kg	28	0				0.00050	0.46	0.00041	0.0022	
Dichloromethane (Methylene chloride)	mg/kg	28	7	0.085	0.0022	0.027	0.021	2.6	0.00057	0.0029	5-14SB
Styrene	mg/kg	28	0				0.00025	0.45	0.00021	0.0011	
Tetrachloroethene	mg/kg	28	8	0.37	0.00088	0.081	0.072	3.0	0.00041	0.0021	5-14SB
Toluene	mg/kg	28	3	0.0027	0.0021	0.0024	0.00063	0.52	0.00041	0.0021	5-14SB
Trichloroethene	mg/kg	28	7	0.014	0.0016	0.0055	0.0033	1.5	0.00041	0.0021	5-14SB
Trichlorofluoromethane (Freon-11)	mg/kg	28	2	0.0027	0.0025	0.0026	0.00058	0.79	0.00023	0.0012	5-14SB
Vinyl chloride	mg/kg	28	0				0.00030	0.45	0.00024	0.0013	
o-Xylene	mg/kg	28	6	0.015	0.0015	0.0072	0.0035	1.8	0.00022	0.0012	5-16
m,p Xylenes	mg/kg	28	7	0.033	0.0042	0.017	0.0091	1.7	0.00055	0.0028	5-14SB5-16
Perchlorate	mg/kg	28	5	0.0018	0.00019	0.00097	0.016	0.77	0.00018	0.050	5-02
Total Organic Carbon	mg/kg	28	19	44,000	1,700	9,300	10,000	1.5	1,700	3,000	5-14SB
pH	pH units	28	28	9.34	1.06	5.8	2.9	0.50			5-05
Cyanide, Total	mg/kg	28	4	1.4	0.26	0.86	0.29	0.71	0.21	0.53	5-10
Percent finer than 0.25 millimeters	%	28	28	98.1	5.7	68	30	0.44			5-07

Notes:

% = percent
Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-01**	**6-02**	**6-03**	**6-04**	**6-05**	**6-06**	**6-07**	**6-08**	**6-09**	**6-10**
	Sample Date	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 4 in**
	Sample ID	**6-01-SS-01-101615**	**6-02-SS-01-102815**	**6-03-SS-01-091715**	**6-04-SS-01-101615**	**6-05-SS-01-102815**	**6-06-SS-01-091715**	**6-07-SS-01-101615**	**6-08-SS-01-102815**	**6-09-SS-01-102815**	**6-10-SS-01-102815**
Analyte	**Unit**										
01-Dioxins and Furans											
2,3,7,8-TCDD	pg/g	< 0.040 U	< 2.3 U	< 0.038 U	< 0.26 U	< 3.0 UQ	< 0.054 U	< 0.30 U	< 22 UQ	7.6 J	< 9.0 UQ
1,2,3,7,8-PeCDD	pg/g	< 0.056 U	26 J	< 0.058 U	< 0.44 U	24 J	< 0.082 U	< 0.41 U	110	32 J	44 J
1,2,3,4,7,8-HxCDD	pg/g	< 0.068 U	< 31 UQ	< 0.048 U	< 0.93 UQ	39 J	0.17 J	< 0.34 U	150	42 J	61 J
1,2,3,6,7,8-HxCDD	pg/g	0.21 J	110	< 0.046 U	< 2.9 UQ	130	< 0.37 UQ	< 0.33 U	450	120	190
1,2,3,7,8,9-HxCDD	pg/g	0.26 J	120	< 0.041 U	5.1 J	150	0.54 J	< 2.0 U	480	130	220
1,2,3,4,6,7,8-HpCDD	pg/g	1.2 J	810	< 0.054 U	19 J	1,100	3.1 J	4.1 J	3,400	910	1,400
OCDD	pg/g	3.8 J	1,900	< 0.74 U	60 J	2,500	13	24 J	9,500	2,500	3,800
2,3,7,8-TCDF	pg/g	1.2 J	830	0.26 J	26	440	4.8	6.7 J	3,800	1,100	1,800
1,2,3,7,8-PeCDF	pg/g	2.1 J	2,200	< 0.42 UQ	37 J	2,200	9.4	8.0 J	8,400	2,500	3,900
2,3,4,7,8-PeCDF	pg/g	1.0 J	1,100	0.16 J	17 J	1,200	4.4 J	3.6 J	3,300	1,000	1,600
1,2,3,4,7,8-HxCDF	pg/g	5.2 J	6,500	1.5 J	130	8,000	25	20 J	27,000	7,600	12,000
1,2,3,6,7,8-HxCDF	pg/g	4.5 J	5,000	< 1.2 UQ	98	5,800	25	17 J	19,000	5,800	8,500
1,2,3,7,8,9-HxCDF	pg/g	0.45 J	830	< 0.40 U	17 J	920	< 2.1 U	2.4 J	3,400	1,100	1,500
2,3,4,6,7,8-HxCDF	pg/g	1.3 J	970	< 0.37 U	19 J	1,200	7.2	3.2 J	3,300	1,100	1,400
1,2,3,4,6,7,8-HpCDF	pg/g	45	41,000	6.7	910	54,000	240	150	210,000	58,000	86,000
1,2,3,4,7,8,9-HpCDF	pg/g	10	14,000	< 0.69 U	260	17,000	40	38 J	63,000	16,000	24,000
OCDF	pg/g	290	260,000	41	6,400	320,000	1,700	1,000 J	1,900,000 J	480,000	750,000
Calculated TEQ (ND=0), Mammalian	pg/g	2.3	2,500	0.30	50	2,900	11	8.5	10,000	3,000	4,500
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	2.4	2,500	0.48	50	3,000	11	9.1	10,000	3,000	4,600
Calculated TEQ (ND=0), Avian	pg/g	240	140,000	0.64	86	310,000	320	17	2,200,000	370,000	360,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	240	140,000	13	1,300	310,000	320	1,300	2,200,000	370,000	360,000
02-PCBs											
PCB-77	pg/g	< 0.56 UQ	< 220 U	< 0.25 U	< 2.4 U	< 226 U	1.5 J	< 1.8 UQ	3,290	< 230 U	< 248 U
PCB-81	pg/g	< 0.29 U	< 220 UJ	< 0.24 U	< 2.2 U	< 226 UJ	< 0.37 U	< 0.98 U	< 232 UJ	482 J	< 248 UJ
PCB-105	pg/g	< 1.7 UQ	< 220 U	< 0.26 U	6.4	< 226 U	2.5	2.8	< 232 U	< 230 U	< 248 U
PCB-107/123	pg/g		< 440 U			846 J			1,220	< 459 U	< 497 U
PCB-114	pg/g	< 0.28 U	< 220 U	< 0.25 U	< 2.7 U	< 226 U	< 0.68 U	< 1.2 U	< 232 U	< 230 U	< 248 U
PCB-118	pg/g	3.1	< 220 U	< 0.51 U	8.5	< 226 U	4.1	3.3	< 232 U	< 230 U	< 248 U
PCB-123	pg/g	< 0.28 U		< 0.24 U	3.6		0.87 J	< 1.2 U			
PCB-126	pg/g	< 0.34 U	< 220 U	< 0.28 U	< 3.4 U	< 226 U	< 0.81 U	< 1.5 U	< 232 U	< 230 U	< 248 U
PCB-156	pg/g		490			752			1,180	475	613
PCB-157	pg/g		< 220 U			278 J			< 232 U	< 230 U	< 248 U
PCB-156/157	pg/g	1.0 J		< 0.13 U	12		2.7 J	3.0 J			
PCB-167	pg/g	< 0.93 UQ	< 220 U	< 0.086 U	11	874	2.3	2.8	< 232 U	< 230 U	< 248 U
PCB-169	pg/g	< 0.25 U	< 220 U	< 0.11 U	< 1.8 U	< 226 U	< 0.45 U	< 0.62 U	< 232 U	< 230 U	< 248 U
PCB-189	pg/g	1.1 J	350 J	0.73 J	17	678	2.9	4.3	< 232 U	< 230 U	523
Monochlorobiphenyls, Total	mg/kg	0.0000014 J	0.000346 J	0.0000032 J	0.0000077 J	< 0.000226 U	0.0000021 J	0.000017 J	0.000427 J	< 0.000230 U	0.000434 J

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-01**	**6-02**	**6-03**	**6-04**	**6-05**	**6-06**	**6-07**	**6-08**	**6-09**	**6-10**
	Sample Date	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 4 in**
	Sample ID	**6-01-SS-01-101615**	**6-02-SS-01-102815**	**6-03-SS-01-091715**	**6-04-SS-01-101615**	**6-05-SS-01-102815**	**6-06-SS-01-091715**	**6-07-SS-01-101615**	**6-08-SS-01-102815**	**6-09-SS-01-102815**	**6-10-SS-01-102815**
Analyte	**Unit**										
Dichlorobiphenyls, Total	mg/kg	0.000013 J	0.0119	0.000061 J	0.00027	0.00596	0.00014 J	0.00033	0.0325	0.0122	0.0154
Trichlorobiphenyls, Total	mg/kg	0.0000027 J	0.0137	0.0000062 J	0.00019	0.00894	0.000011 J	0.00016	0.0754	0.0171	0.0231
Tetrachlorobiphenyls, Total	mg/kg	0.0000064 J	0.0129 J	0.0000080 J	0.000055	0.00812 J	0.000012 J	0.000033	0.0141 J	0.00351 J	0.00361 J
Pentachlorobiphenyls, Total	mg/kg	0.000021 J	0.00916	0.0000016 J	0.00011	0.00514	0.000041 J	0.000031	0.0294 J-	0.00916	0.0132
Hexachlorobiphenyls, Total	mg/kg	0.000046 J	0.0128	0.0000027 J	0.00016	0.0148	0.000074 J	0.000053	0.0363	0.00989	0.0165
Heptachlorobiphenyls, Total	mg/kg	0.000061 J	0.0143	0.0000071 J	0.00046	0.0245	0.00015 J	0.00013	0.0338	0.0178	0.0221
Octachlorobiphenyls, Total	mg/kg	0.0001 J	0.0266	0.000013 J	0.001	0.0488	0.00045	0.00025	0.0808	0.0312	0.0396
Nonachlorobiphenyls, Total	mg/kg	0.00024	0.0648	0.000038 J	0.0025	0.122	0.0015	0.00064	0.236	0.0852	0.114
Decachlorobiphenyl (PCB-209)	mg/kg	0.0013	1.39	0.00027	0.043	1.84	0.014	0.014	6.93	2.16	3.35
Total PCBs	mg/kg	0.0018	1.56	0.00041	0.048	2.08	0.016	0.016	7.47	2.35	3.6
03- Metals											
Total Aluminum	mg/kg	14,000	6,800	1,800	11,000	9,400	15,000	12,000	7,900	7,000	8,500
Total Antimony	mg/kg	0.23 J-	1.9 J-	0.11 J-	0.39 J-	1.0 J-	0.31 J-	0.19 J-	2.3 J-	1.7 J-	2.1 J-
Total Arsenic	mg/kg	4.5	5.3	4.8	6.5	14	5.5	5.5	9.1	5.8	7.7
Total Barium	mg/kg	330	530	390	390	230	210	270	740	410	680
Total Beryllium	mg/kg	0.61	0.20	*< 0.10 U*	0.52	0.32	0.69	0.53	0.25	0.21	0.24
Total Cadmium	mg/kg	0.35	*< 0.088 U*	*< 0.055 U*	0.24	0.045 J	0.37	0.24	*< 0.060 U*	*< 0.052 U*	*< 0.063 U*
Total Calcium	mg/kg	110,000	6,500	300,000	100,000	37,000	86,000	100,000	16,000	11,000	7,800
Total Chromium	mg/kg	14	9.0	2.3	14 J+	11	16	13	11	9.4	12
Total Cobalt	mg/kg	4.2	0.65	1.2	4.7	1.5	5.7	3.9	0.72	0.59	0.68
Total Copper	mg/kg	11	2.3	2.2	12 J-	4.4	13	9.2	2.9	2.4	2.9
Total Iron	mg/kg	11,000	4,400	2,400	11,000	9,400	13,000	11,000	5,600	4,200	5,000
Total Lead	mg/kg	11 J+	3.7	4.9	12 J+	1.8	11	9.2 J+	3.0	2.1	2.7
Total Magnesium	mg/kg	24,000	3,800	11,000	20,000 J-	4,900	29,000	22,000	5,000	4,200	5,900
Total Manganese	mg/kg	360	20 J	86	280	45 J	410	240	22 J	20 J	20 J
Total Mercury	mg/kg	0.031 J	0.018 J	*< 0.0082 U*	0.22 J	0.052 J	*< 0.0088 U*	0.22 J	0.032 J	0.019 J	0.030 J
Total Molybdenum	mg/kg	0.53	15	0.063 J	1.2	12	1.7	0.95	16	11	10
Total Nickel	mg/kg	10	2.5	2.4	11	4.8	13	9.4	3.2	2.0	2.7
Total Potassium	mg/kg	6,000	2,900	*< 960 U*	5,300	4,500	6,400	5,100	3,600	3,500	4,100
Total Selenium	mg/kg	0.31 J-	*< 0.18 UJ*	*< 0.11 UJ*	0.30 J-	0.26 J-	0.22 J-	0.23 J-	0.20 J-	0.14 J-	0.24 J-
Total Silver	mg/kg	0.081 J	*< 0.053 U*	*< 0.033 U*	0.054 J	*< 0.025 U*	0.058 J	0.034 J	*< 0.036 U*	*< 0.031 U*	*< 0.038 U*
Total Sodium	mg/kg	1,900	2,100	3,700	2,500	1,800	2,400	2,000	2,700	2,100	2,800
Total Thallium	mg/kg	0.16	*< 0.088 U*	*< 0.055 U*	0.19	0.12	0.19	0.17	0.10 J	0.082 J	0.094 J
Total Vanadium	mg/kg	21	13	5.4	22	18	24	18	15	12	15
Total Zinc	mg/kg	38 J-	7.7 J-	9.7	33	14 J-	43	33	8.1 J-	8.1 J-	7.7 J-
05-SVOCs											
1,1'-Biphenyl	mg/kg	*< 0.18 U*	*< 22 U*	*< 0.18 U*	*< 19 U*	*< 21 U*	*< 0.18 U*	*< 20 U*	*< 31 U*	*< 26 U*	*< 26 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 0.029 U*	*< 3.5 U*	*< 0.028 U*	*< 3 U*	*< 3.3 U*	*< 0.028 U*	*< 3.1 U*	*< 4.9 U*	*< 4.2 U*	*< 4.1 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 0.092 U*	*< 11 U*	*< 0.088 U*	*< 9.4 U*	*< 10 U*	*< 0.089 U*	*< 9.8 U*	*< 15 U*	*< 13 U*	*< 13 U*

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-01**	**6-02**	**6-03**	**6-04**	**6-05**	**6-06**	**6-07**	**6-08**	**6-09**	**6-10**
	Sample Date	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 4 in**
	Sample ID	**6-01-SS-01-101615**	**6-02-SS-01-102815**	**6-03-SS-01-091715**	**6-04-SS-01-101615**	**6-05-SS-01-102815**	**6-06-SS-01-091715**	**6-07-SS-01-101615**	**6-08-SS-01-102815**	**6-09-SS-01-102815**	**6-10-SS-01-102815**
Analyte	**Unit**										
2,4,5-Trichlorophenol	mg/kg	< 0.093 U	< 11 U	< 0.089 U	< 9.5 U	< 10 U	< 0.091 U	< 9.9 U	< 16 U	< 13 U	< 13 U
2,4,6-Trichlorophenol	mg/kg	< 0.0049 U	< 0.59 U	< 0.0047 U	< 0.5 U	< 0.55 U	< 0.0048 U	< 0.52 U	< 0.83 U	< 0.71 U	< 0.69 U
2,2-Oxybis(1-chloropropane)	mg/kg	< 0.088 U	< 11 U	< 0.085 U	< 9 U	< 9.9 U	< 0.086 U	< 9.4 U	< 15 U	< 13 U	< 12 U
2,4-Dichlorophenol	mg/kg	< 0.099 U	< 12 U	< 0.095 U	< 10 U	< 11 U	< 0.097 U	< 11 U	< 17 U	< 14 U	< 14 U
2,4-Dimethylphenol	mg/kg	< 0.19 U	< 23 U	< 0.18 U	< 19 U	< 21 U	< 0.18 U	< 20 U	< 32 U	< 27 U	< 26 U
2,4-Dinitrophenol	mg/kg	< 0.24 U	< 29 U	< 0.23 U	< 24 U	< 27 U	< 0.23 U	< 25 U	< 40 U	< 34 U	< 34 U
2,4-Dinitrotoluene	mg/kg	< 0.099 U	< 12 U	< 0.095 U	< 10 U	< 11 U	< 0.097 U	< 11 U	< 17 U	< 14 U	< 14 U
2,6-Dinitrotoluene	mg/kg	< 0.11 U	< 13 U	< 0.11 U	< 11 U	< 12 U	< 0.11 U	< 12 U	< 19 U	< 16 U	< 16 U
2-Chloronaphthalene	mg/kg	< 0.09 U	< 11 U	< 0.087 U	< 9.2 U	< 10 U	< 0.088 U	< 9.6 U	< 15 U	< 13 U	< 13 U
2-Chlorophenol	mg/kg	< 0.098 U	< 12 U	< 0.094 U	< 10 U	< 11 U	< 0.096 U	< 10 U	< 17 U	< 14 U	< 14 U
2-Methylphenol	mg/kg	< 0.065 U	< 7.8 U	< 0.062 U	< 6.6 U	< 7.3 U	< 0.063 U	< 6.9 U	< 11 U	< 9.3 U	< 9.1 U
2-Nitroaniline	mg/kg	< 0.094 U	< 11 U	< 0.09 U	< 9.6 U	< 11 U	< 0.092 U	< 10 U	< 16 U	< 13 U	< 13 U
2-Nitrophenol	mg/kg	< 0.092 U	< 11 U	< 0.088 U	< 9.4 U	< 10 U	< 0.089 U	< 9.8 U	< 15 U	< 13 U	< 13 U
3,3'-Dichlorobenzidine	mg/kg	< 0.11 U	< 13 U	< 0.1 U	< 11 U	< 12 U	< 0.1 U	< 11 U	< 18 U	< 15 U	< 15 U
3-Nitroaniline	mg/kg	< 0.19 U	< 23 U	< 0.18 U	< 19 U	< 21 U	< 0.18 U	< 20 U	< 32 U	< 27 U	< 26 U
4,6-Dinitro-2-methylphenol	mg/kg	< 0.09 U	< 11 U	< 0.087 U	< 9.2 U	< 10 U	< 0.088 U	< 9.6 U	< 15 U	< 13 U	< 13 U
4-Bromophenyl-phenylether	mg/kg	< 0.095 U	< 11 U	< 0.091 U	< 9.7 U	< 11 U	< 0.093 U	< 10 U	< 16 U	< 14 U	< 13 U
4-Chloro-3-methylphenol	mg/kg	< 0.1 U	< 12 U	< 0.099 U	< 10 U	< 12 U	< 0.1 U	< 11 U	< 17 U	< 15 U	< 14 U
4-Chloroaniline	mg/kg	< 0.065 U	< 7.8 U	< 0.062 U	< 6.6 U	< 7.3 U	< 0.063 U	< 6.9 U	< 11 U	< 9.3 U	< 9.1 U
4-Chlorophenyl-phenylether	mg/kg	< 0.1 U	< 13 U	< 0.1 U	< 11 U	< 12 U	< 0.1 U	< 11 U	< 18 U	< 15 U	< 15 U
3 & 4 Methylphenol	mg/kg	< 0.37 U	< 45 U	< 0.35 U	< 38 U	< 41 U	< 0.36 U	< 39 U	< 62 U	< 53 U	< 52 U
4-Nitroaniline	mg/kg	< 0.098 U	< 12 U	< 0.094 U	< 10 U	< 11 U	< 0.096 U	< 10 U	< 17 U	< 14 U	< 14 U
4-Nitrophenol	mg/kg	< 0.31 U	< 38 U	< 0.3 U	< 32 U	< 35 U	< 0.31 U	< 33 U	< 53 U	< 45 U	< 44 U
Acetophenone	mg/kg	< 0.028 U	< 8.5 U	< 0.047 U	< 2.9 U	< 18 U	< 0.049 U	< 3 U	< 8.1 U	< 6.7 U	< 12 U
Benzaldehyde	mg/kg	< 0.18 U	< 22 U	< 0.18 U	< 19 U	< 21 U	< 0.18 U	< 20 U	< 31 U	< 26 U	< 26 U
Benzylbutylphthalate	mg/kg	< 0.11 U	< 13 U	< 0.1 U	< 11 U	< 12 U	< 0.1 U	< 11 U	< 18 U	< 15 U	< 15 U
Bis(2-chloroethoxy)methane	mg/kg	< 0.098 U	< 12 U	< 0.094 U	< 10 U	< 11 U	< 0.096 U	< 10 U	< 17 U	< 14 U	< 14 U
bis(2-Chloroethyl) ether	mg/kg	< 0.09 U	< 11 U	< 0.087 U	< 9.2 U	< 10 U	< 0.088 U	< 9.6 U	< 15 U	< 13 U	< 13 U
Bis(2-ethylhexyl)phthalate	mg/kg	< 0.11 U	< 13 U	< 0.11 U	< 11 U	< 12 U	< 0.11 U	< 12 U	< 18 U	< 16 U	< 15 U
Carbazole	mg/kg	< 0.11 U	< 13 U	< 0.1 U	< 11 U	< 12 U	< 0.1 U	< 11 U	< 18 U	< 15 U	< 15 U
Dibenzofuran	mg/kg	< 0.096 U	< 12 U	< 0.092 U	< 9.8 U	< 11 U	< 0.094 U	< 10 U	< 16 U	< 14 U	< 14 U
Diethyl phthalate	mg/kg	< 0.1 U	< 12 U	< 0.097 U	< 10 U	< 11 U	< 0.098 U	< 11 U	< 17 U	< 14 U	< 14 U
Dimethylphthalate	mg/kg	< 0.097 U	< 12 U	< 0.093 U	< 9.9 U	< 11 U	< 0.095 U	< 10 U	< 16 U	< 14 U	< 14 U
Di-n-butylphthalate	mg/kg	< 0.11 U	< 13 U	< 0.1 U	< 11 U	< 12 U	< 0.11 U	< 12 U	< 18 U	< 16 U	< 15 U
Di-n-octylphthalate	mg/kg	< 0.11 U	< 13 U	< 0.1 U	< 11 U	< 12 U	< 0.11 U	< 12 U	< 18 U	< 16 U	< 15 U
Hexachlorobenzene	mg/kg	0.024	14	< 0.0024 U	< 0.25 U	31	0.03	< 0.26 U	220	37	35
Hexachlorobutadiene	mg/kg	< 0.0041 U	< 0.5 U	< 0.0040 U	< 0.42 U	< 0.46 U	< 0.0040 U	< 0.44 U	< 0.7 U	< 0.59 U	< 0.58 U
Hexachlorocyclopentadiene	mg/kg	< 0.069 U	< 8.4 U	< 0.067 U	< 7.1 U	< 7.8 U	< 0.068 U	< 7.4 U	< 12 U	< 9.9 U	< 9.8 U
Hexachloroethane	mg/kg	< 0.09 U	< 11 U	< 0.087 U	< 9.2 U	< 10 U	< 0.088 U	< 9.6 U	< 15 U	< 13 U	< 13 U
Isophorone	mg/kg	< 0.1 U	< 13 U	< 0.1 U	< 11 U	< 12 U	< 0.1 U	< 11 U	< 18 U	< 15 U	< 15 U
Nitrobenzene	mg/kg	< 0.085 U	< 10 U	< 0.082 U	< 8.7 U	< 9.5 U	< 0.083 U	< 9 U	< 14 U	< 12 U	< 12 U

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-01**	**6-02**	**6-03**	**6-04**	**6-05**	**6-06**	**6-07**	**6-08**	**6-09**	**6-10**
	Sample Date	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 4 in**
	Sample ID	**6-01-SS-01-101615**	**6-02-SS-01-102815**	**6-03-SS-01-091715**	**6-04-SS-01-101615**	**6-05-SS-01-102815**	**6-06-SS-01-091715**	**6-07-SS-01-101615**	**6-08-SS-01-102815**	**6-09-SS-01-102815**	**6-10-SS-01-102815**
Analyte	**Unit**										
N-Nitrosodimethylamine	mg/kg	< 0.11 U	< 13 U	< 0.1 U	< 11 U	< 12 U	< 0.1 U	< 11 U	< 18 U	< 15 U	< 15 U
N-Nitroso-di-n-propylamine	mg/kg	< 0.094 U	< 11 U	< 0.09 U	< 9.6 U	< 11 U	< 0.092 U	< 10 U	< 16 U	< 13 U	< 13 U
N-Nitrosodiphenylamine	mg/kg	< 0.096 U	< 12 U	< 0.092 U	< 9.8 U	< 11 U	< 0.094 U	< 10 U	< 16 U	< 14 U	< 14 U
Pentachlorobenzene	mg/kg	< 0.015 UJ	< 1.8 UJ	< 0.014 U	< 1.5 U	< 1.6 UJ	< 0.014 U	< 1.5 U	3.5 J-	< 2.1 UJ	< 2 UJ
Pentachlorophenol	mg/kg	< 0.027 U	< 3.2 U	< 0.026 U	< 2.7 U	< 3 U	< 0.026 U	< 2.9 U	< 4.5 U	< 3.9 U	< 3.8 U
Phenol	mg/kg	< 0.093 U	14 J	< 0.089 U	< 9.5 U	22 J	< 0.091 U	< 9.9 U	< 16 U	< 13 U	14 J
06-PAHs											
2-Methylnaphthalene	mg/kg	< 0.00045 U	< 0.0075 U	< 0.00044 U	< 0.0048 U	< 0.0064 U	< 0.00047 U	< 0.0051 U	< 0.0083 U	< 0.0082 U	< 0.0094 U
Acenaphthene	mg/kg	< 0.00049 U	< 0.0082 U	< 0.00048 U	< 0.0053 U	< 0.0070 U	< 0.00051 U	< 0.0056 U	< 0.0091 U	< 0.0090 U	< 0.01 U
Acenaphthylene	mg/kg	< 0.00034 U	< 0.0057 U	< 0.00033 U	< 0.0037 U	< 0.0049 U	< 0.00036 U	< 0.0039 U	< 0.0064 U	< 0.0063 U	< 0.0072 U
Anthracene	mg/kg	< 0.00041 U	< 0.0069 U	< 0.00040 U	< 0.0044 U	< 0.0059 U	< 0.00043 U	< 0.0047 U	< 0.0076 U	< 0.0075 U	< 0.0087 U
Benzo(a)anthracene	mg/kg	< 0.00032 U	< 0.0053 U	< 0.00031 U	< 0.0034 U	< 0.0045 U	< 0.00033 U	< 0.0036 U	< 0.0059 U	< 0.0058 U	< 0.0066 U
Benzo(a)pyrene	mg/kg	< 0.00042 U	< 0.0069 U	< 0.00040 U	< 0.0045 U	0.0069 J	< 0.00043 U	< 0.0047 U	0.076 J	0.016 J	0.019 J
Benzo(b)fluoranthene	mg/kg	< 0.00053 U	< 0.0088 U	< 0.00051 U	< 0.0057 U	< 0.0076 U	< 0.00055 U	< 0.0060 U	< 0.0098 U	< 0.0096 U	< 0.011 U
Benzo(g,h,i)perylene	mg/kg	< 0.0010 U	< 0.017 U	< 0.0010 U	< 0.011 U	< 0.015 U	< 0.0011 U	< 0.012 U	< 0.019 U	< 0.019 U	< 0.022 U
Benzo(k)fluoranthene	mg/kg	< 0.00079 U	< 0.013 U	< 0.00077 U	< 0.0085 U	< 0.011 U	< 0.00082 U	< 0.0090 U	< 0.015 U	< 0.014 U	< 0.017 U
Chrysene	mg/kg	< 0.00036 U	< 0.0060 U	< 0.00035 U	< 0.0039 U	< 0.0052 U	< 0.00038 U	< 0.0041 U	< 0.0067 U	< 0.0066 U	< 0.0076 U
Dibenzo(a,h)anthracene	mg/kg	< 0.0013 U	< 0.021 U	< 0.0012 U	< 0.013 U	< 0.018 U	< 0.0013 U	< 0.014 U	< 0.023 U	< 0.023 U	< 0.026 U
Fluoranthene	mg/kg	< 0.00031 U	< 0.0051 U	< 0.00030 U	< 0.0033 U	< 0.0044 U	< 0.00032 U	< 0.0035 U	< 0.0057 U	< 0.0056 U	< 0.0064 U
Fluorene	mg/kg	< 0.00051 U	< 0.0085 U	< 0.00050 U	< 0.0055 U	< 0.0073 U	< 0.00053 U	< 0.0058 U	< 0.0095 U	< 0.0093 U	< 0.011 U
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.00050 U	< 0.0083 U	< 0.00049 U	< 0.0054 U	< 0.0072 U	< 0.00052 U	< 0.0057 U	< 0.0093 U	< 0.0091 U	< 0.011 U
Naphthalene	mg/kg	< 0.00033 U	< 0.0053 U	< 0.00035 U	< 0.0034 U	< 0.0046 U	< 0.00033 U	< 0.0036 U	< 0.0059 U	< 0.0059 U	< 0.0067 U
Phenanthrene	mg/kg	< 0.00037 U	< 0.0061 U	< 0.00035 U	< 0.0039 U	< 0.0052 U	< 0.00038 U	< 0.0041 U	< 0.0068 U	< 0.0067 U	< 0.0077 U
Pyrene	mg/kg	< 0.00037 U	< 0.0061 U	< 0.00035 U	< 0.0039 U	< 0.0052 U	< 0.00038 U	< 0.0041 U	< 0.0068 U	< 0.0067 U	< 0.0077 U
07-VOCs											
1,4-Dioxane	mg/kg	< 0.062 U	< 0.11 U	< 0.041 U	< 0.046 U	< 0.07 U	< 0.043 UJ	< 0.05 U	< 0.098 UJ	< 0.092 U	< 0.1 U
1,1-Dichloroethane	mg/kg	< 0.00046 U	< 0.00083 U	< 0.00031 U	< 0.00034 U	< 0.00052 U	< 0.00032 U	< 0.00037 U	< 0.00073 UJ	< 0.00069 U	< 0.00078 U
1,1-Dichloroethene	mg/kg	< 0.00042 U	< 0.00075 U	< 0.00027 U	< 0.00031 U	< 0.00046 U	< 0.00028 U	< 0.00033 U	< 0.00065 UJ	< 0.00062 U	< 0.00070 U
1,2-Dibromo-3-chloropropane	mg/kg	< 0.0014 U	< 0.0025 U	< 0.00093 U	< 0.0010 U	< 0.0016 U	< 0.00096 U	< 0.0011 U	< 0.0022 UJ	< 0.0021 U	< 0.0024 U
1,2-Dibromoethane	mg/kg	< 0.00043 U	< 0.00078 U	< 0.00028 U	< 0.00032 U	< 0.00048 U	< 0.00030 U	< 0.00035 U	< 0.00068 UJ	< 0.00064 U	< 0.00072 U
1,2-Dichlorobenzene	mg/kg	< 0.0010 U	< 0.0018 U	< 0.00067 U	< 0.00076 U	< 0.0011 U	< 0.00070 U	< 0.00082 U	< 0.0016 UJ	< 0.0015 U	< 0.0017 U
1,2-Dichloroethane	mg/kg	< 0.0012 U	< 0.0021 U	< 0.00077 U	< 0.00086 U	< 0.0013 U	< 0.00080 U	< 0.00094 U	< 0.0018 UJ	< 0.0017 U	< 0.0020 U
cis-1,2-Dichloroethene	mg/kg	< 0.0014 U	< 0.0026 U	< 0.00094 U	< 0.0011 U	< 0.0016 U	< 0.00097 U	< 0.0011 U	< 0.0022 UJ	< 0.0021 U	< 0.0024 U
trans-1,2-Dichloroethene	mg/kg	< 0.00061 U	< 0.0011 U	< 0.00040 U	< 0.00045 U	< 0.00068 U	< 0.00042 U	< 0.00049 U	< 0.00096 UJ	< 0.00090 U	< 0.0010 U
1,2-Dichloropropane	mg/kg	< 0.00096 U	< 0.0017 U	< 0.00063 U	< 0.00071 U	< 0.0011 U	< 0.00066 U	< 0.00077 U	< 0.0015 UJ	< 0.0014 U	< 0.0016 U
1,3-Dichlorobenzene	mg/kg	< 0.00048 U	< 0.00086 U	< 0.00032 U	< 0.00035 U	< 0.00054 U	< 0.00033 U	< 0.00039 U	< 0.00076 UJ	< 0.00071 U	< 0.00080 U
cis-1,3-Dichloropropene	mg/kg	< 0.0010 U	< 0.0018 U	< 0.00067 U	< 0.00076 U	< 0.0011 U	< 0.00070 U	< 0.00082 U	< 0.0016 UJ	< 0.0015 U	< 0.0017 U
trans-1,3-Dichloropropene	mg/kg	< 0.0012 U	< 0.0022 U	< 0.00079 U	< 0.00089 U	< 0.0013 U	< 0.00082 U	< 0.00096 U	< 0.0019 UJ	< 0.0018 U	< 0.0020 U
1,4-Dichlorobenzene	mg/kg	< 0.0012 U	< 0.0022 U	< 0.00082 U	< 0.00092 U	< 0.0014 U	< 0.00085 U	< 0.0010 U	< 0.0020 UJ	< 0.0018 U	< 0.0021 U

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-01**	**6-02**	**6-03**	**6-04**	**6-05**	**6-06**	**6-07**	**6-08**	**6-09**	**6-10**
	Sample Date	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 4 in**
	Sample ID	**6-01-SS-01-101615**	**6-02-SS-01-102815**	**6-03-SS-01-091715**	**6-04-SS-01-101615**	**6-05-SS-01-102815**	**6-06-SS-01-091715**	**6-07-SS-01-101615**	**6-08-SS-01-102815**	**6-09-SS-01-102815**	**6-10-SS-01-102815**
Analyte	**Unit**										
1,1,1-Trichloroethane	mg/kg	*< 0.00058 U*	*< 0.0010 U*	*< 0.00038 U*	*< 0.00043 U*	*< 0.00064 U*	*< 0.00039 U*	*< 0.00046 U*	*< 0.00091 UJ*	*< 0.00085 U*	*< 0.00096 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00070 U*	*< 0.0013 U*	*< 0.00046 U*	*< 0.00052 U*	*< 0.00079 U*	*< 0.00048 U*	*< 0.00057 U*	*< 0.0011 UJ*	*< 0.0010 U*	*< 0.0012 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	*< 0.0013 U*	*< 0.0024 U*	*< 0.00087 U*	*< 0.00098 U*	*< 0.0015 U*	*< 0.00091 U*	*< 0.0011 U*	*< 0.0021 UJ*	*< 0.0020 U*	*< 0.0022 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0012 U*	*< 0.0022 U*	*< 0.00079 U*	*< 0.00089 U*	*< 0.0013 U*	*< 0.00082 U*	*< 0.00096 U*	*< 0.0019 UJ*	*< 0.0018 U*	*< 0.0020 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0012 U*	*< 0.0022 U*	*< 0.00079 U*	*< 0.00089 U*	*< 0.0013 U*	*< 0.00082 U*	*< 0.00096 U*	*< 0.0019 UJ*	*< 0.0018 U*	*< 0.0020 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0011 U*	*< 0.0020 U*	*< 0.00072 U*	*< 0.00080 U*	*< 0.0012 U*	*< 0.00074 U*	*< 0.00087 U*	*< 0.0017 UJ*	*< 0.0016 U*	*< 0.0018 U*
2-Butanone	mg/kg	*< 0.0022 U*	0.0093 J	*< 0.0050 U*	0.013	0.017 J	*< 0.0036 U*	0.034	0.027 J+	0.021 J	0.026 J
2-Hexanone	mg/kg	*< 0.0012 U*	*< 0.0021 U*	*< 0.00078 U*	*< 0.00088 U*	*< 0.0013 U*	*< 0.00081 U*	0.0029 J	*< 0.0019 UJ*	*< 0.0018 U*	*< 0.0020 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0015 U*	*< 0.0026 U*	*< 0.00097 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.0010 U*	0.0014 J	*< 0.0023 UJ*	*< 0.0022 U*	*< 0.0025 U*
Acetone	mg/kg	*< 0.0022 U*	*< 0.04 U*	*< 0.0015 U*	*< 0.034 U*	0.071	0.0056 J	*< 0.051 U*	0.1 J+	0.093	0.12
Benzene	mg/kg	*< 0.00042 U*	*< 0.00075 U*	*< 0.00027 U*	*< 0.00031 U*	*< 0.00046 U*	*< 0.00028 U*	0.00048 J	*< 0.00065 UJ*	*< 0.00062 U*	*< 0.00070 U*
Bromochloromethane	mg/kg	*< 0.0015 U*	*< 0.0027 U*	*< 0.00099 U*	*< 0.0011 U*	*< 0.0017 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.0024 UJ*	*< 0.0022 U*	*< 0.0025 U*
Bromodichloromethane	mg/kg	*< 0.00085 U*	*< 0.011 U*	*< 0.00056 U*	*< 0.00072 U*	0.024	*< 0.00058 U*	*< 0.0017 U*	0.05 J+	0.019	0.045
Bromoform	mg/kg	*< 0.00064 U*	0.071	*< 0.00042 U*	0.0017 J	0.16	*< 0.0026 U*	0.014	0.27 J+	0.098	0.23
Bromomethane	mg/kg	*< 0.0014 U*	*< 0.0025 U*	*< 0.00090 U*	*< 0.0010 U*	*< 0.0015 U*	*< 0.00094 U*	*< 0.0011 U*	*< 0.0022 UJ*	*< 0.0020 U*	*< 0.0023 U*
Carbon disulfide	mg/kg	*< 0.00078 U*	0.0019 J	*< 0.00052 U*	*< 0.00058 U*	0.0014 J	*< 0.00054 U*	*< 0.00063 U*	0.0080 J+	0.0030 J	0.0054 J
Carbon tetrachloride	mg/kg	*< 0.00085 U*	0.0020 J	*< 0.00056 U*	*< 0.00063 U*	*< 0.00095 U*	*< 0.00058 U*	*< 0.00068 U*	*< 0.0013 UJ*	*< 0.0013 U*	*< 0.0014 U*
Chlorobenzene	mg/kg	*< 0.00046 U*	*< 0.00083 U*	*< 0.00031 U*	*< 0.00034 U*	*< 0.00052 U*	*< 0.00032 U*	*< 0.00037 U*	*< 0.00073 UJ*	*< 0.00069 U*	*< 0.00078 U*
Cyclohexane	mg/kg	*< 0.0042 U*	*< 0.0076 U*	*< 0.0028 U*	*< 0.0031 U*	*< 0.0047 U*	*< 0.0029 U*	*< 0.0034 U*	*< 0.0066 UJ*	*< 0.0062 U*	*< 0.0070 U*
Dibromochloromethane	mg/kg	*< 0.00034 U*	0.031	*< 0.00022 U*	*< 0.0010 U*	0.077	*< 0.00044 U*	*< 0.0040 U*	0.15 J+	0.05	0.12
Chloroethane	mg/kg	*< 0.00072 U*	*< 0.0013 U*	*< 0.00047 U*	*< 0.00053 U*	*< 0.00080 U*	*< 0.00049 U*	*< 0.00058 U*	*< 0.0011 UJ*	*< 0.0011 U*	*< 0.0012 U*
Chloroform	mg/kg	*< 0.00042 U*	*< 0.0037 U*	*< 0.00027 U*	*< 0.0051 U*	0.01	*< 0.00028 U*	0.022	0.023 J+	*< 0.0092 U*	0.017
Chloromethane	mg/kg	*< 0.00080 U*	*< 0.0014 U*	*< 0.00053 U*	*< 0.00059 U*	0.0034 J	*< 0.00055 U*	0.0011 J	0.0095 J+	0.0054 J	0.01 J
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0014 U*	*< 0.0026 U*	*< 0.00094 U*	*< 0.0011 U*	*< 0.0016 U*	*< 0.00097 U*	*< 0.0011 U*	*< 0.0022 UJ*	*< 0.0021 U*	*< 0.0024 U*
Ethyl benzene	mg/kg	*< 0.00054 U*	*< 0.00098 U*	*< 0.00036 U*	*< 0.00040 U*	*< 0.00061 U*	*< 0.00037 U*	*< 0.00044 U*	*< 0.00086 UJ*	*< 0.00080 U*	*< 0.00091 U*
Isopropylbenzene	mg/kg	*< 0.00083 U*	*< 0.0015 U*	*< 0.00055 U*	*< 0.00061 U*	*< 0.00093 U*	*< 0.00057 U*	*< 0.00067 U*	*< 0.0013 UJ*	*< 0.0012 U*	*< 0.0014 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.00096 U*	*< 0.0017 U*	*< 0.00063 U*	*< 0.00071 U*	*< 0.0011 U*	*< 0.00066 U*	*< 0.00077 U*	*< 0.0015 UJ*	*< 0.0014 U*	*< 0.0016 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0013 U*	*< 0.0024 U*	*< 0.00088 U*	*< 0.00099 U*	*< 0.0015 U*	*< 0.00092 U*	*< 0.0011 U*	*< 0.0021 UJ*	*< 0.0020 U*	*< 0.0023 U*
Styrene	mg/kg	*< 0.00050 U*	*< 0.00089 U*	*< 0.00033 U*	*< 0.00037 U*	*< 0.00055 U*	*< 0.00034 U*	*< 0.00040 U*	*< 0.00078 UJ*	*< 0.00073 U*	*< 0.00083 U*
Tetrachloroethene	mg/kg	*< 0.00098 U*	*< 0.0018 U*	*< 0.00064 U*	*< 0.00072 U*	*< 0.0011 U*	*< 0.00067 U*	*< 0.00078 U*	*< 0.0015 UJ*	*< 0.0014 U*	*< 0.0016 U*
Toluene	mg/kg	*< 0.00098 U*	*< 0.0018 U*	*< 0.00064 U*	*< 0.00072 U*	*< 0.0011 U*	*< 0.00067 U*	0.00098 J	*< 0.0015 UJ*	*< 0.0014 U*	*< 0.0016 U*
Trichloroethene	mg/kg	*< 0.00096 U*	*< 0.0017 U*	*< 0.00063 U*	*< 0.00071 U*	*< 0.0011 U*	*< 0.00066 U*	*< 0.00077 U*	*< 0.0015 UJ*	*< 0.0014 U*	*< 0.0016 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00054 U*	*< 0.00098 U*	*< 0.00036 U*	*< 0.00040 U*	*< 0.00061 U*	*< 0.00037 U*	*< 0.00044 U*	*< 0.00086 UJ*	*< 0.00080 U*	*< 0.00091 U*
Vinyl chloride	mg/kg	*< 0.00058 U*	*< 0.0010 U*	*< 0.00038 U*	*< 0.00043 U*	*< 0.00064 U*	*< 0.00039 U*	*< 0.00046 U*	*< 0.00091 UJ*	*< 0.00085 U*	*< 0.00096 U*
o-Xylene	mg/kg	*< 0.00053 U*	*< 0.00095 U*	*< 0.00035 U*	*< 0.00039 U*	*< 0.00059 U*	*< 0.00036 U*	*< 0.00042 U*	*< 0.00083 UJ*	*< 0.00078 U*	*< 0.00088 U*
m,p Xylenes	mg/kg	*< 0.0013 U*	*< 0.0023 U*	*< 0.00085 U*	*< 0.00096 U*	*< 0.0014 U*	*< 0.00089 U*	*< 0.0010 U*	*< 0.0020 UJ*	*< 0.0019 U*	*< 0.0022 U*

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-01**	**6-02**	**6-03**	**6-04**	**6-05**	**6-06**	**6-07**	**6-08**	**6-09**	**6-10**
	Sample Date	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**17-Sep-15**	**16-Oct-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 4 in**
	Sample ID	**6-01-SS-01-101615**	**6-02-SS-01-102815**	**6-03-SS-01-091715**	**6-04-SS-01-101615**	**6-05-SS-01-102815**	**6-06-SS-01-091715**	**6-07-SS-01-101615**	**6-08-SS-01-102815**	**6-09-SS-01-102815**	**6-10-SS-01-102815**
Analyte	**Unit**										
08-General Solids Parameters											
Perchlorate	mg/kg	*< 0.021 U*	*< 0.035 U*	*< 0.021 U*	*< 0.024 U*	*< 0.03 U*	*< 0.021 U*	*< 0.025 U*	*< 0.037 U*	*< 0.035 U*	*< 0.038 U*
Total Organic Carbon	mg/kg	4,300	5,200	*< 1,700 UJ*	4,100	3,900 J	*< 1,700 UJ*	5,000	9,800	3,000 J	3,800 J
pH	pH units	7.82	1.09	9.17	6.99	1.32	7.72	6.96	1.13	1.17	1.10
Cyanide, Total	mg/kg	*< 0.22 U*	*< 0.37 U*	*< 0.21 U*	*< 0.25 U*	*< 0.31 U*	*< 0.23 U*	*< 0.26 U*	*< 0.40 U*	*< 0.35 U*	*< 0.42 U*
Percent finer than 0.25 millimeters	%	85	75.4	2.4	90.4	83.1	93.4	85.9	63.5	58.1	59.8

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-11**	**6-12**	**6-13**	**6-14**	**6-15**	**6-16**	**6-16**	**6-16**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**16-Sep-15**	**06-Nov-15**	**06-Nov-15**	**06-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 3 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 4.5 ft**	**4.5 - 6.5 ft**
	Sample ID	**6-11-SS-01-102815**	**6-12-SS-01-102815**	**6-13-SS-01-102815**	**6-14-SS-01-091615**	**6-15-SS-01-091615**	**6-16-SB-01-0.5-3.5-110615**	**6-16-SB-01-3.5-4.5-110615**	**6-16-SB-01-4.5-6.5-110615**
Analyte	**Unit**								
01-Dioxins and Furans									
2,3,7,8-TCDD	pg/g	< 1.7 U	< 2.5 U	< 2.9 U	< 0.043 U	0.78 J	< 5.1 UQ	7.7 J	< 0.23 UQ
1,2,3,7,8-PeCDD	pg/g	13 J	25 J	34 J	0.17 J	3.0 J	46	56	1.5 J+
1,2,3,4,7,8-HxCDD	pg/g	19 J	33 J	42 J	0.15 J	< 2.4 UQ	63	83	1.9 J+
1,2,3,6,7,8-HxCDD	pg/g	52 J	110	140	< 0.37 UQ	9.5	190	250	5.4 J+
1,2,3,7,8,9-HxCDD	pg/g	66	130	160	< 0.33 UQ	11	210	310	7.0 J+
1,2,3,4,6,7,8-HpCDD	pg/g	360	860	1,000	2.6 J	67	1,600	2,000	42
OCDD	pg/g	850 J	2,300	2,800	11 J	210	5,100	5,500	150
2,3,7,8-TCDF	pg/g	550	930	1,500	3.7	150	460	730	25 J+
1,2,3,7,8-PeCDF	pg/g	1,100	2,100	2,900	8.0	270	4,000	5,100	100 J+
2,3,4,7,8-PeCDF	pg/g	480	950	1,100	3.8 J	110	1,500	2,100	47 J+
1,2,3,4,7,8-HxCDF	pg/g	3,100	6,800	9,300	32	710	14,000	22,000	320 J+
1,2,3,6,7,8-HxCDF	pg/g	2,400	4,900	6,500	23	600	10,000	13,000	260 J+
1,2,3,7,8,9-HxCDF	pg/g	370	880	1,300	< 1.7 U	59	1,900	2,300	39 J+
2,3,4,6,7,8-HxCDF	pg/g	440	870	1,100	6.3	110	1,300	1,900	41 J+
1,2,3,4,6,7,8-HpCDF	pg/g	19,000	50,000	69,000	240	6,300	110,000	130,000	2,400
1,2,3,4,7,8,9-HpCDF	pg/g	6,000	15,000	19,000	43	1,200	39,000	48,000	760
OCDF	pg/g	150,000	410,000	580,000	1,800 J	54,000	990,000 J	980,000 J	20,000 J
Calculated TEQ (ND=0), Mammalian	pg/g	1,200	2,600	3,500	11	300	5,200	7,000	130
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	1,200	2,600	3,500	12	300	5,200	7,000	130
Calculated TEQ (ND=0), Avian	pg/g	75,000	580,000	580,000	300	4,400	700,000	800,000	3,300
Calculated TEQ (ND=1/2 DL), Avian	pg/g	75,000	580,000	580,000	300	4,400	700,000	800,000	3,300
02-PCBs									
PCB-77	pg/g	< 189 U	924	1,040	2.6	< 19 U	< 175 UJ	274 J	6.7
PCB-81	pg/g	< 189 UJ	< 228 UJ	< 240 UJ	0.47 J	< 16 U	< 175 U	< 162 U	4.0
PCB-105	pg/g	< 189 U	< 228 U	< 240 U	5.0	29	< 175 UJ	< 162 UJ	15
PCB-107/123	pg/g	< 378 U	582 J	< 480 U			< 350 U	629 J	
PCB-114	pg/g	< 189 U	< 228 U	< 240 U	< 0.62 U	16 J	< 175 U	< 162 U	6.8
PCB-118	pg/g	< 189 U	< 228 U	< 240 U	7.6	46	< 175 U	227 J	20
PCB-123	pg/g				0.86 J	< 14 U			6.9
PCB-126	pg/g	< 189 U	< 228 UJ	< 240 UJ	< 0.71 U	< 19 U	< 175 U	< 162 U	6.9
PCB-156	pg/g	< 189 U	304 J	574			300 J	382	
PCB-157	pg/g	< 189 U	< 228 U	< 240 U			< 175 U	< 162 U	
PCB-156/157	pg/g				3.0 J	55			25
PCB-167	pg/g	< 189 U	< 228 U	< 240 U	2.1	48	< 175 U	520	< 3.1 U
PCB-169	pg/g	< 189 U	< 228 UJ	< 240 UJ	0.38 J	< 11 U	< 175 U	< 162 U	< 4.0 U
PCB-189	pg/g	< 189 U	368 J-	< 240 UJ	2.0 J	77	675	579	39
Monochlorobiphenyls, Total	mg/kg	< 0.000189 U	0.000410 J	0.000348 J	0.0000048 J	0.000016 J	< 0.000175 U	< 0.000162 U	0.0002

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-11**	**6-12**	**6-13**	**6-14**	**6-15**	**6-16**	**6-16**	**6-16**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**16-Sep-15**	**06-Nov-15**	**06-Nov-15**	**06-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 3 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 4.5 ft**	**4.5 - 6.5 ft**
	Sample ID	**6-11-SS-01-102815**	**6-12-SS-01-102815**	**6-13-SS-01-102815**	**6-14-SS-01-091615**	**6-15-SS-01-091615**	**6-16-SB-01-0.5-3.5-110615**	**6-16-SB-01-3.5-4.5-110615**	**6-16-SB-01-4.5-6.5-110615**
Analyte	**Unit**								
Dichlorobiphenyls, Total	mg/kg	0.00569	0.0132	0.0159	0.00011 J	0.0014 J	*< 0.000175 U*	0.000797	0.0007
Trichlorobiphenyls, Total	mg/kg	0.00835	0.0191	0.0224	0.000014 J	0.00027 J	*< 0.000175 UJ*	0.00219 J	0.00012
Tetrachlorobiphenyls, Total	mg/kg	0.00576 J	0.0146 J	0.0156 J	0.000018 J	0.00021 J	*< 0.000175 UJ*	0.00180 J	0.00015
Pentachlorobiphenyls, Total	mg/kg	0.00471	0.0100 J-	0.0134 J-	0.000051 J	0.00071 J	*< 0.000175 UJ*	0.00516 J	0.00028
Hexachlorobiphenyls, Total	mg/kg	0.00390	0.0116 J-	0.0174 J-	0.000079 J	0.0018 J	0.00379 J	0.0118 J	0.00049
Heptachlorobiphenyls, Total	mg/kg	0.00602	0.0117 J-	0.0179 J-	0.00013 J	0.0026	0.0122	0.0207	0.0011
Octachlorobiphenyls, Total	mg/kg	0.0124	0.0274	0.0360	0.00032	0.0062	0.0270	0.0427	0.0023
Nonachlorobiphenyls, Total	mg/kg	0.0288	0.0781	0.0994	0.001	0.021	0.0788 J	0.113 J	0.0062
Decachlorobiphenyl (PCB-209)	mg/kg	0.597	2.11	2.73	0.012	0.31 J	1.78 J	2.13 J	0.12
Total PCBs	mg/kg	0.673	2.3	2.97	0.014	0.34	1.9	2.33	0.13
03- Metals									
Total Aluminum	mg/kg	5,300	5,500	6,900	4,700	20,000	880	1,800	20,000
Total Antimony	mg/kg	1.4 J-	1.4 J-	2.5 J-	0.23 J-	0.92 J-	2.7 J-	8.0 J-	0.78 J-
Total Arsenic	mg/kg	5.2	4.2	5.9	4.9	16	27	31	21
Total Barium	mg/kg	640	630	840	360	290	140	170	360
Total Beryllium	mg/kg	0.14	0.16	0.22	0.21	0.83	0.23	0.24	0.95
Total Cadmium	mg/kg	*< 0.044 U*	*< 0.053 U*	*< 0.058 U*	0.16	0.12	*< 0.048 U*	*< 0.053 U*	0.11 J
Total Calcium	mg/kg	16,000	4,400	5,600	260,000	50,000	190,000	200,000	54,000
Total Chromium	mg/kg	7.6	8.1	10	5.5	37	9.2	11	31
Total Cobalt	mg/kg	0.63	0.45	0.51	1.9	6.0	1.3	1.8	4.7
Total Copper	mg/kg	2.3	2.0	2.2	6.1 J	28 J	2.6	4.6	15
Total Iron	mg/kg	5,100	3,200	3,600	4,100	29,000	53,000	48,000	25,000
Total Lead	mg/kg	1.7	3.0	3.5	8.6	17	1.2 J+	2.0 J+	18 J+
Total Magnesium	mg/kg	3,300	3,900	4,700	13,000	16,000	15,000	9,400	15,000
Total Manganese	mg/kg	22 J	17 J	17 J	220	150	340	330	130
Total Mercury	mg/kg	0.021 J	0.016 J	0.023 J	*< 0.0089 U*	0.028 J	0.099	*< 0.053 U*	0.097
Total Molybdenum	mg/kg	12	9.9	11	1.7	26	2.9	9.3	15
Total Nickel	mg/kg	1.9	1.8	2.0	4.4	17	11	11	14
Total Potassium	mg/kg	2,100	2,700	3,300	1,500	7,900	930	1,300	7,500
Total Selenium	mg/kg	*< 0.087 UJ*	0.11 J-	*< 0.12 UJ*	0.17 J-	0.38 J-	0.17 J-	0.13 J-	0.24 J-
Total Silver	mg/kg	*< 0.026 U*	*< 0.032 U*	*< 0.035 U*	0.031 J	*< 0.036 U*	*< 0.029 U*	*< 0.032 U*	*< 0.045 U*
Total Sodium	mg/kg	1,800	2,300	2,600	2,900	3,700	3,200	2,800	2,100
Total Thallium	mg/kg	0.052 J	0.070 J	0.086 J	0.071 J	0.20	0.082 J	0.095 J	0.17
Total Vanadium	mg/kg	14	11	13	9.6	49	72	62	52
Total Zinc	mg/kg	6.5 J-	4.6 J-	6.5 J-	17 J-	64 J-	5.6	8.7	53
05-SVOCs									
1,1'-Biphenyl	mg/kg	*< 19 U*	*< 28 U*	*< 30 U*	*< 0.17 U*	*< 0.21 U*	*< 29 U*	*< 26 U*	*< 1.3 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 3 U*	*< 4.4 U*	*< 4.7 U*	*< 0.027 U*	*< 0.033 U*	*< 4.6 U*	*< 4.2 U*	*< 0.2 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 9.5 U*	*< 14 U*	*< 15 U*	*< 0.086 U*	*< 0.1 U*	*< 15 U*	*< 13 U*	*< 0.63 U*

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-11**	**6-12**	**6-13**	**6-14**	**6-15**	**6-16**	**6-16**	**6-16**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**16-Sep-15**	**06-Nov-15**	**06-Nov-15**	**06-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 3 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 4.5 ft**	**4.5 - 6.5 ft**
	Sample ID	**6-11-SS-01-102815**	**6-12-SS-01-102815**	**6-13-SS-01-102815**	**6-14-SS-01-091615**	**6-15-SS-01-091615**	**6-16-SB-01-0.5-3.5-110615**	**6-16-SB-01-3.5-4.5-110615**	**6-16-SB-01-4.5-6.5-110615**
Analyte	**Unit**								
2,4,5-Trichlorophenol	mg/kg	*< 9.6 U*	*< 14 U*	*< 15 U*	*< 0.088 U*	*< 0.1 U*	*< 15 U*	*< 13 U*	*< 0.64 U*
2,4,6-Trichlorophenol	mg/kg	*< 0.51 U*	*< 0.74 U*	*< 0.79 U*	*< 0.0046 U*	*< 0.0055 U*	*< 0.79 U*	*< 0.7 U*	*< 0.0068 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 9.1 U*	*< 13 U*	*< 14 U*	*< 0.083 U*	*< 0.099 U*	*< 14 U*	*< 13 U*	*< 0.61 U*
2,4-Dichlorophenol	mg/kg	*< 10 U*	*< 15 U*	*< 16 U*	*< 0.094 U*	*< 0.11 U*	*< 16 U*	*< 14 U*	*< 0.69 U*
2,4-Dimethylphenol	mg/kg	*< 19 U*	*< 28 U*	*< 30 U*	*< 0.18 U*	*< 0.21 U*	*< 30 U*	*< 27 U*	*< 1.3 U*
2,4-Dinitrophenol	mg/kg	*< 25 U*	*< 36 U*	*< 38 U*	*< 0.23 U*	*< 0.27 U*	*< 38 U*	*< 34 U*	*< 1.6 U*
2,4-Dinitrotoluene	mg/kg	*< 10 U*	*< 15 U*	*< 16 U*	*< 0.094 U*	*< 0.11 U*	*< 16 U*	*< 14 U*	*< 0.69 U*
2,6-Dinitrotoluene	mg/kg	*< 11 U*	*< 17 U*	*< 18 U*	*< 0.1 U*	*< 0.12 U*	*< 18 U*	*< 16 U*	*< 0.76 U*
2-Chloronaphthalene	mg/kg	*< 9.4 U*	*< 14 U*	*< 14 U*	*< 0.085 U*	*< 0.1 U*	*< 14 U*	*< 13 U*	*< 0.62 U*
2-Chlorophenol	mg/kg	*< 10 U*	*< 15 U*	*< 16 U*	*< 0.093 U*	*< 0.11 U*	*< 16 U*	*< 14 U*	*< 0.68 U*
2-Methylphenol	mg/kg	*< 6.7 U*	*< 9.8 U*	*< 10 U*	*< 0.061 U*	*< 0.073 U*	*< 10 U*	*< 9.3 U*	*< 0.45 U*
2-Nitroaniline	mg/kg	*< 9.7 U*	*< 14 U*	*< 15 U*	*< 0.089 U*	*< 0.11 U*	*< 15 U*	*< 13 U*	*< 0.65 U*
2-Nitrophenol	mg/kg	*< 9.5 U*	*< 14 U*	*< 15 U*	*< 0.086 U*	*< 0.1 U*	*< 15 U*	*< 13 U*	*< 0.63 U*
3,3'-Dichlorobenzidine	mg/kg	*< 11 U*	*< 16 U*	*< 17 U*	*< 0.099 U*	*< 0.12 U*	*< 17 U*	*< 15 U*	*< 0.72 U*
3-Nitroaniline	mg/kg	*< 19 U*	*< 28 U*	*< 30 U*	*< 0.18 U*	*< 0.21 U*	*< 30 U*	*< 27 U*	*< 1.3 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 9.4 U*	*< 14 U*	*< 14 U*	*< 0.085 U*	*< 0.1 U*	*< 14 U*	*< 13 U*	*< 0.62 U*
4-Bromophenyl-phenylether	mg/kg	*< 9.8 U*	*< 14 U*	*< 15 U*	*< 0.09 U*	*< 0.11 U*	*< 15 U*	*< 14 U*	*< 0.65 U*
4-Chloro-3-methylphenol	mg/kg	*< 11 U*	*< 16 U*	*< 16 U*	*< 0.097 U*	*< 0.12 U*	*< 16 U*	*< 15 U*	*< 0.71 U*
4-Chloroaniline	mg/kg	*< 6.7 U*	*< 9.8 U*	*< 10 U*	*< 0.061 U*	*< 0.073 U*	*< 10 U*	*< 9.3 U*	*< 0.45 U*
4-Chlorophenyl-phenylether	mg/kg	*< 11 U*	*< 16 U*	*< 17 U*	*< 0.098 U*	*< 0.12 U*	*< 17 U*	*< 15 U*	*< 0.72 U*
3 & 4 Methylphenol	mg/kg	*< 38 U*	*< 56 U*	*< 59 U*	*< 0.35 U*	*< 0.41 U*	*< 59 U*	*< 53 U*	*< 2.5 U*
4-Nitroaniline	mg/kg	*< 10 U*	*< 15 U*	*< 16 U*	*< 0.093 U*	*< 0.11 U*	*< 16 U*	*< 14 U*	*< 0.68 U*
4-Nitrophenol	mg/kg	*< 32 U*	*< 47 U*	*< 50 U*	*< 0.3 U*	*< 0.35 U*	*< 50 U*	*< 45 U*	*< 2.2 U*
Acetophenone	mg/kg	*< 2.9 U*	*< 4.6 U*	*< 8.4 U*	*< 0.041 U*	*< 0.058 U*	*< 4.5 U*	*< 4 U*	*< 0.19 U*
Benzaldehyde	mg/kg	*< 19 U*	*< 28 U*	*< 30 U*	*< 0.17 U*	*< 0.21 U*	*< 29 U*	*< 26 U*	*< 1.3 U*
Benzylbutylphthalate	mg/kg	*< 11 U*	*< 16 U*	*< 17 U*	*< 0.1 U*	*< 0.12 U*	*< 17 U*	*< 15 U*	*< 0.73 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 10 U*	*< 15 U*	*< 16 U*	*< 0.093 U*	*< 0.11 U*	*< 16 U*	*< 14 U*	*< 0.68 U*
bis(2-Chloroethyl) ether	mg/kg	*< 9.4 U*	*< 14 U*	*< 14 U*	*< 0.085 U*	*< 0.1 U*	*< 14 U*	*< 13 U*	*< 0.62 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 11 U*	*< 17 U*	*< 18 U*	*< 0.1 U*	*< 0.12 U*	*< 17 U*	*< 16 U*	*< 0.75 U*
Carbazole	mg/kg	*< 11 U*	*< 16 U*	*< 17 U*	*< 0.1 U*	*< 0.12 U*	*< 17 U*	*< 15 U*	*< 0.73 U*
Dibenzofuran	mg/kg	*< 9.9 U*	*< 14 U*	*< 15 U*	*< 0.091 U*	*< 0.11 U*	*< 15 U*	*< 14 U*	*< 0.66 U*
Diethyl phthalate	mg/kg	*< 10 U*	*< 15 U*	*< 16 U*	*< 0.095 U*	*< 0.11 U*	*< 16 U*	*< 14 U*	*< 0.69 U*
Dimethylphthalate	mg/kg	*< 10 U*	*< 15 U*	*< 16 U*	*< 0.092 U*	*< 0.11 U*	*< 16 U*	*< 14 U*	*< 0.67 U*
Di-n-butylphthalate	mg/kg	*< 11 U*	*< 16 U*	*< 17 U*	*< 0.1 U*	*< 0.12 U*	*< 17 U*	*< 16 U*	*< 0.75 U*
Di-n-octylphthalate	mg/kg	*< 11 U*	*< 16 U*	*< 17 U*	*< 0.1 U*	*< 0.12 U*	*< 17 U*	*< 16 U*	*< 0.75 U*
Hexachlorobenzene	mg/kg	7.3	58	57	0.028	0.39	69	79	0.31
Hexachlorobutadiene	mg/kg	*< 0.43 U*	*< 0.62 U*	*< 0.66 U*	*< 0.0039 U*	*< 0.0046 U*	*< 0.66 U*	*< 0.59 U*	*< 0.0057 U*
Hexachlorocyclopentadiene	mg/kg	*< 7.2 U*	*< 10 U*	*< 11 U*	*< 0.065 U*	*< 0.078 U*	*< 11 U*	*< 9.9 U*	*< 0.48 U*
Hexachloroethane	mg/kg	*< 9.4 U*	*< 14 U*	*< 14 U*	*< 0.085 U*	*< 0.1 U*	*< 14 U*	*< 13 U*	*< 0.62 U*
Isophorone	mg/kg	*< 11 U*	*< 16 U*	*< 17 U*	*< 0.098 U*	*< 0.12 U*	*< 17 U*	*< 15 U*	*< 0.72 U*
Nitrobenzene	mg/kg	*< 8.8 U*	*< 13 U*	*< 14 U*	*< 0.08 U*	*< 0.095 U*	*< 14 U*	*< 12 U*	*< 0.59 U*

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-11**	**6-12**	**6-13**	**6-14**	**6-15**	**6-16**	**6-16**	**6-16**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**16-Sep-15**	**06-Nov-15**	**06-Nov-15**	**06-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 3 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 4.5 ft**	**4.5 - 6.5 ft**
	Sample ID	**6-11-SS-01-102815**	**6-12-SS-01-102815**	**6-13-SS-01-102815**	**6-14-SS-01-091615**	**6-15-SS-01-091615**	**6-16-SB-01-0.5-3.5-110615**	**6-16-SB-01-3.5-4.5-110615**	**6-16-SB-01-4.5-6.5-110615**
Analyte	**Unit**								
N-Nitrosodimethylamine	mg/kg	*< 11 U*	*< 16 U*	*< 17 U*	*< 0.1 U*	*< 0.12 U*	*< 17 U*	*< 15 U*	*< 0.15 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 9.7 U*	*< 14 U*	*< 15 U*	*< 0.089 U*	*< 0.11 U*	*< 15 U*	*< 13 U*	*< 0.65 U*
N-Nitrosodiphenylamine	mg/kg	*< 9.9 U*	*< 14 U*	*< 15 U*	*< 0.091 U*	*< 0.11 U*	*< 15 U*	*< 14 U*	*< 0.66 U*
Pentachlorobenzene	mg/kg	*< 1.5 UJ*	*< 2.2 UJ*	*< 2.3 UJ*	*< 0.014 U*	*< 0.016 U*	*< 2.3 U*	5.6 J	*< 0.1 U*
Pentachlorophenol	mg/kg	*< 2.8 U*	*< 4 U*	*< 4.3 U*	*< 0.025 U*	*< 0.03 U*	*< 4.3 U*	*< 3.8 U*	*< 0.037 U*
Phenol	mg/kg	*< 9.6 U*	*< 14 U*	*< 15 U*	*< 0.088 U*	*< 0.1 U*	*< 15 U*	*< 13 U*	*< 0.64 U*
06-PAHs									
2-Methylnaphthalene	mg/kg	*< 0.0067 U*	*< 0.0075 U*	*< 0.0087 U*	*< 0.00043 U*	*< 0.00050 U*	*< 0.0036 U*	*< 0.0038 U*	*< 0.0032 U*
Acenaphthene	mg/kg	*< 0.0073 U*	*< 0.0082 U*	*< 0.0095 U*	*< 0.00047 U*	*< 0.00054 U*	*< 0.0040 U*	*< 0.0041 U*	*< 0.0035 U*
Acenaphthylene	mg/kg	*< 0.0051 U*	*< 0.0057 U*	*< 0.0067 U*	*< 0.00033 U*	*< 0.00038 U*	*< 0.0028 U*	*< 0.0029 U*	*< 0.0025 U*
Anthracene	mg/kg	*< 0.0061 U*	*< 0.0069 U*	*< 0.0080 U*	*< 0.00040 U*	*< 0.00046 U*	*< 0.0033 U*	*< 0.0035 U*	*< 0.0029 U*
Benzo(a)anthracene	mg/kg	*< 0.0047 U*	*< 0.0053 U*	*< 0.0062 U*	*< 0.00031 U*	*< 0.00035 U*	*< 0.0025 U*	*< 0.0027 U*	*< 0.0023 U*
Benzo(a)pyrene	mg/kg	*< 0.0062 U*	0.013 J	0.031 J	*< 0.00040 U*	0.0018 J	0.0071 J	0.0061 J	*< 0.0030 U*
Benzo(b)fluoranthene	mg/kg	*< 0.0078 U*	*< 0.0088 U*	*< 0.01 U*	*< 0.00051 U*	*< 0.00058 U*	*< 0.0042 U*	*< 0.0044 U*	*< 0.0038 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.016 U*	*< 0.017 U*	*< 0.02 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.0084 U*	*< 0.0088 U*	*< 0.0074 U*
Benzo(k)fluoranthene	mg/kg	*< 0.012 U*	*< 0.013 U*	*< 0.015 U*	*< 0.00077 U*	*< 0.00088 U*	*< 0.0064 U*	*< 0.0067 U*	*< 0.0057 U*
Chrysene	mg/kg	*< 0.0054 U*	*< 0.0060 U*	*< 0.0070 U*	*< 0.00035 U*	*< 0.00040 U*	*< 0.0029 U*	*< 0.0030 U*	*< 0.0026 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.019 U*	*< 0.021 U*	*< 0.024 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.01 U*	*< 0.011 U*	*< 0.0089 U*
Fluoranthene	mg/kg	*< 0.0045 U*	*< 0.0051 U*	*< 0.0060 U*	*< 0.00030 U*	*< 0.00034 U*	*< 0.0025 U*	*< 0.0026 U*	*< 0.0022 U*
Fluorene	mg/kg	*< 0.0076 U*	*< 0.0085 U*	*< 0.01 U*	*< 0.00049 U*	*< 0.00056 U*	*< 0.0041 U*	*< 0.0043 U*	*< 0.0036 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.0074 U*	*< 0.0083 U*	*< 0.0097 U*	*< 0.00048 U*	*< 0.00055 U*	*< 0.0040 U*	*< 0.0042 U*	*< 0.0036 U*
Naphthalene	mg/kg	*< 0.0048 U*	*< 0.0053 U*	*< 0.0062 U*	*< 0.00045 U*	*< 0.00035 U*	*< 0.0026 U*	*< 0.0027 U*	*< 0.0023 U*
Phenanthrene	mg/kg	*< 0.0054 U*	*< 0.0061 U*	*< 0.0071 U*	*< 0.00035 U*	*< 0.00040 U*	*< 0.0029 U*	*< 0.0031 U*	*< 0.0026 U*
Pyrene	mg/kg	*< 0.0054 U*	*< 0.0061 U*	*< 0.0071 U*	*< 0.00035 U*	*< 0.00040 U*	*< 0.0029 U*	*< 0.0031 U*	*< 0.0026 U*
07-VOCs									
1,4-Dioxane	mg/kg	*< 0.075 U*	*< 0.094 UJ*	*< 0.096 U*	*< 0.044 U*	*< 0.05 U*	*< 0.087 U*	*< 0.094 U*	*< 0.075 U*
1,1-Dichloroethane	mg/kg	*< 0.00056 U*	*< 0.00070 UJ*	*< 0.00071 U*	*< 0.00033 U*	*< 0.00037 U*	*< 0.00064 U*	0.00095 J	*< 0.00056 U*
1,1-Dichloroethene	mg/kg	*< 0.00050 U*	*< 0.00063 UJ*	*< 0.00064 U*	*< 0.00030 U*	*< 0.00033 U*	*< 0.00058 U*	*< 0.00062 U*	*< 0.00050 U*
1,2-Dibromo-3-chloropropane	mg/kg	*< 0.0017 U*	*< 0.0021 UJ*	*< 0.0022 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.0020 U*	*< 0.0021 U*	*< 0.0017 U*
1,2-Dibromoethane	mg/kg	*< 0.00052 U*	*< 0.00065 UJ*	*< 0.00067 U*	*< 0.00031 U*	*< 0.00034 U*	*< 0.00060 U*	*< 0.00065 U*	*< 0.00052 U*
1,2-Dichlorobenzene	mg/kg	*< 0.0012 U*	*< 0.0015 UJ*	*< 0.0016 U*	*< 0.00073 U*	*< 0.00082 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0012 U*
1,2-Dichloroethane	mg/kg	*< 0.0014 U*	*< 0.0018 UJ*	*< 0.0018 U*	*< 0.00083 U*	*< 0.00093 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0014 U*
cis-1,2-Dichloroethene	mg/kg	*< 0.0017 U*	*< 0.0022 UJ*	*< 0.0022 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.0020 U*	*< 0.0021 U*	*< 0.0017 U*
trans-1,2-Dichloroethene	mg/kg	*< 0.00073 U*	*< 0.00092 UJ*	*< 0.00094 U*	*< 0.00043 U*	*< 0.00048 U*	*< 0.00084 U*	*< 0.00091 U*	*< 0.00073 U*
1,2-Dichloropropane	mg/kg	*< 0.0012 U*	*< 0.0015 UJ*	*< 0.0015 U*	*< 0.00068 U*	*< 0.00076 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0012 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00058 U*	*< 0.00073 UJ*	*< 0.00074 U*	*< 0.00034 U*	*< 0.00038 U*	*< 0.00067 U*	*< 0.00072 U*	*< 0.00058 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.0012 U*	*< 0.0015 UJ*	*< 0.0016 U*	*< 0.00073 U*	*< 0.00082 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0012 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0014 U*	*< 0.0018 UJ*	*< 0.0018 U*	*< 0.00085 U*	*< 0.00096 U*	*< 0.0017 U*	*< 0.0018 U*	*< 0.0014 U*
1,4-Dichlorobenzene	mg/kg	*< 0.0015 U*	*< 0.0019 UJ*	*< 0.0019 U*	*< 0.00089 U*	*< 0.00099 U*	*< 0.0017 U*	*< 0.0019 U*	*< 0.0015 U*

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-11**	**6-12**	**6-13**	**6-14**	**6-15**	**6-16**	**6-16**	**6-16**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**16-Sep-15**	**06-Nov-15**	**06-Nov-15**	**06-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 3 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 4.5 ft**	**4.5 - 6.5 ft**
	Sample ID	**6-11-SS-01-102815**	**6-12-SS-01-102815**	**6-13-SS-01-102815**	**6-14-SS-01-091615**	**6-15-SS-01-091615**	**6-16-SB-01-0.5-3.5-110615**	**6-16-SB-01-3.5-4.5-110615**	**6-16-SB-01-4.5-6.5-110615**
Analyte	**Unit**								
1,1,1-Trichloroethane	mg/kg	*< 0.00070 U*	*< 0.00087 UJ*	*< 0.00089 U*	*< 0.00041 U*	*< 0.00046 U*	*< 0.00080 U*	*< 0.00086 U*	*< 0.00070 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00085 U*	*< 0.0011 UJ*	*< 0.0011 U*	*< 0.00050 U*	*< 0.00056 U*	*< 0.00098 U*	*< 0.0011 U*	*< 0.00085 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	*< 0.0016 U*	*< 0.0020 UJ*	*< 0.0020 U*	*< 0.00094 U*	*< 0.0011 U*	*< 0.0018 U*	*< 0.0020 U*	*< 0.0016 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0014 U*	*< 0.0018 UJ*	0.0032 J	*< 0.00085 U*	*< 0.00096 U*	*< 0.0017 U*	*< 0.0018 U*	*< 0.0014 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0014 U*	*< 0.0018 UJ*	*< 0.0018 U*	*< 0.00085 U*	*< 0.00096 U*	*< 0.0017 U*	*< 0.0018 U*	*< 0.0014 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0013 U*	*< 0.0016 UJ*	*< 0.0017 U*	*< 0.00077 U*	*< 0.00087 U*	*< 0.0015 U*	*< 0.0016 U*	*< 0.0013 U*
2-Butanone	mg/kg	0.0073 J	0.0087 J+	0.017 J	*< 0.01 U*	*< 0.0055 U*	*< 0.0031 U*	0.0096 J	0.0089 J
2-Hexanone	mg/kg	*< 0.0014 U*	*< 0.0018 UJ*	*< 0.0018 U*	*< 0.00084 U*	*< 0.00094 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0014 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0018 U*	*< 0.0022 UJ*	*< 0.0023 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.0020 U*	*< 0.0022 U*	*< 0.0018 U*
Acetone	mg/kg	*< 0.029 U*	*< 0.036 UJ*	0.086	*< 0.0016 U*	0.0074 J	*< 0.016 U*	*< 0.044 U*	0.068
Benzene	mg/kg	*< 0.00050 U*	*< 0.00063 UJ*	*< 0.00064 U*	*< 0.00030 U*	*< 0.00033 U*	*< 0.00058 U*	*< 0.00062 U*	*< 0.00050 U*
Bromochloromethane	mg/kg	*< 0.0018 U*	*< 0.0023 UJ*	*< 0.0023 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.0021 U*	*< 0.0023 U*	*< 0.0018 U*
Bromodichloromethane	mg/kg	*< 0.0091 U*	*< 0.013 UJ*	0.023	*< 0.00060 U*	*< 0.00068 U*	*< 0.0053 U*	*< 0.0013 U*	*< 0.0010 U*
Bromoform	mg/kg	0.049	0.078 J+	0.11	*< 0.00045 U*	*< 0.0028 U*	0.024	*< 0.00096 U*	*< 0.00077 U*
Bromomethane	mg/kg	*< 0.0017 U*	*< 0.0021 UJ*	*< 0.0021 U*	*< 0.00098 U*	*< 0.0011 U*	*< 0.0019 U*	*< 0.0021 U*	*< 0.0017 U*
Carbon disulfide	mg/kg	0.0022 J	0.0015 J+	0.0030 J	*< 0.00056 U*	*< 0.00062 U*	0.0013 J	0.0020 J	0.0014 J
Carbon tetrachloride	mg/kg	*< 0.0010 U*	*< 0.0013 UJ*	*< 0.0013 U*	*< 0.00060 U*	*< 0.00068 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0010 U*
Chlorobenzene	mg/kg	*< 0.00056 U*	*< 0.00070 UJ*	*< 0.00071 U*	*< 0.00033 U*	*< 0.00037 U*	*< 0.00064 U*	*< 0.00070 U*	*< 0.00056 U*
Cyclohexane	mg/kg	*< 0.0051 U*	*< 0.0064 UJ*	*< 0.0065 U*	*< 0.0030 U*	*< 0.0034 U*	*< 0.0058 U*	*< 0.0063 U*	*< 0.0051 U*
Dibromochloromethane	mg/kg	0.022	0.037 J+	0.061	*< 0.00024 U*	*< 0.00034 U*	0.0092 J	*< 0.00050 U*	*< 0.00041 U*
Chloroethane	mg/kg	*< 0.00087 U*	*< 0.0011 UJ*	*< 0.0011 U*	*< 0.00051 U*	*< 0.00057 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.00087 U*
Chloroform	mg/kg	*< 0.0037 U*	*< 0.0040 UJ*	0.014	*< 0.00037 U*	*< 0.00033 U*	*< 0.0051 U*	*< 0.0056 U*	*< 0.0016 U*
Chloromethane	mg/kg	0.0012 J	*< 0.0012 UJ*	0.0037 J	*< 0.00057 U*	*< 0.00064 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.00097 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0017 U*	*< 0.0022 UJ*	*< 0.0022 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.0020 U*	*< 0.0021 U*	*< 0.0017 U*
Ethyl benzene	mg/kg	*< 0.00066 U*	*< 0.00082 UJ*	*< 0.00084 U*	*< 0.00039 U*	*< 0.00043 U*	*< 0.00075 U*	*< 0.00082 U*	*< 0.00066 U*
Isopropylbenzene	mg/kg	*< 0.0010 U*	*< 0.0013 UJ*	*< 0.0013 U*	*< 0.00059 U*	*< 0.00066 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0010 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.0012 U*	*< 0.0015 UJ*	*< 0.0015 U*	*< 0.00068 U*	*< 0.00076 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0012 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0016 U*	*< 0.0020 UJ*	*< 0.0021 U*	*< 0.00096 U*	*< 0.0011 U*	*< 0.0019 U*	*< 0.0020 U*	*< 0.0016 U*
Styrene	mg/kg	*< 0.00060 U*	*< 0.00075 UJ*	*< 0.00076 U*	*< 0.00035 U*	*< 0.00039 U*	*< 0.00069 U*	*< 0.00074 U*	*< 0.00060 U*
Tetrachloroethene	mg/kg	*< 0.0012 U*	*< 0.0015 UJ*	*< 0.0015 U*	*< 0.00069 U*	*< 0.00078 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0012 U*
Toluene	mg/kg	*< 0.0012 U*	*< 0.0015 UJ*	*< 0.0015 U*	*< 0.00069 U*	*< 0.00078 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0012 U*
Trichloroethene	mg/kg	*< 0.0012 U*	*< 0.0015 UJ*	*< 0.0015 U*	*< 0.00068 U*	*< 0.00076 U*	*< 0.0013 U*	*< 0.0014 U*	0.0012 J
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00066 U*	*< 0.00082 UJ*	*< 0.00084 U*	*< 0.00039 U*	*< 0.00043 U*	*< 0.00075 U*	*< 0.00082 U*	*< 0.00066 U*
Vinyl chloride	mg/kg	*< 0.00070 U*	*< 0.00087 UJ*	*< 0.00089 U*	*< 0.00041 U*	*< 0.00046 U*	*< 0.00080 U*	*< 0.00086 U*	*< 0.00070 U*
o-Xylene	mg/kg	*< 0.00064 U*	*< 0.00080 UJ*	*< 0.00081 U*	*< 0.00038 U*	*< 0.00042 U*	*< 0.00073 U*	*< 0.00079 U*	*< 0.00064 U*
m,p Xylenes	mg/kg	*< 0.0016 U*	*< 0.0020 UJ*	*< 0.0020 U*	*< 0.00092 U*	*< 0.0010 U*	*< 0.0018 U*	*< 0.0019 U*	*< 0.0016 U*

Table 5-9
Phase 1A-B RI Analytical Results for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**6-11**	**6-12**	**6-13**	**6-14**	**6-15**	**6-16**	**6-16**	**6-16**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**16-Sep-15**	**06-Nov-15**	**06-Nov-15**	**06-Nov-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 3 in**	**0 - 4 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0.5 - 3.5 ft**	**3.5 - 4.5 ft**	**4.5 - 6.5 ft**
	Sample ID	**6-11-SS-01-102815**	**6-12-SS-01-102815**	**6-13-SS-01-102815**	**6-14-SS-01-091615**	**6-15-SS-01-091615**	**6-16-SB-01-0.5-3.5-110615**	**6-16-SB-01-3.5-4.5-110615**	**6-16-SB-01-4.5-6.5-110615**
Analyte	**Unit**								
08-General Solids Parameters									
Perchlorate	mg/kg	0.0011 J	*< 0.036 U*	*< 0.037 U*	*< 0.022 U*	*< 0.025 U*	0.0014 J	*< 0.035 U*	*< 0.032 U*
Total Organic Carbon	mg/kg	3,800 J	2,900 J	3,700 J	3,400 J	3,400 J	*< 1,700 U*	*< 1,700 U*	*< 1,700 U*
pH	pH units	3.27	1.06	1.10	8.04	7.15	6.21	6.34	6.56
Cyanide, Total	mg/kg	*< 0.31 U*	*< 0.38 U*	*< 0.38 U*	*< 0.22 U*	*< 0.26 U*	*< 0.36 U*	*< 0.37 U*	*< 0.33 U*
Percent finer than 0.25 millimeters	%	78.8	61.7	58.9	20.4	75.5	97.9	99.5	83.6

Notes:

% = percent
Empty cells = Not analyzed
ft = feet
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
VOC = Volatile organic compound
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:

J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Savannah, GA, TestAmerica - Denver, CO, Alpha Woods Hole Laboratories, TestAmerica - St. Louis, MO, GeoStrata.

Table 5-10
Phase 1A-B RI Prevalence Table for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2,3,7,8-TCDD	pg/g	18	3	7.7	0.78	5.4	5.4	1.5	0.038	22	6-16
1,2,3,7,8-PeCDD	pg/g	18	13	110	0.17	32	29	1.2	0.056	0.44	6-08
1,2,3,4,7,8-HxCDD	pg/g	18	12	150	0.15	45	40	1.3	0.048	31	6-08
1,2,3,6,7,8-HxCDD	pg/g	18	13	450	0.21	140	120	1.2	0.046	2.9	6-08
1,2,3,7,8,9-HxCDD	pg/g	18	15	480	0.26	130	130	1.2	0.041	2.0	6-08
1,2,3,4,6,7,8-HpCDD	pg/g	18	17	3,400	1.2	800	920	1.2	0.054	0.054	6-08
OCDD	pg/g	18	17	9,500	3.8	2,200	2,600	1.3	0.74	0.74	6-08
2,3,7,8-TCDF	pg/g	18	18	3,800	0.26	690	950	1.4			6-08
1,2,3,7,8-PeCDF	pg/g	18	17	8,400	2.1	2,000	2,300	1.2	0.42	0.42	6-08
2,3,4,7,8-PeCDF	pg/g	18	18	3,300	0.16	810	920	1.1			6-08
1,2,3,4,7,8-HxCDF	pg/g	18	18	27,000	1.5	6,500	8,000	1.2			6-08
1,2,3,6,7,8-HxCDF	pg/g	18	17	19,000	4.5	4,800	5,400	1.2	1.2	1.2	6-08
1,2,3,7,8,9-HxCDF	pg/g	18	15	3,400	0.45	970	980	1.2	0.40	2.1	6-08
2,3,4,6,7,8-HxCDF	pg/g	18	17	3,300	1.3	810	890	1.2	0.37	0.37	6-08
1,2,3,4,6,7,8-HpCDF	pg/g	18	18	210,000	6.7	47,000	58,000	1.2			6-08
1,2,3,4,7,8,9-HpCDF	pg/g	18	17	63,000	10	15,000	19,000	1.3	0.69	0.69	6-08
OCDF	pg/g	18	18	1,900,000	41	380,000	510,000	1.3			6-08
Calculated TEQ (ND=0), Mammalian	pg/g	18	18	10,000	0.3	2,400	2,900	1.2			6-08
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	18	18	10,000	0.48	2,400	2,900	1.2			6-08
Calculated TEQ (ND=0), Avian	pg/g	18	18	2,200,000	0.64	340,000	540,000	1.6			6-08
Calculated TEQ (ND=1/2 DL), Avian	pg/g	18	18	2,200,000	13	340,000	540,000	1.6			6-08
PCB-77	pg/g	18	7	3,290	1.5	790	790	2.1	0.25	250	6-08
PCB-81	pg/g	18	3	482	0.47	160	140	1.0	0.24	250	6-09
PCB-105	pg/g	18	6	29	2.5	10	110	0.88	0.26	250	6-15
PCB-107/123	pg/g	10	4	1,220	582	820	260	0.45	350	500	6-08
PCB-114	pg/g	18	2	16	6.8	11	110	0.91	0.25	250	6-15
PCB-118	pg/g	18	8	227	3.1	40	110	0.85	0.51	250	6-16
PCB-123	pg/g	8	4	6.9	0.86	3.1	4.8	1.4	0.24	14	6-16
PCB-126	pg/g	18	1	6.9	6.9	6.9	110	0.91	0.28	250	6-16
PCB-156	pg/g	10	9	1,180	300	560	280	0.54	190	190	6-08
PCB-157	pg/g	10	1	278	278	280	35	0.16	160	250	6-05
PCB-156/157	pg/g	8	7	55	1	15	19	1.5	0.13	0.13	6-15
PCB-167	pg/g	18	7	874	2.1	210	220	1.2	0.086	250	6-05
PCB-169	pg/g	18	1	0.38	0.38	0.38	110	0.92	0.11	250	6-14
PCB-189	pg/g	18	14	678	0.73	240	240	1.0	190	240	6-05
Monochlorobiphenyls	mg/kg	18	13	0.000434	0.0000014	0.00017	0.00016	0.91	0.00016	0.00023	6-10
Dichlorobiphenyls	mg/kg	18	17	0.0325	0.000013	0.0069	0.0088	1.4	0.00018	0.00018	6-08
Trichlorobiphenyls	mg/kg	18	17	0.0754	0.0000027	0.011	0.018	1.7	0.00018	0.00018	6-08
Tetrachlorobiphenyls	mg/kg	18	17	0.0156	0.0000064	0.0047	0.0059	1.3	0.00018	0.00018	6-13
Pentachlorobiphenyls	mg/kg	18	17	0.0294	0.0000016	0.0059	0.0077	1.4	0.00018	0.00018	6-08
Hexachlorobiphenyls	mg/kg	18	18	0.0363	0.0000027	0.0079	0.0096	1.2			6-08
Heptachlorobiphenyls	mg/kg	18	18	0.0338	0.0000071	0.010	0.011	1.0			6-08
Octachlorobiphenyls	mg/kg	18	18	0.0808	0.000013	0.021	0.023	1.1			6-08
Nonachlorobiphenyls	mg/kg	18	18	0.236	0.000038	0.059	0.064	1.1			6-08

Table 5-10
Phase 1A-B RI Prevalence Table for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Decachlorobiphenyl (PCB-209)	mg/kg	18	18	6.93	0.00027	1.4	1.8	1.2			6-08
Total PCBs	mg/kg	18	18	7.47	0.00041	1.5	1.9	1.2			6-08
Total Aluminum	mg/kg	18	18	20,000	880	8,800	5,700	0.64			6-156-16
Total Antimony	mg/kg	18	18	8	0.11	1.6	1.8	1.2			6-16
Total Arsenic	mg/kg	18	18	31	4.2	10	8.3	0.81			6-16
Total Barium	mg/kg	18	18	840	140	420	210	0.49			6-13
Total Beryllium	mg/kg	18	17	0.95	0.14	0.39	0.25	0.69	0.10	0.10	6-16
Total Cadmium	mg/kg	18	8	0.37	0.045	0.20	0.11	0.87	0.044	0.088	6-06
Total Calcium	mg/kg	18	18	300,000	4,400	86,000	93,000	1.1			6-03
Total Chromium	mg/kg	18	18	37	2.3	13	8.4	0.65			6-15
Total Cobalt	mg/kg	18	18	6	0.45	2.3	2.0	0.86			6-15
Total Copper	mg/kg	18	18	28	2	7.0	6.8	0.98			6-15
Total Iron	mg/kg	18	18	53,000	2,400	14,000	15,000	1.1			6-16
Total Lead	mg/kg	18	18	18	1.2	6.5	5.4	0.84			6-16
Total Magnesium	mg/kg	18	18	29,000	3,300	12,000	8,000	0.69			6-06
Total Manganese	mg/kg	18	18	410	17	150	140	0.94			6-06
Total Mercury	mg/kg	18	14	0.22	0.016	0.065	0.066	1.2	0.0082	0.053	6-046-07
Total Molybdenum	mg/kg	18	18	26	0.063	8.7	7.1	0.82			6-15
Total Nickel	mg/kg	18	18	17	1.8	6.9	5.1	0.74			6-15
Total Potassium	mg/kg	18	17	7,900	930	4,000	2,200	0.56	960	960	6-15
Total Selenium	mg/kg	18	14	0.38	0.11	0.22	0.080	0.40	0.087	0.18	6-15
Total Silver	mg/kg	18	5	0.081	0.031	0.052	0.014	0.36	0.025	0.053	6-01
Total Sodium	mg/kg	18	18	3,700	1,800	2,500	590	0.23			6-036-15
Total Thallium	mg/kg	18	16	0.2	0.052	0.12	0.050	0.44	0.055	0.088	6-15
Total Vanadium	mg/kg	18	18	72	5.4	25	20	0.80			6-16
Total Zinc	mg/kg	18	18	64	4.6	20	19	0.91			6-15
1,1'-Biphenyl	mg/kg	18	0				12	0.74	0.17	31	
1,2,4,5-Tetrachlorobenzene	mg/kg	18	0				2.0	0.74	0.027	4.9	
2,3,4,6-Tetrachlorophenol	mg/kg	18	0				6.2	0.74	0.086	15	
2,4,5-Trichlorophenol	mg/kg	18	0				6.2	0.75	0.088	16	
2,4,6-Trichlorophenol	mg/kg	18	0				0.33	0.75	0.0046	0.83	
2,2-Oxybis(1-chloropropane)	mg/kg	18	0				5.9	0.74	0.083	15	
2,4-Dichlorophenol	mg/kg	18	0				6.7	0.75	0.094	17	
2,4-Dimethylphenol	mg/kg	18	0				13	0.74	0.18	32	
2,4-Dinitrophenol	mg/kg	18	0				16	0.74	0.23	40	
2,4-Dinitrotoluene	mg/kg	18	0				6.7	0.75	0.094	17	
2,6-Dinitrotoluene	mg/kg	18	0				7.5	0.75	0.10	19	
2-Chloronaphthalene	mg/kg	18	0				6.0	0.74	0.085	15	
2-Chlorophenol	mg/kg	18	0				6.7	0.75	0.093	17	
2-Methylphenol	mg/kg	18	0				4.3	0.74	0.061	11	
2-Nitroaniline	mg/kg	18	0				6.2	0.74	0.089	16	
2-Nitrophenol	mg/kg	18	0				6.2	0.74	0.086	15	
3,3'-Dichlorobenzidine	mg/kg	18	0				7.1	0.74	0.099	18	

Table 5-10
Phase 1A-B RI Prevalence Table for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
3-Nitroaniline	mg/kg	18	0				13	0.74	0.18	32	
4,6-Dinitro-2-methylphenol	mg/kg	18	0				6.0	0.74	0.085	15	
4-Bromophenyl-phenylether	mg/kg	18	0				6.3	0.74	0.090	16	
4-Chloro-3-methylphenol	mg/kg	18	0				6.9	0.74	0.097	17	
4-Chloroaniline	mg/kg	18	0				4.3	0.74	0.061	11	
4-Chlorophenyl-phenylether	mg/kg	18	0				7.1	0.74	0.098	18	
3 & 4 Methylphenol	mg/kg	18	0				25	0.74	0.35	62	
4-Nitroaniline	mg/kg	18	0				6.7	0.75	0.093	17	
4-Nitrophenol	mg/kg	18	0				21	0.74	0.30	53	
Acetophenone	mg/kg	18	0				4.9	1.1	0.028	18	
Benzaldehyde	mg/kg	18	0				12	0.74	0.17	31	
Benzylbutylphthalate	mg/kg	18	0				7.1	0.74	0.10	18	
Bis(2-chloroethoxy)methane	mg/kg	18	0				6.7	0.75	0.093	17	
bis(2-Chloroethyl) ether	mg/kg	18	0				6.0	0.74	0.085	15	
Bis(2-ethylhexyl)phthalate	mg/kg	18	0				7.3	0.75	0.10	18	
Carbazole	mg/kg	18	0				7.1	0.74	0.10	18	
Dibenzofuran	mg/kg	18	0				6.4	0.74	0.091	16	
Diethyl phthalate	mg/kg	18	0				6.7	0.75	0.095	17	
Dimethylphthalate	mg/kg	18	0				6.6	0.75	0.092	16	
Di-n-butylphthalate	mg/kg	18	0				7.2	0.74	0.10	18	
Di-n-octylphthalate	mg/kg	18	0				7.2	0.74	0.10	18	
Hexachlorobenzene	mg/kg	18	15	220	0.024	41	54	1.6	0.0024	0.26	6-08
Hexachlorobutadiene	mg/kg	18	0				0.28	0.75	0.0039	0.70	
Hexachlorocyclopentadiene	mg/kg	18	0				4.6	0.74	0.065	12	
Hexachloroethane	mg/kg	18	0				6.0	0.74	0.085	15	
Isophorone	mg/kg	18	0				7.1	0.74	0.098	18	
Nitrobenzene	mg/kg	18	0				5.7	0.75	0.080	14	
N-Nitrosodimethylamine	mg/kg	18	0				7.2	0.75	0.10	18	
N-Nitroso-di-n-propylamine	mg/kg	18	0				6.2	0.74	0.089	16	
N-Nitrosodiphenylamine	mg/kg	18	0				6.4	0.74	0.091	16	
Pentachlorobenzene	mg/kg	18	2	5.6	3.5	4.6	1.5	0.94	0.014	2.3	6-16
Pentachlorophenol	mg/kg	18	0				1.8	0.75	0.025	4.5	
Phenol	mg/kg	18	3	22	14	17	7.1	0.77	0.088	16	6-05
2-Methylnaphthalene	mg/kg	18	0				0.0033	0.69	0.00043	0.0094	
Acenaphthene	mg/kg	18	0				0.0035	0.68	0.00047	0.010	
Acenaphthylene	mg/kg	18	0				0.0025	0.68	0.00033	0.0072	
Anthracene	mg/kg	18	0				0.0030	0.69	0.00040	0.0087	
Benzo(a)anthracene	mg/kg	18	0				0.0023	0.69	0.00031	0.0066	
Benzo(a)pyrene	mg/kg	18	9	0.076	0.0018	0.020	0.018	1.6	0.00040	0.0069	6-08
Benzo(b)fluoranthene	mg/kg	18	0				0.0038	0.68	0.00051	0.011	
Benzo(g,h,i)perylene	mg/kg	18	0				0.0075	0.68	0.0010	0.022	
Benzo(k)fluoranthene	mg/kg	18	0				0.0057	0.69	0.00077	0.017	
Chrysene	mg/kg	18	0				0.0026	0.69	0.00035	0.0076	

Table 5-10
Phase 1A-B RI Prevalence Table for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Dibenzo(a,h)anthracene	mg/kg	18	0				0.0091	0.68	0.0012	0.026	
Fluoranthene	mg/kg	18	0				0.0022	0.68	0.00030	0.0064	
Fluorene	mg/kg	18	0				0.0037	0.69	0.00049	0.011	
Indeno(1,2,3-cd)pyrene	mg/kg	18	0				0.0037	0.69	0.00048	0.011	
Naphthalene	mg/kg	18	0				0.0023	0.68	0.00033	0.0067	
Phenanthrene	mg/kg	18	0				0.0027	0.69	0.00035	0.0077	
Pyrene	mg/kg	18	0				0.0027	0.69	0.00035	0.0077	
1,4-Dioxane	mg/kg	18	0				0.023	0.32	0.041	0.11	
1,1-Dichloroethane	mg/kg	18	1	0.00095	0.00095	0.00095	0.00020	0.35	0.00031	0.00083	6-16
1,1-Dichloroethene	mg/kg	18	0				0.00016	0.33	0.00027	0.00075	
1,2-Dibromo-3-chloropropane	mg/kg	18	0				0.00055	0.33	0.00093	0.0025	
1,2-Dibromoethane	mg/kg	18	0				0.00017	0.32	0.00028	0.00078	
1,2-Dichlorobenzene	mg/kg	18	0				0.00039	0.32	0.00067	0.0018	
1,2-Dichloroethane	mg/kg	18	0				0.00045	0.33	0.00077	0.0021	
cis-1,2-Dichloroethene	mg/kg	18	0				0.00056	0.33	0.00094	0.0026	
trans-1,2-Dichloroethene	mg/kg	18	0				0.00023	0.32	0.00040	0.0011	
1,2-Dichloropropane	mg/kg	18	0				0.00037	0.32	0.00063	0.0017	
1,3-Dichlorobenzene	mg/kg	18	0				0.00018	0.32	0.00032	0.00086	
cis-1,3-Dichloropropene	mg/kg	18	0				0.00039	0.32	0.00067	0.0018	
trans-1,3-Dichloropropene	mg/kg	18	0				0.00047	0.33	0.00079	0.0022	
1,4-Dichlorobenzene	mg/kg	18	0				0.00048	0.32	0.00082	0.0022	
1,1,1-Trichloroethane	mg/kg	18	0				0.00022	0.32	0.00038	0.0010	
1,1,2-Trichloroethane	mg/kg	18	0				0.00028	0.33	0.00046	0.0013	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	18	0				0.00051	0.32	0.00087	0.0024	
1,2,3-Trichlorobenzene	mg/kg	18	1	0.0032	0.0032	0.0032	0.00062	0.42	0.00079	0.0022	6-13
1,2,4-Trichlorobenzene	mg/kg	18	0				0.00047	0.33	0.00079	0.0022	
1,1,2,2-Tetrachloroethane	mg/kg	18	0				0.00042	0.32	0.00072	0.0020	
2-Butanone	mg/kg	18	12	0.034	0.0073	0.017	0.0092	0.72	0.0022	0.010	6-07
2-Hexanone	mg/kg	18	1	0.0029	0.0029	0.0029	0.00056	0.37	0.00078	0.0021	6-07
4-Methyl-2-pentanone	mg/kg	18	1	0.0014	0.0014	0.0014	0.00055	0.32	0.00097	0.0026	6-07
Acetone	mg/kg	18	8	0.12	0.0056	0.069	0.037	0.83	0.0015	0.051	6-10
Benzene	mg/kg	18	1	0.00048	0.00048	0.00048	0.00016	0.31	0.00027	0.00075	6-07
Bromochloromethane	mg/kg	18	0				0.00058	0.33	0.00099	0.0027	
Bromodichloromethane	mg/kg	18	5	0.05	0.019	0.032	0.015	1.3	0.00056	0.013	6-08
Bromoform	mg/kg	18	11	0.27	0.0017	0.10	0.083	1.3	0.00042	0.0028	6-08
Bromomethane	mg/kg	18	0				0.00054	0.33	0.00090	0.0025	
Carbon disulfide	mg/kg	18	11	0.008	0.0013	0.0028	0.0020	0.99	0.00052	0.00078	6-08
Carbon tetrachloride	mg/kg	18	1	0.002	0.002	0.0020	0.00039	0.37	0.00056	0.0014	6-02
Chlorobenzene	mg/kg	18	0				0.00018	0.32	0.00031	0.00083	
Cyclohexane	mg/kg	18	0				0.0016	0.32	0.0028	0.0076	
Dibromochloromethane	mg/kg	18	9	0.15	0.0092	0.062	0.045	1.4	0.00022	0.0040	6-08
Chloroethane	mg/kg	18	0				0.00028	0.33	0.00047	0.0013	
Chloroform	mg/kg	18	5	0.023	0.01	0.017	0.0074	1.1	0.00027	0.0092	6-08

Table 5-10
Phase 1A-B RI Prevalence Table for PRI Area 6
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Chloromethane	mg/kg	18	7	0.01	0.0011	0.0049	0.0030	1.2	0.00053	0.0014	6-10
Dichlorodifluoromethane (Freon-12)	mg/kg	18	0				0.00056	0.33	0.00094	0.0026	
Ethyl benzene	mg/kg	18	0				0.00021	0.32	0.00036	0.00098	
Isopropylbenzene	mg/kg	18	0				0.00032	0.33	0.00055	0.0015	
Methyl tertbutyl ether (MTBE)	mg/kg	18	0				0.00037	0.32	0.00063	0.0017	
Dichloromethane (Methylene chloride)	mg/kg	18	0				0.00052	0.32	0.00088	0.0024	
Styrene	mg/kg	18	0				0.00019	0.32	0.00033	0.00089	
Tetrachloroethene	mg/kg	18	0				0.00038	0.32	0.00064	0.0018	
Toluene	mg/kg	18	1	0.00098	0.00098	0.00098	0.00037	0.31	0.00064	0.0018	6-07
Trichloroethene	mg/kg	18	1	0.0012	0.0012	0.0012	0.00037	0.32	0.00063	0.0017	6-16
Trichlorofluoromethane (Freon-11)	mg/kg	18	0				0.00021	0.32	0.00036	0.00098	
Vinyl chloride	mg/kg	18	0				0.00022	0.32	0.00038	0.0010	
o-Xylene	mg/kg	18	0				0.00020	0.32	0.00035	0.00095	
m,p Xylenes	mg/kg	18	0				0.00050	0.33	0.00085	0.0023	
Perchlorate	mg/kg	18	2	0.0014	0.0011	0.0013	0.011	0.42	0.021	0.038	6-16
Total Organic Carbon	mg/kg	18	13	9,800	2,900	4,300	1,900	0.53	1,700	1,700	6-08
pH	pH units	18	18	9.17	1.06	4.7	3.1	0.67			6-03
Cyanide, Total	mg/kg	18	0				0.070	0.22	0.21	0.42	
Percent finer than 0.25 millimeters	%	18	18	99.5	2.4	71	26	0.36			6-16

Notes:

% = percent
Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-01**	**7-02**	**7-03**	**7-04**	**7-04SB**	**7-04SB**	**7-05**	**7-06**	**7-07**
	Sample Date	**23-Sep-15**	**24-Sep-15**	**24-Sep-15**	**29-Sep-15**	**10-Nov-15**	**10-Dec-15**	**24-Sep-15**	**28-Sep-15**	**23-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**2.5 - 4.5 ft**	**0.5 - 2.5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-01-SS-01-092315**	**7-02-SS-01-092415**	**7-03-SS-01-092415**	**7-04-SS-01-092915**	**7-04-SB-01-2.5-4.5-111015**	**7-04SB-SB-01-0.5-2.5-121015**	**7-05-SS-01-092415**	**7-06-SS-01-092815**	**7-07-SS-01-092315**
Analyte	**Unit**									
01-Dioxins and Furans										
2,3,7,8-TCDD	pg/g	8.2 J	2.4 J	1.6 J	*< 66 UQ*	*< 0.15 U*	120	3.7 J	0.80 J	*< 2.6 UQ*
1,2,3,7,8-PeCDD	pg/g	31 J	10 J	5.2 J	260	*< 0.27 U*	370	12 J	2.4 J	9.9 J
1,2,3,4,7,8-HxCDD	pg/g	30 J	7.8 J	4.8 J	230	0.18 J+	460	*< 7.8 U*	2.0 J	*< 7.4 UQ*
1,2,3,6,7,8-HxCDD	pg/g	93	26 J	14 J	670	0.88 J+	1,200	24 J	5.8 J	27 J
1,2,3,7,8,9-HxCDD	pg/g	120	35 J	15 J	790	*< 0.84 UJQ*	1,300	33 J	8.0 J	38 J
1,2,3,4,6,7,8-HpCDD	pg/g	740	180	100	5,000	5.1 J	7,400	190	40 J	210
OCDD	pg/g	2,700	580	320	12,000	16	20,000	570	120	670
2,3,7,8-TCDF	pg/g	1,100	300	150	6,100	6.1 J+	8,600	250	49	250
1,2,3,7,8-PeCDF	pg/g	2,400	710	340	18,000	17 J+	26,000	720	120	720
2,3,4,7,8-PeCDF	pg/g	1,100	340	160	8,700	7.1 J+	12,000	280	53	310
1,2,3,4,7,8-HxCDF	pg/g	6,100	2,000	980	62,000	47 J+	78,000	2,000	410	2,100
1,2,3,6,7,8-HxCDF	pg/g	4,600	1,400	740	40,000	36 J+	55,000	1,500	320	1,600
1,2,3,7,8,9-HxCDF	pg/g	760	210	110	6,500	6.0 J+	10,000	200	27 J	240
2,3,4,6,7,8-HxCDF	pg/g	860	260	150	5,400	5.3 J+	7,200	320	75	300
1,2,3,4,6,7,8-HpCDF	pg/g	39,000	9,800	5,200	220,000	240	380,000	10,000	2,700	13,000
1,2,3,4,7,8,9-HpCDF	pg/g	13,000	3,700	1,800	87,000	90	150,000	3,400	650	4,300
OCDF	pg/g	390,000	91,000	39,000	1,400,000	1,800	2,900,000	81,000	19,000	120,000
Calculated TEQ (ND=0), Mammalian	pg/g	2,500	720	360	19,000	17	27,000	720	150	790
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	2,500	730	380	19,000	17	27,000	720	170	800
Calculated TEQ (ND=0), Avian	pg/g	69,000	13,000	4,100	900,000	1,200	2,600,000	17,000	1,300	38,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	69,000	13,000	4,200	900,000	1,200	2,600,000	17,000	1,400	38,000
02-PCBs										
PCB-77	pg/g	161 J	*< 147 U*	*< 226 U*	971	*< 1.3 U*	*< 424 U*	52 J	*< 211 U*	*< 139 U*
PCB-81	pg/g	*< 141 UJ*	*< 147 UJ*	*< 226 UJ*	416 J	*< 1.2 U*	*< 424 U*	24 J	*< 211 UJ*	*< 139 UJ*
PCB-105	pg/g	1,360	*< 147 U*	*< 226 U*	1,330	8.1	*< 424 U*	170 J	*< 211 U*	*< 139 U*
PCB-107/123	pg/g	358 J	*< 294 UJ*	*< 452 UJ*	1,710 J-		*< 848 U*		*< 423 UJ*	*< 278 U*
PCB-114	pg/g	166 J	*< 147 U*	*< 226 U*	643	*< 1.6 U*	1,940	39 J	*< 211 U*	*< 139 U*
PCB-118	pg/g	3,210	*< 147 U*	*< 226 U*	3,130	13	22,500	290 J	*< 211 U*	*< 139 U*
PCB-123	pg/g					*< 1.5 U*		30 J		
PCB-126	pg/g	*< 141 U*	*< 147 U*	*< 226 U*	*< 176 U*	*< 1.9 U*	*< 424 U*	35 J	*< 211 U*	*< 139 U*
PCB-156	pg/g	457	*< 147 U*	*< 226 U*	1,200		4,490		*< 211 U*	*< 139 U*
PCB-157	pg/g	188 J	*< 147 U*	*< 226 U*	384		1,680		*< 211 U*	*< 139 U*
PCB-156/157	pg/g					5.6 J		170 J		
PCB-167	pg/g	*< 141 U*	*< 147 U*	*< 226 U*	1,380	*< 0.84 U*	4,470	160 J	*< 211 U*	*< 139 U*
PCB-169	pg/g	*< 141 U*	*< 147 U*	*< 226 U*	262 J	*< 1.1 U*	*< 424 U*	*< 19 U*	*< 211 U*	*< 139 U*
PCB-189	pg/g	*< 141 U*	*< 147 U*	*< 226 U*	2,310	6.5	5,360	190 J	*< 211 U*	*< 139 U*
Monochlorobiphenyls, Total	mg/kg	*< 0.000141 U*	*< 0.000147 U*	*< 0.000226 U*	0.000629	0.00012	0.00272	0.000084 J	*< 0.000211 U*	*< 0.000139 U*

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-01**	**7-02**	**7-03**	**7-04**	**7-04SB**	**7-04SB**	**7-05**	**7-06**	**7-07**
	Sample Date	**23-Sep-15**	**24-Sep-15**	**24-Sep-15**	**29-Sep-15**	**10-Nov-15**	**10-Dec-15**	**24-Sep-15**	**28-Sep-15**	**23-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**2.5 - 4.5 ft**	**0.5 - 2.5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-01-SS-01-092315**	**7-02-SS-01-092415**	**7-03-SS-01-092415**	**7-04-SS-01-092915**	**7-04-SB-01-2.5-4.5-111015**	**7-04SB-SB-01-0.5-2.5-121015**	**7-05-SS-01-092415**	**7-06-SS-01-092815**	**7-07-SS-01-092315**
Analyte	**Unit**									
Dichlorobiphenyls, Total	mg/kg	0.000471	*< 0.000147 U*	*< 0.000226 U*	0.00189	0.000077	0.0289	0.00028 J	*< 0.000211 U*	*< 0.000139 U*
Trichlorobiphenyls, Total	mg/kg	*< 0.000141 U*	*< 0.000147 U*	*< 0.000226 U*	0.00583	0.000024	0.0362	0.00044 J	*< 0.000211 U*	*< 0.000139 U*
Tetrachlorobiphenyls, Total	mg/kg	0.00408 J	*< 0.000147 UJ*	*< 0.000226 UJ*	0.0233 J	0.000059	0.0592	0.0013 J	*< 0.000211 UJ*	*< 0.000139 UJ*
Pentachlorobiphenyls, Total	mg/kg	0.0128	*< 0.000147 UJ*	*< 0.000226 UJ*	0.0324 J-	0.000083	0.197	0.0032 J	*< 0.000211 UJ*	*< 0.000139 U*
Hexachlorobiphenyls, Total	mg/kg	0.00864	*< 0.000147 U*	*< 0.000226 U*	0.0383	0.00011	0.152	0.0033 J	*< 0.000211 U*	*< 0.000139 U*
Heptachlorobiphenyls, Total	mg/kg	0.00454	0.000157 J	*< 0.000226 U*	0.0487	0.00015	0.161	0.0052 J	*< 0.000211 U*	*< 0.000139 U*
Octachlorobiphenyls, Total	mg/kg	0.00856	0.00133	*< 0.000226 U*	0.0741	0.00029	0.258	0.01 J	*< 0.000211 U*	0.00141
Nonachlorobiphenyls, Total	mg/kg	0.0213	0.00572	0.00244	0.146	0.00061	0.553	0.024 J	0.00132	0.00491
Decachlorobiphenyl (PCB-209)	mg/kg	0.343	0.0845	0.0341	1.45	0.011	10.4	0.25 J	0.0250	0.0899
Total PCBs	mg/kg	0.403	0.0917	0.0365	1.86	0.013	11.8	0.3 J	0.0263	0.0962
03- Metals										
Total Aluminum	mg/kg	5,400	11,000	2,400	1,700	3,100	4,800	8,700	2,700	9,000
Total Antimony	mg/kg	1.2	0.43 J-	0.25 J-	0.95 J-	0.74	1.5	0.27 J-	0.22 J-	0.52
Total Arsenic	mg/kg	29	17	13	29	7.5	34	14	12	16
Total Barium	mg/kg	190	210	130	180	480	170	210	160	230
Total Beryllium	mg/kg	0.30	0.48 J-	0.11 J-	0.095 J-	0.13	0.22	0.41 J-	0.10 J-	0.35
Total Cadmium	mg/kg	0.17	0.19	0.062 J	*< 0.053 U*	0.17	0.13	0.16	0.056 J	0.18
Total Calcium	mg/kg	170,000	130,000	150,000	230,000	190,000	150,000	96,000	200,000	120,000
Total Chromium	mg/kg	64	20	11	40	4.8	47	15	13	11
Total Cobalt	mg/kg	3.1	4.9	1.4	1.8	2.5	2.7	4.7	1.5	3.6
Total Copper	mg/kg	13	12 J-	4.9 J-	10 J-	4.5	11	11 J-	3.9 J-	8.7
Total Iron	mg/kg	30,000	13,000	7,200	39,000	2,500	37,000	14,000	6,000	10,000
Total Lead	mg/kg	14	11	5.0 J+	10	4.2 J+	9.7 J+	10	3.5 J+	8.3
Total Magnesium	mg/kg	19,000	32,000	27,000	17,000	17,000	10,000	32,000	17,000	44,000
Total Manganese	mg/kg	95	320	80	300	310	250	390	71	340
Total Mercury	mg/kg	0.11	0.040 J	0.037 J	0.035 J	0.091	0.018 J	0.033 J	0.030 J	0.014 J
Total Molybdenum	mg/kg	9.7	3.3	6.0	9.0	3.2	16	3.6	4.6	7.9
Total Nickel	mg/kg	11	13 J-	4.7 J-	8.6 J-	7.2	20	13 J-	5.2 J-	8.7
Total Potassium	mg/kg	3,100	5,000	2,200	1,800	1,000	2,100	4,300	1,700	3,400
Total Selenium	mg/kg	0.36	0.25 J-	0.16 J-	0.19 J-	1.3	0.30	0.31 J-	0.19 J-	0.37
Total Silver	mg/kg	0.043 J	0.031 J	*< 0.022 U*	*< 0.032 U*	0.18	0.056 J	*< 0.026 U*	*< 0.019 U*	0.043 J
Total Sodium	mg/kg	12,000	13,000	14,000	6,900	4,100	2,600	15,000	10,000	7,000
Total Thallium	mg/kg	0.097 J	0.11	0.045 J	*< 0.053 U*	0.15	0.063 J	0.084 J	0.037 J	0.13
Total Vanadium	mg/kg	33	26 J-	11 J-	33 J-	25	40	20 J-	11 J-	20
Total Zinc	mg/kg	35	37 J-	15 J-	32 J-	11	43	33 J-	13 J-	29
05-SVOCs										
1,1'-Biphenyl	mg/kg	*< 10 U*	*< 12 U*	*< 2.1 U*	*< 12 U*	*< 1.2 U*	*< 24 U*	*< 1.9 U*	*< 2.5 U*	*< 2.4 U*

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-01**	**7-02**	**7-03**	**7-04**	**7-04SB**	**7-04SB**	**7-05**	**7-06**	**7-07**
	Sample Date	**23-Sep-15**	**24-Sep-15**	**24-Sep-15**	**29-Sep-15**	**10-Nov-15**	**10-Dec-15**	**24-Sep-15**	**28-Sep-15**	**23-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**2.5 - 4.5 ft**	**0.5 - 2.5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-01-SS-01-092315**	**7-02-SS-01-092415**	**7-03-SS-01-092415**	**7-04-SS-01-092915**	**7-04-SB-01-2.5-4.5-111015**	**7-04SB-SB-01-0.5-2.5-121015**	**7-05-SS-01-092415**	**7-06-SS-01-092815**	**7-07-SS-01-092315**
Analyte	**Unit**									
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 1.6 U*	*< 1.8 U*	*< 0.32 U*	*< 1.9 U*	*< 0.19 U*	*< 3.8 U*	*< 0.31 U*	*< 0.39 U*	*< 0.38 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 5 U*	*< 5.8 U*	*< 1 U*	*< 6.1 U*	*< 0.59 U*	*< 12 U*	*< 0.97 U*	*< 1.2 U*	*< 1.2 U*
2,4,5-Trichlorophenol	mg/kg	*< 5.1 U*	*< 5.9 U*	*< 1 U*	*< 6.2 U*	*< 0.6 U*	*< 12 U*	*< 0.98 U*	*< 1.2 U*	*< 1.2 U*
2,4,6-Trichlorophenol	mg/kg	*< 0.27 U*	*< 0.31 U*	*< 0.055 U*	*< 0.33 U*	*< 0.032 U*	*< 0.64 U*	*< 0.052 U*	*< 0.066 U*	*< 0.064 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 4.8 U*	*< 5.6 U*	*< 0.98 U*	*< 5.9 U*	*< 0.57 U*	*< 11 UJ*	*< 0.93 U*	*< 1.2 U*	*< 1.2 U*
2,4-Dichlorophenol	mg/kg	*< 5.4 U*	*< 6.3 U*	*< 1.1 U*	*< 6.6 U*	*< 0.64 U*	*< 13 U*	*< 1 U*	*< 1.3 U*	*< 1.3 U*
2,4-Dimethylphenol	mg/kg	*< 10 U*	*< 12 U*	*< 2.1 U*	*< 12 U*	*< 1.2 U*	*< 24 U*	*< 2 U*	*< 2.5 U*	*< 2.4 U*
2,4-Dinitrophenol	mg/kg	*< 13 U*	*< 15 U*	*< 2.7 U*	*< 16 U*	*< 1.5 U*	*< 31 U*	*< 2.5 U*	*< 3.2 U*	*< 3.1 U*
2,4-Dinitrotoluene	mg/kg	*< 5.4 U*	*< 6.3 U*	*< 1.1 U*	*< 6.6 U*	*< 0.64 U*	*< 13 U*	*< 1 U*	*< 1.3 U*	*< 1.3 U*
2,6-Dinitrotoluene	mg/kg	*< 6 U*	*< 7 U*	*< 1.2 U*	*< 7.4 U*	*< 0.72 U*	*< 14 U*	*< 1.2 U*	*< 1.5 U*	*< 1.4 U*
2-Chloronaphthalene	mg/kg	*< 4.9 U*	*< 5.7 U*	*< 1 U*	*< 6 U*	*< 0.59 U*	*< 12 U*	*< 0.96 U*	*< 1.2 U*	*< 1.2 U*
2-Chlorophenol	mg/kg	*< 5.4 U*	*< 6.2 U*	*< 1.1 U*	*< 6.6 U*	*< 0.64 U*	*< 13 U*	*< 1 U*	*< 1.3 U*	*< 1.3 U*
2-Methylphenol	mg/kg	*< 3.5 U*	*< 4.1 U*	*< 0.72 U*	*< 4.3 U*	*< 0.42 U*	*< 8.4 U*	*< 0.68 U*	*< 0.87 U*	*< 0.84 U*
2-Nitroaniline	mg/kg	*< 5.1 U*	*< 5.9 U*	*< 1 U*	*< 6.3 U*	*< 0.61 U*	*< 12 U*	*< 0.99 U*	*< 1.3 U*	*< 1.2 U*
2-Nitrophenol	mg/kg	*< 5 U*	*< 5.8 U*	*< 1 U*	*< 6.1 U*	*< 0.59 U*	*< 12 U*	*< 0.97 U*	*< 1.2 U*	*< 1.2 U*
3,3'-Dichlorobenzidine	mg/kg	*< 5.7 U*	*< 6.6 U*	*< 1.2 U*	*< 7 U*	*< 0.68 U*	*< 14 U*	*< 1.1 U*	*< 1.4 U*	*< 1.4 U*
3-Nitroaniline	mg/kg	*< 10 U*	*< 12 U*	*< 2.1 U*	*< 12 U*	*< 1.2 U*	*< 24 U*	*< 2 U*	*< 2.5 U*	*< 2.4 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 4.9 U*	*< 5.7 U*	*< 1 U*	*< 6 U*	*< 0.59 U*	*< 12 U*	*< 0.96 U*	*< 1.2 U*	*< 1.2 U*
4-Bromophenyl-phenylether	mg/kg	*< 5.2 U*	*< 6 U*	*< 1.1 U*	*< 6.3 U*	*< 0.62 U*	*< 12 U*	*< 1 U*	*< 1.3 U*	*< 1.2 U*
4-Chloro-3-methylphenol	mg/kg	*< 5.6 U*	*< 6.5 U*	*< 1.1 U*	*< 6.9 U*	*< 0.67 U*	*< 13 U*	*< 1.1 U*	*< 1.4 U*	*< 1.3 U*
4-Chloroaniline	mg/kg	*< 3.5 U*	*< 4.1 U*	*< 0.72 U*	*< 4.3 U*	*< 0.42 U*	*< 8.4 U*	*< 0.68 U*	*< 0.87 U*	*< 0.84 U*
4-Chlorophenyl-phenylether	mg/kg	*< 5.7 U*	*< 6.6 U*	*< 1.2 U*	*< 6.9 U*	*< 0.67 U*	*< 13 U*	*< 1.1 U*	*< 1.4 U*	*< 1.4 U*
3 & 4 Methylphenol	mg/kg	*< 20 U*	*< 23 U*	*< 4.1 U*	*< 25 U*	*< 2.4 U*	*< 48 U*	*< 3.9 U*	*< 4.9 U*	*< 4.8 U*
4-Nitroaniline	mg/kg	*< 5.4 U*	*< 6.2 U*	*< 1.1 U*	*< 6.6 U*	*< 0.64 U*	*< 13 U*	*< 1 U*	*< 1.3 U*	*< 1.3 U*
4-Nitrophenol	mg/kg	*< 17 U*	*< 20 U*	*< 3.5 U*	*< 21 U*	*< 2 U*	*< 41 U*	*< 3.3 U*	*< 4.2 U*	*< 4.1 U*
Acetophenone	mg/kg	*< 1.5 U*	*< 1.8 U*	*< 0.96 U*	*< 1.9 U*	*< 0.18 U*	*< 3.6 U*	*< 0.48 U*	*< 1.5 U*	*< 0.85 U*
Benzaldehyde	mg/kg	*< 10 U*	*< 12 U*	*< 2.1 U*	*< 12 U*	*< 1.2 U*	*< 24 U*	*< 1.9 U*	*< 2.5 U*	*< 2.4 U*
Benzylbutylphthalate	mg/kg	*< 5.8 U*	*< 6.7 U*	*< 1.2 U*	*< 7.1 U*	*< 0.69 U*	*< 14 U*	*< 1.1 U*	*< 1.4 U*	*< 1.4 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 5.4 U*	*< 6.2 U*	*< 1.1 U*	*< 6.6 U*	*< 0.64 U*	*< 13 U*	*< 1 U*	*< 1.3 U*	*< 1.3 U*
bis(2-Chloroethyl) ether	mg/kg	*< 4.9 U*	*< 5.7 U*	*< 1 U*	*< 6 U*	*< 0.59 U*	*< 12 U*	*< 0.96 U*	*< 1.2 U*	*< 1.2 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 6 U*	*< 6.9 U*	*< 1.2 U*	*< 7.3 U*	*< 0.71 U*	*< 14 U*	*< 1.2 U*	*< 1.5 U*	*< 1.4 U*
Carbazole	mg/kg	*< 5.8 U*	*< 6.7 U*	*< 1.2 U*	*< 7.1 U*	*< 0.69 U*	*< 14 U*	*< 1.1 U*	*< 1.4 U*	*< 1.4 U*
Dibenzofuran	mg/kg	*< 5.3 U*	*< 6.1 U*	*< 1.1 U*	*< 6.4 U*	*< 0.62 U*	*< 12 U*	*< 1 U*	*< 1.3 U*	*< 1.3 U*
Diethyl phthalate	mg/kg	*< 5.5 U*	*< 6.4 U*	*< 1.1 U*	*< 6.7 U*	*< 0.65 U*	*< 13 U*	*< 1.1 U*	*< 1.3 U*	*< 1.3 U*
Dimethylphthalate	mg/kg	*< 5.3 U*	*< 6.1 U*	*< 1.1 U*	*< 6.5 U*	*< 0.63 U*	*< 13 U*	*< 1 U*	*< 1.3 U*	*< 1.3 U*
Di-n-butylphthalate	mg/kg	*< 5.9 U*	*< 6.9 U*	*< 1.2 U*	*< 7.2 U*	*< 0.7 U*	*< 14 U*	*< 1.1 U*	*< 1.5 U*	*< 1.4 U*
Di-n-octylphthalate	mg/kg	*< 5.9 U*	*< 6.9 U*	*< 1.2 U*	*< 7.2 U*	*< 0.7 U*	*< 14 U*	*< 1.1 U*	*< 1.5 U*	*< 1.4 U*
Hexachlorobenzene	mg/kg	6.5	1.2	0.35	87	0.12	260	1.6	0.11 J	3.7
Hexachlorobutadiene	mg/kg	*< 0.23 U*	*< 0.26 U*	*< 0.046 U*	*< 0.28 U*	*< 0.027 U*	*< 0.54 U*	*< 0.044 U*	*< 0.055 U*	*< 0.054 U*

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	7-01	7-02	7-03	7-04	7-04SB	7-04SB	7-05	7-06	7-07
	Sample Date	23-Sep-15	24-Sep-15	24-Sep-15	29-Sep-15	10-Nov-15	10-Dec-15	24-Sep-15	28-Sep-15	23-Sep-15
	Sample Type	N	N	N	N	N	N	N	N	N
	Depth	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	2.5 - 4.5 ft	0.5 - 2.5 ft	0 - 6 in	0 - 6 in	0 - 6 in
	Sample ID	7-01-SS-01-092315	7-02-SS-01-092415	7-03-SS-01-092415	7-04-SS-01-092915	7-04-SB-01-2.5-4.5-111015	7-04SB-SB-01-0.5-2.5-121015	7-05-SS-01-092415	7-06-SS-01-092815	7-07-SS-01-092315
Analyte	Unit									
Hexachlorocyclopentadiene	mg/kg	< 3.8 U	< 4.4 U	< 0.77 U	< 4.6 U	< 0.45 U	< 9 UJ	< 0.73 U	< 0.93 U	< 0.9 U
Hexachloroethane	mg/kg	< 4.9 U	< 5.7 U	< 1 U	< 6 U	< 0.59 U	< 12 U	< 0.96 U	< 1.2 U	< 1.2 U
Isophorone	mg/kg	< 5.7 U	< 6.6 U	< 1.2 U	< 6.9 U	< 0.67 U	< 13 U	< 1.1 U	< 1.4 U	< 1.4 U
Nitrobenzene	mg/kg	< 4.6 U	< 5.4 U	< 0.94 U	< 5.7 U	< 0.55 U	< 11 U	< 0.9 U	< 1.1 U	< 1.1 U
N-Nitrosodimethylamine	mg/kg	< 5.9 U	< 6.8 U	< 1.2 U	< 7.2 U	< 0.7 U	< 14 U	< 1.1 U	< 1.4 U	< 1.4 U
N-Nitroso-di-n-propylamine	mg/kg	< 5.1 U	< 5.9 U	< 1 U	< 6.3 U	< 0.61 U	< 12 U	< 0.99 U	< 1.3 U	< 1.2 U
N-Nitrosodiphenylamine	mg/kg	< 5.3 U	< 6.1 U	< 1.1 U	< 6.4 U	< 0.62 U	< 12 U	< 1 U	< 1.3 U	< 1.3 U
Pentachlorobenzene	mg/kg	< 0.79 U	< 0.92 U	< 0.16 U	5.6 J	< 0.094 U	7 J-	< 0.15 U	< 0.19 U	< 0.19 U
Pentachlorophenol	mg/kg	< 1.5 U	< 1.7 U	< 0.3 U	< 1.8 U	< 0.17 U	< 3.5 U	< 0.28 U	< 0.36 U	< 0.35 U
Phenol	mg/kg	< 5.1 U	< 5.9 U	< 1 U	< 6.2 U	< 0.6 U	< 12 U	< 0.98 U	< 1.2 U	< 1.2 U
06-PAHs										
2-Methylnaphthalene	mg/kg	< 0.0063 U	< 0.0066 U	< 0.0054 U	0.058 J	0.0066 J	0.023 J	< 0.0055 U	< 0.0054 U	< 0.0065 U
Acenaphthene	mg/kg	< 0.0068 U	< 0.0072 U	< 0.0058 U	< 0.0084 U	< 0.0037 U	< 0.0089 U	< 0.0061 U	< 0.0059 U	< 0.0071 U
Acenaphthylene	mg/kg	< 0.0048 U	< 0.0050 U	< 0.0041 U	< 0.0059 U	< 0.0026 U	< 0.0062 U	< 0.0043 U	< 0.0041 U	< 0.0050 U
Anthracene	mg/kg	< 0.0057 U	< 0.0060 U	< 0.0049 U	< 0.0071 U	< 0.0031 U	< 0.0074 U	< 0.0051 U	< 0.0049 U	< 0.0059 U
Benzo(a)anthracene	mg/kg	< 0.0044 U	< 0.0046 U	< 0.0038 U	< 0.0054 U	< 0.0024 U	< 0.0057 U	< 0.0039 U	< 0.0038 U	< 0.0045 U
Benzo(a)pyrene	mg/kg	< 0.0058 U	< 0.0061 U	< 0.0050 U	< 0.0071 U	< 0.0032 U	0.041 J	< 0.0051 U	< 0.0050 U	< 0.0060 U
Benzo(b)fluoranthene	mg/kg	< 0.0073 U	< 0.0077 U	< 0.0063 U	< 0.0090 U	< 0.0040 U	< 0.0095 U	< 0.0065 U	< 0.0063 U	< 0.0076 U
Benzo(g,h,i)perylene	mg/kg	< 0.015 U	< 0.015 U	< 0.012 U	< 0.018 U	< 0.0079 U	< 0.019 U	< 0.013 U	< 0.013 U	< 0.015 U
Benzo(k)fluoranthene	mg/kg	< 0.011 U	< 0.012 U	< 0.0095 U	< 0.014 U	< 0.0060 U	< 0.014 U	< 0.0098 U	< 0.0095 U	< 0.011 U
Chrysene	mg/kg	< 0.0050 U	< 0.0053 U	< 0.0043 U	< 0.0062 U	< 0.0028 U	0.0073 J	< 0.0045 U	< 0.0043 U	< 0.0052 U
Dibenzo(a,h)anthracene	mg/kg	< 0.017 U	< 0.018 U	< 0.015 U	< 0.021 U	< 0.0095 U	< 0.023 U	< 0.015 U	< 0.015 U	< 0.018 U
Fluoranthene	mg/kg	< 0.0043 U	< 0.0045 U	< 0.0036 U	< 0.0052 U	< 0.0023 U	< 0.0055 U	< 0.0038 U	< 0.0037 U	< 0.0044 U
Fluorene	mg/kg	< 0.0071 U	< 0.0075 U	< 0.0061 U	< 0.0088 U	< 0.0039 U	< 0.0092 U	< 0.0063 U	< 0.0061 U	< 0.0074 U
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.0070 U	< 0.0073 U	< 0.0060 U	< 0.0086 U	< 0.0038 U	< 0.0090 U	< 0.0062 U	< 0.0060 U	< 0.0072 U
Naphthalene	mg/kg	< 0.0045 U	< 0.0047 U	< 0.0038 U	< 0.0055 U	< 0.0025 U	< 0.0089 U	< 0.0040 U	< 0.0038 U	< 0.0046 U
Phenanthrene	mg/kg	< 0.0051 U	< 0.0053 U	< 0.0044 U	< 0.011 U	< 0.0028 U	< 0.05 U	< 0.0045 U	< 0.0044 U	< 0.0053 U
Pyrene	mg/kg	< 0.0051 U	< 0.0053 U	< 0.0044 U	< 0.0063 U	< 0.0028 U	< 0.0066 U	< 0.0045 U	< 0.0044 U	< 0.0053 U
07-VOCs										
1,4-Dioxane	mg/kg	< 0.07 U	< 0.068 U	< 0.056 U	< 0.096 U	< 0.051 U	< 0.11 UJ	< 0.066 U	< 0.057 U	< 0.067 U
1,1-Dichloroethane	mg/kg	< 0.00052 U	< 0.00051 U	< 0.00042 U	0.00092 J	< 0.00038 U	< 0.00081 U	< 0.00049 U	< 0.00042 U	< 0.00050 U
1,1-Dichloroethene	mg/kg	< 0.00047 U	< 0.00046 U	< 0.00037 U	< 0.00064 U	< 0.00034 U	< 0.00072 U	< 0.00044 U	< 0.00038 U	< 0.00045 U
1,2-Dibromo-3-chloropropane	mg/kg	< 0.0016 U	< 0.0015 U	< 0.0013 U	< 0.0022 U	< 0.0012 U	< 0.0024 U	< 0.0015 U	< 0.0013 U	< 0.0015 U
1,2-Dibromoethane	mg/kg	< 0.00048 U	< 0.00047 U	< 0.00039 U	< 0.00066 U	< 0.00035 U	< 0.00075 U	< 0.00045 U	< 0.00039 U	< 0.00047 U
1,2-Dichlorobenzene	mg/kg	< 0.0011 U	< 0.0011 U	< 0.00092 U	< 0.0016 U	< 0.00084 U	< 0.0018 U	< 0.0011 U	< 0.00093 U	< 0.0011 U
1,2-Dichloroethane	mg/kg	< 0.0013 U	< 0.0013 U	< 0.0011 U	< 0.0018 U	< 0.00096 U	< 0.0020 U	< 0.0012 U	< 0.0011 U	< 0.0013 U
cis-1,2-Dichloroethene	mg/kg	< 0.0016 U	< 0.0016 U	< 0.0013 U	< 0.0022 U	< 0.0012 U	< 0.0025 U	< 0.0015 U	< 0.0013 U	< 0.0015 U

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-01**	**7-02**	**7-03**	**7-04**	**7-04SB**	**7-04SB**	**7-05**	**7-06**	**7-07**
	Sample Date	**23-Sep-15**	**24-Sep-15**	**24-Sep-15**	**29-Sep-15**	**10-Nov-15**	**10-Dec-15**	**24-Sep-15**	**28-Sep-15**	**23-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**2.5 - 4.5 ft**	**0.5 - 2.5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-01-SS-01-092315**	**7-02-SS-01-092415**	**7-03-SS-01-092415**	**7-04-SS-01-092915**	**7-04-SB-01-2.5-4.5-111015**	**7-04SB-SB-01-0.5-2.5-121015**	**7-05-SS-01-092415**	**7-06-SS-01-092815**	**7-07-SS-01-092315**
Analyte	**Unit**									
trans-1,2-Dichloroethene	mg/kg	*< 0.00068 U*	*< 0.00067 U*	*< 0.00055 U*	*< 0.00093 U*	*< 0.00050 U*	*< 0.0011 U*	*< 0.00064 U*	*< 0.00055 U*	*< 0.00065 U*
1,2-Dichloropropane	mg/kg	*< 0.0011 U*	*< 0.0011 U*	*< 0.00086 U*	*< 0.0015 U*	*< 0.00079 U*	*< 0.0017 U*	*< 0.0010 U*	*< 0.00087 U*	*< 0.0010 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00054 U*	0.0041 J	*< 0.00043 U*	*< 0.00073 U*	*< 0.00039 U*	*< 0.00083 U*	*< 0.00050 U*	*< 0.00044 U*	0.0022 J
cis-1,3-Dichloropropene	mg/kg	*< 0.0011 U*	*< 0.0011 U*	*< 0.00092 U*	*< 0.0016 U*	*< 0.00084 U*	*< 0.0018 U*	*< 0.0011 U*	*< 0.00093 U*	*< 0.0011 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0013 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0018 U*	*< 0.00099 U*	*< 0.0021 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0013 U*
1,4-Dichlorobenzene	mg/kg	*< 0.0014 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0019 U*	*< 0.0010 U*	*< 0.0022 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0013 U*
1,1,1-Trichloroethane	mg/kg	*< 0.00064 U*	*< 0.00063 U*	*< 0.00052 U*	*< 0.00088 U*	*< 0.00047 U*	*< 0.0010 U*	*< 0.00061 U*	*< 0.00052 U*	*< 0.00062 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00079 U*	*< 0.00077 U*	*< 0.00063 U*	*< 0.0011 U*	*< 0.00058 U*	*< 0.0012 U*	*< 0.00074 U*	*< 0.00064 U*	*< 0.00076 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113	mg/kg	*< 0.0015 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0020 U*	*< 0.0011 U*	*< 0.0023 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0014 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0013 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0018 U*	*< 0.00099 U*	*< 0.0021 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0013 U*
1,2,4-Trichlorobenzene	mg/kg	0.0053 J	0.1	0.0020 J	*< 0.0018 U*	*< 0.00099 U*	*< 0.0021 U*	0.0026 J	*< 0.0011 U*	*< 0.0013 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.0012 U*	*< 0.0012 U*	*< 0.00098 U*	*< 0.0017 U*	*< 0.00089 U*	*< 0.0019 U*	*< 0.0011 U*	*< 0.00099 U*	*< 0.0012 U*
2-Butanone	mg/kg	0.022	0.029	0.017	0.031	*< 0.0040 U*	*< 0.0039 U*	0.0034 J	0.035	0.043
2-Hexanone	mg/kg	*< 0.0013 U*	*< 0.0013 U*	*< 0.0011 U*	*< 0.0018 U*	*< 0.00097 U*	*< 0.0021 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0013 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0016 U*	*< 0.0016 U*	*< 0.0013 U*	*< 0.0023 U*	*< 0.0012 U*	*< 0.0026 U*	*< 0.0015 U*	*< 0.0013 U*	0.0035 J
Acetone	mg/kg	0.066	0.12	0.079	0.12	*< 0.025 U*	*< 0.031 U*	*< 0.0024 U*	0.14	0.17
Benzene	mg/kg	*< 0.00047 U*	*< 0.00046 U*	*< 0.00037 U*	*< 0.00064 U*	*< 0.00034 U*	*< 0.00072 U*	*< 0.00044 U*	*< 0.00038 U*	*< 0.00045 U*
Bromochloromethane	mg/kg	*< 0.0017 U*	*< 0.0016 U*	*< 0.0014 U*	*< 0.0023 U*	*< 0.0012 U*	*< 0.0026 U*	*< 0.0016 U*	*< 0.0014 U*	*< 0.0016 U*
Bromodichloromethane	mg/kg	*< 0.00095 U*	*< 0.00093 U*	*< 0.00076 U*	*< 0.0013 U*	*< 0.00070 U*	*< 0.0015 U*	0.0076 J	*< 0.00077 U*	*< 0.00091 U*
Bromoform	mg/kg	*< 0.0044 U*	*< 0.00070 U*	0.0019 J	*< 0.00098 U*	*< 0.00053 U*	*< 0.0011 U*	0.018	0.0042 J	*< 0.00069 U*
Bromomethane	mg/kg	*< 0.0015 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0021 U*	*< 0.0011 U*	*< 0.0024 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0015 U*
Carbon disulfide	mg/kg	0.0013 J	0.0095 J	0.0039 J	*< 0.0012 U*	*< 0.0020 U*	0.0014 J	*< 0.00082 U*	0.0054 J	0.0022 J
Carbon tetrachloride	mg/kg	*< 0.00095 U*	*< 0.00093 U*	*< 0.00076 U*	*< 0.0013 U*	*< 0.00070 U*	*< 0.0015 U*	*< 0.00089 U*	*< 0.00077 U*	*< 0.00091 U*
Chlorobenzene	mg/kg	*< 0.00052 U*	*< 0.00051 U*	*< 0.00042 U*	*< 0.00071 U*	*< 0.00038 U*	*< 0.00081 U*	*< 0.00049 U*	*< 0.00042 U*	*< 0.00050 U*
Cyclohexane	mg/kg	*< 0.0047 U*	*< 0.0046 U*	*< 0.0038 U*	*< 0.0064 U*	*< 0.0035 U*	*< 0.0073 U*	*< 0.0044 U*	*< 0.0038 U*	*< 0.0045 U*
Dibromochloromethane	mg/kg	*< 0.00097 U*	*< 0.00037 U*	0.0010 J	*< 0.00051 U*	*< 0.00028 U*	*< 0.00058 U*	0.015	0.0013 J	*< 0.00036 U*
Chloroethane	mg/kg	*< 0.00081 U*	*< 0.00079 U*	*< 0.00065 U*	*< 0.0011 U*	*< 0.00059 U*	*< 0.0013 U*	*< 0.00076 U*	*< 0.00065 U*	*< 0.00078 U*
Chloroform	mg/kg	*< 0.00054 U*	*< 0.00046 U*	0.0014 J	0.01 J	*< 0.0031 U*	0.016	0.016	0.0017 J	*< 0.00045 U*
Chloromethane	mg/kg	*< 0.00089 U*	*< 0.00088 U*	*< 0.00072 U*	*< 0.0012 U*	*< 0.00066 U*	*< 0.0014 U*	*< 0.00084 U*	*< 0.00073 U*	*< 0.00086 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0016 U*	*< 0.0016 U*	*< 0.0013 U*	*< 0.0022 U*	*< 0.0012 U*	*< 0.0025 U*	*< 0.0015 U*	*< 0.0013 U*	*< 0.0015 U*
Ethyl benzene	mg/kg	*< 0.00061 U*	*< 0.00060 U*	*< 0.00049 U*	*< 0.00083 U*	*< 0.00045 U*	*< 0.00094 U*	*< 0.00057 U*	*< 0.00049 U*	*< 0.00059 U*
Isopropylbenzene	mg/kg	*< 0.00093 U*	*< 0.00091 U*	*< 0.00075 U*	*< 0.0013 U*	*< 0.00068 U*	*< 0.0014 U*	*< 0.00087 U*	*< 0.00075 U*	*< 0.00090 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.0011 U*	*< 0.0011 U*	*< 0.00086 U*	*< 0.0015 U*	*< 0.00079 U*	*< 0.0017 U*	*< 0.0010 U*	*< 0.00087 U*	*< 0.0010 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0015 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0021 U*	*< 0.0011 U*	*< 0.0023 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0014 U*
Styrene	mg/kg	*< 0.00055 U*	*< 0.00054 U*	*< 0.00045 U*	*< 0.00076 U*	*< 0.00041 U*	*< 0.00086 U*	*< 0.00052 U*	*< 0.00045 U*	*< 0.00053 U*
Tetrachloroethene	mg/kg	*< 0.0011 U*	*< 0.0011 U*	*< 0.00088 U*	0.0028 J	*< 0.00080 U*	0.0022 J	*< 0.0010 U*	*< 0.00088 U*	*< 0.0011 U*
Toluene	mg/kg	*< 0.0011 U*	*< 0.0011 U*	*< 0.00088 U*	*< 0.0015 U*	*< 0.00080 U*	*< 0.0017 U*	*< 0.0010 U*	*< 0.00088 U*	*< 0.0011 U*
Trichloroethene	mg/kg	*< 0.0011 U*	*< 0.0011 U*	*< 0.00086 U*	*< 0.0015 U*	*< 0.00079 U*	*< 0.0017 U*	*< 0.0010 U*	*< 0.00087 U*	*< 0.0010 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00061 U*	*< 0.00060 U*	*< 0.00049 U*	*< 0.00083 U*	*< 0.00045 U*	*< 0.00094 U*	*< 0.00057 U*	*< 0.00049 U*	*< 0.00059 U*

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-01**	**7-02**	**7-03**	**7-04**	**7-04SB**	**7-04SB**	**7-05**	**7-06**	**7-07**
	Sample Date	**23-Sep-15**	**24-Sep-15**	**24-Sep-15**	**29-Sep-15**	**10-Nov-15**	**10-Dec-15**	**24-Sep-15**	**28-Sep-15**	**23-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**2.5 - 4.5 ft**	**0.5 - 2.5 ft**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-01-SS-01-092315**	**7-02-SS-01-092415**	**7-03-SS-01-092415**	**7-04-SS-01-092915**	**7-04-SB-01-2.5-4.5-111015**	**7-04SB-SB-01-0.5-2.5-121015**	**7-05-SS-01-092415**	**7-06-SS-01-092815**	**7-07-SS-01-092315**
Analyte	**Unit**									
Vinyl chloride	mg/kg	*< 0.00064 U*	*< 0.00063 U*	*< 0.00052 U*	*< 0.00088 U*	*< 0.00047 U*	*< 0.0010 U*	*< 0.00061 U*	*< 0.00052 U*	*< 0.00062 U*
o-Xylene	mg/kg	*< 0.00059 U*	0.00095 J	*< 0.00047 U*	0.0017 J	*< 0.00043 U*	0.0010 J	*< 0.00056 U*	*< 0.00048 U*	*< 0.00057 U*
m,p Xylenes	mg/kg	*< 0.0014 U*	0.0032 J	*< 0.0012 U*	0.0021 J	*< 0.0011 U*	*< 0.0023 U*	*< 0.0014 U*	*< 0.0012 U*	*< 0.0014 U*
08-General Solids Parameters										
Perchlorate	mg/kg	*< 0.00023 U*	*< 0.062 U*	*< 0.027 U*	*< 0.038 U*	*< 0.029 U*	*< 0.036 U*	*< 0.055 U*	*< 0.026 U*	*< 0.00022 U*
Total Organic Carbon	mg/kg	2,500 J	*< 3,300 U*	*< 3,700 U*	*< 2,900 U*	4,600	9,200 J	*< 2,800 U*	2,600 J	2,700 J
pH	pH units	6.65	7.28	6.80	6.65	6.85	6.51	6.95	6.81	7.04
Cyanide, Total	mg/kg	*< 0.32 U*	*< 0.32 U*	*< 0.27 U*	*< 0.38 U*	*< 0.30 U*	*< 0.39 U*	*< 0.28 U*	*< 0.26 U*	*< 0.30 U*
Percent finer than 0.25 millimeters	%	65.1	89.8	73.9	72.8	33.3	90.1	96.9	60.4	95.4

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-08**	**7-09**	**7-10**	**7-11**	**7-12**	**7-13**	**7-14**	**7-15**	**7-16**	**7-17**
	Sample Date	**23-Sep-15**	**28-Sep-15**	**28-Sep-15**	**21-Sep-15**	**21-Sep-15**	**22-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**	**29-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-08-SS-01-092315**	**7-09-SS-01-092815**	**7-10-SS-01-092815**	**7-11-SS-01-092115**	**7-12-SS-01-092115**	**7-13-SS-01-092215**	**7-14-SS-01-092215**	**7-15-SS-01-092215**	**7-16-SS-01-092915**	**7-17-SS-01-092915**
Analyte	**Unit**										
01-Dioxins and Furans											
2,3,7,8-TCDD	pg/g	< 0.26 UQ	< 0.93 U	< 0.61 U	< 0.12 UQ	< 0.84 U	< 1.4 U	< 1.8 U	< 0.83 U	0.51 J	< 0.059 U
1,2,3,7,8-PeCDD	pg/g	< 0.82 UQ	< 1.6 U	< 1.8 U	< 0.52 UQ	5.7 J	5.0 J	7.9 J	< 1.8 U	1.4 J	< 0.068 U
1,2,3,4,7,8-HxCDD	pg/g	< 0.43 UQ	3.3 J	< 2.0 U	< 0.38 UQ	5.5 J	< 3.3 UQ	7.3 J	< 1.4 U	1.3 J	< 0.059 U
1,2,3,6,7,8-HxCDD	pg/g	1.4 J	12 J	6.7 J	< 1.2 UQ	20 J	12 J	18 J	< 1.4 U	3.6 J	< 0.093 U
1,2,3,7,8,9-HxCDD	pg/g	1.9 J	16 J	7.8 J	1.6 J	25 J	14 J	24 J	< 1.2 U	4.1 J	0.099 J
1,2,3,4,6,7,8-HpCDD	pg/g	7.8	91	41 J	7.7	180	77	120	8.9 J	24	< 1.2 U
OCDD	pg/g	17	290	120	19	600	260	450	45 J	81	7.4 J
2,3,7,8-TCDF	pg/g	25	98	58	12	130	140	200	17	28	0.77 J
1,2,3,7,8-PeCDF	pg/g	56	230	130	33	300	330	490	39 J	91	1.1 J
2,3,4,7,8-PeCDF	pg/g	29	100	57 J	17	140	140	240	19 J	43	0.66 J
1,2,3,4,7,8-HxCDF	pg/g	100	750	390	85	840	850 J	1,300	100	270	2.8 J
1,2,3,6,7,8-HxCDF	pg/g	80	630	320	65	670	730 J	1,000	87	200	2.6 J
1,2,3,7,8,9-HxCDF	pg/g	11	60 J	33 J	7.3 J	87	87	130	11 J	23	< 0.29 U
2,3,4,6,7,8-HxCDF	pg/g	18	160	64	15	150	170	240	22 J	41	1.0 J
1,2,3,4,6,7,8-HpCDF	pg/g	420	5,900	2,500	420	6,000	4,500 J	7,400	570	1,200	16
1,2,3,4,7,8,9-HpCDF	pg/g	190	1,400	700	150	1,800	1,400 J	2,300	190	400	3.3 J
OCDF	pg/g	2,900	44,000	20,000	2,800	56,000	37,000 J	72,000	5,100	6,500	67
Calculated TEQ (ND=0), Mammalian	pg/g	41	300	150	31	350	330	510	41	94	1.2
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	42	300	160	32	350	330	520	42	94	1.3
Calculated TEQ (ND=0), Avian	pg/g	300	2,600	2,500	56	2,300	2,500	5,900	1,000	150	2.7
Calculated TEQ (ND=1/2 DL), Avian	pg/g	300	2,600	2,600	74	2,300	2,500	5,900	1,000	630	410
02-PCBs											
PCB-77	pg/g	< 5.2 U	36	< 236 U	11 J	41	82	< 160 U	19	19	5.5
PCB-81	pg/g	< 4.7 U	< 6.1 U	< 236 UJ	< 5.2 U	13	19	< 160 UJ	5.1	< 2.1 U	< 0.50 U
PCB-105	pg/g	< 5.9 U	74	< 236 U	27 J	72	230	< 160 U	63	27	9.8
PCB-107/123	pg/g			< 472 UJ				< 320 U			
PCB-114	pg/g	< 5.4 U	15	< 236 U	< 5.8 U	23	39	< 160 U	13	6.0	< 0.83 U
PCB-118	pg/g	26	210	< 236 U	43	170	610	< 160 U	110	69	24
PCB-123	pg/g	< 5.2 U	< 13 U		< 5.9 U	19	< 27 U		8.5	< 5.2 U	1.8 J
PCB-126	pg/g	< 8.5 U	21	< 236 U	< 9.6 U	21	37	< 160 U	11	6.7	< 1.0 U
PCB-156	pg/g			< 236 U				< 160 U			
PCB-157	pg/g			< 236 U				< 160 U			
PCB-156/157	pg/g	11 J	89		12 J	88	200		43	25	5.2 J
PCB-167	pg/g	9.8 J	72	< 236 U	10 J	92	160	< 160 U	32	23	4.9
PCB-169	pg/g	< 4.5 U	11	< 236 U	< 3.7 U	< 12 U	< 20 U	< 160 U	< 3.8 UJ	< 2.5 U	< 0.30 U
PCB-189	pg/g	8.5 J	100	< 236 U	8.6 J	120	200	< 160 U	< 33 UQ	28	1.2 J
Monochlorobiphenyls, Total	mg/kg	< 0.0000015 U	0.000079	< 0.000236 U	0.000021 J	0.000078 J	0.00011 J	< 0.000160 U	0.000038 J	0.000029 J	0.000019 J

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-08**	**7-09**	**7-10**	**7-11**	**7-12**	**7-13**	**7-14**	**7-15**	**7-16**	**7-17**
	Sample Date	**23-Sep-15**	**28-Sep-15**	**28-Sep-15**	**21-Sep-15**	**21-Sep-15**	**22-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**	**29-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-08-SS-01-092315**	**7-09-SS-01-092815**	**7-10-SS-01-092815**	**7-11-SS-01-092115**	**7-12-SS-01-092115**	**7-13-SS-01-092215**	**7-14-SS-01-092215**	**7-15-SS-01-092215**	**7-16-SS-01-092915**	**7-17-SS-01-092915**
Analyte	**Unit**										
Dichlorobiphenyls, Total	mg/kg	< *0.0000074 U*	0.00019	< *0.000236 U*	0.00015 J	0.00025 J	0.0005	< *0.000160 U*	0.000052 J	0.000054 J	0.000025 J
Trichlorobiphenyls, Total	mg/kg	0.00001 J	0.00022	< *0.000236 U*	0.00035 J	0.00039	0.00062	< *0.000160 U*	0.00014 J	0.00012 J	0.000015 J
Tetrachlorobiphenyls, Total	mg/kg	0.000082 J	0.0007	< *0.000236 UJ*	0.00068 J	0.00096	0.0021	< *0.000160 UJ*	0.00045	0.00029 J	0.000061 J
Pentachlorobiphenyls, Total	mg/kg	0.00017 J	0.0014	< *0.000236 UJ*	0.00035 J	0.0017	0.004	< *0.000160 U*	0.00088	0.00067	0.00017 J
Hexachlorobiphenyls, Total	mg/kg	0.00031 J	0.0018	< *0.000236 U*	0.00033 J	0.0022	0.0043	< *0.000160 U*	0.00087 J	0.0012	0.00034 J
Heptachlorobiphenyls, Total	mg/kg	0.00046 J	0.0033	< *0.000236 U*	0.00052 J	0.0039	0.0063	0.000351	0.0012	0.0012	0.00017 J
Octachlorobiphenyls, Total	mg/kg	0.00087 J	0.0077	0.000521	0.00098 J	0.008	0.013	0.00210	0.002	0.0017	0.000093 J
Nonachlorobiphenyls, Total	mg/kg	0.002 J	0.022	0.00320	0.0023 J	0.02	0.03	0.00653	0.0042	0.0032	0.00013 J
Decachlorobiphenyl (PCB-209)	mg/kg	0.02	0.32	0.0594	0.026	0.3	0.34	0.0969	0.048	0.032	0.00083
Total PCBs	mg/kg	0.024	0.36	0.0631	0.032	0.34	0.4	0.106	0.058	0.04	0.0018
03- Metals											
Total Aluminum	mg/kg	7,200	13,000	2,500	14,000	8,700	6,500 J	7,200 J	6,700 J	4,100	2,000
Total Antimony	mg/kg	0.31	0.42 J-	0.31 J-	0.45 J-	0.74 J-	0.81 J-	0.77 J-	0.28 J-	0.18 J-	< *0.096 UJ*
Total Arsenic	mg/kg	9.2	22	17	14	18	24 J-	14 J-	8.3 J-	9.5	5.7
Total Barium	mg/kg	290	250	140	180	240	220 J	180 J	270 J	240	120
Total Beryllium	mg/kg	0.28	0.57 J-	0.13 J-	0.58	0.36	0.30	0.31	0.28	0.18 J-	0.089 J-
Total Cadmium	mg/kg	0.097 J	0.15	0.11	0.24	0.19	0.18	0.24	0.17	0.18	0.21
Total Calcium	mg/kg	96,000	96,000	170,000	150,000	130,000	170,000	150,000	190,000	170,000	170,000
Total Chromium	mg/kg	7.6	64	25	15	17	43 J	21 J	10 J	5.8	3.3
Total Cobalt	mg/kg	2.6	5.1	1.8	5.3	4.9	3.5	3.5	3.0	2.0	1.4
Total Copper	mg/kg	5.3	14 J-	5.2 J-	14	16	14 J	16 J	12 J	9.7 J-	6.7 J-
Total Iron	mg/kg	5,900	29,000	13,000	12,000	18,000	18,000	16,000	8,000	4,500	2,400
Total Lead	mg/kg	5.3	10	6.1 J+	10	13	13	12	12	7.4 J+	6.9 J+
Total Magnesium	mg/kg	38,000	23,000	20,000	36,000	34,000	22,000	34,000	30,000	32,000	29,000
Total Manganese	mg/kg	180	200	60	390	520	190	190	220	180	110
Total Mercury	mg/kg	< *0.010 U*	0.076	0.032 J	0.014 J	0.025 J	0.077	0.038 J	0.019 J	0.021 J	0.017 J
Total Molybdenum	mg/kg	0.33	8.0	7.9	1.3	7.1	12	11	2.2	7.4	5.8
Total Nickel	mg/kg	5.8	15 J-	5.9 J-	12	13	10 J	11 J	8.3 J	5.2 J-	3.6 J-
Total Potassium	mg/kg	3,200	7,300	2,600	5,400	3,300	2,800	4,400	3,400	2,900	3,800
Total Selenium	mg/kg	0.20 J	0.41 J-	0.18 J-	0.30 J-	0.40 J-	0.39 J-	0.44 J-	0.31 J-	0.35 J-	0.30 J-
Total Silver	mg/kg	< *0.036 U*	0.056 J	< *0.022 U*	0.039 J	< *0.044 U*	0.045 J	0.047 J	0.043 J	0.036 J	< *0.029 U*
Total Sodium	mg/kg	12,000	17,000	33,000	4,400	7,600	8,800	21,000	15,000	13,000	30,000
Total Thallium	mg/kg	0.065 J	0.17	0.046 J	0.21	0.11 J	0.11	0.14	0.13	0.12	0.092 J
Total Vanadium	mg/kg	14	39 J-	13 J-	23	26	24	25	18	13 J-	6.8 J-
Total Zinc	mg/kg	38	41 J-	14 J-	45	46	33 J-	34 J-	44 J-	20 J-	16 J-
05-SVOCs											
1,1'-Biphenyl	mg/kg	< *0.21 U*	< *2.4 U*	< *2.4 U*	< *0.25 U*	< *2.2 U*	< *2.2 U*	< *2.4 U*	< *2 U*	< *7.1 U*	< *6.1 U*

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-08**	**7-09**	**7-10**	**7-11**	**7-12**	**7-13**	**7-14**	**7-15**	**7-16**	**7-17**
	Sample Date	**23-Sep-15**	**28-Sep-15**	**28-Sep-15**	**21-Sep-15**	**21-Sep-15**	**22-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**	**29-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-08-SS-01-092315**	**7-09-SS-01-092815**	**7-10-SS-01-092815**	**7-11-SS-01-092115**	**7-12-SS-01-092115**	**7-13-SS-01-092215**	**7-14-SS-01-092215**	**7-15-SS-01-092215**	**7-16-SS-01-092915**	**7-17-SS-01-092915**
Analyte	**Unit**										
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 0.032 U*	*< 0.37 U*	*< 0.37 U*	*< 0.039 U*	*< 0.34 U*	*< 0.34 U*	*< 0.38 U*	*< 0.31 U*	*< 1.1 U*	*< 0.95 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 0.1 U*	*< 1.2 U*	*< 1.2 U*	*< 0.12 U*	*< 1.1 U*	*< 1.1 U*	*< 1.2 U*	*< 0.98 U*	*< 3.5 U*	*< 3 U*
2,4,5-Trichlorophenol	mg/kg	*< 0.1 U*	*< 1.2 U*	*< 1.2 U*	*< 0.13 U*	*< 1.1 U*	*< 1.1 U*	*< 1.2 U*	*< 0.99 U*	*< 3.6 U*	*< 3 U*
2,4,6-Trichlorophenol	mg/kg	*< 0.0055 U*	*< 0.063 U*	*< 0.063 U*	*< 0.0067 U*	*< 0.058 U*	*< 0.058 U*	*< 0.065 U*	*< 0.052 U*	*< 0.19 U*	*< 0.16 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 0.098 U*	*< 1.1 U*	*< 1.1 U*	*< 0.12 U*	*< 1 U*	*< 1 U*	*< 1.2 U*	*< 0.94 U*	*< 3.4 U*	*< 2.9 U*
2,4-Dichlorophenol	mg/kg	*< 0.11 U*	*< 1.3 U*	*< 1.3 U*	*< 0.13 U*	*< 1.2 U*	*< 1.2 U*	*< 1.3 U*	*< 1.1 U*	*< 3.8 U*	*< 3.3 U*
2,4-Dimethylphenol	mg/kg	*< 0.21 U*	*< 2.4 U*	*< 2.4 U*	*< 0.25 U*	*< 2.2 U*	*< 2.2 U*	*< 2.5 U*	*< 2 U*	*< 7.2 U*	*< 6.1 U*
2,4-Dinitrophenol	mg/kg	*< 0.27 U*	*< 3.1 U*	*< 3.1 U*	*< 0.32 U*	*< 2.8 U*	*< 2.8 U*	*< 3.2 U*	*< 2.5 U*	*< 9.3 U*	*< 7.9 U*
2,4-Dinitrotoluene	mg/kg	*< 0.11 U*	*< 1.3 U*	*< 1.3 U*	*< 0.13 U*	*< 1.2 U*	*< 1.2 U*	*< 1.3 U*	*< 1.1 U*	*< 3.8 U*	*< 3.3 U*
2,6-Dinitrotoluene	mg/kg	*< 0.12 U*	*< 1.4 U*	*< 1.4 U*	*< 0.15 U*	*< 1.3 U*	*< 1.3 U*	*< 1.5 U*	*< 1.2 U*	*< 4.3 U*	*< 3.6 U*
2-Chloronaphthalene	mg/kg	*< 0.1 U*	*< 1.2 U*	*< 1.2 U*	*< 0.12 U*	*< 1.1 U*	*< 1.1 U*	*< 1.2 U*	*< 0.96 U*	*< 3.5 U*	*< 3 U*
2-Chlorophenol	mg/kg	*< 0.11 U*	*< 1.3 U*	*< 1.3 U*	*< 0.13 U*	*< 1.2 U*	*< 1.2 U*	*< 1.3 U*	*< 1 U*	*< 3.8 U*	*< 3.2 U*
2-Methylphenol	mg/kg	*< 0.072 U*	*< 0.83 U*	*< 0.83 U*	*< 0.088 U*	*< 0.77 U*	*< 0.76 U*	*< 0.86 U*	*< 0.69 U*	*< 2.5 U*	*< 2.1 U*
2-Nitroaniline	mg/kg	*< 0.1 U*	*< 1.2 U*	*< 1.2 U*	*< 0.13 U*	*< 1.1 U*	*< 1.1 U*	*< 1.2 U*	*< 1 U*	*< 3.6 U*	*< 3.1 U*
2-Nitrophenol	mg/kg	*< 0.1 U*	*< 1.2 U*	*< 1.2 U*	*< 0.12 U*	*< 1.1 U*	*< 1.1 U*	*< 1.2 U*	*< 0.98 U*	*< 3.5 U*	*< 3 U*
3,3'-Dichlorobenzidine	mg/kg	*< 0.12 U*	*< 1.3 U*	*< 1.4 U*	*< 0.14 U*	*< 1.2 U*	*< 1.2 U*	*< 1.4 U*	*< 1.1 U*	*< 4.1 U*	*< 3.4 U*
3-Nitroaniline	mg/kg	*< 0.21 U*	*< 2.4 U*	*< 2.4 U*	*< 0.25 U*	*< 2.2 U*	*< 2.2 U*	*< 2.5 U*	*< 2 U*	*< 7.2 U*	*< 6.1 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 0.1 U*	*< 1.2 U*	*< 1.2 U*	*< 0.12 U*	*< 1.1 U*	*< 1.1 U*	*< 1.2 U*	*< 0.96 U*	*< 3.5 U*	*< 3 U*
4-Bromophenyl-phenylether	mg/kg	*< 0.11 U*	*< 1.2 U*	*< 1.2 U*	*< 0.13 U*	*< 1.1 U*	*< 1.1 U*	*< 1.3 U*	*< 1 U*	*< 3.7 U*	*< 3.1 U*
4-Chloro-3-methylphenol	mg/kg	*< 0.11 U*	*< 1.3 U*	*< 1.3 U*	*< 0.14 U*	*< 1.2 U*	*< 1.2 U*	*< 1.4 U*	*< 1.1 U*	*< 4 U*	*< 3.4 U*
4-Chloroaniline	mg/kg	*< 0.072 U*	*< 0.83 U*	*< 0.83 U*	*< 0.088 U*	*< 0.77 U*	*< 0.76 U*	*< 0.86 U*	*< 0.69 U*	*< 2.5 U*	*< 2.1 U*
4-Chlorophenyl-phenylether	mg/kg	*< 0.12 U*	*< 1.3 U*	*< 1.3 U*	*< 0.14 U*	*< 1.2 U*	*< 1.2 U*	*< 1.4 U*	*< 1.1 U*	*< 4 U*	*< 3.4 U*
3 & 4 Methylphenol	mg/kg	*< 0.41 U*	*< 4.7 U*	*< 4.7 U*	*< 0.5 U*	*< 4.4 U*	*< 4.3 U*	*< 4.9 U*	*< 3.9 U*	*< 14 U*	*< 12 U*
4-Nitroaniline	mg/kg	*< 0.11 U*	*< 1.3 U*	*< 1.3 U*	*< 0.13 U*	*< 1.2 U*	*< 1.2 U*	*< 1.3 U*	*< 1 U*	*< 3.8 U*	*< 3.2 U*
4-Nitrophenol	mg/kg	*< 0.35 U*	*< 4 U*	*< 4 U*	*< 0.42 U*	*< 3.7 U*	*< 3.7 U*	*< 4.1 U*	*< 3.3 U*	*< 12 U*	*< 10 U*
Acetophenone	mg/kg	*< 0.083 U*	*< 0.69 U*	*< 0.85 U*	*< 0.41 U*	*< 0.83 U*	*< 0.4 U*	*< 0.82 U*	*< 0.45 U*	*< 1.1 U*	*< 0.92 U*
Benzaldehyde	mg/kg	*< 0.21 U*	*< 2.4 U*	*< 2.4 U*	*< 0.25 U*	*< 2.2 U*	*< 2.2 U*	*< 2.4 U*	*< 2 U*	*< 7.1 U*	*< 6.1 U*
Benzylbutylphthalate	mg/kg	*< 0.12 U*	*< 1.4 U*	*< 1.4 U*	*< 0.14 U*	*< 1.3 U*	*< 1.2 U*	*< 1.4 U*	*< 1.1 U*	*< 4.1 U*	*< 3.5 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 0.11 U*	*< 1.3 U*	*< 1.3 U*	*< 0.13 U*	*< 1.2 U*	*< 1.2 U*	*< 1.3 U*	*< 1 U*	*< 3.8 U*	*< 3.2 U*
bis(2-Chloroethyl) ether	mg/kg	*< 0.1 U*	*< 1.2 U*	*< 1.2 U*	*< 0.12 U*	*< 1.1 U*	*< 1.1 U*	*< 1.2 U*	*< 0.96 U*	*< 3.5 U*	*< 3 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 0.12 U*	*< 1.4 U*	*< 1.4 U*	*< 0.15 U*	*< 1.3 U*	*< 1.3 U*	*< 1.4 U*	*< 1.2 U*	*< 4.2 U*	*< 3.6 U*
Carbazole	mg/kg	*< 0.12 U*	*< 1.4 U*	*< 1.4 U*	*< 0.14 U*	*< 1.3 U*	*< 1.2 U*	*< 1.4 U*	*< 1.1 U*	*< 4.1 U*	*< 3.5 U*
Dibenzofuran	mg/kg	*< 0.11 U*	*< 1.2 U*	*< 1.2 U*	*< 0.13 U*	*< 1.1 U*	*< 1.1 U*	*< 1.3 U*	*< 1 U*	*< 3.7 U*	*< 3.2 U*
Diethyl phthalate	mg/kg	*< 0.11 U*	*< 1.3 U*	*< 1.3 U*	*< 0.14 U*	*< 1.2 U*	*< 1.2 U*	*< 1.3 U*	*< 1.1 U*	*< 3.9 U*	*< 3.3 U*
Dimethylphthalate	mg/kg	*< 0.11 U*	*< 1.2 U*	*< 1.3 U*	*< 0.13 U*	*< 1.2 U*	*< 1.1 U*	*< 1.3 U*	*< 1 U*	*< 3.8 U*	*< 3.2 U*
Di-n-butylphthalate	mg/kg	*< 0.12 U*	*< 1.4 U*	*< 1.4 U*	*< 0.15 U*	*< 1.3 U*	*< 1.3 U*	*< 1.4 U*	*< 1.2 U*	*< 4.2 U*	*< 3.6 U*
Di-n-octylphthalate	mg/kg	*< 0.12 U*	*< 1.4 U*	*< 1.4 U*	*< 0.15 U*	*< 1.3 U*	*< 1.3 U*	*< 1.4 U*	*< 1.2 U*	*< 4.2 U*	*< 3.6 U*
Hexachlorobenzene	mg/kg	0.021	0.21 J	0.23 J	*< 0.0033 U*	0.17 J	0.19 J	0.5	0.093 J	*< 0.095 U*	*< 0.081 U*
Hexachlorobutadiene	mg/kg	*< 0.0046 U*	*< 0.053 U*	*< 0.053 U*	*< 0.0056 U*	*< 0.049 U*	*< 0.049 U*	*< 0.055 U*	*< 0.044 U*	*< 0.16 U*	*< 0.14 U*

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-08**	**7-09**	**7-10**	**7-11**	**7-12**	**7-13**	**7-14**	**7-15**	**7-16**	**7-17**
	Sample Date	**23-Sep-15**	**28-Sep-15**	**28-Sep-15**	**21-Sep-15**	**21-Sep-15**	**22-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**	**29-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-08-SS-01-092315**	**7-09-SS-01-092815**	**7-10-SS-01-092815**	**7-11-SS-01-092115**	**7-12-SS-01-092115**	**7-13-SS-01-092215**	**7-14-SS-01-092215**	**7-15-SS-01-092215**	**7-16-SS-01-092915**	**7-17-SS-01-092915**
Analyte	**Unit**										
Hexachlorocyclopentadiene	mg/kg	< 0.077 U	< 0.88 U	< 0.89 U	< 0.094 U	< 0.82 U	< 0.81 U	< 0.91 U	< 0.74 U	< 2.7 U	< 2.3 U
Hexachloroethane	mg/kg	< 0.1 U	< 1.2 U	< 1.2 U	< 0.12 U	< 1.1 U	< 1.1 U	< 1.2 U	< 0.96 U	< 3.5 U	< 3 U
Isophorone	mg/kg	< 0.12 U	< 1.3 U	< 1.3 U	< 0.14 U	< 1.2 U	< 1.2 U	< 1.4 U	< 1.1 U	< 4 U	< 3.4 U
Nitrobenzene	mg/kg	< 0.094 U	< 1.1 U	< 1.1 U	< 0.12 U	< 1 U	< 1 U	< 1.1 U	< 0.91 U	< 3.3 U	< 2.8 U
N-Nitrosodimethylamine	mg/kg	< 0.12 U	< 1.4 U	< 1.4 U	< 0.15 U	< 1.3 U	< 1.3 U	< 1.4 U	< 1.1 U	< 4.2 U	< 3.5 U
N-Nitroso-di-n-propylamine	mg/kg	< 0.1 U	< 1.2 U	< 1.2 U	< 0.13 U	< 1.1 U	< 1.1 U	< 1.2 U	< 1 U	< 3.6 U	< 3.1 U
N-Nitrosodiphenylamine	mg/kg	< 0.11 U	< 1.2 U	< 1.2 U	< 0.13 U	< 1.1 U	< 1.1 U	< 1.3 U	< 1 U	< 3.7 U	< 3.2 U
Pentachlorobenzene	mg/kg	< 0.016 U	< 0.19 U	< 0.19 U	< 0.02 U	< 0.17 U	< 0.17 U	< 0.19 U	< 0.15 U	< 0.56 U	< 0.48 U
Pentachlorophenol	mg/kg	< 0.03 U	< 0.34 U	< 0.35 U	< 0.036 U	< 0.32 U	< 0.32 U	< 0.35 U	< 0.29 U	< 1 U	< 0.88 U
Phenol	mg/kg	< 0.1 U	< 1.2 U	< 1.2 U	< 0.13 U	< 1.1 U	< 1.1 U	< 1.2 U	< 0.99 U	< 3.6 U	< 3 U
06-PAHs											
2-Methylnaphthalene	mg/kg	< 0.00052 U	< 0.0064 U	< 0.0059 U	< 0.00066 U	< 0.0062 U	< 0.0068 U	< 0.0069 U	< 0.0054 U	0.0018 J-	0.0018 J
Acenaphthene	mg/kg	< 0.00057 U	< 0.0070 U	< 0.0064 U	< 0.00072 U	< 0.0068 U	< 0.0075 U	< 0.0076 U	< 0.0059 U	0.00099 J-	0.0022 J
Acenaphthylene	mg/kg	< 0.00040 U	< 0.0049 U	< 0.0045 U	< 0.00050 U	< 0.0048 U	< 0.0052 U	< 0.0053 U	< 0.0042 U	< 0.00070 UJ	< 0.00057 U
Anthracene	mg/kg	< 0.00048 U	< 0.0059 U	< 0.0054 U	< 0.00060 U	< 0.0057 U	< 0.0063 U	< 0.0063 U	< 0.0050 U	< 0.00083 UJ	0.0027 J
Benzo(a)anthracene	mg/kg	< 0.00037 U	< 0.0045 U	< 0.0041 U	< 0.00046 U	< 0.0044 U	< 0.0048 U	< 0.0049 U	< 0.0038 U	0.00073 J-	0.0033 J
Benzo(a)pyrene	mg/kg	< 0.00048 U	< 0.0060 U	< 0.0055 U	< 0.00061 U	< 0.0058 U	< 0.0063 U	< 0.0064 U	< 0.0050 U	< 0.00084 UJ	0.0011 J
Benzo(b)fluoranthene	mg/kg	< 0.00061 U	< 0.0076 U	< 0.0069 U	< 0.00077 U	< 0.0073 U	< 0.0080 U	< 0.0081 U	< 0.0064 U	< 0.0011 UJ	0.0024 J
Benzo(g,h,i)perylene	mg/kg	< 0.0012 U	< 0.015 U	< 0.014 U	< 0.0015 U	< 0.014 U	< 0.016 U	< 0.016 U	< 0.013 U	< 0.0021 UJ	< 0.0017 U
Benzo(k)fluoranthene	mg/kg	< 0.00092 U	< 0.011 U	< 0.01 U	< 0.0012 U	< 0.011 U	< 0.012 U	< 0.012 U	< 0.0096 U	< 0.0016 UJ	< 0.0013 U
Chrysene	mg/kg	< 0.00042 U	< 0.0052 U	< 0.0047 U	< 0.00053 U	< 0.0050 U	< 0.0055 U	< 0.0056 U	< 0.0044 U	0.00090 J-	0.0045 J
Dibenzo(a,h)anthracene	mg/kg	< 0.0015 U	< 0.018 U	< 0.016 U	< 0.0018 U	< 0.017 U	< 0.019 U	< 0.019 U	< 0.015 U	< 0.0025 UJ	< 0.0021 U
Fluoranthene	mg/kg	< 0.00036 U	< 0.0044 U	< 0.0040 U	0.00048 J	< 0.0042 U	< 0.0046 U	< 0.0047 U	< 0.0037 U	0.0028 J-	< 0.00050 U
Fluorene	mg/kg	< 0.00059 U	< 0.0073 U	< 0.0067 U	< 0.00075 U	< 0.0071 U	< 0.0078 U	< 0.0079 U	< 0.0062 U	0.0013 J-	0.0023 J
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.00058 U	< 0.0072 U	< 0.0065 U	< 0.00073 U	< 0.0069 U	< 0.0076 U	< 0.0077 U	< 0.0060 U	< 0.0010 UJ	< 0.00082 U
Naphthalene	mg/kg	< 0.00037 U	< 0.0046 U	< 0.0042 U	< 0.00047 U	< 0.0044 U	< 0.0049 U	< 0.0049 U	< 0.0039 U	0.00075 J-	0.0023 J
Phenanthrene	mg/kg	< 0.00042 U	< 0.0052 U	< 0.0048 U	0.00056 J	< 0.0050 U	< 0.0055 U	< 0.0056 U	< 0.0044 U	0.0051 J-	0.02
Pyrene	mg/kg	< 0.00042 U	< 0.0052 U	< 0.0048 U	< 0.00053 U	< 0.0050 U	< 0.0055 U	< 0.0056 U	< 0.0044 U	0.0020 J-	0.015
07-VOCs											
1,4-Dioxane	mg/kg	< 0.054 U	< 0.08 U	< 0.088 U	< 0.069 UJ	< 0.063 U	< 0.061 U	< 0.071 U	< 0.054 UJ	< 0.11 UJ	< 0.073 U
1,1-Dichloroethane	mg/kg	< 0.00040 U	< 0.00060 U	< 0.00066 U	< 0.00052 U	< 0.00047 U	< 0.00046 U	< 0.00052 U	< 0.00041 U	< 0.00084 U	< 0.00054 U
1,1-Dichloroethene	mg/kg	< 0.00036 U	< 0.00054 U	< 0.00059 U	< 0.00046 U	< 0.00042 U	< 0.00041 U	< 0.00047 U	< 0.00036 U	< 0.00076 U	< 0.00049 U
1,2-Dibromo-3-chloropropane	mg/kg	< 0.0012 U	< 0.0018 U	< 0.0020 U	< 0.0016 U	< 0.0014 U	< 0.0014 U	< 0.0016 U	< 0.0012 U	< 0.0026 U	< 0.0016 U
1,2-Dibromoethane	mg/kg	< 0.00037 U	< 0.00056 U	< 0.00061 U	< 0.00048 U	< 0.00044 U	< 0.00043 U	< 0.00049 U	< 0.00038 U	< 0.00079 U	< 0.00051 U
1,2-Dichlorobenzene	mg/kg	< 0.00088 U	< 0.0013 U	< 0.0014 U	< 0.0011 U	< 0.0010 U	< 0.0010 U	< 0.0012 U	< 0.00089 U	< 0.0019 U	< 0.0012 U
1,2-Dichloroethane	mg/kg	< 0.0010 U	< 0.0015 U	< 0.0017 U	< 0.0013 U	< 0.0012 U	< 0.0012 U	< 0.0013 U	< 0.0010 U	< 0.0021 U	< 0.0014 U
cis-1,2-Dichloroethene	mg/kg	< 0.0012 U	< 0.0018 U	< 0.0020 U	< 0.0016 U	< 0.0014 U	< 0.0014 U	< 0.0016 U	< 0.0012 U	< 0.0026 U	< 0.0017 U

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
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US Magnesium LLC
Tooele County, Utah

	Location ID	**7-08**	**7-09**	**7-10**	**7-11**	**7-12**	**7-13**	**7-14**	**7-15**	**7-16**	**7-17**
	Sample Date	**23-Sep-15**	**28-Sep-15**	**28-Sep-15**	**21-Sep-15**	**21-Sep-15**	**22-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**	**29-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-08-SS-01-092315**	**7-09-SS-01-092815**	**7-10-SS-01-092815**	**7-11-SS-01-092115**	**7-12-SS-01-092115**	**7-13-SS-01-092215**	**7-14-SS-01-092215**	**7-15-SS-01-092215**	**7-16-SS-01-092915**	**7-17-SS-01-092915**
Analyte	**Unit**										
trans-1,2-Dichloroethene	mg/kg	*< 0.00052 U*	*< 0.00078 U*	*< 0.00086 U*	*< 0.00068 U*	*< 0.00061 U*	*< 0.00060 U*	*< 0.00069 U*	*< 0.00053 U*	*< 0.0011 U*	*< 0.00071 U*
1,2-Dichloropropane	mg/kg	*< 0.00083 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00097 U*	*< 0.00095 U*	*< 0.0011 U*	*< 0.00084 U*	*< 0.0017 U*	*< 0.0011 U*
1,3-Dichlorobenzene	mg/kg	*< 0.00041 U*	0.00077 J	*< 0.00068 U*	*< 0.00053 U*	*< 0.00048 U*	*< 0.00047 U*	0.00084 J	*< 0.00042 U*	*< 0.00087 U*	*< 0.00056 U*
cis-1,3-Dichloropropene	mg/kg	*< 0.00088 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0012 U*	*< 0.00089 U*	*< 0.0019 U*	*< 0.0012 U*
trans-1,3-Dichloropropene	mg/kg	*< 0.0010 U*	*< 0.0015 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.0010 U*	*< 0.0022 U*	*< 0.0014 U*
1,4-Dichlorobenzene	mg/kg	*< 0.0011 U*	*< 0.0016 U*	*< 0.0018 U*	*< 0.0014 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.0023 U*	*< 0.0015 U*
1,1,1-Trichloroethane	mg/kg	*< 0.00050 U*	*< 0.00074 U*	*< 0.00081 U*	*< 0.00064 U*	*< 0.00058 U*	*< 0.00057 U*	*< 0.00065 U*	*< 0.00050 U*	*< 0.0010 U*	*< 0.00067 U*
1,1,2-Trichloroethane	mg/kg	*< 0.00061 U*	*< 0.00091 U*	*< 0.0010 U*	*< 0.00078 U*	*< 0.00071 U*	*< 0.00069 U*	*< 0.00080 U*	*< 0.00061 U*	*< 0.0013 U*	*< 0.00082 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113	mg/kg	*< 0.0011 U*	*< 0.0017 U*	*< 0.0019 U*	*< 0.0015 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0024 U*	*< 0.0016 U*
1,2,3-Trichlorobenzene	mg/kg	*< 0.0010 U*	*< 0.0015 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.0010 U*	*< 0.0022 U*	*< 0.0014 U*
1,2,4-Trichlorobenzene	mg/kg	*< 0.0010 U*	0.0021 J	0.0046 J	*< 0.0013 U*	*< 0.0012 U*	*< 0.0012 U*	0.015	*< 0.0010 U*	*< 0.0022 U*	*< 0.0014 U*
1,1,2,2-Tetrachloroethane	mg/kg	*< 0.00094 U*	*< 0.0014 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0011 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.00095 U*	*< 0.0020 U*	*< 0.0013 U*
2-Butanone	mg/kg	0.0074 J	0.085	0.065	*< 0.011 U*	*< 0.0042 U*	*< 0.0082 U*	0.045	*< 0.0071 U*	0.037	0.027
2-Hexanone	mg/kg	*< 0.0010 U*	*< 0.0015 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0012 U*	*< 0.0012 U*	*< 0.0013 U*	*< 0.0010 U*	*< 0.0022 U*	*< 0.0014 U*
4-Methyl-2-pentanone	mg/kg	*< 0.0013 U*	*< 0.0019 U*	*< 0.0021 U*	*< 0.0016 U*	*< 0.0015 U*	*< 0.0014 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0027 U*	*< 0.0017 U*
Acetone	mg/kg	0.012 J	0.37	0.25	0.044	0.013 J	0.011 J	0.18	0.021 J	0.13	0.12
Benzene	mg/kg	*< 0.00036 U*	*< 0.00054 U*	*< 0.00059 U*	*< 0.00046 U*	*< 0.00042 U*	*< 0.00041 U*	*< 0.00047 U*	*< 0.00036 U*	*< 0.00076 U*	*< 0.00049 U*
Bromochloromethane	mg/kg	*< 0.0013 U*	*< 0.0019 U*	*< 0.0021 U*	*< 0.0017 U*	*< 0.0015 U*	*< 0.0015 U*	*< 0.0017 U*	*< 0.0013 U*	*< 0.0027 U*	*< 0.0018 U*
Bromodichloromethane	mg/kg	*< 0.00073 U*	0.0017 J	*< 0.0012 U*	*< 0.00094 U*	*< 0.00085 U*	*< 0.00083 U*	*< 0.0016 U*	*< 0.00074 U*	*< 0.0015 U*	*< 0.00099 U*
Bromoform	mg/kg	*< 0.0012 U*	0.011	0.0052 J	*< 0.0025 U*	*< 0.00069 U*	*< 0.00063 U*	*< 0.0039 U*	*< 0.00056 U*	*< 0.0012 U*	*< 0.00075 U*
Bromomethane	mg/kg	*< 0.0012 U*	*< 0.0018 U*	*< 0.0019 U*	*< 0.0015 U*	*< 0.0014 U*	*< 0.0014 U*	*< 0.0016 U*	*< 0.0012 U*	*< 0.0025 U*	*< 0.0016 U*
Carbon disulfide	mg/kg	*< 0.00068 U*	0.052	0.12	0.0011 J	*< 0.00079 U*	*< 0.00077 U*	0.024	*< 0.00068 U*	0.0038 J	0.17
Carbon tetrachloride	mg/kg	*< 0.00073 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.00094 U*	*< 0.00085 U*	*< 0.00083 U*	*< 0.00096 U*	*< 0.00074 U*	*< 0.0015 U*	*< 0.00099 U*
Chlorobenzene	mg/kg	*< 0.00040 U*	*< 0.00060 U*	*< 0.00066 U*	*< 0.00052 U*	*< 0.00047 U*	*< 0.00046 U*	*< 0.00052 U*	*< 0.00041 U*	*< 0.00084 U*	*< 0.00054 U*
Cyclohexane	mg/kg	*< 0.0036 U*	*< 0.0054 U*	*< 0.0060 U*	*< 0.0047 U*	*< 0.0042 U*	*< 0.0041 U*	*< 0.0048 U*	*< 0.0037 U*	*< 0.0077 U*	*< 0.0049 U*
Dibromochloromethane	mg/kg	*< 0.00029 U*	0.0055 J	0.0016 J	*< 0.00069 U*	*< 0.00034 U*	*< 0.00033 U*	*< 0.0026 U*	*< 0.00029 U*	*< 0.00061 U*	*< 0.00039 U*
Chloroethane	mg/kg	*< 0.00062 U*	*< 0.00093 U*	*< 0.0010 U*	*< 0.00080 U*	*< 0.00073 U*	*< 0.00071 U*	*< 0.00081 U*	*< 0.00063 U*	*< 0.0013 U*	*< 0.00084 U*
Chloroform	mg/kg	*< 0.00036 U*	0.0039 J	0.0011 J	*< 0.0057 U*	*< 0.00051 U*	*< 0.00061 U*	*< 0.0053 U*	*< 0.00036 U*	*< 0.00076 U*	*< 0.00049 U*
Chloromethane	mg/kg	*< 0.00069 U*	*< 0.0010 U*	*< 0.0011 U*	*< 0.00089 U*	*< 0.00081 U*	*< 0.00079 U*	*< 0.00090 U*	*< 0.00070 U*	*< 0.0015 U*	*< 0.00094 U*
Dichlorodifluoromethane (Freon-12)	mg/kg	*< 0.0012 U*	*< 0.0018 U*	*< 0.0020 U*	*< 0.0016 U*	*< 0.0014 U*	*< 0.0014 U*	*< 0.0016 U*	*< 0.0012 U*	*< 0.0026 U*	*< 0.0017 U*
Ethyl benzene	mg/kg	*< 0.00047 U*	*< 0.00070 U*	*< 0.00077 U*	*< 0.00060 U*	*< 0.00055 U*	*< 0.00054 U*	*< 0.00061 U*	*< 0.00047 U*	*< 0.00099 U*	*< 0.00064 U*
Isopropylbenzene	mg/kg	*< 0.00072 U*	*< 0.0011 U*	*< 0.0012 U*	*< 0.00093 U*	*< 0.00084 U*	*< 0.00082 U*	*< 0.00094 U*	*< 0.00073 U*	*< 0.0015 U*	*< 0.00097 U*
Methyl tertbutyl ether (MTBE)	mg/kg	*< 0.00083 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00097 U*	*< 0.00095 U*	*< 0.0011 U*	*< 0.00084 U*	*< 0.0017 U*	*< 0.0011 U*
Dichloromethane (Methylene chloride)	mg/kg	*< 0.0012 U*	*< 0.0017 U*	*< 0.0019 U*	*< 0.0015 U*	*< 0.0014 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0012 U*	*< 0.0024 U*	*< 0.0016 U*
Styrene	mg/kg	*< 0.00043 U*	*< 0.00064 U*	*< 0.00070 U*	*< 0.00055 U*	*< 0.00050 U*	*< 0.00049 U*	*< 0.00056 U*	*< 0.00043 U*	*< 0.00090 U*	*< 0.00058 U*
Tetrachloroethene	mg/kg	*< 0.00084 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00098 U*	*< 0.00096 U*	*< 0.0011 U*	*< 0.00085 U*	*< 0.0018 U*	*< 0.0011 U*
Toluene	mg/kg	*< 0.00084 U*	*< 0.0013 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00098 U*	*< 0.00096 U*	*< 0.0011 U*	*< 0.00085 U*	*< 0.0018 U*	0.0027 J
Trichloroethene	mg/kg	*< 0.00083 U*	*< 0.0012 U*	*< 0.0014 U*	*< 0.0011 U*	*< 0.00097 U*	*< 0.00095 U*	*< 0.0011 U*	*< 0.00084 U*	*< 0.0017 U*	*< 0.0011 U*
Trichlorofluoromethane (Freon-11)	mg/kg	*< 0.00047 U*	*< 0.00070 U*	*< 0.00077 U*	*< 0.00060 U*	*< 0.00055 U*	*< 0.00054 U*	*< 0.00061 U*	*< 0.00047 U*	*< 0.00099 U*	*< 0.00064 U*

Table 5-11
Phase 1A-B RI Analytical Results for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**7-08**	**7-09**	**7-10**	**7-11**	**7-12**	**7-13**	**7-14**	**7-15**	**7-16**	**7-17**
	Sample Date	**23-Sep-15**	**28-Sep-15**	**28-Sep-15**	**21-Sep-15**	**21-Sep-15**	**22-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**	**29-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-08-SS-01-092315**	**7-09-SS-01-092815**	**7-10-SS-01-092815**	**7-11-SS-01-092115**	**7-12-SS-01-092115**	**7-13-SS-01-092215**	**7-14-SS-01-092215**	**7-15-SS-01-092215**	**7-16-SS-01-092915**	**7-17-SS-01-092915**
Analyte	**Unit**										
Vinyl chloride	mg/kg	*< 0.00050 U*	*< 0.00074 U*	*< 0.00081 U*	*< 0.00064 U*	*< 0.00058 U*	*< 0.00057 U*	*< 0.00065 U*	*< 0.00050 U*	*< 0.0010 U*	*< 0.00067 U*
o-Xylene	mg/kg	*< 0.00046 U*	*< 0.00068 U*	*< 0.00075 U*	*< 0.00059 U*	*< 0.00053 U*	*< 0.00052 U*	*< 0.00060 U*	*< 0.00046 U*	*< 0.00096 U*	*< 0.00062 U*
m,p Xylenes	mg/kg	*< 0.0011 U*	*< 0.0017 U*	*< 0.0018 U*	*< 0.0014 U*	*< 0.0013 U*	*< 0.0013 U*	*< 0.0015 U*	*< 0.0011 U*	*< 0.0024 U*	*< 0.0015 U*
08-General Solids Parameters											
Perchlorate	mg/kg	*< 0.025 U*	*< 0.03 U*	*< 0.027 U*	*< 0.00023 U*	*< 0.00021 U*	*< 0.00023 U*	*< 0.00024 U*	*< 0.00020 U*	*< 0.044 U*	*< 0.073 U*
Total Organic Carbon	mg/kg	*< 1,700 U*	3,600 J	4,200	11,000	2,300 J	3,600 J	8,200	6,200	21,000	24,000
pH	pH units	7.55	6.56	6.61	7.01	7.04	6.69	6.62	7.59	7.28	6.96
Cyanide, Total	mg/kg	*< 0.26 U*	*< 0.31 U*	*< 0.28 U*	*< 0.31 U*	*< 0.30 U*	*< 0.31 U*	*< 0.33 U*	*< 0.27 U*	*< 0.46 U*	*< 0.37 U*
Percent finer than 0.25 millimeters	%	95.9	69.2	41.6	93.7	75.6	67.5	77.1	53	55.4	51.8

Notes:

% = percent
Empty cells = Not analyzed
ft = feet
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
VOC = Volatile organic compound
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:

J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Savannah, GA, TestAmerica - Denver, CO, Alpha Woods Hole Laboratories, TestAmerica - St. Louis, MO, GeoStrata.

Table 5-12
Phase 1A-B RI Prevalence Table for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2,3,7,8-TCDD	pg/g	19	7	120	0.51	20	30	2.7	0.059	66	7-04SB
1,2,3,7,8-PeCDD	pg/g	19	12	370	1.4	60	99	2.6	0.068	1.8	7-04SB
1,2,3,4,7,8-HxCDD	pg/g	19	11	460	0.18	68	110	2.8	0.059	7.8	7-04SB
1,2,3,6,7,8-HxCDD	pg/g	19	16	1,200	0.88	130	300	2.7	0.093	1.4	7-04SB
1,2,3,7,8,9-HxCDD	pg/g	19	17	1,300	0.099	140	340	2.6	0.84	1.2	7-04SB
1,2,3,4,6,7,8-HpCDD	pg/g	19	18	7,400	5.1	800	2,000	2.6	1.2	1.2	7-04SB
OCDD	pg/g	19	19	20,000	7.4	2,000	5,100	2.5			7-04SB
2,3,7,8-TCDF	pg/g	19	19	8,600	0.77	920	2,300	2.5			7-04SB
1,2,3,7,8-PeCDF	pg/g	19	19	26,000	1.1	2,700	7,000	2.6			7-04SB
2,3,4,7,8-PeCDF	pg/g	19	19	12,000	0.66	1,200	3,300	2.6			7-04SB
1,2,3,4,7,8-HxCDF	pg/g	19	19	78,000	2.8	8,300	22,000	2.6			7-04SB
1,2,3,6,7,8-HxCDF	pg/g	19	19	55,000	2.6	5,700	15,000	2.6			7-04SB
1,2,3,7,8,9-HxCDF	pg/g	19	18	10,000	6	1,000	2,600	2.7	0.29	0.29	7-04SB
2,3,4,6,7,8-HxCDF	pg/g	19	19	7,200	1	810	2,000	2.4			7-04SB
1,2,3,4,6,7,8-HpCDF	pg/g	19	19	380,000	16	37,000	97,000	2.6			7-04SB
1,2,3,4,7,8,9-HpCDF	pg/g	19	19	150,000	3.3	14,000	38,000	2.7			7-04SB
OCDF	pg/g	19	19	2,900,000	67	280,000	710,000	2.6			7-04SB
Calculated TEQ (ND=0), Mammalian	pg/g	19	19	27,000	1.2	2,800	7,300	2.6			7-04SB
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	19	19	27,000	1.3	2,800	7,300	2.6			7-04SB
Calculated TEQ (ND=0), Avian	pg/g	19	19	2,600,000	2.7	190,000	620,000	3.2			7-04SB
Calculated TEQ (ND=1/2 DL), Avian	pg/g	19	19	2,600,000	74	190,000	620,000	3.2			7-04SB
PCB-77	pg/g	19	10	971	5.5	140	230	1.5	1.3	420	7-04
PCB-81	pg/g	19	5	416	5.1	95	140	1.2	0.50	420	7-04
PCB-105	pg/g	19	11	1,360	8.1	310	400	1.5	5.9	420	7-01
PCB-107/123	pg/g	9	2	1,710	358	1,000	460	0.80	280	850	7-04
PCB-114	pg/g	19	9	1,940	6	320	450	2.1	0.83	240	7-04SB
PCB-118	pg/g	19	13	22,500	13	2,300	5,100	3.1	140	240	7-04SB
PCB-123	pg/g	10	4	30	1.8	15	10	0.88	1.5	27	7-05
PCB-126	pg/g	19	6	37	6.7	22	120	1.1	1.0	420	7-13
PCB-156	pg/g	9	3	4,490	457	2,000	1,400	1.8	140	240	7-04SB
PCB-157	pg/g	9	3	1,680	188	750	500	1.3	140	240	7-04SB
PCB-156/157	pg/g	10	10	200	5.2	65	71	1.1			7-13
PCB-167	pg/g	19	11	4,470	4.9	580	1,000	2.5	0.84	240	7-04SB
PCB-169	pg/g	19	2	262	11	140	120	1.2	0.30	420	7-04
PCB-189	pg/g	19	11	5,360	1.2	760	1,300	2.5	33	240	7-04SB
Monochlorobiphenyls	mg/kg	19	11	0.00272	0.000019	0.00036	0.00061	2.2	0.0000015	0.00024	7-04SB
Dichlorobiphenyls	mg/kg	19	12	0.0289	0.000025	0.0027	0.0066	3.7	0.0000074	0.00024	7-04SB
Trichlorobiphenyls	mg/kg	19	12	0.0362	0.00001	0.0037	0.0083	3.5	0.00014	0.00024	7-04SB
Tetrachlorobiphenyls	mg/kg	19	13	0.0592	0.000059	0.0072	0.014	2.8	0.00014	0.00024	7-04SB
Pentachlorobiphenyls	mg/kg	19	13	0.197	0.000083	0.020	0.045	3.3	0.00014	0.00024	7-04SB
Hexachlorobiphenyls	mg/kg	19	13	0.152	0.00011	0.016	0.035	3.1	0.00014	0.00024	7-04SB
Heptachlorobiphenyls	mg/kg	19	15	0.161	0.00015	0.016	0.038	3.0	0.00014	0.00024	7-04SB
Octachlorobiphenyls	mg/kg	19	17	0.258	0.000093	0.023	0.060	2.9	0.00021	0.00023	7-04SB
Nonachlorobiphenyls	mg/kg	19	19	0.553	0.00013	0.045	0.13	2.8			7-04SB

Table 5-12
Phase 1A-B RI Prevalence Table for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Decachlorobiphenyl (PCB-209)	mg/kg	19	19	10.4	0.00083	0.73	2.4	3.2			7-04SB
Total PCBs	mg/kg	19	19	11.8	0.0018	0.84	2.7	3.2			7-04SB
Total Aluminum	mg/kg	19	19	14,000	1,700	6,400	3,700	0.58			7-11
Total Antimony	mg/kg	19	18	1.5	0.18	0.58	0.37	0.68	0.096	0.096	7-04SB
Total Arsenic	mg/kg	19	19	34	5.7	16	7.9	0.48			7-04SB
Total Barium	mg/kg	19	19	480	120	220	79	0.37			7-04SB
Total Beryllium	mg/kg	19	19	0.58	0.089	0.28	0.16	0.56			7-11
Total Cadmium	mg/kg	19	18	0.24	0.056	0.16	0.056	0.37	0.053	0.053	7-117-14
Total Calcium	mg/kg	19	19	230,000	96,000	150,000	37,000	0.24			7-04
Total Chromium	mg/kg	19	19	64	3.3	23	19	0.83			7-017-09
Total Cobalt	mg/kg	19	19	5.3	1.4	3.1	1.3	0.43			7-11
Total Copper	mg/kg	19	19	16	3.9	10	4.0	0.40			7-127-14
Total Iron	mg/kg	19	19	39,000	2,400	15,000	11,000	0.74			7-04
Total Lead	mg/kg	19	19	14	3.5	9.0	3.2	0.35			7-01
Total Magnesium	mg/kg	19	19	44,000	10,000	27,000	8,900	0.33			7-07
Total Manganese	mg/kg	19	19	520	60	230	130	0.54			7-12
Total Mercury	mg/kg	19	18	0.11	0.014	0.040	0.029	0.74	0.010	0.010	7-01
Total Molybdenum	mg/kg	19	19	16	0.33	6.6	4.0	0.59			7-04SB
Total Nickel	mg/kg	19	19	20	3.6	9.5	4.2	0.44			7-04SB
Total Potassium	mg/kg	19	19	7,300	1000	3,400	1,500	0.44			7-09
Total Selenium	mg/kg	19	19	1.3	0.16	0.35	0.24	0.69			7-04SB
Total Silver	mg/kg	19	11	0.18	0.031	0.056	0.034	0.77	0.019	0.044	7-04SB
Total Sodium	mg/kg	19	19	33,000	2600	13,000	8,100	0.62			7-10
Total Thallium	mg/kg	19	18	0.21	0.037	0.11	0.046	0.45	0.053	0.053	7-11
Total Vanadium	mg/kg	19	19	40	6.8	22	9.5	0.43			7-04SB
Total Zinc	mg/kg	19	19	46	11	30	12	0.39			7-12
1,1'-Biphenyl	mg/kg	19	0				5.9	1.2	0.21	24	
1,2,4,5-Tetrachlorobenzene	mg/kg	19	0				0.93	1.2	0.032	3.8	
2,3,4,6-Tetrachlorophenol	mg/kg	19	0				2.9	1.2	0.10	12	
2,4,5-Trichlorophenol	mg/kg	19	0				3.0	1.2	0.10	12	
2,4,6-Trichlorophenol	mg/kg	19	0				0.16	1.2	0.0055	0.64	
2,2-Oxybis(1-chloropropane)	mg/kg	19	0				2.7	1.2	0.098	11	
2,4-Dichlorophenol	mg/kg	19	0				3.2	1.2	0.11	13	
2,4-Dimethylphenol	mg/kg	19	0				5.9	1.2	0.21	24	
2,4-Dinitrophenol	mg/kg	19	0				7.6	1.2	0.27	31	
2,4-Dinitrotoluene	mg/kg	19	0				3.2	1.2	0.11	13	
2,6-Dinitrotoluene	mg/kg	19	0				3.5	1.2	0.12	14	
2-Chloronaphthalene	mg/kg	19	0				2.9	1.2	0.10	12	
2-Chlorophenol	mg/kg	19	0				3.2	1.2	0.11	13	
2-Methylphenol	mg/kg	19	0				2.1	1.2	0.072	8.4	
2-Nitroaniline	mg/kg	19	0				3.0	1.2	0.10	12	
2-Nitrophenol	mg/kg	19	0				2.9	1.2	0.10	12	
3,3'-Dichlorobenzidine	mg/kg	19	0				3.4	1.2	0.12	14	

Table 5-12
Phase 1A-B RI Prevalence Table for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
3-Nitroaniline	mg/kg	19	0				5.9	1.2	0.21	24	
4,6-Dinitro-2-methylphenol	mg/kg	19	0				2.9	1.2	0.10	12	
4-Bromophenyl-phenylether	mg/kg	19	0				3.0	1.2	0.11	12	
4-Chloro-3-methylphenol	mg/kg	19	0				3.2	1.2	0.11	13	
4-Chloroaniline	mg/kg	19	0				2.1	1.2	0.072	8.4	
4-Chlorophenyl-phenylether	mg/kg	19	0				3.2	1.2	0.12	13	
3 & 4 Methylphenol	mg/kg	19	0				12	1.2	0.41	48	
4-Nitroaniline	mg/kg	19	0				3.2	1.2	0.11	13	
4-Nitrophenol	mg/kg	19	0				10	1.2	0.35	41	
Acetophenone	mg/kg	19	0				0.81	0.79	0.083	3.6	
Benzaldehyde	mg/kg	19	0				5.9	1.2	0.21	24	
Benzylbutylphthalate	mg/kg	19	0				3.4	1.2	0.12	14	
Bis(2-chloroethoxy)methane	mg/kg	19	0				3.2	1.2	0.11	13	
bis(2-Chloroethyl) ether	mg/kg	19	0				2.9	1.2	0.10	12	
Bis(2-ethylhexyl)phthalate	mg/kg	19	0				3.5	1.2	0.12	14	
Carbazole	mg/kg	19	0				3.4	1.2	0.12	14	
Dibenzofuran	mg/kg	19	0				3.0	1.2	0.11	12	
Diethyl phthalate	mg/kg	19	0				3.2	1.2	0.11	13	
Dimethylphthalate	mg/kg	19	0				3.2	1.2	0.11	13	
Di-n-butylphthalate	mg/kg	19	0				3.4	1.2	0.12	14	
Di-n-octylphthalate	mg/kg	19	0				3.4	1.2	0.12	14	
Hexachlorobenzene	mg/kg	19	16	260	0.021	23	62	3.2	0.0033	0.095	7-04SB
Hexachlorobutadiene	mg/kg	19	0				0.13	1.2	0.0046	0.54	
Hexachlorocyclopentadiene	mg/kg	19	0				2.2	1.2	0.077	9.0	
Hexachloroethane	mg/kg	19	0				2.9	1.2	0.10	12	
Isophorone	mg/kg	19	0				3.2	1.2	0.12	13	
Nitrobenzene	mg/kg	19	0				2.7	1.2	0.094	11	
N-Nitrosodimethylamine	mg/kg	19	0				3.4	1.2	0.12	14	
N-Nitroso-di-n-propylamine	mg/kg	19	0				3.0	1.2	0.10	12	
N-Nitrosodiphenylamine	mg/kg	19	0				3.0	1.2	0.11	12	
Pentachlorobenzene	mg/kg	19	2	7	5.6	6.3	1.9	2.1	0.016	0.92	7-04SB
Pentachlorophenol	mg/kg	19	0				0.86	1.2	0.030	3.5	
Phenol	mg/kg	19	0				3.0	1.2	0.10	12	
2-Methylnaphthalene	mg/kg	19	5	0.058	0.0018	0.018	0.013	1.5	0.00052	0.0069	7-04
Acenaphthene	mg/kg	19	2	0.0022	0.00099	0.0016	0.0026	0.47	0.00057	0.0089	7-17
Acenaphthylene	mg/kg	19	0				0.0019	0.50	0.00040	0.0062	
Anthracene	mg/kg	19	1	0.0027	0.0027	0.0027	0.0021	0.45	0.00048	0.0074	7-17
Benzo(a)anthracene	mg/kg	19	2	0.0033	0.00073	0.0020	0.0016	0.43	0.00037	0.0057	7-17
Benzo(a)pyrene	mg/kg	19	2	0.041	0.0011	0.021	0.0086	1.3	0.00048	0.0071	7-04SB
Benzo(b)fluoranthene	mg/kg	19	1	0.0024	0.0024	0.0024	0.0028	0.47	0.00061	0.0095	7-17
Benzo(g,h,i)perylene	mg/kg	19	0				0.0058	0.50	0.0012	0.019	
Benzo(k)fluoranthene	mg/kg	19	0				0.0044	0.50	0.00092	0.014	
Chrysene	mg/kg	19	3	0.0073	0.0009	0.0042	0.0019	0.43	0.00042	0.0062	7-04SB

Table 5-12
Phase 1A-B RI Prevalence Table for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Dibenzo(a,h)anthracene	mg/kg	19	0				0.0069	0.50	0.0015	0.023	
Fluoranthene	mg/kg	19	2	0.0028	0.00048	0.0016	0.0016	0.44	0.00036	0.0055	7-16
Fluorene	mg/kg	19	2	0.0023	0.0013	0.0018	0.0027	0.46	0.00059	0.0092	7-17
Indeno(1,2,3-cd)pyrene	mg/kg	19	0				0.0028	0.50	0.00058	0.0090	
Naphthalene	mg/kg	19	2	0.0023	0.00075	0.0015	0.0020	0.51	0.00037	0.0089	7-17
Phenanthrene	mg/kg	19	3	0.02	0.00056	0.0086	0.011	1.4	0.00042	0.050	7-17
Pyrene	mg/kg	19	2	0.015	0.002	0.0085	0.0030	0.61	0.00042	0.0066	7-17
1,4-Dioxane	mg/kg	19	0				0.018	0.25	0.051	0.11	
1,1-Dichloroethane	mg/kg	19	1	0.00092	0.00092	0.00092	0.00016	0.28	0.00038	0.00084	7-04
1,1-Dichloroethene	mg/kg	19	0				0.00012	0.25	0.00034	0.00076	
1,2-Dibromo-3-chloropropane	mg/kg	19	0				0.00041	0.25	0.0012	0.0026	
1,2-Dibromoethane	mg/kg	19	0				0.00012	0.25	0.00035	0.00079	
1,2-Dichlorobenzene	mg/kg	19	0				0.00030	0.26	0.00084	0.0019	
1,2-Dichloroethane	mg/kg	19	0				0.00033	0.24	0.00096	0.0021	
cis-1,2-Dichloroethene	mg/kg	19	0				0.00042	0.25	0.0012	0.0026	
trans-1,2-Dichloroethene	mg/kg	19	0				0.00018	0.25	0.00050	0.0011	
1,2-Dichloropropane	mg/kg	19	0				0.00028	0.25	0.00079	0.0017	
1,3-Dichlorobenzene	mg/kg	19	4	0.0041	0.00077	0.0020	0.00088	1.0	0.00039	0.00087	7-02
cis-1,3-Dichloropropene	mg/kg	19	0				0.00030	0.26	0.00084	0.0019	
trans-1,3-Dichloropropene	mg/kg	19	0				0.00035	0.25	0.00099	0.0022	
1,4-Dichlorobenzene	mg/kg	19	0				0.00037	0.26	0.0010	0.0023	
1,1,1-Trichloroethane	mg/kg	19	0				0.00016	0.24	0.00047	0.0010	
1,1,2-Trichloroethane	mg/kg	19	0				0.00020	0.25	0.00058	0.0013	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	19	0				0.00038	0.25	0.0011	0.0024	
1,2,3-Trichlorobenzene	mg/kg	19	0				0.00035	0.25	0.00099	0.0022	
1,2,4-Trichlorobenzene	mg/kg	19	7	0.1	0.002	0.019	0.023	2.9	0.00099	0.0022	7-02
1,1,2,2-Tetrachloroethane	mg/kg	19	0				0.00032	0.25	0.00089	0.0020	
2-Butanone	mg/kg	19	13	0.085	0.0034	0.034	0.023	0.88	0.0039	0.011	7-09
2-Hexanone	mg/kg	19	0				0.00035	0.26	0.00097	0.0022	
4-Methyl-2-pentanone	mg/kg	19	1	0.0035	0.0035	0.0035	0.00060	0.34	0.0012	0.0027	7-07
Acetone	mg/kg	19	16	0.37	0.011	0.12	0.096	0.95	0.0024	0.031	7-09
Benzene	mg/kg	19	0				0.00012	0.25	0.00034	0.00076	
Bromochloromethane	mg/kg	19	0				0.00042	0.24	0.0012	0.0027	
Bromodichloromethane	mg/kg	19	2	0.0076	0.0017	0.0047	0.0015	1.1	0.00070	0.0016	7-05
Bromoform	mg/kg	19	5	0.018	0.0019	0.0081	0.0044	1.4	0.00053	0.0044	7-05
Bromomethane	mg/kg	19	0				0.00040	0.25	0.0011	0.0025	
Carbon disulfide	mg/kg	19	12	0.17	0.0011	0.033	0.046	2.2	0.00068	0.0020	7-17
Carbon tetrachloride	mg/kg	19	0				0.00024	0.25	0.00070	0.0015	
Chlorobenzene	mg/kg	19	0				0.00013	0.25	0.00038	0.00084	
Cyclohexane	mg/kg	19	0				0.0012	0.25	0.0035	0.0077	
Dibromochloromethane	mg/kg	19	5	0.015	0.001	0.0049	0.0034	2.0	0.00028	0.0026	7-05
Chloroethane	mg/kg	19	0				0.00021	0.25	0.00059	0.0013	
Chloroform	mg/kg	19	7	0.016	0.0011	0.0072	0.0050	1.4	0.00036	0.0057	7-04SB7-05

Table 5-12
Phase 1A-B RI Prevalence Table for PRI Area 7
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Chloromethane	mg/kg	19	0				0.00023	0.25	0.00066	0.0015	
Dichlorodifluoromethane (Freon-12)	mg/kg	19	0				0.00042	0.25	0.0012	0.0026	
Ethyl benzene	mg/kg	19	0				0.00016	0.25	0.00045	0.00099	
Isopropylbenzene	mg/kg	19	0				0.00024	0.25	0.00068	0.0015	
Methyl tertbutyl ether (MTBE)	mg/kg	19	0				0.00028	0.25	0.00079	0.0017	
Dichloromethane (Methylene chloride)	mg/kg	19	0				0.00038	0.24	0.0011	0.0024	
Styrene	mg/kg	19	0				0.00014	0.25	0.00041	0.00090	
Tetrachloroethene	mg/kg	19	2	0.0028	0.0022	0.0025	0.00052	0.42	0.00080	0.0018	7-04
Toluene	mg/kg	19	1	0.0027	0.0027	0.0027	0.00046	0.38	0.00080	0.0018	7-17
Trichloroethene	mg/kg	19	0				0.00028	0.25	0.00079	0.0017	
Trichlorofluoromethane (Freon-11)	mg/kg	19	0				0.00016	0.25	0.00045	0.00099	
Vinyl chloride	mg/kg	19	0				0.00016	0.24	0.00047	0.0010	
o-Xylene	mg/kg	19	3	0.0017	0.00095	0.0012	0.00030	0.44	0.00043	0.00096	7-04
m,p Xylenes	mg/kg	19	2	0.0032	0.0021	0.0027	0.00055	0.34	0.0011	0.0024	7-02
Perchlorate	mg/kg	19	0				0.023	0.93	0.00020	0.073	
Total Organic Carbon	mg/kg	19	14	24,000	2,300	7,600	6,300	0.99	1,700	3,700	7-17
pH	pH units	19	19	7.59	6.51	6.9	0.32	0.046			7-15
Cyanide, Total	mg/kg	19	0				0.051	0.16	0.26	0.46	
Percent finer than 0.25 millimeters	%	19	19	96.9	33.3	72	19	0.27			7-05

Notes:

% = percent
Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-3**	**PRI-3**	**PRI-3**
	Location ID	**1-02**	**1-04**	**1-13**	**1-14**	**3-02**	**3-12**	**3-14**
	Sample Date	**19-Nov-15**	**24-Nov-15**	**23-Nov-15**	**19-Nov-15**	**16-Nov-15**	**19-Nov-15**	**17-Nov-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-02-SS-01-111915 FINES**	**1-04-SS-01-112415 FINES**	**1-13-SS-01-112315 FINES**	**1-14-SS-01-111915 FINES**	**3-02-SS-01-111615 FINES**	**3-12-SS-01-111915 FINES**	**3-14-SS-01-111715 FINES**
Analyte	**Unit**							
01-Dioxins and Furans								
2,3,7,8-TCDD	pg/g	*< 4.2 UQ*	220	*< 0.13 U*	40	12	0.44 J	17
1,2,3,7,8-PeCDD	pg/g	22	1,400	0.55 J	180	44 J	1.8 J	93
1,2,3,4,7,8-HxCDD	pg/g	28	1,800	0.50 J	*< 190 UQ*	59	1.5 J	150
1,2,3,6,7,8-HxCDD	pg/g	54	6,100	1.5 J	590	180	4.3 J	430
1,2,3,7,8,9-HxCDD	pg/g	35	7,500	*< 1.6 UQ*	640	160	4.6 J	390
1,2,3,4,6,7,8-HpCDD	pg/g	270	44,000	8.5	3,800	1,700	27	3,400
OCDD	pg/g	920	120,000	27	11,000	20,000	100	21,000
2,3,7,8-TCDF	pg/g	750	17,000	10 J-	4,300	820	27 J-	1,400
1,2,3,7,8-PeCDF	pg/g	450	130,000	33	15,000	2,200	66	5,100
2,3,4,7,8-PeCDF	pg/g	190	52,000	17	9,200	1,000	35	2,500
1,2,3,4,7,8-HxCDF	pg/g	560	360,000	100	42,000	7,300	180	18,000
1,2,3,6,7,8-HxCDF	pg/g	260	280,000	72	32,000	5,500	140	14,000
1,2,3,7,8,9-HxCDF	pg/g	43	39,000	8.4	5,300	660	17	2,300
2,3,4,6,7,8-HxCDF	pg/g	62	47,000	17	7,900	2,100	39	3,700
1,2,3,4,6,7,8-HpCDF	pg/g	2,600 J	1,800,000 J	510	240,000	78,000	1,200	130,000
1,2,3,4,7,8,9-HpCDF	pg/g	770	740,000	200	82,000	15,000	330	31,000
OCDF	pg/g	56,000	9,900,000 J	3,200	1,700,000	1,400,000	8,800	1,600,000
Calculated TEQ (ND=0), Mammalian	pg/g	330	130,000	37	17,000	3,500	74	7,200
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	340	130,000	37	17,000	3,500	75	7,200
Calculated TEQ (ND=0), Avian	pg/g	28,000	22,000,000	630	2,300,000	43,000	1,600	110,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	28,000	22,000,000	630	2,300,000	43,000	1,600	110,000
02-PCBs								
PCB-77	pg/g	*< 203 UJ*	*< 3,960 U*	11	7,100	1,200	38	1,600
PCB-81	pg/g	*< 203 UJ*	*< 3,960 U*	4.4 J	3,500	*< 100 U*	7.4 J	*< 190 U*
PCB-105	pg/g	964 J	21,200	16	15,000	7,300	130	9,600
PCB-107/123	pg/g	*< 407 UJ*	*< 7,920 U*					
PCB-114	pg/g	*< 203 UJ*	*< 3,960 U*	*< 2.9 U*	6,500	*< 410 U*	*< 12 U*	790
PCB-118	pg/g	*< 203 UJ*	22,900	16	23,000	18,000	200	26,000
PCB-123	pg/g			*< 2.9 U*	4,800	*< 400 U*	14 J	890
PCB-126	pg/g	*< 203 UJ*	*< 3,960 U*	*< 3.6 U*	4,500	530	*< 16 U*	*< 840 U*
PCB-156	pg/g	642 J	20,700					
PCB-157	pg/g	*< 203 UJ*	7,800 J					
PCB-156/157	pg/g			28	20,000	4,100	85	5,800
PCB-167	pg/g	358 J	27,200	21	16,000	1,700	48	2,900
PCB-169	pg/g	*< 203 UJ*	*< 3,960 U*	32	2,200	*< 170 U*	*< 6.0 U*	*< 380 U*
PCB-189	pg/g	*< 203 UJ*	27,900	41	23,000	1,500	50	3,200

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-3**	**PRI-3**	**PRI-3**
	Location ID	**1-02**	**1-04**	**1-13**	**1-14**	**3-02**	**3-12**	**3-14**
	Sample Date	**19-Nov-15**	**24-Nov-15**	**23-Nov-15**	**19-Nov-15**	**16-Nov-15**	**19-Nov-15**	**17-Nov-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-02-SS-01-111915 FINES**	**1-04-SS-01-112415 FINES**	**1-13-SS-01-112315 FINES**	**1-14-SS-01-111915 FINES**	**3-02-SS-01-111615 FINES**	**3-12-SS-01-111915 FINES**	**3-14-SS-01-111715 FINES**
Analyte	**Unit**							
Monochlorobiphenyls, Total	mg/kg	*< 0.000203 UJ*	*< 0.00396 U*	*< 0.0000050 U*	0.0011	0.00021	0.0000073 J	0.00029
Dichlorobiphenyls, Total	mg/kg	0.00295 J	0.00959	0.000089	0.02	0.002	*< 0.00001 U*	0.0023
Trichlorobiphenyls, Total	mg/kg	0.00736 J	0.0705	0.000028	0.073	0.006	0.000058	0.012
Tetrachlorobiphenyls, Total	mg/kg	0.00984 J	0.0871	0.000085	0.15	0.047	0.00047	0.074
Pentachlorobiphenyls, Total	mg/kg	0.00865 J	0.171	0.00012	0.27	0.11	0.0015	0.14
Hexachlorobiphenyls, Total	mg/kg	0.0196 J	0.551	0.00032	0.34	0.11	0.0017	0.13
Heptachlorobiphenyls, Total	mg/kg	0.0135 J	0.927	0.00044	0.57	0.077	0.0016	0.14
Octachlorobiphenyls, Total	mg/kg	0.00764 J	1.72	0.00067	0.9	0.087	0.0028	0.18
Nonachlorobiphenyls, Total	mg/kg	0.0122 J	4.34	0.0017	1.8	0.23	0.0075	0.43
Decachlorobiphenyl (PCB-209)	mg/kg	0.714 J	58.2	0.015	5.5 J	4.2 J	0.046	5.5 J
Total PCBs	mg/kg	0.796 J	66.1	0.018	9.6	4.9	0.062	6.6
03-Metals								
Total Aluminum	mg/kg	7,000	2,200	6,500	4,000	12,000	4,100	9,600
Total Antimony	mg/kg	1.1 J-	18 J-	0.13 J-	0.62 J-	1.7 J-	0.15 J-	4.1 J-
Total Arsenic	mg/kg	9.8	96	3.9	13	10	4.4	15
Total Barium	mg/kg	160	980	90	320	490	89	330
Total Beryllium	mg/kg	0.46	0.40	0.24	0.17	0.81	0.16	1.0
Total Cadmium	mg/kg	0.35	0.053 J	0.067 J	0.10	2.8	0.15	2.6
Total Calcium	mg/kg	65,000	12,000	60,000	160,000	18,000	110,000	29,000
Total Chromium	mg/kg	31	21	7.5	30	93	5.7	160
Total Cobalt	mg/kg	4.0	4.7	2.1	1.9	4.8	1.6	3.8
Total Copper	mg/kg	96 J	22 J	37 J	36 J	410 J	15 J	670 J
Total Iron	mg/kg	23,000	90,000	5,000	28,000	41,000	4,600	38,000
Total Lead	mg/kg	54	5.9 J+	4.1 J+	13 J+	81	3.9 J+	98
Total Magnesium	mg/kg	23,000	11,000	13,000	16,000	13,000	13,000	11,000
Total Manganese	mg/kg	200	43	130	93	120	130	120
Total Mercury	mg/kg	0.039	0.024 J	*< 0.0087 U*	0.12	5.0	*< 0.0075 U*	6.4
Total Molybdenum	mg/kg	9.2	44	0.59	6.1	6.5	0.64	10
Total Nickel	mg/kg	19	27	4.6	8.6	42	4.8	50
Total Potassium	mg/kg	1,700	530	2,200	1,900	3,300	1,300	2,100
Total Selenium	mg/kg	0.25 J-	0.41 J-	0.14 J-	0.23 J-	2.1 J-	0.17 J-	3.2 J-
Total Silver	mg/kg	0.10	0.062 J	*< 0.031 U*	0.063 J	16	0.24	13
Total Sodium	mg/kg	1,200	380	1,800	3,500	3,000	1,800	2,900
Total Thallium	mg/kg	0.096 J	0.079 J	0.072 J	*< 0.049 U*	0.14	0.087 J	0.13
Total Vanadium	mg/kg	21	51	12	38	30	12	39
Total Zinc	mg/kg	94 J	24 J	20 J	38 J	1,600 J	21 J	1,100 J
05-SVOCs								
1,1'-Biphenyl	mg/kg	*< 1.7 U*	*< 80 U*	*< 1.7 U*	*< 8.3 U*	*< 7.5 U*	*< 1.6 U*	*< 3.3 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-3**	**PRI-3**	**PRI-3**
	Location ID	**1-02**	**1-04**	**1-13**	**1-14**	**3-02**	**3-12**	**3-14**
	Sample Date	**19-Nov-15**	**24-Nov-15**	**23-Nov-15**	**19-Nov-15**	**16-Nov-15**	**19-Nov-15**	**17-Nov-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-02-SS-01-111915 FINES**	**1-04-SS-01-112415 FINES**	**1-13-SS-01-112315 FINES**	**1-14-SS-01-111915 FINES**	**3-02-SS-01-111615 FINES**	**3-12-SS-01-111915 FINES**	**3-14-SS-01-111715 FINES**
Analyte	**Unit**							
1,2,4,5-Tetrachlorobenzene	mg/kg	< 0.26 U	< 13 U	< 0.26 U	< 1.3 U	< 1.2 U	< 0.26 U	< 0.53 U
2,3,4,6-Tetrachlorophenol	mg/kg	< 0.83 U	< 40 U	< 0.83 U	< 4.1 U	< 3.7 U	< 0.81 U	< 1.7 U
2,4,5-Trichlorophenol	mg/kg	< 0.84 U	< 40 U	< 0.84 U	< 4.2 U	< 3.8 U	< 0.82 U	< 1.7 U
2,4,6-Trichlorophenol	mg/kg	< 0.044 U	< 0.43 U	< 0.045 U	< 0.22 U	< 0.2 U	< 0.043 U	< 0.089 U
2,2-Oxybis(1-chloropropane)	mg/kg	< 0.8 U	< 38 U	< 0.8 U	< 4 U	< 3.6 U	< 0.78 U	< 1.6 U
2,4-Dichlorophenol	mg/kg	< 0.9 U	< 43 U	< 0.9 U	< 4.5 U	< 4 U	< 0.88 U	< 1.8 U
2,4-Dimethylphenol	mg/kg	< 1.7 U	< 81 U	< 1.7 U	< 8.4 U	< 7.6 U	< 1.6 U	< 3.4 U
2,4-Dinitrophenol	mg/kg	< 2.2 U	< 100 U	< 2.2 U	< 11 U	< 9.7 U	< 2.1 U	< 4.3 U
2,4-Dinitrotoluene	mg/kg	< 0.9 U	< 43 U	< 0.9 U	< 4.5 U	< 4 U	< 0.88 U	< 1.8 U
2,6-Dinitrotoluene	mg/kg	< 1 U	< 48 U	< 1 U	< 5 U	< 4.5 U	< 0.98 U	< 2 U
2-Chloronaphthalene	mg/kg	< 0.82 U	< 39 U	< 0.82 U	< 4.1 U	< 3.7 U	< 0.8 U	< 1.6 U
2-Chlorophenol	mg/kg	< 0.89 U	< 43 U	< 0.89 U	< 4.4 U	< 4 U	< 0.87 U	< 1.8 U
2-Methylphenol	mg/kg	< 0.59 U	< 28 U	< 0.59 U	< 2.9 U	< 2.6 U	< 0.57 U	< 1.2 U
2-Nitroaniline	mg/kg	< 0.85 U	< 41 U	< 0.85 U	< 4.2 U	< 3.8 U	< 0.83 U	< 1.7 U
2-Nitrophenol	mg/kg	< 0.83 U	< 40 U	< 0.83 U	< 4.1 U	< 3.7 U	< 0.81 U	< 1.7 U
3,3'-Dichlorobenzidine	mg/kg	< 0.95 U	< 45 U	< 0.96 U	< 4.7 U	< 4.3 U	< 0.93 U	< 1.9 U
3-Nitroaniline	mg/kg	< 1.7 U	< 81 U	< 1.7 U	< 8.4 U	< 7.6 U	< 1.6 U	< 3.4 U
4,6-Dinitro-2-methylphenol	mg/kg	< 0.82 U	< 39 U	< 0.82 U	< 4.1 U	< 3.7 U	< 0.8 U	< 1.6 U
4-Bromophenyl-phenylether	mg/kg	< 0.86 U	< 41 U	< 0.86 U	< 4.3 U	< 3.9 U	< 0.84 U	< 1.7 U
4-Chloro-3-methylphenol	mg/kg	< 0.93 U	< 45 U	< 0.93 U	< 4.6 U	< 4.2 U	< 0.91 U	< 1.9 U
4-Chloroaniline	mg/kg	< 0.59 U	< 28 U	< 0.59 U	< 2.9 U	< 2.6 U	< 0.57 U	< 1.2 U
4-Chlorophenyl-phenylether	mg/kg	< 0.94 U	< 45 U	< 0.95 U	< 4.7 U	< 4.2 U	< 0.92 U	< 1.9 U
3 & 4 Methylphenol	mg/kg	< 3.3 U	< 160 U	< 3.4 U	< 17 U	< 15 U	< 3.3 U	< 6.7 U
4-Nitroaniline	mg/kg	< 0.89 U	< 43 U	< 0.89 U	< 4.4 U	< 4 U	< 0.87 U	< 1.8 U
4-Nitrophenol	mg/kg	< 2.8 U	< 140 U	< 2.8 U	< 14 U	< 13 U	< 2.8 U	< 5.7 U
Acetophenone	mg/kg	< 0.25 U	< 12 UJ	< 0.25 U	< 1.3 U	< 1.1 U	< 0.25 U	< 0.51 U
Benzaldehyde	mg/kg	< 1.7 U	< 80 U	< 1.7 U	< 8.3 U	< 7.5 U	< 1.6 U	< 3.3 U
Benzylbutylphthalate	mg/kg	< 0.96 U	< 46 U	< 0.97 U	< 4.8 U	< 4.3 U	< 0.94 U	< 1.9 U
Bis(2-chloroethoxy)methane	mg/kg	< 0.89 U	< 43 U	< 0.89 U	< 4.4 U	< 4 U	< 0.87 U	< 1.8 U
bis(2-Chloroethyl) ether	mg/kg	< 0.82 U	< 39 U	< 0.82 U	< 4.1 U	< 3.7 U	< 0.8 U	< 1.6 U
Bis(2-ethylhexyl)phthalate	mg/kg	1 J	< 47 U	< 1 U	< 4.9 U	< 6.4 U	< 0.97 U	30
Carbazole	mg/kg	< 0.96 U	< 46 U	< 0.97 U	< 4.8 U	< 4.3 U	< 0.94 U	< 1.9 U
Dibenzofuran	mg/kg	< 0.87 U	< 42 U	< 0.87 U	< 4.3 U	< 3.9 U	< 0.85 U	< 1.7 U
Diethyl phthalate	mg/kg	< 0.91 U	< 44 U	< 0.91 U	< 4.5 U	< 4.1 U	< 0.89 U	< 1.8 U
Dimethylphthalate	mg/kg	< 0.88 U	< 42 U	< 0.88 U	< 4.4 U	< 3.9 U	< 0.86 U	< 1.8 U
Di-n-butylphthalate	mg/kg	< 0.98 U	< 47 U	< 0.99 U	< 4.9 U	< 4.4 U	< 0.96 U	< 2 U
Di-n-octylphthalate	mg/kg	< 0.98 U	< 47 U	< 0.99 U	< 4.9 U	< 4.4 U	< 0.96 U	< 2 U
Hexachlorobenzene	mg/kg	2.7	2,200	0.057 J	230	3.8	0.15 J	10
Hexachlorobutadiene	mg/kg	< 0.037 U	0.4 J	< 0.038 U	< 0.19 U	< 0.17 U	< 0.036 U	< 0.075 U
Hexachlorocyclopentadiene	mg/kg	< 0.63 U	< 30 U	< 0.63 U	< 3.1 U	< 2.8 U	< 0.61 U	< 1.3 U

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-3**	**PRI-3**	**PRI-3**
	Location ID	**1-02**	**1-04**	**1-13**	**1-14**	**3-02**	**3-12**	**3-14**
	Sample Date	**19-Nov-15**	**24-Nov-15**	**23-Nov-15**	**19-Nov-15**	**16-Nov-15**	**19-Nov-15**	**17-Nov-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-02-SS-01-111915 FINES**	**1-04-SS-01-112415 FINES**	**1-13-SS-01-112315 FINES**	**1-14-SS-01-111915 FINES**	**3-02-SS-01-111615 FINES**	**3-12-SS-01-111915 FINES**	**3-14-SS-01-111715 FINES**
Analyte	**Unit**							
Hexachloroethane	mg/kg	*< 0.82 U*	*< 39 U*	*< 0.82 U*	*< 4.1 U*	*< 3.7 U*	*< 0.8 U*	*< 1.6 U*
Isophorone	mg/kg	*< 0.94 U*	*< 45 U*	*< 0.95 U*	*< 4.7 U*	*< 4.2 U*	*< 0.92 U*	*< 1.9 U*
Nitrobenzene	mg/kg	*< 0.77 U*	*< 37 U*	*< 0.77 U*	*< 3.8 U*	*< 3.4 U*	*< 0.75 U*	*< 1.5 U*
N-Nitrosodimethylamine	mg/kg	*< 0.97 U*	*< 9.3 U*	*< 0.98 U*	*< 4.8 U*	*< 4.4 U*	*< 0.95 U*	*< 1.9 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 0.85 U*	*< 41 U*	*< 0.85 U*	*< 4.2 U*	*< 3.8 U*	*< 0.83 U*	*< 1.7 U*
N-Nitrosodiphenylamine	mg/kg	*< 0.87 U*	*< 42 U*	*< 0.87 U*	*< 4.3 U*	*< 3.9 U*	*< 0.85 U*	*< 1.7 U*
Pentachlorobenzene	mg/kg	*< 0.13 UJ*	79 J	*< 0.13 UJ*	17 J-	*< 0.59 UJ*	*< 0.13 UJ*	0.53 J-
Pentachlorophenol	mg/kg	0.24 J	4.8 J	*< 0.24 U*	*< 1.2 U*	*< 1.1 U*	*< 0.24 U*	*< 0.49 U*
Phenol	mg/kg	*< 0.84 U*	*< 40 U*	*< 0.84 U*	*< 4.2 U*	*< 3.8 U*	*< 0.82 U*	*< 1.7 U*
06-PAHs								
2-Methylnaphthalene	mg/kg	*< 0.022 U*	*< 0.061 U*	*< 0.00043 U*	*< 0.011 U*	*< 0.0068 U*	*< 0.00095 U*	*< 0.014 U*
Acenaphthene	mg/kg	0.012 J	*< 0.024 U*	*< 0.00043 U*	*< 0.0049 U*	*< 0.0050 U*	*< 0.00045 U*	0.0063 J
Acenaphthylene	mg/kg	*< 0.0063 U*	*< 0.017 U*	*< 0.00030 U*	*< 0.0035 U*	*< 0.0035 U*	*< 0.00032 U*	*< 0.0036 U*
Anthracene	mg/kg	0.017 J	*< 0.02 U*	*< 0.00036 U*	*< 0.0042 U*	0.0051 J	*< 0.00038 U*	0.0095 J
Benzo(a)anthracene	mg/kg	0.021 J	0.031 J	*< 0.00028 U*	*< 0.0032 U*	0.035 J	0.00056 J	0.073
Benzo(a)pyrene	mg/kg	0.021 J	0.46	*< 0.00037 U*	0.12	0.074	0.00057 J	0.12
Benzo(b)fluoranthene	mg/kg	0.035 J	0.033 J	*< 0.00046 U*	*< 0.0053 U*	0.074	*< 0.00048 U*	0.13
Benzo(g,h,i)perylene	mg/kg	0.024 J	*< 0.051 U*	*< 0.00091 U*	*< 0.011 U*	0.054	*< 0.00096 U*	0.098
Benzo(k)fluoranthene	mg/kg	*< 0.015 U*	*< 0.039 U*	*< 0.00070 U*	*< 0.0080 U*	0.019 J	*< 0.00073 U*	0.04 J
Chrysene	mg/kg	0.036 J	0.075 J	*< 0.00032 U*	0.0085 J	0.063	0.0013 J	0.14
Dibenzo(a,h)anthracene	mg/kg	*< 0.023 U*	*< 0.061 U*	*< 0.0011 U*	*< 0.013 U*	*< 0.013 U*	*< 0.0012 U*	0.029 J
Fluoranthene	mg/kg	0.069 J	0.097 J	0.00029 J	0.01 J	0.048 J	0.00062 J	0.098
Fluorene	mg/kg	0.062 J	*< 0.025 U*	*< 0.00045 U*	*< 0.0052 U*	*< 0.0052 U*	*< 0.00047 U*	*< 0.0058 U*
Indeno(1,2,3-cd)pyrene	mg/kg	0.015 J	0.026 J	*< 0.00044 U*	0.012 J	0.04 J	*< 0.00046 U*	0.07
Naphthalene	mg/kg	*< 0.0059 U*	*< 0.023 U*	*< 0.00034 U*	*< 0.0044 U*	*< 0.0040 U*	*< 0.00074 U*	*< 0.0090 U*
Phenanthrene	mg/kg	0.15	*< 0.065 U*	*< 0.00073 U*	*< 0.0085 U*	*< 0.029 U*	*< 0.0012 U*	*< 0.068 U*
Pyrene	mg/kg	0.092 J	0.06 J	*< 0.00032 U*	0.01 J	0.062	0.00067 J	0.12

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-3**	**PRI-3**	**PRI-3**
	Location ID	**1-02**	**1-04**	**1-13**	**1-14**	**3-02**	**3-12**	**3-14**
	Sample Date	**19-Nov-15**	**24-Nov-15**	**23-Nov-15**	**19-Nov-15**	**16-Nov-15**	**19-Nov-15**	**17-Nov-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-02-SS-01-111915 FINES**	**1-04-SS-01-112415 FINES**	**1-13-SS-01-112315 FINES**	**1-14-SS-01-111915 FINES**	**3-02-SS-01-111615 FINES**	**3-12-SS-01-111915 FINES**	**3-14-SS-01-111715 FINES**
Analyte	**Unit**							
08-General Solids Parameters								
Total Organic Carbon	mg/kg	8,100	100,000	< *1,700 U*	34,000	140,000	9,200	230,000

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**
	Location ID	**5-03**	**5-05**	**5-08**	**5-09**	**5-10**	**5-15**	**5-16**
	Sample Date	**25-Sep-15**	**25-Sep-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-03-SS-01-092515 FINES**	**5-05-SS-01-092515 FINES**	**5-08-SS-01-102715 FINES**	**5-09-SS-01-091715 FINES**	**5-10-SS-01-101515 FINES**	**5-15-SS-01-091715 FINES**	**5-16-SS-01-101515 FINES**
Analyte	**Unit**							
01-Dioxins and Furans								
2,3,7,8-TCDD	pg/g	*< 0.031 U*	*< 0.024 U*	2.6 J	*< 0.022 U*	0.53 J	*< 0.041 U*	1.9
1,2,3,7,8-PeCDD	pg/g	*< 0.049 U*	*< 0.044 U*	9.9 J	0.087 J	2.1 J	*< 0.080 UQ*	9.0
1,2,3,4,7,8-HxCDD	pg/g	*< 0.17 U*	*< 0.071 U*	*< 10 U*	0.12 J	2.9 J	*< 0.10 UQ*	12
1,2,3,6,7,8-HxCDD	pg/g	*< 0.17 U*	*< 0.069 U*	34 J	0.33 J	7.3	*< 0.27 UQ*	41
1,2,3,7,8,9-HxCDD	pg/g	*< 0.14 U*	*< 0.060 U*	44 J	0.42 J	7.3	0.40 J	48
1,2,3,4,6,7,8-HpCDD	pg/g	1.4 J	*< 0.86 UQ*	240	4.4 J	42	2.2 J	270
OCDD	pg/g	5.7 J	3.2 J	760	19	110	8.4 J	670
2,3,7,8-TCDF	pg/g	2.7	1.1	350	2.4	46	3.7	360
1,2,3,7,8-PeCDF	pg/g	3.9 J	1.8 J	640	4.4 J	160	5.1	700
2,3,4,7,8-PeCDF	pg/g	2.0 J	1.0 J	260	2.3 J	77	2.3 J	350
1,2,3,4,7,8-HxCDF	pg/g	11	4.3 J	1,700	16	470	16	2,300
1,2,3,6,7,8-HxCDF	pg/g	11	3.6 J	1,500	13	320	14	1,700
1,2,3,7,8,9-HxCDF	pg/g	*< 0.79 U*	*< 0.45 U*	270	1.0 J	43	*< 0.93 UQ*	220
2,3,4,6,7,8-HxCDF	pg/g	3.6 J	1.0 J	250	4.4 J	77	3.9 J	380
1,2,3,4,6,7,8-HpCDF	pg/g	120	29	15,000	170	2,200	150	15,000 J
1,2,3,4,7,8,9-HpCDF	pg/g	17	7.2	4,500	26	810	29	3,300 J
OCDF	pg/g	520	150	140,000	900	12,000	860	120,000
Calculated TEQ (ND=0), Mammalian	pg/g	5.1	1.8	760	7.0	160	6.7	870
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	5.2	1.9	780	7.0	160	6.9	870
Calculated TEQ (ND=0), Avian	pg/g	9.1	3.6	71,000	250	1,400	520	22,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	110	120	71,000	250	1,400	520	22,000
02-PCBs								
PCB-77	pg/g	0.99 J	1.2 J	*< 160 U*	*< 0.41 U*	34	1.5 J	95
PCB-81	pg/g	*< 0.26 U*	*< 0.20 U*	*< 140 U*	*< 0.37 U*	6.5	*< 0.65 U*	67
PCB-105	pg/g	1.5 J	1.6 J	*< 150 U*	2.7	53	*< 1.3 U*	130
PCB-107/123	pg/g							
PCB-114	pg/g	*< 0.40 U*	*< 0.30 U*	*< 120 U*	*< 0.45 U*	8.4	*< 1.2 U*	*< 70 UQ*
PCB-118	pg/g	2.8	2.6	*< 130 U*	3.9	64	2.8	210
PCB-123	pg/g	*< 0.41 U*	*< 0.31 U*	*< 130 U*	*< 0.44 U*	11	*< 1.1 U*	*< 57 U*
PCB-126	pg/g	*< 0.58 U*	*< 0.40 U*	*< 220 U*	*< 0.67 U*	18	*< 1.8 U*	87
PCB-156	pg/g							
PCB-157	pg/g							
PCB-156/157	pg/g	1.6 J	*< 1.0 UQ*	*< 90 U*	1.8 J	49	1.6 J	290
PCB-167	pg/g	1.5 J	*< 0.57 UQ*	*< 62 U*	1.4 J	54	1.4 J	230
PCB-169	pg/g	*< 0.34 U*	*< 0.18 U*	*< 92 U*	*< 0.33 U*	7.4	*< 0.44 U*	34
PCB-189	pg/g	2.5	*< 0.76 UQ*	*< 64 U*	*< 0.83 UQ*	57	*< 1.4 UQ*	350

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**
	Location ID	**5-03**	**5-05**	**5-08**	**5-09**	**5-10**	**5-15**	**5-16**
	Sample Date	**25-Sep-15**	**25-Sep-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-03-SS-01-092515 FINES**	**5-05-SS-01-092515 FINES**	**5-08-SS-01-102715 FINES**	**5-09-SS-01-091715 FINES**	**5-10-SS-01-101515 FINES**	**5-15-SS-01-091715 FINES**	**5-16-SS-01-101515 FINES**
Analyte	**Unit**							
Monochlorobiphenyls, Total	mg/kg	*< 0.0000050 U*	*< 0.0000050 U*	0.00018	0.0000061 J	*< 0.0000050 U*	0.0000074 J	0.00025
Dichlorobiphenyls, Total	mg/kg	0.000081	0.000014 J	0.011	0.00012	0.000021	0.0002	0.0048
Trichlorobiphenyls, Total	mg/kg	0.000022	0.0000094 J	0.0023	0.000037	0.000024	0.000046	0.0023
Tetrachlorobiphenyls, Total	mg/kg	0.000022	0.000011 J	*< 0.0000050 U*	0.000037	0.00011	0.000041	0.0022
Pentachlorobiphenyls, Total	mg/kg	0.000018 J	0.000018 J	0.002	0.000039	0.00062	0.000018 J	0.0025
Hexachlorobiphenyls, Total	mg/kg	0.000035	0.000027	0.001	0.000051	0.00096	0.000045	0.0041
Heptachlorobiphenyls, Total	mg/kg	0.000078	0.000038	0.0049	0.000077	0.0015	0.000086	0.0086
Octachlorobiphenyls, Total	mg/kg	0.00017	0.000066	0.011	0.00018	0.0029	0.00024	0.017
Nonachlorobiphenyls, Total	mg/kg	0.00062	0.00014	0.035	0.00069	0.0062	0.00086	0.038
Decachlorobiphenyl (PCB-209)	mg/kg	0.004	0.00069	0.96	0.0055	0.036	0.0064	0.44 J
Total PCBs	mg/kg	0.005	0.001	1	0.0067	0.048	0.0079	0.52
03-Metals								
Total Aluminum	mg/kg	1,200	2,100	2,300	1,400	1,500	1,900	6,300
Total Antimony	mg/kg	*< 0.095 UJ*	0.12 J	0.63 J-	*< 0.10 UJ*	*< 0.10 UJ*	*< 0.095 UJ*	0.25 J-
Total Arsenic	mg/kg	3.9	5.1	1.8	4.2	5.6	3.9	12
Total Barium	mg/kg	170	200	450	240	270	290	250
Total Beryllium	mg/kg	0.057 J-	0.12 J-	0.035 J	0.057 J-	*< 0.086 U*	0.089 J-	0.27
Total Cadmium	mg/kg	*< 0.048 UJ*	0.049 J-	*< 0.050 U*	*< 0.051 UJ*	0.064 J	*< 0.048 UJ*	0.063 J
Total Calcium	mg/kg	300,000	290,000	1,900	310,000	280,000 J	300,000	140,000 J
Total Chromium	mg/kg	1.6	3.0	6.3	1.7	2.6	2.2	11
Total Cobalt	mg/kg	0.81 J-	1.2 J-	0.25	0.85 J-	1.1	0.97 J-	1.2
Total Copper	mg/kg	2.6 J-	3.8 J-	180	4.7 J-	5.0	2.6 J-	17
Total Iron	mg/kg	1,500	2,500	1,600	1,600	1,800	2,200	15,000
Total Lead	mg/kg	4.4 J+	4.9 J+	2.4	6.2	12 J+	4.5	9.9 J+
Total Magnesium	mg/kg	8,000	8,200	1,600	9,400	9,900 J-	9,900	8,400 J-
Total Manganese	mg/kg	39	69	15	54	69	64	42
Total Mercury	mg/kg	0.021 J-	0.0091 J-	*< 0.0077 U*	0.082 J-	0.019 J	0.048 J-	0.055
Total Molybdenum	mg/kg	0.083 J	0.35	5.9	0.048 J	0.14 J	0.071 J	8.4
Total Nickel	mg/kg	1.6 J-	2.7 J-	2.6	1.7 J-	2.1	2.1 J-	4.0
Total Potassium	mg/kg	600	700	840	570	*< 590 U*	880	1,600
Total Selenium	mg/kg	*< 0.095 U*	0.21	*< 0.10 U*	*< 0.10 U*	0.11 J-	*< 0.095 U*	0.25 J-
Total Silver	mg/kg	*< 0.029 UJ*	*< 0.029 UJ*	*< 0.030 U*	*< 0.031 UJ*	*< 0.030 U*	*< 0.029 UJ*	*< 0.032 U*
Total Sodium	mg/kg	4,400	3,300	1,100	3,600	3,900	3,400	7,100
Total Thallium	mg/kg	*< 0.048 U*	0.049 J	*< 0.050 U*	*< 0.051 U*	*< 0.050 U*	*< 0.048 U*	*< 0.053 U*
Total Vanadium	mg/kg	3.5	6.5	5.8	4.3	5.4	4.9	27
Total Zinc	mg/kg	6.1 J	9.8 J-	26	18 J-	11 J-	7.7 J-	26 J-
05-SVOCs								
1,1'-Biphenyl	mg/kg	*< 1.6 U*	*< 1.7 U*	*< 16 U*	*< 1.7 U*	*< 1.7 U*	*< 1.6 U*	*< 1.6 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**
	Location ID	**5-03**	**5-05**	**5-08**	**5-09**	**5-10**	**5-15**	**5-16**
	Sample Date	**25-Sep-15**	**25-Sep-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-03-SS-01-092515 FINES**	**5-05-SS-01-092515 FINES**	**5-08-SS-01-102715 FINES**	**5-09-SS-01-091715 FINES**	**5-10-SS-01-101515 FINES**	**5-15-SS-01-091715 FINES**	**5-16-SS-01-101515 FINES**
Analyte	**Unit**							
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 0.25 U*	*< 0.27 U*	*< 2.6 U*	*< 0.26 U*	*< 0.26 U*	*< 0.26 U*	*< 0.26 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 0.8 U*	*< 0.84 U*	*< 8.1 U*	*< 0.83 U*	*< 0.83 U*	*< 0.81 U*	*< 0.81 U*
2,4,5-Trichlorophenol	mg/kg	*< 0.81 U*	*< 0.85 U*	*< 8.2 U*	*< 0.84 U*	*< 0.84 U*	*< 0.82 U*	*< 0.82 U*
2,4,6-Trichlorophenol	mg/kg	*< 0.043 U*	*< 0.045 U*	*< 0.43 U*	*< 0.045 U*	*< 0.045 U*	*< 0.044 U*	*< 0.043 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 0.77 U*	*< 0.81 U*	*< 7.8 U*	*< 0.8 U*	*< 0.8 U*	*< 0.78 U*	*< 0.78 U*
2,4-Dichlorophenol	mg/kg	*< 0.87 U*	*< 0.91 U*	*< 8.8 U*	*< 0.9 U*	*< 0.9 U*	*< 0.88 U*	*< 0.88 U*
2,4-Dimethylphenol	mg/kg	*< 1.6 U*	*< 1.7 U*	*< 16 U*	*< 1.7 U*	*< 1.7 U*	*< 1.7 U*	*< 1.6 U*
2,4-Dinitrophenol	mg/kg	*< 2.1 U*	*< 2.2 U*	*< 21 U*	*< 2.2 U*	*< 2.2 U*	*< 2.1 U*	*< 2.1 U*
2,4-Dinitrotoluene	mg/kg	*< 0.87 U*	*< 0.91 U*	*< 8.8 U*	*< 0.9 U*	*< 0.9 U*	*< 0.88 U*	*< 0.88 U*
2,6-Dinitrotoluene	mg/kg	*< 0.97 U*	*< 1 U*	*< 9.7 U*	*< 1 U*	*< 1 U*	*< 0.98 U*	*< 0.97 U*
2-Chloronaphthalene	mg/kg	*< 0.79 U*	*< 0.83 U*	*< 8 U*	*< 0.82 U*	*< 0.82 U*	*< 0.8 U*	*< 0.8 U*
2-Chlorophenol	mg/kg	*< 0.86 U*	*< 0.9 U*	*< 8.7 U*	*< 0.89 U*	*< 0.89 U*	*< 0.87 U*	*< 0.87 U*
2-Methylphenol	mg/kg	*< 0.57 U*	*< 0.59 U*	*< 5.7 U*	*< 0.59 U*	*< 0.59 U*	*< 0.57 U*	*< 0.57 U*
2-Nitroaniline	mg/kg	*< 0.82 U*	*< 0.86 U*	*< 8.3 U*	*< 0.85 U*	*< 0.85 U*	*< 0.83 U*	*< 0.83 U*
2-Nitrophenol	mg/kg	*< 0.8 U*	*< 0.84 U*	*< 8.1 U*	*< 0.83 U*	*< 0.83 U*	*< 0.81 U*	*< 0.81 U*
3,3'-Dichlorobenzidine	mg/kg	*< 0.92 U*	*< 0.96 U*	*< 9.2 U*	*< 0.95 U*	*< 0.95 U*	*< 0.93 U*	*< 0.92 U*
3-Nitroaniline	mg/kg	*< 1.6 U*	*< 1.7 U*	*< 16 U*	*< 1.7 U*	*< 1.7 U*	*< 1.7 U*	*< 1.6 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 0.79 U*	*< 0.83 U*	*< 8 U*	*< 0.82 U*	*< 0.82 U*	*< 0.8 U*	*< 0.8 U*
4-Bromophenyl-phenylether	mg/kg	*< 0.83 U*	*< 0.87 U*	*< 8.4 U*	*< 0.86 U*	*< 0.86 U*	*< 0.84 U*	*< 0.84 U*
4-Chloro-3-methylphenol	mg/kg	*< 0.9 U*	*< 0.94 U*	*< 9 U*	*< 0.93 U*	*< 0.93 U*	*< 0.91 U*	*< 0.91 U*
4-Chloroaniline	mg/kg	*< 0.57 U*	*< 0.59 U*	*< 5.7 U*	*< 0.59 U*	*< 0.59 U*	*< 0.57 U*	*< 0.57 U*
4-Chlorophenyl-phenylether	mg/kg	*< 0.91 U*	*< 0.95 U*	*< 9.1 U*	*< 0.94 U*	*< 0.94 U*	*< 0.92 U*	*< 0.92 U*
3 & 4 Methylphenol	mg/kg	*< 3.2 U*	*< 3.4 U*	*< 32 U*	*< 3.4 U*	*< 3.3 U*	*< 3.3 U*	*< 3.2 U*
4-Nitroaniline	mg/kg	*< 0.86 U*	*< 0.9 U*	*< 8.7 U*	*< 0.89 U*	*< 0.89 U*	*< 0.87 U*	*< 0.87 U*
4-Nitrophenol	mg/kg	*< 2.7 U*	*< 2.9 U*	*< 28 U*	*< 2.8 U*	*< 2.8 U*	*< 2.8 U*	*< 2.8 U*
Acetophenone	mg/kg	0.54 J	0.53 J	15 J	*< 0.25 U*	0.39 J	*< 0.25 U*	0.97 J
Benzaldehyde	mg/kg	*< 1.6 U*	*< 1.7 U*	*< 16 U*	*< 1.7 U*	*< 1.7 U*	*< 1.6 U*	*< 1.6 U*
Benzylbutylphthalate	mg/kg	*< 0.93 U*	*< 0.97 U*	*< 9.3 U*	*< 0.96 U*	*< 0.96 U*	*< 0.94 U*	*< 0.93 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 0.86 U*	*< 0.9 U*	*< 8.7 U*	*< 0.89 U*	*< 0.89 U*	*< 0.87 U*	*< 0.87 U*
bis(2-Chloroethyl) ether	mg/kg	*< 0.79 U*	*< 0.83 U*	*< 8 U*	*< 0.82 U*	*< 0.82 U*	*< 0.8 U*	*< 0.8 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 0.96 U*	*< 1 U*	*< 9.6 U*	*< 0.99 U*	*< 0.99 U*	*< 0.97 U*	*< 0.96 U*
Carbazole	mg/kg	*< 0.93 U*	*< 0.97 U*	*< 9.3 U*	*< 0.96 U*	*< 0.96 U*	*< 0.94 U*	*< 0.93 U*
Dibenzofuran	mg/kg	*< 0.84 U*	*< 0.88 U*	*< 8.5 U*	*< 0.87 U*	*< 0.87 U*	*< 0.85 U*	*< 0.85 U*
Diethyl phthalate	mg/kg	*< 0.88 U*	*< 0.92 U*	*< 8.9 U*	*< 0.91 U*	*< 0.91 U*	*< 0.89 U*	*< 0.89 U*
Dimethylphthalate	mg/kg	*< 0.85 U*	*< 0.89 U*	*< 8.6 U*	*< 0.88 U*	*< 0.88 U*	*< 0.86 U*	*< 0.86 U*
Di-n-butylphthalate	mg/kg	*< 0.95 U*	*< 0.99 U*	*< 9.5 U*	*< 0.98 U*	*< 0.98 U*	*< 0.96 U*	*< 0.95 U*
Di-n-octylphthalate	mg/kg	*< 0.95 U*	*< 0.99 U*	*< 9.5 U*	*< 0.98 U*	*< 0.98 U*	*< 0.96 U*	*< 0.95 U*
Hexachlorobenzene	mg/kg	*< 0.021 U*	*< 0.023 U*	7	0.024 J	0.11 J	0.051 J	2.1
Hexachlorobutadiene	mg/kg	*< 0.036 U*	*< 0.038 U*	*< 0.36 U*	*< 0.038 U*	*< 0.037 U*	*< 0.037 U*	*< 0.036 U*
Hexachlorocyclopentadiene	mg/kg	*< 0.61 U*	*< 0.63 U*	*< 6.1 U*	*< 0.63 U*	*< 0.63 U*	*< 0.61 U*	*< 0.61 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**
	Location ID	**5-03**	**5-05**	**5-08**	**5-09**	**5-10**	**5-15**	**5-16**
	Sample Date	**25-Sep-15**	**25-Sep-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-03-SS-01-092515 FINES**	**5-05-SS-01-092515 FINES**	**5-08-SS-01-102715 FINES**	**5-09-SS-01-091715 FINES**	**5-10-SS-01-101515 FINES**	**5-15-SS-01-091715 FINES**	**5-16-SS-01-101515 FINES**
Analyte	**Unit**							
Hexachloroethane	mg/kg	< 0.79 U	< 0.83 U	< 8 U	< 0.82 U	< 0.82 U	< 0.8 U	< 0.8 U
Isophorone	mg/kg	< 0.91 U	< 0.95 U	< 9.1 U	< 0.94 U	< 0.94 U	< 0.92 U	< 0.92 U
Nitrobenzene	mg/kg	< 0.74 U	< 0.78 U	< 7.5 U	< 0.77 U	< 0.77 U	< 0.75 U	< 0.75 U
N-Nitrosodimethylamine	mg/kg	< 0.94 U	< 0.98 U	< 9.4 U	< 0.97 U	< 0.97 U	< 0.95 U	< 0.94 U
N-Nitroso-di-n-propylamine	mg/kg	< 0.82 U	< 0.86 U	< 8.3 U	< 0.85 U	< 0.85 U	< 0.83 U	< 0.83 U
N-Nitrosodiphenylamine	mg/kg	< 0.84 U	< 0.88 U	< 8.5 U	< 0.87 U	< 0.87 U	< 0.85 U	< 0.85 U
Pentachlorobenzene	mg/kg	< 0.13 U	< 0.13 U	< 1.3 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Pentachlorophenol	mg/kg	< 0.23 U	< 0.25 U	< 2.4 U	< 0.24 U	< 0.24 U	< 0.24 U	< 0.24 U
Phenol	mg/kg	< 0.81 U	< 0.85 U	31 J	< 0.84 U	< 0.84 U	< 0.82 U	< 0.82 U
06-PAHs								
2-Methylnaphthalene	mg/kg	0.00072 J	< 0.00044 U	< 0.0042 U	< 0.00047 U	0.00071 J	< 0.00043 U	< 0.0022 U
Acenaphthene	mg/kg	< 0.00045 U	< 0.00048 U	< 0.0046 U	< 0.00051 U	< 0.00044 U	< 0.00047 U	< 0.00043 U
Acenaphthylene	mg/kg	< 0.00032 U	< 0.00034 U	< 0.0032 U	< 0.00036 U	< 0.00031 U	< 0.00033 U	< 0.00030 U
Anthracene	mg/kg	< 0.00038 U	< 0.00040 U	< 0.0039 U	< 0.00043 U	< 0.00037 U	< 0.00040 U	0.00092 J
Benzo(a)anthracene	mg/kg	< 0.00029 U	< 0.00031 U	< 0.0030 U	< 0.00033 U	< 0.00028 U	< 0.00030 U	0.00033 J
Benzo(a)pyrene	mg/kg	< 0.00039 U	< 0.00041 U	0.0069 J	< 0.00043 U	0.00082 J	< 0.00040 U	0.0047
Benzo(b)fluoranthene	mg/kg	< 0.00049 U	0.00063 J	< 0.0050 U	< 0.00055 U	0.0041 J	< 0.00051 U	< 0.00046 U
Benzo(g,h,i)perylene	mg/kg	< 0.00097 U	< 0.0010 U	< 0.0098 U	< 0.0011 U	0.0016 J	< 0.0010 U	< 0.00091 U
Benzo(k)fluoranthene	mg/kg	< 0.00073 U	< 0.00077 U	< 0.0075 U	< 0.00082 U	0.0013 J	< 0.00076 U	< 0.00069 U
Chrysene	mg/kg	< 0.00033 U	0.00047 J	< 0.0034 U	0.00040 J	0.0033 J	< 0.00035 U	< 0.00032 U
Dibenzo(a,h)anthracene	mg/kg	< 0.0012 U	< 0.0012 U	< 0.012 U	< 0.0013 U	< 0.0011 U	< 0.0012 U	< 0.0011 U
Fluoranthene	mg/kg	< 0.00028 U	< 0.00030 U	< 0.0029 U	< 0.00032 U	0.0017 J	< 0.00029 U	0.0011 J
Fluorene	mg/kg	< 0.00047 U	< 0.00050 U	< 0.0048 U	< 0.00053 U	< 0.00046 U	< 0.00049 U	< 0.00064 U
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.00046 U	< 0.00049 U	< 0.0047 U	< 0.00052 U	0.0017 J	< 0.00048 U	< 0.00044 U
Naphthalene	mg/kg	0.00077 J	0.00031 J	< 0.0030 U	< 0.00039 U	0.0011 J	< 0.00044 U	< 0.00046 U
Phenanthrene	mg/kg	0.00060 J	< 0.00036 U	< 0.0034 U	< 0.00077 U	0.00067 J	< 0.00048 U	0.0043 J
Pyrene	mg/kg	< 0.00034 U	< 0.00036 U	< 0.0034 U	< 0.00038 U	0.0017 J	< 0.00035 U	0.0011 J

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-5**
	Location ID	**5-03**	**5-05**	**5-08**	**5-09**	**5-10**	**5-15**	**5-16**
	Sample Date	**25-Sep-15**	**25-Sep-15**	**27-Oct-15**	**17-Sep-15**	**15-Oct-15**	**17-Sep-15**	**15-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 3 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**5-03-SS-01-092515 FINES**	**5-05-SS-01-092515 FINES**	**5-08-SS-01-102715 FINES**	**5-09-SS-01-091715 FINES**	**5-10-SS-01-101515 FINES**	**5-15-SS-01-091715 FINES**	**5-16-SS-01-101515 FINES**
Analyte	**Unit**							
08-General Solids Parameters								
Total Organic Carbon	mg/kg	< *1,700 U*	< *1,700 U*	1,700 J		4,900	5,000	3,100 J

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-6**
	Location ID	**5-18**	**5-19**	**5-20**	**6-03**	**6-08**	**6-09**	**6-10**
	Sample Date	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**17-Sep-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 3 in**
	Sample ID	**5-18-SS-01-091815 FINES**	**5-19-SS-01-091815 FINES**	**5-20-SS-01-091815 FINES**	**6-03-SS-01-091715 FINES**	**6-08-SS-01-102815 FINES**	**6-09-SS-01-102815 FINES**	**6-13-SS-01-102815 FINES**
Analyte	**Unit**							
01-Dioxins and Furans								
2,3,7,8-TCDD	pg/g	*< 0.32 U*	*< 0.023 U*	0.23 J	*< 0.047 U*	32	5.8 J	11
1,2,3,7,8-PeCDD	pg/g	*< 0.44 U*	*< 0.036 U*	0.91 J	*< 0.067 UQ*	160	25 J	41 J
1,2,3,4,7,8-HxCDD	pg/g	*< 0.74 UQ*	*< 0.034 U*	0.96 J	*< 0.12 UQ*	190	45 J	48
1,2,3,6,7,8-HxCDD	pg/g	1.4 J	*< 0.083 UQ*	2.3 J	0.29 J	640	98	170
1,2,3,7,8,9-HxCDD	pg/g	*< 1.9 UQ*	*< 0.11 UQ*	3.4 J	0.29 J	790	130	230
1,2,3,4,6,7,8-HpCDD	pg/g	6.3 J	0.56 J	17	1.2 J	4,500	730	1,200
OCDD	pg/g	21 J	1.8 J	61	4.6 J	12,000	2,100	3,200
2,3,7,8-TCDF	pg/g	10	1.1	54	1.8	3,900	660	1,300
1,2,3,7,8-PeCDF	pg/g	19 J	1.5 J	73	2.7 J	11,000	1,700	3,000
2,3,4,7,8-PeCDF	pg/g	8.7 J	0.88 J	39	1.1 J	4,600	750	1,200
1,2,3,4,7,8-HxCDF	pg/g	43 J	4.8 J	210	6.6	44,000	5,600	8,500
1,2,3,6,7,8-HxCDF	pg/g	38 J	4.0 J	190	5.7	29,000	4,300	6,900
1,2,3,7,8,9-HxCDF	pg/g	4.8 J	*< 0.32 UQ*	15	*< 0.58 U*	4,800	870	1,400
2,3,4,6,7,8-HxCDF	pg/g	13 J	1.3 J	65	1.9 J	3,900	700	1,100
1,2,3,4,6,7,8-HpCDF	pg/g	340	39	2,300	73	290,000	41,000	69,000
1,2,3,4,7,8,9-HpCDF	pg/g	81	7.5	340	10	100,000	14,000	24,000
OCDF	pg/g	2,100	200	11,000	370	2,600,000 J	380,000	670,000
Calculated TEQ (ND=0), Mammalian	pg/g	19	2.0	100	3.0	15,000	2,200	3,600
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	20	2.1	100	3.2	15,000	2,200	3,600
Calculated TEQ (ND=0), Avian	pg/g	36	3.6	430	280	1,800,000	130,000	200,000
Calculated TEQ (ND=1/2 DL), Avian	pg/g	940	110	430	280	1,800,000	130,000	200,000
02-PCBs								
PCB-77	pg/g	12 J	*< 0.55 U*	18	*< 0.70 U*	*< 670 U*	*< 180 U*	*< 300 U*
PCB-81	pg/g	*< 3.1 U*	*< 0.50 U*	5.4	*< 0.65 U*	*< 550 U*	*< 160 U*	*< 250 U*
PCB-105	pg/g	43	1.5 J	30	*< 0.76 U*	*< 640 U*	*< 160 U*	*< 230 U*
PCB-107/123	pg/g							
PCB-114	pg/g	*< 4.9 U*	*< 0.49 U*	7.0	*< 0.72 U*	*< 590 U*	*< 130 U*	*< 200 U*
PCB-118	pg/g	54	2.3	44	2.1	810	*< 130 U*	250
PCB-123	pg/g	5.9 J	*< 0.48 U*	9.6	*< 0.69 U*	*< 540 U*	*< 130 U*	*< 200 U*
PCB-126	pg/g	*< 6.8 U*	*< 0.74 U*	18	*< 1.1 U*	*< 900 U*	*< 230 U*	*< 320 U*
PCB-156	pg/g							
PCB-157	pg/g							
PCB-156/157	pg/g	30 J	1.8 J	47	1.3 J	2,000	320 J	480
PCB-167	pg/g	15 J	1.8 J	34	0.78 J	2,200	360	580
PCB-169	pg/g	*< 3.1 U*	*< 0.41 U*	9.9	*< 0.29 U*	*< 460 U*	*< 160 U*	*< 220 U*
PCB-189	pg/g	17 J	*< 1.7 UQ*	63	*< 0.62 UQ*	3,600	580	880

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-6**
	Location ID	**5-18**	**5-19**	**5-20**	**6-03**	**6-08**	**6-09**	**6-10**
	Sample Date	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**17-Sep-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 3 in**
	Sample ID	**5-18-SS-01-091815 FINES**	**5-19-SS-01-091815 FINES**	**5-20-SS-01-091815 FINES**	**6-03-SS-01-091715 FINES**	**6-08-SS-01-102815 FINES**	**6-09-SS-01-102815 FINES**	**6-13-SS-01-102815 FINES**
Analyte	**Unit**							
Monochlorobiphenyls, Total	mg/kg	0.000015 J	*< 0.0000050 U*	0.0000089 J	0.0000092 J	0.0011	0.00015	0.00047
Dichlorobiphenyls, Total	mg/kg	0.00021	0.000068	0.00024	0.00021	0.064	0.0092	0.018
Trichlorobiphenyls, Total	mg/kg	0.0001	0.000032	0.000079	0.00005	0.023	0.0036	0.0067
Tetrachlorobiphenyls, Total	mg/kg	0.00014	0.000032	0.00015	0.000043	0.011	0.0007	0.0021
Pentachlorobiphenyls, Total	mg/kg	0.00041	0.000025	0.00039	0.000067	0.039	0.0048	0.012
Hexachlorobiphenyls, Total	mg/kg	0.00051	0.000037	0.00065	0.000033	0.055	0.0078	0.014
Heptachlorobiphenyls, Total	mg/kg	0.00058	0.00007	0.0017	0.000046	0.088	0.014	0.023
Octachlorobiphenyls, Total	mg/kg	0.00096	0.00012	0.004	0.000064	0.19	0.03	0.049
Nonachlorobiphenyls, Total	mg/kg	0.0024	0.0003	0.012	0.0002	0.52	0.084	0.14
Decachlorobiphenyl (PCB-209)	mg/kg	0.021	0.0019	0.091	0.0017	6.2 J	1.8	2.8 J
Total PCBs	mg/kg	0.026	0.0026	0.11	0.0024	7.2	2	3.1
03-Metals								
Total Aluminum	mg/kg	6,600	3,200	4,500	1,400	6,100	6,500	6,700
Total Antimony	mg/kg	0.21 J	0.11 J	*< 0.098 UJ*	*< 0.10 UJ*	2.1 J-	1.3 J-	2.3 J-
Total Arsenic	mg/kg	9.8	6.3	4.4	4.2	9.3	6.3	5.0
Total Barium	mg/kg	350	230	270	330	740	400	550
Total Beryllium	mg/kg	0.27 J-	0.15 J-	0.18 J-	0.064 J-	0.18	0.17	0.18
Total Cadmium	mg/kg	0.080 J-	0.064 J-	0.088 J-	*< 0.052 UJ*	*< 0.052 U*	0.053 J	*< 0.051 U*
Total Calcium	mg/kg	110,000	260,000	290,000	300,000	17,000	15,000	6,400
Total Chromium	mg/kg	9.9	3.9	5.4	1.7	10	10	14
Total Cobalt	mg/kg	2.3 J-	1.5 J-	1.5 J-	0.96 J-	0.65	0.58	0.44
Total Copper	mg/kg	230 J-	7.5 J-	11 J-	3.5 J-	200	58	9.3
Total Iron	mg/kg	18,000	3,100	4,600	1,600	5,000	3,600	3,000
Total Lead	mg/kg	16	4.4	8.0	4.5	3.6	2.4	2.8
Total Magnesium	mg/kg	18,000	11,000	9,100	8,600	3,000	3,000	4,200
Total Manganese	mg/kg	110	81	90	64	22	22	17
Total Mercury	mg/kg	0.077 J-	0.011 J-	0.062 J-	0.039 J-	0.011 J	0.011 J	0.0096 J
Total Molybdenum	mg/kg	2.7	0.11 J	1.6	0.11 J	15	11	10
Total Nickel	mg/kg	5.9 J-	3.5 J-	3.8 J-	1.9 J-	3.9	2.7	4.6
Total Potassium	mg/kg	3,700	1,000	1,300	520	2,300	2,500	2,800
Total Selenium	mg/kg	0.18 J	*< 0.099 U*	0.10 J	*< 0.10 U*	0.19 J	0.14 J	*< 0.10 U*
Total Silver	mg/kg	0.034 J-	*< 0.030 UJ*	*< 0.029 UJ*	*< 0.031 UJ*	0.034 J	0.029 J	*< 0.030 U*
Total Sodium	mg/kg	4,600	3,900	3,500	3,400	1,700	1,500	2,600
Total Thallium	mg/kg	0.070 J	0.058 J	0.060 J	*< 0.052 U*	0.083 J	0.078 J	0.081 J
Total Vanadium	mg/kg	25	7.8	9.0	4.2	13	12	12
Total Zinc	mg/kg	84 J-	14 J-	23 J-	6.5 J-	33	15	11
05-SVOCs								
1,1'-Biphenyl	mg/kg	*< 13 U*	*< 1.7 U*	*< 1.6 U*	*< 1.7 U*	*< 15 U*	*< 16 U*	*< 16 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-6**
	Location ID	**5-18**	**5-19**	**5-20**	**6-03**	**6-08**	**6-09**	**6-10**
	Sample Date	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**17-Sep-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 3 in**
	Sample ID	**5-18-SS-01-091815 FINES**	**5-19-SS-01-091815 FINES**	**5-20-SS-01-091815 FINES**	**6-03-SS-01-091715 FINES**	**6-08-SS-01-102815 FINES**	**6-09-SS-01-102815 FINES**	**6-13-SS-01-102815 FINES**
Analyte	**Unit**							
1,2,4,5-Tetrachlorobenzene	mg/kg	< 2.1 U	< 0.26 U	< 0.25 U	< 0.27 U	< 2.3 U	< 2.4 U	< 2.6 U
2,3,4,6-Tetrachlorophenol	mg/kg	< 6.5 U	< 0.83 U	< 0.8 U	< 0.85 U	< 7.3 U	< 7.7 U	< 8.2 U
2,4,5-Trichlorophenol	mg/kg	< 6.6 U	< 0.84 U	< 0.81 U	< 0.86 U	< 7.4 U	< 7.8 U	< 8.3 U
2,4,6-Trichlorophenol	mg/kg	< 0.35 U	< 0.045 U	< 0.043 U	< 0.045 U	< 0.39 U	< 0.41 U	< 0.44 U
2,2-Oxybis(1-chloropropane)	mg/kg	< 6.3 U	< 0.8 U	< 0.77 U	< 0.81 U	< 7 U	< 7.4 U	< 7.9 U
2,4-Dichlorophenol	mg/kg	< 7.1 U	< 0.9 U	< 0.87 U	< 0.92 U	< 7.9 U	< 8.4 U	< 8.9 U
2,4-Dimethylphenol	mg/kg	< 13 U	< 1.7 U	< 1.6 U	< 1.7 U	< 15 U	< 16 U	< 17 U
2,4-Dinitrophenol	mg/kg	< 17 U	< 2.2 U	< 2.1 U	< 2.2 U	< 19 U	< 20 U	< 21 U
2,4-Dinitrotoluene	mg/kg	< 7.1 U	< 0.9 U	< 0.87 U	< 0.92 U	< 7.9 U	< 8.4 U	< 8.9 U
2,6-Dinitrotoluene	mg/kg	< 7.9 U	< 1 U	< 0.97 U	< 1 U	< 8.8 U	< 9.3 U	< 9.9 U
2-Chloronaphthalene	mg/kg	< 6.5 U	< 0.82 U	< 0.79 U	< 0.83 U	< 7.2 U	< 7.6 U	< 8.1 U
2-Chlorophenol	mg/kg	< 7 U	< 0.89 U	< 0.86 U	< 0.91 U	< 7.8 U	< 8.3 U	< 8.8 U
2-Methylphenol	mg/kg	< 4.6 U	< 0.59 U	< 0.57 U	< 0.6 U	< 5.1 U	< 5.5 U	< 5.8 U
2-Nitroaniline	mg/kg	< 6.7 U	< 0.85 U	< 0.82 U	< 0.87 U	< 7.5 U	< 7.9 U	< 8.4 U
2-Nitrophenol	mg/kg	< 6.5 U	< 0.83 U	< 0.8 U	< 0.85 U	< 7.3 U	< 7.7 U	< 8.2 U
3,3'-Dichlorobenzidine	mg/kg	< 7.5 U	< 0.95 U	< 0.92 U	< 0.97 U	< 8.3 U	< 8.8 U	< 9.4 U
3-Nitroaniline	mg/kg	< 13 U	< 1.7 U	< 1.6 U	< 1.7 U	< 15 U	< 16 U	< 17 U
4,6-Dinitro-2-methylphenol	mg/kg	< 6.5 U	< 0.82 U	< 0.79 U	< 0.83 U	< 7.2 U	< 7.6 U	< 8.1 U
4-Bromophenyl-phenylether	mg/kg	< 6.8 U	< 0.86 U	< 0.83 U	< 0.88 U	< 7.5 U	< 8 U	< 8.5 U
4-Chloro-3-methylphenol	mg/kg	< 7.3 U	< 0.93 U	< 0.9 U	< 0.95 U	< 8.2 U	< 8.7 U	< 9.2 U
4-Chloroaniline	mg/kg	< 4.6 U	< 0.59 U	< 0.57 U	< 0.6 U	< 5.1 U	< 5.5 U	< 5.8 U
4-Chlorophenyl-phenylether	mg/kg	< 7.4 U	< 0.94 U	< 0.91 U	< 0.96 U	< 8.3 U	< 8.7 U	< 9.3 U
3 & 4 Methylphenol	mg/kg	< 26 U	< 3.3 U	< 3.2 U	< 3.4 U	< 29 U	< 31 U	< 33 U
4-Nitroaniline	mg/kg	< 7 U	< 0.89 U	< 0.86 U	< 0.91 U	< 7.8 U	< 8.3 U	< 8.8 U
4-Nitrophenol	mg/kg	< 22 U	< 2.8 U	< 2.7 U	< 2.9 U	< 25 U	< 26 U	< 28 U
Acetophenone	mg/kg	< 2 U	1.4 J	0.8 J	< 0.26 U	4.7 J	2.4 J	< 2.5 U
Benzaldehyde	mg/kg	< 13 U	< 1.7 U	< 1.6 U	< 1.7 U	< 15 U	< 16 U	< 16 U
Benzylbutylphthalate	mg/kg	< 7.6 U	< 0.96 U	< 0.93 U	< 0.98 U	< 8.4 U	< 8.9 U	< 9.5 U
Bis(2-chloroethoxy)methane	mg/kg	< 7 U	< 0.89 U	< 0.86 U	< 0.91 U	< 7.8 U	< 8.3 U	< 8.8 U
bis(2-Chloroethyl) ether	mg/kg	< 6.5 U	< 0.82 U	< 0.79 U	< 0.83 U	< 7.2 U	< 7.6 U	< 8.1 U
Bis(2-ethylhexyl)phthalate	mg/kg	< 7.8 U	< 0.99 U	< 0.96 U	< 1 U	< 8.7 U	< 9.2 U	< 9.8 U
Carbazole	mg/kg	< 7.6 U	< 0.96 U	< 0.93 U	< 0.98 U	< 8.4 U	< 8.9 U	< 9.5 U
Dibenzofuran	mg/kg	< 6.9 U	< 0.87 U	< 0.84 U	< 0.89 U	< 7.6 U	< 8.1 U	< 8.6 U
Diethyl phthalate	mg/kg	< 7.2 U	< 0.91 U	< 0.88 U	< 0.93 U	< 8 U	< 8.5 U	< 9 U
Dimethylphthalate	mg/kg	< 6.9 U	< 0.88 U	< 0.85 U	< 0.9 U	< 7.7 U	< 8.2 U	< 8.7 U
Di-n-butylphthalate	mg/kg	< 7.7 U	< 0.98 U	< 0.95 U	< 1 U	< 8.6 U	< 9.1 U	< 9.7 U
Di-n-octylphthalate	mg/kg	< 7.7 U	< 0.98 U	< 0.95 U	< 1 U	< 8.6 U	< 9.1 U	< 9.7 U
Hexachlorobenzene	mg/kg	< 0.18 U	< 0.022 U	0.025 J+	0.027 J	180	13	19
Hexachlorobutadiene	mg/kg	< 0.3 U	< 0.038 U	< 0.036 U	< 0.038 U	< 0.33 U	< 0.35 U	< 0.37 U
Hexachlorocyclopentadiene	mg/kg	< 4.9 U	< 0.63 U	< 0.61 U	< 0.64 U	< 5.5 U	< 5.8 U	< 6.2 U

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-6**
	Location ID	**5-18**	**5-19**	**5-20**	**6-03**	**6-08**	**6-09**	**6-10**
	Sample Date	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**17-Sep-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 3 in**
	Sample ID	**5-18-SS-01-091815 FINES**	**5-19-SS-01-091815 FINES**	**5-20-SS-01-091815 FINES**	**6-03-SS-01-091715 FINES**	**6-08-SS-01-102815 FINES**	**6-09-SS-01-102815 FINES**	**6-13-SS-01-102815 FINES**
Analyte	**Unit**							
Hexachloroethane	mg/kg	< 6.5 U	< 0.82 U	< 0.79 U	< 0.83 U	< 7.2 U	< 7.6 U	< 8.1 U
Isophorone	mg/kg	< 7.4 U	< 0.94 U	< 0.91 U	< 0.96 U	< 8.3 U	< 8.7 U	< 9.3 U
Nitrobenzene	mg/kg	< 6.1 U	< 0.77 U	< 0.74 U	< 0.78 U	< 6.7 U	< 7.1 U	< 7.6 U
N-Nitrosodimethylamine	mg/kg	< 7.7 U	< 0.97 U	< 0.94 U	< 0.99 U	< 8.5 U	< 9 U	< 9.6 U
N-Nitroso-di-n-propylamine	mg/kg	< 6.7 U	< 0.85 U	< 0.82 U	< 0.87 U	< 7.5 U	< 7.9 U	< 8.4 U
N-Nitrosodiphenylamine	mg/kg	< 6.9 U	< 0.87 U	< 0.84 U	< 0.89 U	< 7.6 U	< 8.1 U	< 8.6 U
Pentachlorobenzene	mg/kg	< 1 U	< 0.13 U	< 0.13 U	< 0.13 U	1.4 J	< 1.2 U	< 1.3 U
Pentachlorophenol	mg/kg	< 1.9 U	< 0.24 U	< 0.23 UJ	< 0.25 U	< 2.1 U	< 2.3 U	< 2.4 U
Phenol	mg/kg	< 6.6 U	< 0.84 U	< 0.81 U	< 0.86 U	< 7.4 U	< 7.8 U	< 8.3 U
06-PAHs								
2-Methylnaphthalene	mg/kg	< 0.0045 U	0.00068 J	< 0.00041 U	< 0.00040 U	< 0.0074 U	< 0.0042 U	< 0.0043 U
Acenaphthene	mg/kg	< 0.0049 U	< 0.00050 U	< 0.00045 U	< 0.00044 U	< 0.0046 U	< 0.0046 U	< 0.0046 U
Acenaphthylene	mg/kg	< 0.0034 U	< 0.00035 U	< 0.00031 U	< 0.00031 U	< 0.0032 U	< 0.0032 U	< 0.0032 U
Anthracene	mg/kg	< 0.0041 U	< 0.00042 U	< 0.00038 U	< 0.00037 U	0.0053 J	< 0.0038 U	< 0.0039 U
Benzo(a)anthracene	mg/kg	< 0.0032 U	< 0.00032 U	< 0.00029 U	< 0.00028 U	0.0056 J	0.0035 J	< 0.0030 U
Benzo(a)pyrene	mg/kg	< 0.0042 U	< 0.00043 U	0.00048 J	< 0.00037 U	0.067	0.013 J	0.02 J
Benzo(b)fluoranthene	mg/kg	< 0.0053 U	< 0.00054 U	0.00061 J	< 0.00047 U	< 0.0049 U	< 0.0049 U	< 0.0050 U
Benzo(g,h,i)perylene	mg/kg	< 0.01 U	< 0.0011 U	< 0.00095 U	< 0.00094 U	< 0.0097 U	< 0.0097 U	< 0.0098 U
Benzo(k)fluoranthene	mg/kg	< 0.0079 U	< 0.00081 U	< 0.00072 U	< 0.00071 U	< 0.0074 U	< 0.0074 U	< 0.0075 U
Chrysene	mg/kg	< 0.0036 U	< 0.00037 U	0.00055 J	< 0.00032 U	0.0041 J	< 0.0034 U	< 0.0034 U
Dibenzo(a,h)anthracene	mg/kg	< 0.012 U	< 0.0013 U	< 0.0011 U	< 0.0011 U	< 0.012 U	< 0.012 U	< 0.012 U
Fluoranthene	mg/kg	< 0.0030 U	< 0.00031 U	0.00046 J	< 0.00027 U	< 0.0040 U	< 0.0029 U	< 0.0029 U
Fluorene	mg/kg	< 0.0051 U	< 0.00052 U	< 0.00047 U	< 0.00046 U	< 0.0058 U	< 0.0048 U	< 0.0048 U
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.0050 U	< 0.00051 U	< 0.00046 U	< 0.00045 U	0.0054 J	< 0.0047 U	< 0.0047 U
Naphthalene	mg/kg	< 0.0032 U	< 0.00058 U	< 0.00029 U	< 0.00044 U	< 0.0046 U	< 0.0030 U	< 0.0030 U
Phenanthrene	mg/kg	< 0.0036 U	< 0.00056 U	< 0.00052 U	< 0.00050 U	< 0.0066 U	< 0.0034 U	< 0.0034 U
Pyrene	mg/kg	< 0.0036 U	< 0.00037 U	0.00050 J	< 0.00033 U	0.0044 J	< 0.0034 U	< 0.0034 U

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-5**	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-6**
	Location ID	**5-18**	**5-19**	**5-20**	**6-03**	**6-08**	**6-09**	**6-10**
	Sample Date	**18-Sep-15**	**18-Sep-15**	**18-Sep-15**	**17-Sep-15**	**28-Oct-15**	**28-Oct-15**	**28-Oct-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 5.5 in**	**0 - 4 in**	**0 - 3 in**
	Sample ID	**5-18-SS-01-091815 FINES**	**5-19-SS-01-091815 FINES**	**5-20-SS-01-091815 FINES**	**6-03-SS-01-091715 FINES**	**6-08-SS-01-102815 FINES**	**6-09-SS-01-102815 FINES**	**6-13-SS-01-102815 FINES**
Analyte	**Unit**							
08-General Solids Parameters								
Total Organic Carbon	mg/kg		*< 1,700 U*	14,000		4,000	*< 1,700 U*	6,300

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**6-10**	**6-12**	**6-14**	**7-01**	**7-03**	**7-04**	**7-06**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**23-Sep-15**	**24-Sep-15**	**29-Sep-15**	**28-Sep-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 4 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**6-10-SS-01-102815 FINES**	**6-12-SS-01-102815 FINES**	**6-14-SS-01-091615 FINES**	**7-01-SS-01-092315 FINES**	**7-03-SS-01-092415 FINES**	**7-04-SS-01-092915 FINES**	**7-06-SS-01-092815 FINES**
Analyte	**Unit**							
01-Dioxins and Furans								
2,3,7,8-TCDD	pg/g	9.6 J	7.8 J	*< 0.054 UQ*	7.1 J	*< 1.2 UQ*	69	*< 0.75 UQ*
1,2,3,7,8-PeCDD	pg/g	45 J	39 J	0.27 J	35 J	5.5 J	270	2.4 J
1,2,3,4,7,8-HxCDD	pg/g	54	54	0.33 J	35 J	5.1 J	340	2.0 J
1,2,3,6,7,8-HxCDD	pg/g	180	180	0.78 J	110	15 J	850	6.0 J
1,2,3,7,8,9-HxCDD	pg/g	230	230	0.90 J	140	21 J	1,100	8.4 J
1,2,3,4,6,7,8-HpCDD	pg/g	1,300	1,300	6.5	720	84	5,800	34 J
OCDD	pg/g	3,800	3,400	31	2,500	270	13,000	96
2,3,7,8-TCDF	pg/g	1,300	1,000	6.7	1,000	120	5,300	40
1,2,3,7,8-PeCDF	pg/g	3,200	2,800	14	2,400	340	19,000	110
2,3,4,7,8-PeCDF	pg/g	1,400	1,300	6.5	1,100	140	8,600	47
1,2,3,4,7,8-HxCDF	pg/g	10,000	8,200	52	6,200	910	55,000	360
1,2,3,6,7,8-HxCDF	pg/g	7,800	7,000	46	4,900	710	42,000	260
1,2,3,7,8,9-HxCDF	pg/g	1,500	1,400	4.9	970	130	7,000	28 J
2,3,4,6,7,8-HxCDF	pg/g	1,200	1,100	13	870	140	6,200	71
1,2,3,4,6,7,8-HpCDF	pg/g	75,000	68,000	560	34,000	5,100	260,000	2,400
1,2,3,4,7,8,9-HpCDF	pg/g	26,000	25,000	120	12,000	1,800	100,000	570
OCDF	pg/g	750,000	610,000 J	4,400	300,000	32,000	1,600,000 J	12,000
Calculated TEQ (ND=0), Mammalian	pg/g	4,000	3,600	23	2,400	340	19,000	130
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	4,100	3,600	23	2,500	350	19,000	140
Calculated TEQ (ND=0), Avian	pg/g	250,000	250,000	380	72,000	2,500	780,000	200
Calculated TEQ (ND=1/2 DL), Avian	pg/g	250,000	250,000	380	72,000	2,500	780,000	1,100
02-PCBs								
PCB-77	pg/g	*< 320 U*	*< 250 U*	4.6	640	*< 45 U*		*< 58 U*
PCB-81	pg/g	*< 300 U*	*< 220 U*	*< 0.61 U*	*< 260 U*	*< 38 U*		*< 51 U*
PCB-105	pg/g	*< 270 U*	*< 190 U*	11	8,300	86 J	6,800	*< 40 U*
PCB-107/123	pg/g							
PCB-114	pg/g	*< 240 U*	*< 170 U*	*< 2.1 U*	640	*< 40 U*	1,500	*< 30 U*
PCB-118	pg/g	*< 250 U*	240	19	13,000	310	6,700	*< 30 U*
PCB-123	pg/g	*< 230 U*	*< 62 U*	*< 2.0 U*	*< 560 U*	*< 42 U*	*< 1,100 U*	*< 33 U*
PCB-126	pg/g	*< 400 U*	*< 290 U*	*< 3.1 U*	*< 850 U*	*< 71 U*	*< 1,200 U*	*< 67 U*
PCB-156	pg/g							
PCB-157	pg/g							
PCB-156/157	pg/g	540	550	9.3	2,900	*< 91 UQ*	5,600	*< 39 U*
PCB-167	pg/g	570	630	5.0	1,300	170 J	5,600	*< 27 U*
PCB-169	pg/g	*< 200 U*	*< 180 U*	*< 0.98 U*	*< 270 U*	*< 33 U*	*< 1,700 U*	*< 51 U*
PCB-189	pg/g	1,000	960	6.2	*< 930 UQ*	110 J	6,800	*< 29 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**6-10**	**6-12**	**6-14**	**7-01**	**7-03**	**7-04**	**7-06**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**23-Sep-15**	**24-Sep-15**	**29-Sep-15**	**28-Sep-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 4 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**6-10-SS-01-102815 FINES**	**6-12-SS-01-102815 FINES**	**6-14-SS-01-091615 FINES**	**7-01-SS-01-092315 FINES**	**7-03-SS-01-092415 FINES**	**7-04-SS-01-092915 FINES**	**7-06-SS-01-092815 FINES**
Analyte	**Unit**							
Monochlorobiphenyls, Total	mg/kg	0.00042	0.00032	0.0000061 J	0.00055	0.000019 J	0.00029	*< 0.0000050 U*
Dichlorobiphenyls, Total	mg/kg	0.018	0.018	0.00029	0.0019	*< 0.00001 U*	*< 0.00001 U*	*< 0.00001 U*
Trichlorobiphenyls, Total	mg/kg	0.0085	0.0096	0.000051	0.0026	*< 0.0000050 U*		*< 0.0000050 U*
Tetrachlorobiphenyls, Total	mg/kg	0.002	0.0019	0.000062	0.028	0.0011		0.00011
Pentachlorobiphenyls, Total	mg/kg	0.012	0.0099	0.00016	0.062	0.0016	0.06	0.00004
Hexachlorobiphenyls, Total	mg/kg	0.015	0.014	0.00032	0.045	0.0022	0.13	0.00025
Heptachlorobiphenyls, Total	mg/kg	0.026	0.024	0.00044	0.032	0.0041	0.15	0.0012
Octachlorobiphenyls, Total	mg/kg	0.053	0.049	0.00079	0.05	0.0072	0.26	0.0028
Nonachlorobiphenyls, Total	mg/kg	0.15	0.14	0.0027	0.13	0.019	0.5	0.009
Decachlorobiphenyl (PCB-209)	mg/kg	2.9 J	2.6 J	0.03	1.7	0.26	3.5 J	0.13
Total PCBs	mg/kg	3.2	2.9	0.035	2.1	0.3	4.6	0.14
03-Metals								
Total Aluminum	mg/kg	7,300	4,900	2,100	5,600	1,800	1,300	2,000
Total Antimony	mg/kg	2.1 J-	1.2 J-	0.10 J	0.59 J	0.12 J	0.51 J	0.25 J
Total Arsenic	mg/kg	7.7	4.5	4.3	27	11	24	8.8
Total Barium	mg/kg	770	800	370	160	110	130	140
Total Beryllium	mg/kg	0.20	0.13	0.10 J-	0.28 J-	0.079 J-	0.073 J-	0.097 J-
Total Cadmium	mg/kg	0.051 J	*< 0.049 U*	0.099 J-	0.15 J-	0.054 J-	*< 0.051 UJ*	0.052 J-
Total Calcium	mg/kg	7,000	3,200	310,000	130,000	140,000	150,000	200,000
Total Chromium	mg/kg	12	9.6	2.4	78	9.9	28	8.0
Total Cobalt	mg/kg	0.62	0.46	1.2 J-	2.6 J-	1.3 J-	2.0 J-	1.4 J-
Total Copper	mg/kg	68	79	5.7 J-	18 J-	82 J-	40 J-	28 J-
Total Iron	mg/kg	4,000	2,900	2,100	24,000	7,700	27,000	5,700
Total Lead	mg/kg	2.9	3.8	6.2	13	5.3 J+	12	4.4 J+
Total Magnesium	mg/kg	4,100	2,500	10,000	13,000	21,000	11,000	14,000
Total Manganese	mg/kg	21	19	120	83	65	320	60
Total Mercury	mg/kg	0.0095 J	*< 0.0091 U*	0.22 J-	0.15 J-	0.039 J-	0.067 J-	0.043 J-
Total Molybdenum	mg/kg	10	9.6	0.89	8.8	5.2	6.7	3.7
Total Nickel	mg/kg	3.3	2.6	2.2 J-	9.6 J-	4.3 J-	7.3 J-	4.8 J-
Total Potassium	mg/kg	2,600	1,800	830	2,500	1,600	1,300	1,300
Total Selenium	mg/kg	0.17 J	*< 0.097 U*	*< 0.099 U*	0.27	0.15 J	0.22	0.18 J
Total Silver	mg/kg	0.030 J	*< 0.029 U*	*< 0.030 UJ*	0.029 J-	*< 0.029 UJ*	*< 0.031 UJ*	*< 0.029 UJ*
Total Sodium	mg/kg	1,800	1,500	3,600	9,800	5,400	5,600	8,100
Total Thallium	mg/kg	0.084 J	0.060 J	*< 0.050 U*	0.063 J	*< 0.048 U*	*< 0.051 U*	*< 0.048 U*
Total Vanadium	mg/kg	13	10	5.0	32	9.7	24	9.2
Total Zinc	mg/kg	17	16	9.5 J-	31 J-	50 J-	40 J-	17 J-
05-SVOCs								
1,1'-Biphenyl	mg/kg	*< 16 U*	*< 16 U*	*< 1.7 U*	*< 21 U*	*< 13 U*	*< 18 U*	*< 13 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**6-10**	**6-12**	**6-14**	**7-01**	**7-03**	**7-04**	**7-06**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**23-Sep-15**	**24-Sep-15**	**29-Sep-15**	**28-Sep-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 4 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**6-10-SS-01-102815 FINES**	**6-12-SS-01-102815 FINES**	**6-14-SS-01-091615 FINES**	**7-01-SS-01-092315 FINES**	**7-03-SS-01-092415 FINES**	**7-04-SS-01-092915 FINES**	**7-06-SS-01-092815 FINES**
Analyte	**Unit**							
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 2.5 U*	*< 2.5 U*	*< 0.26 U*	*< 3.3 U*	*< 2 U*	*< 2.8 U*	*< 2.1 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 8 U*	*< 7.7 U*	*< 0.83 U*	*< 11 U*	*< 6.3 U*	*< 8.8 U*	*< 6.5 U*
2,4,5-Trichlorophenol	mg/kg	*< 8.1 U*	*< 7.8 U*	*< 0.84 U*	*< 11 U*	*< 6.3 U*	*< 9 U*	*< 6.6 U*
2,4,6-Trichlorophenol	mg/kg	*< 0.43 U*	*< 0.42 U*	*< 0.045 U*	*< 0.56 U*	*< 0.34 U*	*< 0.47 U*	*< 0.35 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 7.7 U*	*< 7.5 U*	*< 0.8 U*	*< 10 U*	*< 6 U*	*< 8.5 U*	*< 6.3 U*
2,4-Dichlorophenol	mg/kg	*< 8.7 U*	*< 8.4 U*	*< 0.9 U*	*< 11 U*	*< 6.8 U*	*< 9.6 U*	*< 7.1 U*
2,4-Dimethylphenol	mg/kg	*< 16 U*	*< 16 U*	*< 1.7 U*	*< 21 U*	*< 13 U*	*< 18 U*	*< 13 U*
2,4-Dinitrophenol	mg/kg	*< 21 U*	*< 20 U*	*< 2.2 U*	*< 27 U*	*< 16 U*	*< 23 U*	*< 17 U*
2,4-Dinitrotoluene	mg/kg	*< 8.7 U*	*< 8.4 U*	*< 0.9 U*	*< 11 U*	*< 6.8 U*	*< 9.6 U*	*< 7.1 U*
2,6-Dinitrotoluene	mg/kg	*< 9.7 U*	*< 9.3 U*	*< 1 U*	*< 13 U*	*< 7.6 U*	*< 11 U*	*< 7.9 U*
2-Chloronaphthalene	mg/kg	*< 7.9 U*	*< 7.6 U*	*< 0.82 U*	*< 10 U*	*< 6.2 U*	*< 8.7 U*	*< 6.4 U*
2-Chlorophenol	mg/kg	*< 8.6 U*	*< 8.3 U*	*< 0.89 U*	*< 11 U*	*< 6.7 U*	*< 9.5 U*	*< 7 U*
2-Methylphenol	mg/kg	*< 5.7 U*	*< 5.5 U*	*< 0.59 U*	*< 7.4 U*	*< 4.4 U*	*< 6.3 U*	*< 4.6 U*
2-Nitroaniline	mg/kg	*< 8.2 U*	*< 7.9 U*	*< 0.85 U*	*< 11 U*	*< 6.4 U*	*< 9.1 U*	*< 6.7 U*
2-Nitrophenol	mg/kg	*< 8 U*	*< 7.7 U*	*< 0.83 U*	*< 11 U*	*< 6.3 U*	*< 8.8 U*	*< 6.5 U*
3,3'-Dichlorobenzidine	mg/kg	*< 9.2 U*	*< 8.9 U*	*< 0.95 U*	*< 12 U*	*< 7.2 U*	*< 10 U*	*< 7.5 U*
3-Nitroaniline	mg/kg	*< 16 U*	*< 16 U*	*< 1.7 U*	*< 21 U*	*< 13 U*	*< 18 U*	*< 13 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 7.9 U*	*< 7.6 U*	*< 0.82 U*	*< 10 U*	*< 6.2 U*	*< 8.7 U*	*< 6.4 U*
4-Bromophenyl-phenylether	mg/kg	*< 8.3 U*	*< 8 U*	*< 0.86 U*	*< 11 U*	*< 6.5 U*	*< 9.2 U*	*< 6.8 U*
4-Chloro-3-methylphenol	mg/kg	*< 9 U*	*< 8.7 U*	*< 0.93 U*	*< 12 U*	*< 7 U*	*< 9.9 U*	*< 7.3 U*
4-Chloroaniline	mg/kg	*< 5.7 U*	*< 5.5 U*	*< 0.59 U*	*< 7.4 U*	*< 4.4 U*	*< 6.3 U*	*< 4.6 U*
4-Chlorophenyl-phenylether	mg/kg	*< 9.1 U*	*< 8.8 U*	*< 0.94 U*	*< 12 U*	*< 7.1 U*	*< 10 U*	*< 7.4 U*
3 & 4 Methylphenol	mg/kg	*< 32 U*	*< 31 U*	*< 3.3 U*	*< 42 U*	*< 25 U*	*< 36 U*	*< 26 U*
4-Nitroaniline	mg/kg	*< 8.6 U*	*< 8.3 U*	*< 0.89 U*	*< 11 U*	*< 6.7 U*	*< 9.5 U*	*< 7 U*
4-Nitrophenol	mg/kg	*< 27 U*	*< 26 U*	*< 2.8 U*	*< 36 U*	*< 21 U*	*< 30 U*	*< 22 U*
Acetophenone	mg/kg	*< 2.4 U*	*< 2.4 U*	*< 0.25 U*	*< 3.2 U*	*< 1.9 U*	*< 2.7 U*	*< 2 U*
Benzaldehyde	mg/kg	*< 16 U*	*< 16 U*	*< 1.7 U*	*< 21 U*	*< 13 U*	*< 18 U*	*< 13 U*
Benzylbutylphthalate	mg/kg	*< 9.3 U*	*< 9 U*	*< 0.96 U*	*< 12 U*	*< 7.3 U*	*< 10 U*	*< 7.6 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 8.6 U*	*< 8.3 U*	*< 0.89 U*	*< 11 U*	*< 6.7 U*	*< 9.5 U*	*< 7 U*
bis(2-Chloroethyl) ether	mg/kg	*< 7.9 U*	*< 7.6 U*	*< 0.82 U*	*< 10 U*	*< 6.2 U*	*< 8.7 U*	*< 6.4 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 9.6 U*	*< 9.2 U*	*< 0.99 U*	*< 13 U*	*< 7.5 U*	*< 11 U*	*< 7.8 U*
Carbazole	mg/kg	*< 9.3 U*	*< 9 U*	*< 0.96 U*	*< 12 U*	*< 7.3 U*	*< 10 U*	*< 7.6 U*
Dibenzofuran	mg/kg	*< 8.4 U*	*< 8.1 U*	*< 0.87 U*	*< 11 U*	*< 6.6 U*	*< 9.3 U*	*< 6.8 U*
Diethyl phthalate	mg/kg	*< 8.8 U*	*< 8.5 U*	*< 0.91 U*	*< 12 U*	*< 6.9 U*	*< 9.7 U*	*< 7.2 U*
Dimethylphthalate	mg/kg	*< 8.5 U*	*< 8.2 U*	*< 0.88 U*	*< 11 U*	*< 6.6 U*	*< 9.4 U*	*< 6.9 U*
Di-n-butylphthalate	mg/kg	*< 9.5 U*	*< 9.2 U*	*< 0.98 U*	*< 12 U*	*< 7.4 U*	*< 10 U*	*< 7.7 U*
Di-n-octylphthalate	mg/kg	*< 9.5 U*	*< 9.2 U*	*< 0.98 U*	*< 12 U*	*< 7.4 U*	*< 10 U*	*< 7.7 U*
Hexachlorobenzene	mg/kg	24	24	0.035 J	6.8	0.19 J	75	*< 0.18 U*
Hexachlorobutadiene	mg/kg	*< 0.36 U*	*< 0.35 U*	*< 0.037 U*	*< 0.47 U*	*< 0.28 U*	*< 0.4 U*	*< 0.29 U*
Hexachlorocyclopentadiene	mg/kg	*< 6.1 U*	*< 5.8 U*	*< 0.63 U*	*< 7.9 U*	*< 4.7 U*	*< 6.7 U*	*< 4.9 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**6-10**	**6-12**	**6-14**	**7-01**	**7-03**	**7-04**	**7-06**
	Sample Date	**28-Oct-15**	**28-Oct-15**	**16-Sep-15**	**23-Sep-15**	**24-Sep-15**	**29-Sep-15**	**28-Sep-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 4 in**	**0 - 4 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**6-10-SS-01-102815 FINES**	**6-12-SS-01-102815 FINES**	**6-14-SS-01-091615 FINES**	**7-01-SS-01-092315 FINES**	**7-03-SS-01-092415 FINES**	**7-04-SS-01-092915 FINES**	**7-06-SS-01-092815 FINES**
Analyte	**Unit**							
Hexachloroethane	mg/kg	*< 7.9 U*	*< 7.6 U*	*< 0.82 U*	*< 10 U*	*< 6.2 U*	*< 8.7 U*	*< 6.4 U*
Isophorone	mg/kg	*< 9.1 U*	*< 8.8 U*	*< 0.94 U*	*< 12 U*	*< 7.1 U*	*< 10 U*	*< 7.4 U*
Nitrobenzene	mg/kg	*< 7.4 U*	*< 7.2 U*	*< 0.77 U*	*< 9.7 U*	*< 5.8 U*	*< 8.2 U*	*< 6 U*
N-Nitrosodimethylamine	mg/kg	*< 9.4 U*	*< 9.1 U*	*< 0.97 U*	*< 12 U*	*< 7.3 U*	*< 10 U*	*< 7.6 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 8.2 U*	*< 7.9 U*	*< 0.85 U*	*< 11 U*	*< 6.4 U*	*< 9.1 U*	*< 6.7 U*
N-Nitrosodiphenylamine	mg/kg	*< 8.4 U*	*< 8.1 U*	*< 0.87 U*	*< 11 U*	*< 6.6 U*	*< 9.3 U*	*< 6.8 U*
Pentachlorobenzene	mg/kg	*< 1.3 U*	*< 1.2 U*	*< 0.13 U*	*< 1.7 U*	*< 0.99 U*	3.3 J	*< 1 U*
Pentachlorophenol	mg/kg	*< 2.3 U*	*< 2.3 U*	*< 0.24 U*	*< 3.1 U*	*< 1.8 U*	*< 2.6 U*	*< 1.9 U*
Phenol	mg/kg	*< 8.1 U*	*< 7.8 U*	*< 0.84 U*	*< 11 U*	*< 6.3 U*	*< 9 U*	*< 6.6 U*
06-PAHs								
2-Methylnaphthalene	mg/kg	*< 0.0052 U*	*< 0.0042 U*	*< 0.00047 U*	*< 0.0046 U*	*< 0.0040 U*	0.038 J	*< 0.0043 U*
Acenaphthene	mg/kg	*< 0.0046 U*	*< 0.0046 U*	*< 0.00051 U*	*< 0.0051 U*	*< 0.0044 U*	*< 0.0045 U*	*< 0.0047 U*
Acenaphthylene	mg/kg	*< 0.0032 U*	*< 0.0033 U*	*< 0.00036 U*	*< 0.0036 U*	*< 0.0031 U*	*< 0.0032 U*	*< 0.0033 U*
Anthracene	mg/kg	*< 0.0039 U*	*< 0.0039 U*	*< 0.00043 U*	*< 0.0043 U*	*< 0.0037 U*	*< 0.0038 U*	*< 0.0040 U*
Benzo(a)anthracene	mg/kg	*< 0.0030 U*	*< 0.0030 U*	*< 0.00033 U*	*< 0.0033 U*	*< 0.0028 U*	*< 0.0029 U*	*< 0.0030 U*
Benzo(a)pyrene	mg/kg	0.022 J	0.016 J	*< 0.00043 U*	0.0072 J	*< 0.0037 U*	0.017 J	*< 0.0040 U*
Benzo(b)fluoranthene	mg/kg	*< 0.0049 U*	*< 0.0050 U*	0.00081 J	*< 0.0054 U*	*< 0.0047 U*	*< 0.0049 U*	*< 0.0051 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.0098 U*	*< 0.0099 U*	*< 0.0011 U*	*< 0.011 U*	*< 0.0093 U*	*< 0.0097 U*	*< 0.01 U*
Benzo(k)fluoranthene	mg/kg	*< 0.0074 U*	*< 0.0075 U*	*< 0.00082 U*	*< 0.0082 U*	*< 0.0071 U*	*< 0.0074 U*	*< 0.0076 U*
Chrysene	mg/kg	*< 0.0034 U*	*< 0.0034 U*	0.0011 J	*< 0.0037 U*	*< 0.0032 U*	*< 0.0034 U*	*< 0.0035 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.012 U*	*< 0.012 U*	*< 0.0013 U*	*< 0.013 U*	*< 0.011 U*	*< 0.012 U*	*< 0.012 U*
Fluoranthene	mg/kg	*< 0.0029 U*	*< 0.0029 U*	0.00068 J	*< 0.0032 U*	*< 0.0027 U*	*< 0.0028 U*	*< 0.0029 U*
Fluorene	mg/kg	*< 0.0048 U*	*< 0.0048 U*	*< 0.00053 U*	*< 0.0053 U*	*< 0.0046 U*	0.014 J	*< 0.0049 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.0047 U*	*< 0.0047 U*	*< 0.00052 U*	*< 0.0052 U*	*< 0.0045 U*	*< 0.0046 U*	*< 0.0048 U*
Naphthalene	mg/kg	*< 0.0030 U*	*< 0.0030 U*	*< 0.00039 U*	*< 0.0033 U*	*< 0.0029 U*	0.0043 J	*< 0.0031 U*
Phenanthrene	mg/kg	*< 0.0038 U*	*< 0.0035 U*	*< 0.00078 U*	*< 0.0042 U*	*< 0.0033 U*	0.031 J	*< 0.0035 U*
Pyrene	mg/kg	*< 0.0034 U*	*< 0.0035 U*	0.00078 J	*< 0.0038 U*	*< 0.0033 U*	*< 0.0034 U*	*< 0.0035 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	PRI-6	PRI-6	PRI-6	PRI-7	PRI-7	PRI-7	PRI-7
	Location ID	6-10	6-12	6-14	7-01	7-03	7-04	7-06
	Sample Date	28-Oct-15	28-Oct-15	16-Sep-15	23-Sep-15	24-Sep-15	29-Sep-15	28-Sep-15
	Sample Type	FINE	FINE	FINE	FINE	FINE	FINE	FINE
	Depth	0 - 4 in	0 - 4 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in
	Sample ID	6-10-SS-01-102815 FINES	6-12-SS-01-102815 FINES	6-14-SS-01-091615 FINES	7-01-SS-01-092315 FINES	7-03-SS-01-092415 FINES	7-04-SS-01-092915 FINES	7-06-SS-01-092815 FINES
Analyte	**Unit**							
08-General Solids Parameters								
Total Organic Carbon	mg/kg	2,700 J	< *1,700 U*	13,000	3,900 J	2,200 J	4,600	3,300 J

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**7-09**	**7-13**	**7-15**	**7-16**
	Sample Date	**28-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-09-SS-01-092815 FINES**	**7-13-SS-01-092215 FINES**	**7-15-SS-01-092215 FINES**	**7-16-SS-01-092915 FINES**
Analyte	**Unit**				
01-Dioxins and Furans					
2,3,7,8-TCDD	pg/g	*< 1.2 UQ*	2.2 J	*< 0.39 U*	0.35 J
1,2,3,7,8-PeCDD	pg/g	5.1 J	*< 1.6 U*	*< 0.59 U*	0.95 J
1,2,3,4,7,8-HxCDD	pg/g	5.9 J	7.1 J	1.7 J	1.1 J
1,2,3,6,7,8-HxCDD	pg/g	17 J	20 J	4.7 J	2.8 J
1,2,3,7,8,9-HxCDD	pg/g	24 J	27 J	6.6 J	3.8 J
1,2,3,4,6,7,8-HpCDD	pg/g	110	130	27 J	18
OCDD	pg/g	340	370	86 J	*< 47 UQ*
2,3,7,8-TCDF	pg/g	100	150	33	23
1,2,3,7,8-PeCDF	pg/g	310	420	95	74
2,3,4,7,8-PeCDF	pg/g	130	180	45 J	32
1,2,3,4,7,8-HxCDF	pg/g	1,100	1,400	300	220
1,2,3,6,7,8-HxCDF	pg/g	850	1,000	220	150
1,2,3,7,8,9-HxCDF	pg/g	91	140	37 J	21
2,3,4,6,7,8-HxCDF	pg/g	220	220	42 J	33
1,2,3,4,6,7,8-HpCDF	pg/g	8,000	7,500	1,600	1,000
1,2,3,4,7,8,9-HpCDF	pg/g	1,800	2,300	560	330
OCDF	pg/g	47,000	47,000	9,400	4,500
Calculated TEQ (ND=0), Mammalian	pg/g	410	480	110	73
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	410	490	110	74
Calculated TEQ (ND=0), Avian	pg/g	2,700	3,000	2,400	120
Calculated TEQ (ND=1/2 DL), Avian	pg/g	2,700	3,000	2,400	240
02-PCBs					
PCB-77	pg/g	*< 58 U*	*< 59 U*	*< 16 U*	18
PCB-81	pg/g	*< 49 U*	*< 62 U*	*< 15 U*	*< 1.7 U*
PCB-105	pg/g	*< 49 U*	*< 140 UQ*	61 J	27
PCB-107/123	pg/g				
PCB-114	pg/g	*< 39 U*	*< 75 U*	*< 16 U*	*< 5.6 U*
PCB-118	pg/g	140 J	430	110	73
PCB-123	pg/g	*< 41 U*	*< 73 U*	*< 16 U*	*< 5.3 U*
PCB-126	pg/g	*< 77 U*	*< 130 U*	*< 27 U*	*< 8.8 U*
PCB-156	pg/g				
PCB-157	pg/g				
PCB-156/157	pg/g	100 J	140 J	52 J	27
PCB-167	pg/g	*< 57 UQ*	120 J	31 J	22
PCB-169	pg/g	*< 49 U*	*< 60 U*	*< 14 U*	*< 2.8 U*
PCB-189	pg/g	*< 64 UQ*	*< 120 UQ*	39 J	28

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
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Tooele County, Utah

	Location Group	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**7-09**	**7-13**	**7-15**	**7-16**
	Sample Date	**28-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-09-SS-01-092815 FINES**	**7-13-SS-01-092215 FINES**	**7-15-SS-01-092215 FINES**	**7-16-SS-01-092915 FINES**
Analyte	**Unit**				
Monochlorobiphenyls, Total	mg/kg	*< 0.0000050 U*	*< 0.0000050 U*	0.000054	0.000024
Dichlorobiphenyls, Total	mg/kg	*< 0.00001 U*	*< 0.00001 U*	*< 0.00001 U*	0.000038
Trichlorobiphenyls, Total	mg/kg	*< 0.0000050 U*	0.000039	0.000043	0.00013
Tetrachlorobiphenyls, Total	mg/kg	0.00028	0.0011	0.00039	0.0003
Pentachlorobiphenyls, Total	mg/kg	0.00062	0.0021	0.00078	0.0007
Hexachlorobiphenyls, Total	mg/kg	0.0012	0.0034	0.0012	0.0011
Heptachlorobiphenyls, Total	mg/kg	0.003	0.0052	0.0016	0.0011
Octachlorobiphenyls, Total	mg/kg	0.0071	0.01	0.0026	0.0016
Nonachlorobiphenyls, Total	mg/kg	0.022	0.027	0.0056	0.0033
Decachlorobiphenyl (PCB-209)	mg/kg	0.33	0.33	0.063	0.03
Total PCBs	mg/kg	0.36	0.38	0.075	0.038
03-Metals					
Total Aluminum	mg/kg	11,000	4,300	5,200	3,600
Total Antimony	mg/kg	0.12 J	0.14 J	0.19 J	0.24 J
Total Arsenic	mg/kg	18	14	7.2	8.4
Total Barium	mg/kg	200	130	230	150
Total Beryllium	mg/kg	0.53 J-	0.22 J-	0.24 J-	0.17 J-
Total Cadmium	mg/kg	0.11 J-	0.14 J-	0.16 J-	0.20 J-
Total Calcium	mg/kg	79,000	170,000	180,000	140,000
Total Chromium	mg/kg	48	23	9.6	5.4
Total Cobalt	mg/kg	4.4 J-	2.5 J-	2.6 J-	1.9 J-
Total Copper	mg/kg	79 J-	42 J-	100 J-	60 J-
Total Iron	mg/kg	25,000	14,000	7,700	3,600
Total Lead	mg/kg	11	9.2	10	11
Total Magnesium	mg/kg	19,000	17,000	24,000	30,000
Total Manganese	mg/kg	170	120	180	210
Total Mercury	mg/kg	0.13 J-	0.11 J-	0.045 J-	0.039 J-
Total Molybdenum	mg/kg	5.6	8.5	2.1	6.6
Total Nickel	mg/kg	12 J-	7.8 J-	7.8 J-	5.1 J-
Total Potassium	mg/kg	5,900	2,200	3,000	2,400
Total Selenium	mg/kg	0.39	0.28	0.30	0.35
Total Silver	mg/kg	0.040 J-	0.035 J-	0.046 J-	0.035 J-
Total Sodium	mg/kg	15,000	7,900	13,000	11,000
Total Thallium	mg/kg	0.12	0.078 J	0.11	0.098
Total Vanadium	mg/kg	31	17	14	13
Total Zinc	mg/kg	65 J-	33 J-	46 J-	41 J-
05-SVOCs					
1,1'-Biphenyl	mg/kg	*< 16 U*	*< 13 U*	*< 13 U*	*< 1.7 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**7-09**	**7-13**	**7-15**	**7-16**
	Sample Date	**28-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-09-SS-01-092815 FINES**	**7-13-SS-01-092215 FINES**	**7-15-SS-01-092215 FINES**	**7-16-SS-01-092915 FINES**
Analyte	**Unit**				
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 2.5 U*	*< 2.1 U*	*< 2.1 U*	*< 0.27 U*
2,3,4,6-Tetrachlorophenol	mg/kg	*< 7.8 U*	*< 6.6 U*	*< 6.7 U*	*< 0.84 U*
2,4,5-Trichlorophenol	mg/kg	*< 7.9 U*	*< 6.6 U*	*< 6.7 U*	*< 0.85 U*
2,4,6-Trichlorophenol	mg/kg	*< 0.42 U*	*< 0.35 U*	*< 0.36 U*	*< 0.045 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 7.5 U*	*< 6.3 U*	*< 6.4 U*	*< 0.81 U*
2,4-Dichlorophenol	mg/kg	*< 8.5 U*	*< 7.1 U*	*< 7.2 U*	*< 0.91 U*
2,4-Dimethylphenol	mg/kg	*< 16 U*	*< 13 U*	*< 14 U*	*< 1.7 U*
2,4-Dinitrophenol	mg/kg	*< 20 U*	*< 17 U*	*< 17 U*	*< 2.2 U*
2,4-Dinitrotoluene	mg/kg	*< 8.5 U*	*< 7.1 U*	*< 7.2 U*	*< 0.91 U*
2,6-Dinitrotoluene	mg/kg	*< 9.5 U*	*< 7.9 U*	*< 8 U*	*< 1 U*
2-Chloronaphthalene	mg/kg	*< 7.7 U*	*< 6.5 U*	*< 6.6 U*	*< 0.83 U*
2-Chlorophenol	mg/kg	*< 8.4 U*	*< 7 U*	*< 7.2 U*	*< 0.9 U*
2-Methylphenol	mg/kg	*< 5.5 U*	*< 4.6 U*	*< 4.7 U*	*< 0.6 U*
2-Nitroaniline	mg/kg	*< 8 U*	*< 6.7 U*	*< 6.8 U*	*< 0.86 U*
2-Nitrophenol	mg/kg	*< 7.8 U*	*< 6.6 U*	*< 6.7 U*	*< 0.84 U*
3,3'-Dichlorobenzidine	mg/kg	*< 9 U*	*< 7.5 U*	*< 7.6 U*	*< 0.96 U*
3-Nitroaniline	mg/kg	*< 16 U*	*< 13 U*	*< 14 U*	*< 1.7 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 7.7 U*	*< 6.5 U*	*< 6.6 U*	*< 0.83 U*
4-Bromophenyl-phenylether	mg/kg	*< 8.1 U*	*< 6.8 U*	*< 6.9 U*	*< 0.87 U*
4-Chloro-3-methylphenol	mg/kg	*< 8.8 U*	*< 7.4 U*	*< 7.5 U*	*< 0.94 U*
4-Chloroaniline	mg/kg	*< 5.5 U*	*< 4.6 U*	*< 4.7 U*	*< 0.6 U*
4-Chlorophenyl-phenylether	mg/kg	*< 8.9 U*	*< 7.4 U*	*< 7.6 U*	*< 0.95 U*
3 & 4 Methylphenol	mg/kg	*< 32 U*	*< 26 U*	*< 27 U*	*< 3.4 U*
4-Nitroaniline	mg/kg	*< 8.4 U*	*< 7 U*	*< 7.2 U*	*< 0.9 U*
4-Nitrophenol	mg/kg	*< 27 U*	*< 22 U*	*< 23 U*	*< 2.9 U*
Acetophenone	mg/kg	*< 2.4 U*	*< 2 U*	*< 2 U*	7.6
Benzaldehyde	mg/kg	*< 16 U*	*< 13 U*	*< 13 U*	*< 1.7 U*
Benzylbutylphthalate	mg/kg	*< 9.1 U*	*< 7.6 U*	*< 7.7 U*	*< 0.97 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 8.4 U*	*< 7 U*	*< 7.2 U*	*< 0.9 U*
bis(2-Chloroethyl) ether	mg/kg	*< 7.7 U*	*< 6.5 U*	*< 6.6 U*	*< 0.83 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 9.4 U*	*< 7.8 U*	*< 8 U*	*< 1 U*
Carbazole	mg/kg	*< 9.1 U*	*< 7.6 U*	*< 7.7 U*	*< 0.97 U*
Dibenzofuran	mg/kg	*< 8.2 U*	*< 6.9 U*	*< 7 U*	*< 0.88 U*
Diethyl phthalate	mg/kg	*< 8.6 U*	*< 7.2 U*	*< 7.3 U*	*< 0.92 U*
Dimethylphthalate	mg/kg	*< 8.3 U*	*< 7 U*	*< 7.1 U*	*< 0.89 U*
Di-n-butylphthalate	mg/kg	*< 9.3 U*	*< 7.8 U*	*< 7.9 U*	*< 1 U*
Di-n-octylphthalate	mg/kg	*< 9.3 U*	*< 7.8 U*	*< 7.9 U*	*< 1 U*
Hexachlorobenzene	mg/kg	0.21 J	0.22 J	0.22 J	*< 0.023 U*
Hexachlorobutadiene	mg/kg	*< 0.35 U*	*< 0.3 U*	*< 0.3 U*	*< 0.038 U*
Hexachlorocyclopentadiene	mg/kg	*< 5.9 U*	*< 5 U*	*< 5 U*	*< 0.64 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**7-09**	**7-13**	**7-15**	**7-16**
	Sample Date	**28-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-09-SS-01-092815 FINES**	**7-13-SS-01-092215 FINES**	**7-15-SS-01-092215 FINES**	**7-16-SS-01-092915 FINES**
Analyte	**Unit**				
Hexachloroethane	mg/kg	*< 7.7 U*	*< 6.5 U*	*< 6.6 U*	*< 0.83 U*
Isophorone	mg/kg	*< 8.9 U*	*< 7.4 U*	*< 7.6 U*	*< 0.95 U*
Nitrobenzene	mg/kg	*< 7.3 U*	*< 6.1 U*	*< 6.2 U*	*< 0.78 U*
N-Nitrosodimethylamine	mg/kg	*< 9.2 U*	*< 7.7 U*	*< 7.8 U*	*< 0.98 U*
N-Nitroso-di-n-propylamine	mg/kg	*< 8 U*	*< 6.7 U*	*< 6.8 U*	*< 0.86 U*
N-Nitrosodiphenylamine	mg/kg	*< 8.2 U*	*< 6.9 U*	*< 7 U*	*< 0.88 U*
Pentachlorobenzene	mg/kg	*< 1.2 U*	*< 1 U*	*< 1.1 U*	*< 0.13 U*
Pentachlorophenol	mg/kg	*< 2.3 U*	*< 1.9 U*	*< 2 U*	*< 0.25 U*
Phenol	mg/kg	*< 7.9 U*	*< 6.6 U*	*< 6.7 U*	0.92 J
06-PAHs					
2-Methylnaphthalene	mg/kg	*< 0.0047 U*	*< 0.0045 U*	*< 0.0044 U*	*< 0.0045 U*
Acenaphthene	mg/kg	*< 0.0051 U*	*< 0.0049 U*	*< 0.0048 U*	*< 0.0049 U*
Acenaphthylene	mg/kg	*< 0.0036 U*	*< 0.0035 U*	*< 0.0034 U*	*< 0.0034 U*
Anthracene	mg/kg	*< 0.0043 U*	*< 0.0042 U*	*< 0.0041 U*	*< 0.0041 U*
Benzo(a)anthracene	mg/kg	*< 0.0033 U*	*< 0.0032 U*	*< 0.0031 U*	*< 0.0032 U*
Benzo(a)pyrene	mg/kg	*< 0.0043 U*	*< 0.0042 U*	*< 0.0041 U*	*< 0.0042 U*
Benzo(b)fluoranthene	mg/kg	*< 0.0055 U*	*< 0.0053 U*	*< 0.0052 U*	*< 0.0053 U*
Benzo(g,h,i)perylene	mg/kg	*< 0.011 U*	*< 0.011 U*	*< 0.01 U*	*< 0.01 U*
Benzo(k)fluoranthene	mg/kg	*< 0.0083 U*	*< 0.0080 U*	*< 0.0078 U*	*< 0.0079 U*
Chrysene	mg/kg	*< 0.0038 U*	*< 0.0037 U*	*< 0.0036 U*	*< 0.0036 U*
Dibenzo(a,h)anthracene	mg/kg	*< 0.013 U*	*< 0.013 U*	*< 0.012 U*	*< 0.013 U*
Fluoranthene	mg/kg	*< 0.0032 U*	*< 0.0031 U*	*< 0.0030 U*	0.0040 J
Fluorene	mg/kg	*< 0.0053 U*	*< 0.0052 U*	*< 0.0050 U*	*< 0.0051 U*
Indeno(1,2,3-cd)pyrene	mg/kg	*< 0.0052 U*	*< 0.0050 U*	*< 0.0049 U*	*< 0.0050 U*
Naphthalene	mg/kg	*< 0.0033 U*	*< 0.0032 U*	*< 0.0032 U*	*< 0.0032 U*
Phenanthrene	mg/kg	*< 0.0038 U*	*< 0.0037 U*	*< 0.0036 U*	0.0088 J
Pyrene	mg/kg	*< 0.0038 U*	*< 0.0037 U*	*< 0.0036 U*	*< 0.0036 U*

Table 5-13
Phase 1A-B RI Fines-fraction Analytical Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**7-09**	**7-13**	**7-15**	**7-16**
	Sample Date	**28-Sep-15**	**22-Sep-15**	**22-Sep-15**	**29-Sep-15**
	Sample Type	**FINE**	**FINE**	**FINE**	**FINE**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**7-09-SS-01-092815 FINES**	**7-13-SS-01-092215 FINES**	**7-15-SS-01-092215 FINES**	**7-16-SS-01-092915 FINES**
Analyte	**Unit**				
08-General Solids Parameters					
Total Organic Carbon	mg/kg	4,600	5,500	5,900	30,000

Notes:

Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:

J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Denver, CO, Alpha Woods Hole Laboratories.

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBB-01**	**LBB-02**	**LBB-03**	**LBB-04**	**LBB-05**	**LBB-06**	**LBB-07**	**LBB-07**	**LBB-08**
	Sample Date	**09-Oct-15**	**09-Oct-15**	**09-Oct-15**	**09-Oct-15**	**09-Oct-15**	**08-Oct-15**	**08-Oct-15**	**08-Oct-15**	**08-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**
	Sample ID	**LBB-1-SS-01-100915**	**LBB-2-SS-01-100915**	**LBB-3-SS-01-100915**	**LBB-4-SS-01-100915**	**LBB-5-SS-01-100915**	**LBB-6-SS-01-100815**	**LBB-7-SS-01-100815**	**LBB-7-SB-01-02-36-100815**	**LBB-8-SS-01-100815**
Analyte	**Unit**									
01-Dioxins and Furans in Solids for Phase 1AB										
2,3,7,8-TCDD	pg/g	*< 0.030 U*		*< 0.027 U*		*< 0.030 U*		*< 0.031 U*	*< 0.035 U*	
1,2,3,7,8-PeCDD	pg/g	*< 0.038 U*		*< 0.029 U*		*< 0.042 U*		*< 0.034 U*	*< 0.046 U*	
1,2,3,4,7,8-HxCDD	pg/g	*< 0.029 U*		*< 0.098 U*		*< 0.053 U*		*< 0.069 U*	*< 0.036 U*	
1,2,3,6,7,8-HxCDD	pg/g	*< 0.040 UQ*		*< 0.085 U*		*< 0.046 U*		*< 0.060 U*	*< 0.031 U*	
1,2,3,7,8,9-HxCDD	pg/g	0.076 J		*< 0.080 U*		*< 0.043 U*		*< 0.057 U*	*< 0.029 U*	
1,2,3,4,6,7,8-HpCDD	pg/g	0.61 J		0.29 J		0.72 J		0.31 J	0.065 J	
OCDD	pg/g	*< 1.9 U*		*< 1.2 U*		*< 2.8 U*		*< 1.1 U*	*< 0.22 UQ*	
2,3,7,8-TCDF	pg/g	0.94 J		0.35 J		0.54 J		0.084 J	*< 0.022 U*	
1,2,3,7,8-PeCDF	pg/g	1.1 J		0.34 J		*< 0.66 UQ*		*< 0.025 U*	*< 0.026 U*	
2,3,4,7,8-PeCDF	pg/g	0.62 J		0.21 J		0.39 J		*< 0.027 U*	*< 0.028 U*	
1,2,3,4,7,8-HxCDF	pg/g	2.7 J		0.85 J		1.7 J		0.23 J	*< 0.029 U*	
1,2,3,6,7,8-HxCDF	pg/g	1.9 J		0.61 J		*< 1.3 UQ*		*< 0.13 UQ*	*< 0.026 U*	
1,2,3,7,8,9-HxCDF	pg/g	*< 0.19 U*		*< 0.096 U*		*< 0.25 U*		*< 0.043 U*	*< 0.030 U*	
2,3,4,6,7,8-HxCDF	pg/g	0.69 J		0.15 J		0.45 J		*< 0.063 UQ*	*< 0.028 U*	
1,2,3,4,6,7,8-HpCDF	pg/g	11		3.6 J		8.8		0.90 J	*< 0.066 UQ*	
1,2,3,4,7,8,9-HpCDF	pg/g	2.5 J		1.0 J		2.0 J		0.27 J	*< 0.032 U*	
OCDF	pg/g	37		18		36		4.2 J	*< 0.23 UQ*	
Calculated TEQ (ND=0), Mammalian	pg/g	1.0		0.32		0.51		0.048	0.00066	
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	1.1		0.39		0.66		0.12	0.072	
Calculated TEQ (ND=0), Avian	pg/g	89		0.90		33		0.26	0.000070	
Calculated TEQ (ND=1/2 DL), Avian	pg/g	89		12		34		12	14	
02-PCBs for Solids from Phase 1AB										
PCB-77	pg/g	*< 1.9 UQ*		2.0		3.7		2.9	*< 0.46 U*	
PCB-81	pg/g	*< 0.22 U*		*< 0.36 U*		*< 0.29 U*		*< 0.32 U*	*< 0.45 U*	
PCB-105	pg/g	1.7 J		*< 0.76 UQ*		1.8 J		1.7 J	*< 0.18 U*	
PCB-114	pg/g	*< 0.20 U*		*< 0.30 U*		*< 0.30 U*		*< 0.24 U*	*< 0.18 U*	
PCB-118	pg/g	3.3		2.0		4.1		3.6	0.46 J	
PCB-123	pg/g	0.24 J		*< 0.29 U*		0.34 J		*< 0.24 U*	*< 0.17 U*	
PCB-126	pg/g	0.47 J		*< 0.38 U*		*< 0.35 U*		*< 0.30 U*	*< 0.23 U*	
PCB-156/157	pg/g	0.58 J		*< 0.28 UQ*		*< 0.52 UQ*		0.60 J	*< 0.18 U*	
PCB-167	pg/g	0.51 J		*< 0.23 UQ*		0.58 J		*< 0.40 UQ*	*< 0.14 U*	
PCB-169	pg/g	*< 0.13 U*		*< 0.13 U*		*< 0.20 U*		*< 0.13 U*	*< 0.16 U*	
PCB-189	pg/g	0.27 J		*< 0.29 U*		*< 0.23 UQ*		*< 0.24 U*	*< 0.28 U*	
Monochlorobiphenyls, Total	mg/kg	0.0000019 J		0.0000017 J		0.0000028 J		0.0000020 J	0.0000022 J	
Dichlorobiphenyls, Total	mg/kg	0.0000084 J		*< 0.0000031 U*		*< 0.0000026 U*		*< 0.0000037 U*	*< 0.0000043 U*	
Trichlorobiphenyls, Total	mg/kg	0.00000083 J		0.0000022 J		0.0000058 J		*< 0.0000013 U*	*< 0.0000017 U*	
Tetrachlorobiphenyls, Total	mg/kg	0.000015 J		0.000012 J		0.000021 J		0.000019 J	0.00000098 J	
Pentachlorobiphenyls, Total	mg/kg	0.000028 J		0.000018 J		0.000037 J		0.000032 J	0.0000024 J	
Hexachlorobiphenyls, Total	mg/kg	0.000024 J		0.000013 J		0.000033 J		0.000031 J	0.0000010 J	
Heptachlorobiphenyls, Total	mg/kg	0.00002 J		0.0000098 J		0.000028 J		0.00002 J	0.00000034 J	
Octachlorobiphenyls, Total	mg/kg	0.000019 J		0.0000069 J		0.000021 J		0.0000066 J	*< 0.00000037 U*	

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBB-01**	**LBB-02**	**LBB-03**	**LBB-04**	**LBB-05**	**LBB-06**	**LBB-07**	**LBB-07**	**LBB-08**
	Sample Date	**09-Oct-15**	**09-Oct-15**	**09-Oct-15**	**09-Oct-15**	**09-Oct-15**	**08-Oct-15**	**08-Oct-15**	**08-Oct-15**	**08-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**
	Sample ID	**LBB-1-SS-01-100915**	**LBB-2-SS-01-100915**	**LBB-3-SS-01-100915**	**LBB-4-SS-01-100915**	**LBB-5-SS-01-100915**	**LBB-6-SS-01-100815**	**LBB-7-SS-01-100815**	**LBB-7-SB-01-02-36-100815**	**LBB-8-SS-01-100815**
Analyte	**Unit**									
Nonachlorobiphenyls, Total	mg/kg	0.00004 J		0.000012 J		0.000042 J		0.0000056 J	*< 0.00000030 U*	
Decachlorobiphenyl (PCB-209)	mg/kg	0.00021		0.00008		0.0002		0.000032	*< 0.00000042 UQ*	
Total PCBs	mg/kg	0.00037		0.00016		0.00039		0.00015	0.0000073	
03- Metals in Solids from Phase 1AB										
Total Aluminum	mg/kg	1,200	1,100	880	1,900	1,500	1,100	2,500	1,400	2,400
Total Antimony	mg/kg	0.18 J-	0.16 J-	0.20 J-	0.19 J-	0.15 J-	0.14 J-	0.22 J-	0.14 J-	0.22 J-
Total Arsenic	mg/kg	7.7	8.2	7.7	8.1	7.0	5.5	7.0	5.8	6.6
Total Barium	mg/kg	170	140	160	160	160	140	160	150	210
Total Beryllium	mg/kg	0.048 J	0.057 J	0.040 J	0.086 J	0.072 J	0.050 J	0.12	0.052 J	0.13
Total Cadmium	mg/kg	*< 0.049 U*	*< 0.051 U*	*< 0.050 U*	0.064 J	*< 0.051 U*	*< 0.051 U*	*< 0.054 U*	0.041 J	0.078 J
Total Calcium	mg/kg	300,000	290,000	320,000	270,000	280,000	290,000	290,000	280,000	300,000
Total Chromium	mg/kg	1.8	1.5	1.2	2.6	1.9	1.4	3.2	1.7	3.2
Total Cobalt	mg/kg	0.74	0.70	0.63	0.95	0.84	0.69	1.2	0.69	1.1
Total Copper	mg/kg	3.0 J-	4.1 J-	2.4 J-	6.9 J-	4.8 J-	2.5 J-	5.4 J-	1.3 J-	11 J-
Total Iron	mg/kg	1,100	890	770	1,600	1,200	790	2,100	880	1,700
Total Lead	mg/kg	12	15	9.6 J+	18	16	7.7 J+	12	4.0 J+	15
Total Magnesium	mg/kg	11,000	11,000	11,000	13,000	12,000	10,000	15,000	13,000	12,000
Total Manganese	mg/kg	41	34	30	70	45	30	62	32	61
Total Mercury	mg/kg	0.015 J	0.014 J	0.012 J	0.026 J	0.016 J	0.016 J	0.057	0.016 J	0.027 J
Total Molybdenum	mg/kg	0.056 J	0.052 J	0.051 J	0.17 J	0.083 J	0.064 J	0.22	2.7	0.17 J
Total Nickel	mg/kg	1.7	1.6	1.4	2.4	1.9	1.5	2.7	1.5	2.7
Total Potassium	mg/kg	400 J+	320 J+	490 J+	600 J+	480 J+	320 J+	1,700	1,600	690 J+
Total Selenium	mg/kg	*< 0.098 UJ*	0.11 J-	*< 0.10 UJ*	0.15 J-	*< 0.10 UJ*	*< 0.10 UJ*	0.12 J-	0.14 J-	0.22 J-
Total Silver	mg/kg	*< 0.029 U*	*< 0.031 U*	*< 0.030 U*	*< 0.032 U*	*< 0.031 U*	*< 0.031 U*	*< 0.033 U*	*< 0.021 U*	0.044 J
Total Sodium	mg/kg	3,900 J+	3,700 J+	5,100 J+	3,500 J+	3,700 J+	3,600 J+	11,000 J+	17,000 J+	4,000 J+
Total Thallium	mg/kg	*< 0.049 U*	*< 0.051 U*	*< 0.050 U*	*< 0.054 U*	*< 0.051 U*	*< 0.051 U*	*< 0.054 U*	0.042 J	0.088 J
Total Vanadium	mg/kg	5.4	5.3	4.8	6.5	5.5	5.0	7.9	6.1	8.1
Total Zinc	mg/kg	25 J-	10 J	6.8 J-	16 J-	13 J-	7.6 J-	13 J-	6.7 J-	13 J-
05-SVOCs in Solids for Phase 1AB										
Hexachlorobenzene	mg/kg	0.0087 J		*< 0.0023 U*		0.0032 J-		*< 0.0024 UJ*	*< 0.0027 U*	

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBB-01**	**LBB-02**	**LBB-03**	**LBB-04**	**LBB-05**	**LBB-06**	**LBB-07**	**LBB-07**	**LBB-08**
	Sample Date	**09-Oct-15**	**09-Oct-15**	**09-Oct-15**	**09-Oct-15**	**09-Oct-15**	**08-Oct-15**	**08-Oct-15**	**08-Oct-15**	**08-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**
	Sample ID	**LBB-1-SS-01-100915**	**LBB-2-SS-01-100915**	**LBB-3-SS-01-100915**	**LBB-4-SS-01-100915**	**LBB-5-SS-01-100915**	**LBB-6-SS-01-100815**	**LBB-7-SS-01-100815**	**LBB-7-SB-01-02-36-100815**	**LBB-8-SS-01-100815**
Analyte	**Unit**									
08-General Solids Parameters for Phase 1AB										
Total Organic Carbon	mg/kg	13,000		2,400 J		8,000		1,900 J	1,700 J	
pH	pH units	9.31	9.26	9.73	8.51	9.29	9.29	8.71	8.49	9.39

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBB-09**	**LBB-10**	**LBN-01**	**LBN-02**	**LBN-03**	**LBN-04**	**LBN-05**	**LBN-06**	**LBN-06**
	Sample Date	**08-Oct-15**	**08-Oct-15**	**02-Oct-15**	**02-Oct-15**	**02-Oct-15**	**02-Oct-15**	**02-Oct-15**	**05-Oct-15**	**05-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**
	Sample ID	**LBB-9-SS-01-100815**	**LBB-10-SS-01-100815**	**LBN-1-SS-01-100215**	**LBN-2-SS-01-100215**	**LBN-3-SS-01-100215**	**LBN-4-SS-01-100215**	**LBN-5-SS-01-100215**	**LBN-6-SS-01-100515**	**LBN-6-SB-01-2-36-100515**
Analyte	**Unit**									
01-Dioxins and Furans in Solids for Phase 1AB										
2,3,7,8-TCDD	pg/g	*< 0.054 U*	*< 0.040 U*		*< 0.035 U*		*< 0.034 U*		*< 0.037 U*	*< 0.039 U*
1,2,3,7,8-PeCDD	pg/g	*< 0.076 U*	*< 0.081 U*		*< 0.055 U*		*< 0.064 U*		*< 0.059 U*	*< 0.046 U*
1,2,3,4,7,8-HxCDD	pg/g	*< 0.042 U*	*< 0.048 U*		*< 0.057 U*		*< 0.044 U*		*< 0.077 U*	*< 0.030 U*
1,2,3,6,7,8-HxCDD	pg/g	*< 0.037 U*	*< 0.042 U*		0.20 J		*< 0.042 U*		*< 0.075 U*	*< 0.030 U*
1,2,3,7,8,9-HxCDD	pg/g	*< 0.035 U*	*< 0.039 U*		*< 0.16 U*		0.26 J		*< 0.13 UQ*	*< 0.026 U*
1,2,3,4,6,7,8-HpCDD	pg/g	0.31 J	0.24 J		1.7 J		2.1 J		1.6 J	0.33 J
OCDD	pg/g	*< 1.2 U*	*< 0.95 U*		4.0 J		7.4 J		7.0 J	1.6 J
2,3,7,8-TCDF	pg/g	*< 0.037 U*	*< 0.053 UQ*		0.46 J		0.60 J		0.42 J	0.12 J
1,2,3,7,8-PeCDF	pg/g	*< 0.044 U*	*< 0.095 UQ*		0.27 J		0.42 J		0.39 J	0.18 J
2,3,4,7,8-PeCDF	pg/g	*< 0.047 U*	*< 0.040 U*		0.18 J		0.27 J		0.19 J	*< 0.034 U*
1,2,3,4,7,8-HxCDF	pg/g	*< 0.068 U*	0.26 J		0.51 J		1.3 J		*< 0.76 UQ*	0.11 J
1,2,3,6,7,8-HxCDF	pg/g	*< 0.076 UQ*	*< 0.17 UQ*		0.34 J		0.78 J		0.67 J	*< 0.052 UQ*
1,2,3,7,8,9-HxCDF	pg/g	*< 0.071 U*	*< 0.064 U*		*< 0.050 U*		*< 0.14 U*		*< 0.074 U*	*< 0.034 U*
2,3,4,6,7,8-HxCDF	pg/g	*< 0.066 U*	*< 0.078 UQ*		0.32 J		0.36 J		0.45 J	*< 0.032 U*
1,2,3,4,6,7,8-HpCDF	pg/g	0.66 J	0.91 J		1.7 J		6.2		3.7 J	*< 0.19 UQ*
1,2,3,4,7,8,9-HpCDF	pg/g	0.15 J	0.28 J		0.32 J		1.4 J		0.85 J	*< 0.058 U*
OCDF	pg/g	1.9 J	3.2 J		10 J		49		16	0.82 J
Calculated TEQ (ND=0), Mammalian	pg/g	0.012	0.042		0.29		0.73		0.29	0.032
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	0.14	0.16		0.43		0.79		0.42	0.11
Calculated TEQ (ND=0), Avian	pg/g	0.14	0.18		1.8		2.4		1.1	0.15
Calculated TEQ (ND=1/2 DL), Avian	pg/g	14	14		18		16		16	16
02-PCBs for Solids from Phase 1AB										
PCB-77	pg/g	2.6	2.8		20		18		5.5	*< 0.35 U*
PCB-81	pg/g	*< 0.56 U*	*< 0.38 U*		*< 0.69 UQ*		*< 0.59 U*		*< 0.41 U*	*< 0.32 U*
PCB-105	pg/g	1.7 J	1.4 J		4.1		6.7		2.2 J	*< 0.20 U*
PCB-114	pg/g	*< 0.42 U*	*< 0.32 U*		*< 0.85 U*		*< 0.75 U*		*< 0.39 U*	*< 0.19 U*
PCB-118	pg/g	4.1	3.3		8.9		16		4.9	0.39 J
PCB-123	pg/g	*< 0.42 U*	0.53 J		*< 0.82 U*		*< 0.78 U*		*< 0.38 U*	*< 0.18 U*
PCB-126	pg/g	*< 0.53 U*	*< 0.39 U*		*< 1.5 UQ*		1.9 J		*< 0.47 U*	*< 0.22 U*
PCB-156/157	pg/g	*< 0.33 U*	0.99 J		1.5 J		2.1 J		*< 1.2 UQ*	*< 0.25 U*
PCB-167	pg/g	*< 0.71 UQ*	0.65 J		*< 0.83 UQ*		1.3 J		0.64 J	*< 0.19 U*
PCB-169	pg/g	*< 0.28 U*	*< 0.16 U*		*< 0.19 U*		*< 0.24 U*		*< 0.20 U*	*< 0.23 U*
PCB-189	pg/g	*< 0.27 U*	*< 0.21 UQ*		0.46 J		*< 0.61 UQ*		*< 0.19 U*	*< 0.27 U*
Monochlorobiphenyls, Total	mg/kg	0.0000029 J	0.0000044 J		0.000015 J		0.0000085 J		0.0000059 J	0.0000079 J
Dichlorobiphenyls, Total	mg/kg	0.0000069 J	*< 0.0000036 U*		0.000038 J		*< 0.0000037 U*		0.000016 J	*< 0.0000043 U*
Trichlorobiphenyls, Total	mg/kg	*< 0.0000029 U*	*< 0.0000016 U*		0.0001 J		0.000044 J		0.000019 J	0.0000032 J
Tetrachlorobiphenyls, Total	mg/kg	0.000014 J	0.000016 J		0.00013 J		0.000084 J		0.000029 J	0.0000043 J
Pentachlorobiphenyls, Total	mg/kg	0.000031 J	0.000027 J		0.00015 J		0.00016 J		0.000044 J	0.0000022 J
Hexachlorobiphenyls, Total	mg/kg	0.000041 J	0.00003 J		0.00011 J		0.00013 J		0.000048 J	0.00000093 J
Heptachlorobiphenyls, Total	mg/kg	0.000026 J	0.000019 J		0.000078 J		0.00008 J		0.000037 J	*< 0.00000027 U*
Octachlorobiphenyls, Total	mg/kg	0.0000069 J	0.0000080 J		0.00004 J		0.000039 J		0.000022 J	*< 0.00000032 U*

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBB-09**	**LBB-10**	**LBN-01**	**LBN-02**	**LBN-03**	**LBN-04**	**LBN-05**	**LBN-06**	**LBN-06**
	Sample Date	**08-Oct-15**	**08-Oct-15**	**02-Oct-15**	**02-Oct-15**	**02-Oct-15**	**02-Oct-15**	**02-Oct-15**	**05-Oct-15**	**05-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**
	Sample ID	**LBB-9-SS-01-100815**	**LBB-10-SS-01-100815**	**LBN-1-SS-01-100215**	**LBN-2-SS-01-100215**	**LBN-3-SS-01-100215**	**LBN-4-SS-01-100215**	**LBN-5-SS-01-100215**	**LBN-6-SS-01-100515**	**LBN-6-SB-01-2-36-100515**
Analyte	**Unit**									
Nonachlorobiphenyls, Total	mg/kg	0.0000046 J	0.00001 J		0.000025 J		0.000043 J		0.000026 J	*< 0.00000023 U*
Decachlorobiphenyl (PCB-209)	mg/kg	0.000019 J	0.000027		0.000071		0.00019		0.000098	0.0000014 J
Total PCBs	mg/kg	0.00015	0.00014		0.00075		0.00077		0.00034	0.00002
03- Metals in Solids from Phase 1AB										
Total Aluminum	mg/kg	860	1,100	16,000 J	17,000 J	17,000 J	14,000	17,000 J	15,000	18,000
Total Antimony	mg/kg	0.085 J-	0.097 J-	0.51 J	0.47 J	0.40 J	0.61 J-	0.46 J	0.52 J-	0.47 J-
Total Arsenic	mg/kg	5.3	4.9	17	23	12	14	13	12	7.4
Total Barium	mg/kg	130	140	230	200	220	330	340	360	270
Total Beryllium	mg/kg	0.045 J	0.050 J	0.67	0.74	0.87	0.64	0.81	0.73	0.85
Total Cadmium	mg/kg	0.056 J	*< 0.033 U*	0.25	0.19	0.17	0.20	0.25	0.26	0.44
Total Calcium	mg/kg	270,000	270,000	71,000 J	56,000 J	50,000 J	63,000	79,000 J	62,000	67,000
Total Chromium	mg/kg	1.2	1.5	17	19	20	16	20	18	21
Total Cobalt	mg/kg	0.54	0.61	5.2	6.2	5.9	4.8	6.4	5.5	5.9
Total Copper	mg/kg	2.7 J-	2.6 J-	18 J-	19 J-	19 J-	17	19 J-	15	16
Total Iron	mg/kg	740	1,100	15,000 J	17,000 J	17,000 J	12,000	17,000 J	15,000	17,000
Total Lead	mg/kg	6.3 J+	6.7 J+	15	14	14	11	13	10 J+	9.7 J+
Total Magnesium	mg/kg	11,000	12,000	53,000 J+	51,000 J+	36,000 J+	38,000	34,000 J+	41,000	17,000
Total Manganese	mg/kg	22	26	280	320	270	260	300	340	300
Total Mercury	mg/kg	0.021 J	0.020 J	0.015 J	0.014 J	0.015 J	0.077	*< 0.0092 U*	0.025 J-	0.049 J-
Total Molybdenum	mg/kg	12	13	2.1	1.1	0.84	0.95	0.68	0.72	1.6
Total Nickel	mg/kg	1.1	1.2	13	16	16	12	17	15	17
Total Potassium	mg/kg	1,800	2,000	8,000	8,700	7,900	7,100 J	7,700	7,500	7,700
Total Selenium	mg/kg	0.10 J-	0.092 J-	0.75 J-	1.1 J-	0.52 J-	0.47 J-	0.41 J-	0.51 J-	1.1 J-
Total Silver	mg/kg	*< 0.019 U*	*< 0.020 U*	0.080 J	0.070 J	0.042 J	0.067 J	0.044 J	0.041 J	0.21
Total Sodium	mg/kg	18,000 J+	22,000 J+	41,000	42,000	24,000	26,000	11,000	28,000 J+	15,000 J+
Total Thallium	mg/kg	0.044 J	0.034 J	0.22	0.22	0.19	0.14 J-	0.18	0.18	0.48
Total Vanadium	mg/kg	4.5	5.0	37	41	41	32	41	36	46
Total Zinc	mg/kg	6.5 J-	6.6 J-	47 J-	49 J	81 J-	41 J-	50 J-	47	56
05-SVOCs in Solids for Phase 1AB										
Hexachlorobenzene	mg/kg	*< 0.0028 UJ*	*< 0.0028 UJ*		*< 0.0032 UJ*		*< 0.0027 UJ*		*< 0.0029 U*	*< 0.0032 U*

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBB-09**	**LBB-10**	**LBN-01**	**LBN-02**	**LBN-03**	**LBN-04**	**LBN-05**	**LBN-06**	**LBN-06**
	Sample Date	**08-Oct-15**	**08-Oct-15**	**02-Oct-15**	**02-Oct-15**	**02-Oct-15**	**02-Oct-15**	**02-Oct-15**	**05-Oct-15**	**05-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**
	Sample ID	**LBB-9-SS-01-100815**	**LBB-10-SS-01-100815**	**LBN-1-SS-01-100215**	**LBN-2-SS-01-100215**	**LBN-3-SS-01-100215**	**LBN-4-SS-01-100215**	**LBN-5-SS-01-100215**	**LBN-6-SS-01-100515**	**LBN-6-SB-01-2-36-100515**
Analyte	**Unit**									
08-General Solids Parameters for Phase 1AB										
Total Organic Carbon	mg/kg	2,100 J	3,900 J		9,000		2,000		< *1,700 U*	< *1,700 U*
pH	pH units	8.38	7.86	8.37	8.33	8.24	8.31	8.04	8.24	8.44

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBN-07**	**LBN-08**	**LBN-09**	**LBN-10**	**LBSE-01**	**LBSE-02**	**LBSE-03**	**LBSE-04**	**LBSE-05**
	Sample Date	**05-Oct-15**	**05-Oct-15**	**05-Oct-15**	**05-Oct-15**	**06-Oct-15**	**06-Oct-15**	**06-Oct-15**	**06-Oct-15**	**06-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**LBN-7-SS-01-100515**	**LBN-8-SS-01-100515**	**LBN-9-SS-01-100515**	**LBN-10-SS-01-100515**	**LBSE-1-SS-01-100615**	**LBSE-2-SS-01-100615**	**LBSE-3-SS-01-100615**	**LBSE-4-SS-01-100615**	**LBSE-5-SS-01-100615**
Analyte	**Unit**									
01-Dioxins and Furans in Solids for Phase 1AB										
2,3,7,8-TCDD	pg/g		*< 0.034 U*	*< 0.087 U*	*< 0.083 U*	*< 0.027 U*		*< 0.026 U*		*< 0.031 U*
1,2,3,7,8-PeCDD	pg/g		0.10 J	*< 0.12 UJ*	*< 0.051 U*	*< 0.036 U*		*< 0.034 U*		*< 0.070 UQ*
1,2,3,4,7,8-HxCDD	pg/g		*< 0.29 U*	*< 0.085 UJ*	*< 0.030 U*	*< 0.040 U*		*< 0.041 U*		*< 0.031 U*
1,2,3,6,7,8-HxCDD	pg/g		*< 0.29 U*	0.26 J	0.21 J	*< 0.039 U*		*< 0.039 U*		0.13 J
1,2,3,7,8,9-HxCDD	pg/g		0.30 J	0.37 J	*< 0.026 U*	*< 0.034 U*		*< 0.035 U*		0.16 J
1,2,3,4,6,7,8-HpCDD	pg/g		2.3 J	2.9 J	1.3 J	0.50 J		0.30 J		0.77 J
OCDD	pg/g		9.7 J	10 J	5.1 J	2.2 J		1.6 J		3.1 J
2,3,7,8-TCDF	pg/g		0.83 J	0.84 J	0.43 J	0.14 J		0.11 J		1.2 J
1,2,3,7,8-PeCDF	pg/g		0.67 J	0.84 J	0.50 J	0.11 J		*< 0.13 UQ*		3.0 J
2,3,4,7,8-PeCDF	pg/g		0.38 J	0.36 J	0.23 J	*< 0.035 U*		0.076 J		1.3 J
1,2,3,4,7,8-HxCDF	pg/g		1.5 J	1.6 J	1.4 J	0.21 J		0.34 J		6.0 J
1,2,3,6,7,8-HxCDF	pg/g		1.1 J	*< 1.1 UJQ*	*< 0.95 UQ*	*< 0.13 UQ*		0.30 J		4.2 J
1,2,3,7,8,9-HxCDF	pg/g		0.26 J	*< 0.32 UJQ*	*< 0.23 UQ*	*< 0.024 U*		*< 0.051 UQ*		0.59 J
2,3,4,6,7,8-HxCDF	pg/g		*< 0.37 UQ*	*< 0.53 UJQ*	0.34 J	0.091 J		0.17 J		1.4 J
1,2,3,4,6,7,8-HpCDF	pg/g		7.8	7.7 J	7.9	0.69 J		1.5 J		27
1,2,3,4,7,8,9-HpCDF	pg/g		1.8 J	1.9 J	2.1 J	*< 0.12 UQ*		0.37 J		7.5
OCDF	pg/g		49	53	53	3.1 J		6.3 J		180
Calculated TEQ (ND=0), Mammalian	pg/g		0.92	0.59	0.45	0.061		0.14		2.3
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g		0.99	0.87	0.64	0.13		0.20		2.3
Calculated TEQ (ND=0), Avian	pg/g		1.9	1.6	1.4	0.26		0.29		4.4
Calculated TEQ (ND=1/2 DL), Avian	pg/g		16	16	16	12		12		19
02-PCBs for Solids from Phase 1AB										
PCB-77	pg/g		*< 9.0 UQ*	*< 6.6 UQ*	7.4	1.4 J		*< 0.73 UQ*		*< 1.5 UQ*
PCB-81	pg/g		*< 0.50 U*	*< 0.85 U*	*< 0.39 U*	*< 0.23 U*		*< 0.27 U*		*< 0.37 U*
PCB-105	pg/g		6.8	8.2	5.2	1.7 J		0.85 J		3.1
PCB-114	pg/g		*< 0.72 U*	*< 1.1 U*	*< 0.60 U*	*< 0.25 U*		*< 0.25 U*		*< 0.49 U*
PCB-118	pg/g		15	17	11	4.2		1.8 J		5.3
PCB-123	pg/g		*< 0.70 U*	*< 0.99 U*	*< 0.56 U*	*< 0.23 U*		*< 0.24 U*		0.66 J
PCB-126	pg/g		1.5 J	*< 1.5 U*	*< 1.1 UQ*	*< 0.30 U*		*< 0.33 U*		*< 0.62 U*
PCB-156/157	pg/g		*< 1.8 UQ*	3.7 J	2.3 J	0.66 J		*< 0.21 U*		1.7 J
PCB-167	pg/g		1.5 J	2.6	*< 1.6 UQ*	0.35 J		*< 0.15 U*		1.0 J
PCB-169	pg/g		*< 0.21 U*	*< 0.54 U*	*< 0.20 U*	*< 0.17 U*		*< 0.19 U*		*< 0.34 U*
PCB-189	pg/g		0.48 J	*< 1.1 UQ*	0.48 J	*< 0.15 U*		*< 0.28 U*		0.78 J
Monochlorobiphenyls, Total	mg/kg		0.0000093 J	0.0000048 J	0.0000064 J	0.0000018 J		0.0000014 J		0.0000043 J
Dichlorobiphenyls, Total	mg/kg		*< 0.0000023 U*	*< 0.0000035 U*	*< 0.0000060 U*	*< 0.0000021 U*		*< 0.0000019 U*		0.0000046 J
Trichlorobiphenyls, Total	mg/kg		0.000029 J	0.000011 J	0.000014 J	0.00000072 J		*< 0.00000044 U*		0.0000013 J
Tetrachlorobiphenyls, Total	mg/kg		0.000058 J	0.000039 J	0.000048 J	0.000021 J		0.00001 J		0.000027 J
Pentachlorobiphenyls, Total	mg/kg		0.00011 J	0.0001 J	0.000087 J	0.000036 J		0.000013 J		0.000038 J
Hexachlorobiphenyls, Total	mg/kg		0.00011 J	0.00018 J	0.00011 J	0.000028 J		0.000013 J		0.000043 J
Heptachlorobiphenyls, Total	mg/kg		0.000089 J	0.00014 J	0.000091 J	0.000017 J		0.0000077 J		0.000064 J
Octachlorobiphenyls, Total	mg/kg		0.000052 J	0.000068 J	0.000038 J	0.0000081 J		0.0000063 J		0.00011 J

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBN-07**	**LBN-08**	**LBN-09**	**LBN-10**	**LBSE-01**	**LBSE-02**	**LBSE-03**	**LBSE-04**	**LBSE-05**
	Sample Date	**05-Oct-15**	**05-Oct-15**	**05-Oct-15**	**05-Oct-15**	**06-Oct-15**	**06-Oct-15**	**06-Oct-15**	**06-Oct-15**	**06-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**LBN-7-SS-01-100515**	**LBN-8-SS-01-100515**	**LBN-9-SS-01-100515**	**LBN-10-SS-01-100515**	**LBSE-1-SS-01-100615**	**LBSE-2-SS-01-100615**	**LBSE-3-SS-01-100615**	**LBSE-4-SS-01-100615**	**LBSE-5-SS-01-100615**
Analyte	**Unit**									
Nonachlorobiphenyls, Total	mg/kg		0.000059 J	0.000078 J	0.000043 J	0.0000062 J		0.000011 J		0.00016 J
Decachlorobiphenyl (PCB-209)	mg/kg		0.00027	0.00045	0.00029	0.000019 J		0.000049		0.002
Total PCBs	mg/kg		0.00079	0.0011	0.00073	0.00014		0.00011		0.0024
03- Metals in Solids from Phase 1AB										
Total Aluminum	mg/kg	11,000	17,000	16,000	13,000	5,000	9,000	2,000	10,000	3,500
Total Antimony	mg/kg	0.38 J-	0.56 J-	0.65 J-	0.69 J-	0.37 J-	0.54 J-	0.27 J-	0.55 J-	0.29 J-
Total Arsenic	mg/kg	8.1	14	16	15	11	9.3	7.1	11	9.1
Total Barium	mg/kg	340	330	340	330	480	270	150	250	180
Total Beryllium	mg/kg	0.59	0.84	0.78	0.62	0.24	0.42	0.098 J	0.53	0.17
Total Cadmium	mg/kg	0.22	0.26	0.35	0.35	0.11	0.25	*< 0.051 U*	0.29	0.10
Total Calcium	mg/kg	56,000	65,000	79,000	84,000	200,000	170,000	280,000	96,000	170,000
Total Chromium	mg/kg	13	20	18	16	6.3	12	2.5	14	4.7
Total Cobalt	mg/kg	4.3	6.3	6.4	5.3	2.6	4.0	1.0	4.6	1.6
Total Copper	mg/kg	11	22	17	17	7.7	11	3.0	12	5.1
Total Iron	mg/kg	11,000	17,000	15,000	12,000	4,300	9,300	1,800	11,000	3,500
Total Lead	mg/kg	9.2 J+	14	11 J+	10 J+	13	9.9 J+	5.9 J+	8.7 J+	8.4 J+
Total Magnesium	mg/kg	27,000	47,000	34,000	38,000	15,000	24,000	14,000	25,000	45,000
Total Manganese	mg/kg	240	360	350	320	140	270	52	320	110
Total Mercury	mg/kg	0.030 J-	0.044 J-	0.047 J-	0.036 J-	0.018 J-	0.097 J-	0.011 J-	0.048 J-	0.060 J-
Total Molybdenum	mg/kg	0.82	1.8	2.2	3.5	0.21	3.4	0.20	2.9	3.4
Total Nickel	mg/kg	11	17	16	13	6.1	11	2.2	12	3.8
Total Potassium	mg/kg	5,700	8,000	7,100	6,300	1,600	6,600	1,500	9,000	6,300
Total Selenium	mg/kg	0.35 J-	0.59 J-	0.75 J-	0.64 J-	0.22 J-	0.58 J-	0.12 J-	0.67 J-	0.22 J-
Total Silver	mg/kg	0.040 J	0.053 J	0.080 J	0.089 J	0.033 J	0.066 J	*< 0.031 U*	0.079 J	0.028 J
Total Sodium	mg/kg	21,000 J+	23,000 J+	27,000 J+	30,000 J+	2,200 J+	37,000	7,700 J+	52,000	30,000 J+
Total Thallium	mg/kg	0.14	0.19	0.21	0.21	0.11	0.19	*< 0.051 U*	0.21	0.081
Total Vanadium	mg/kg	24	36	35	31	12	20	6.7	22	8.8
Total Zinc	mg/kg	33	53	49	42	20	31	9.6	35	14
05-SVOCs in Solids for Phase 1AB										
Hexachlorobenzene	mg/kg		*< 0.0027 UJ*	*< 0.0027 UJ*	*< 0.0028 UJ*	*< 0.0023 UJ*		*< 0.0023 UJ*		*< 0.0029 UJ*

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBN-07**	**LBN-08**	**LBN-09**	**LBN-10**	**LBSE-01**	**LBSE-02**	**LBSE-03**	**LBSE-04**	**LBSE-05**
	Sample Date	**05-Oct-15**	**05-Oct-15**	**05-Oct-15**	**05-Oct-15**	**06-Oct-15**	**06-Oct-15**	**06-Oct-15**	**06-Oct-15**	**06-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**LBN-7-SS-01-100515**	**LBN-8-SS-01-100515**	**LBN-9-SS-01-100515**	**LBN-10-SS-01-100515**	**LBSE-1-SS-01-100615**	**LBSE-2-SS-01-100615**	**LBSE-3-SS-01-100615**	**LBSE-4-SS-01-100615**	**LBSE-5-SS-01-100615**
Analyte	**Unit**									
08-General Solids Parameters for Phase 1AB										
Total Organic Carbon	mg/kg		3,100 J	2,500 J	4,900	2,000 J		26,000		10,000
pH	pH units	8.20	8.15	8.23	8.14	9.19	8.42	8.44	8.23	8.08

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	LBSE-06	LBSE-07	LBSE-07	LBSE-08	LBSE-09	LBSE-10
	Sample Date	07-Oct-15	07-Oct-15	07-Oct-15	07-Oct-15	07-Oct-15	07-Oct-15
	Sample Type	N	N	N	N	N	N
	Depth	0 - 2 in	0 - 2 in	2 - 36 in	0 - 2 in	0 - 2 in	0 - 2 in
	Sample ID	LBSE-6-SS-01-100715	LBSE-7-SS-01-100715	LBSE-7-SB-01-02-36-100715	LBSE-8-SS-01-100715	LBSE-9-SS-01-100715	LBSE-10-SS-01-100715
Analyte	**Unit**						
01-Dioxins and Furans in Solids for Phase 1AB							
2,3,7,8-TCDD	pg/g		0.11 J	*< 0.043 U*		*< 0.030 U*	*< 0.031 U*
1,2,3,7,8-PeCDD	pg/g		0.30 J	*< 0.063 U*		*< 0.035 U*	*< 0.047 U*
1,2,3,4,7,8-HxCDD	pg/g		*< 0.10 U*	*< 0.072 U*		*< 0.030 U*	*< 0.049 U*
1,2,3,6,7,8-HxCDD	pg/g		*< 0.69 UQ*	*< 0.070 U*		*< 0.029 U*	*< 0.047 U*
1,2,3,7,8,9-HxCDD	pg/g		0.62 J	*< 0.062 U*		*< 0.025 U*	*< 0.041 U*
1,2,3,4,6,7,8-HpCDD	pg/g		2.3 J	0.58 J		0.26 J	0.85 J
OCDD	pg/g		*< 7.2 UQ*	2.0 J		1.2 J	3.5 J
2,3,7,8-TCDF	pg/g		9.1	1.4 J		0.29 J	1.3 J
1,2,3,7,8-PeCDF	pg/g		22	1.9 J		0.55 J	2.5 J
2,3,4,7,8-PeCDF	pg/g		11	0.93 J		0.20 J	1.3 J
1,2,3,4,7,8-HxCDF	pg/g		65	5.7 J		1.4 J	8.5
1,2,3,6,7,8-HxCDF	pg/g		41	3.5 J		0.96 J	5.7 J
1,2,3,7,8,9-HxCDF	pg/g		6.5 J	0.51 J		*< 0.18 UQ*	0.78 J
2,3,4,6,7,8-HxCDF	pg/g		7.6	0.70 J		0.26 J	1.4 J
1,2,3,4,6,7,8-HpCDF	pg/g		210	21		6.5	40
1,2,3,4,7,8,9-HpCDF	pg/g		79	5.6 J		1.7 J	10
OCDF	pg/g		1,100	91		29	180
Calculated TEQ (ND=0), Mammalian	pg/g		21	1.8		0.46	2.8
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g		21	1.9		0.52	2.9
Calculated TEQ (ND=0), Avian	pg/g		280	3.9		0.89	5.0
Calculated TEQ (ND=1/2 DL), Avian	pg/g		280	22		15	20
02-PCBs for Solids from Phase 1AB							
PCB-77	pg/g		7.6	1.3 J		*< 0.45 UQ*	*< 1.9 UQ*
PCB-81	pg/g		2.6 J	*< 0.45 U*		*< 0.23 U*	*< 0.38 UQ*
PCB-105	pg/g		33	6.1		1.1 J	6.2
PCB-114	pg/g		5.5	*< 0.64 U*		*< 0.20 U*	0.87 J
PCB-118	pg/g		56	10		2.1 J	10
PCB-123	pg/g		5.0	*< 0.67 U*		*< 0.20 U*	0.95 J
PCB-126	pg/g		4.8	*< 0.65 U*		*< 0.24 U*	*< 0.60 UQ*
PCB-156/157	pg/g		16	*< 1.7 UQ*		*< 0.21 U*	2.7 J
PCB-167	pg/g		9.2	1.1 J		*< 0.17 U*	*< 1.4 UQ*
PCB-169	pg/g		*< 1.5 U*	*< 0.23 U*		*< 0.18 U*	*< 0.20 U*
PCB-189	pg/g		11	0.77 J		*< 0.25 U*	1.3 J
Monochlorobiphenyls, Total	mg/kg		0.000011 J	0.0000084 J		0.0000036 J	0.0000088 J
Dichlorobiphenyls, Total	mg/kg		0.000033 J	0.0000063 J		0.0000034 J	0.000011 J
Trichlorobiphenyls, Total	mg/kg		0.000053 J	0.0000093 J		0.00000098 J	0.000012 J
Tetrachlorobiphenyls, Total	mg/kg		0.00021 J	0.00004 J		0.00001 J	0.000043 J
Pentachlorobiphenyls, Total	mg/kg		0.00037	0.000063 J		0.000014 J	0.00008 J
Hexachlorobiphenyls, Total	mg/kg		0.0003	0.000045 J		0.00001 J	0.000068 J
Heptachlorobiphenyls, Total	mg/kg		0.00042	0.000045 J		0.0000096 J	0.000071 J
Octachlorobiphenyls, Total	mg/kg		0.00067	0.000051 J		0.000014 J	0.000095 J

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBSE-06**	**LBSE-07**	**LBSE-07**	**LBSE-08**	**LBSE-09**	**LBSE-10**
	Sample Date	**07-Oct-15**	**07-Oct-15**	**07-Oct-15**	**07-Oct-15**	**07-Oct-15**	**07-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**LBSE-6-SS-01-100715**	**LBSE-7-SS-01-100715**	**LBSE-7-SB-01-02-36-100715**	**LBSE-8-SS-01-100715**	**LBSE-9-SS-01-100715**	**LBSE-10-SS-01-100715**
Analyte	**Unit**						
Nonachlorobiphenyls, Total	mg/kg		0.001	0.000049 J		0.000018 J	0.00013 J
Decachlorobiphenyl (PCB-209)	mg/kg		0.015	0.00078		0.00018	0.0014
Total PCBs	mg/kg		0.018	0.0011		0.00026	0.0019
03- Metals in Solids from Phase 1AB							
Total Aluminum	mg/kg	9,400	8,500	8,800	11,000	2,500	4,700
Total Antimony	mg/kg	0.84 J-	1.1 J-	0.49 J-	0.85 J-	0.30 J-	0.17 J-
Total Arsenic	mg/kg	11	15	7.0	11	8.2	8.5
Total Barium	mg/kg	300	260	290	300	190	210
Total Beryllium	mg/kg	0.50	0.47	0.45	0.55	0.14	0.23
Total Cadmium	mg/kg	0.34	0.27	0.26	0.32	0.081	0.17
Total Calcium	mg/kg	110,000	110,000	140,000	110,000	260,000	170,000
Total Chromium	mg/kg	12	12	12	19	3.4	5.7
Total Cobalt	mg/kg	4.2	3.9	3.8	4.9	1.4	2.3
Total Copper	mg/kg	12	12	12	14	3.9	7.3
Total Iron	mg/kg	9,900	9,800	9,100	11,000	2,200	5,100
Total Lead	mg/kg	10 J+	8.9 J+	9.1 J+	10 J+	7.0 J+	6.3 J+
Total Magnesium	mg/kg	32,000	30,000	26,000	28,000	12,000	26,000
Total Manganese	mg/kg	270	250	270	350	77	150
Total Mercury	mg/kg	0.067 J-	0.043 J-	0.087 J-	0.058 J-	0.018 J-	0.16 J-
Total Molybdenum	mg/kg	5.4	4.3	4.5	4.5	2.7	3.5
Total Nickel	mg/kg	12	10	10	15	3.0	5.7
Total Potassium	mg/kg	8,500	8,900	8,300	7,400	2,400	7,000
Total Selenium	mg/kg	0.82 J-	0.69 J-	0.65 J-	0.75 J-	0.30 J-	0.38 J-
Total Silver	mg/kg	0.081 J	0.076 J	0.070 J	0.094 J	0.024 J	0.035 J
Total Sodium	mg/kg	60,000	54,000	57,000	50,000	33,000	44,000
Total Thallium	mg/kg	0.24	0.23	0.21	0.24	0.085	0.12
Total Vanadium	mg/kg	22	20	21	24	7.9	12
Total Zinc	mg/kg	37	32	31	40	12	17
05-SVOCs in Solids for Phase 1AB							
Hexachlorobenzene	mg/kg		0.024 J-	*< 0.0036 UJ*		*< 0.0028 UJ*	*< 0.0030 UJ*

Table 5-14
Phase 1A-B RI Analytical Results for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**LBSE-06**	**LBSE-07**	**LBSE-07**	**LBSE-08**	**LBSE-09**	**LBSE-10**
	Sample Date	**07-Oct-15**	**07-Oct-15**	**07-Oct-15**	**07-Oct-15**	**07-Oct-15**	**07-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**LBSE-6-SS-01-100715**	**LBSE-7-SS-01-100715**	**LBSE-7-SB-01-02-36-100715**	**LBSE-8-SS-01-100715**	**LBSE-9-SS-01-100715**	**LBSE-10-SS-01-100715**
Analyte	**Unit**						
08-General Solids Parameters for Phase 1AB							
Total Organic Carbon	mg/kg		5,700	12,000		4,000	11,000
pH	pH units	8.36	8.35	8.11	8.32	8.58	7.97

Notes:
Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Denver, CO.

Table 5-15
Phase 1A-B RI Prevalence Table for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2,3,7,8-TCDD	pg/g	21	1	0.11	0.11	0.11	0.023	0.53	0.026	0.087	LBSE-07
1,2,3,7,8-PeCDD	pg/g	21	2	0.3	0.1	0.20	0.058	0.85	0.029	0.12	LBSE-07
1,2,3,4,7,8-HxCDD	pg/g	21	0				0.056	0.88	0.029	0.29	
1,2,3,6,7,8-HxCDD	pg/g	21	4	0.26	0.13	0.20	0.15	1.3	0.029	0.69	LBN-09
1,2,3,7,8,9-HxCDD	pg/g	21	6	0.62	0.076	0.30	0.15	1.2	0.025	0.16	LBSE-07
1,2,3,4,6,7,8-HpCDD	pg/g	21	21	2.9	0.065	0.97	0.84	0.87			LBN-09
OCDD	pg/g	21	13	10	1.2	4.5	3.0	0.84	0.22	7.2	LBN-09
2,3,7,8-TCDF	pg/g	21	18	9.1	0.084	1.1	1.9	2.1	0.022	0.053	LBSE-07
1,2,3,7,8-PeCDF	pg/g	21	15	22	0.11	2.3	4.7	2.8	0.025	0.66	LBSE-07
2,3,4,7,8-PeCDF	pg/g	21	15	11	0.076	1.2	2.4	2.8	0.027	0.047	LBSE-07
1,2,3,4,7,8-HxCDF	pg/g	21	18	65	0.11	5.5	14	2.9	0.029	0.76	LBSE-07
1,2,3,6,7,8-HxCDF	pg/g	21	12	41	0.3	5.1	8.8	2.8	0.026	1.3	LBSE-07
1,2,3,7,8,9-HxCDF	pg/g	21	5	6.5	0.26	1.7	1.4	2.8	0.024	0.32	LBSE-07
2,3,4,6,7,8-HxCDF	pg/g	21	14	7.6	0.091	1.0	1.6	2.2	0.028	0.53	LBSE-07
1,2,3,4,6,7,8-HpCDF	pg/g	21	19	210	0.66	19	45	2.6	0.066	0.19	LBSE-07
1,2,3,4,7,8,9-HpCDF	pg/g	21	18	79	0.15	6.6	17	3.0	0.032	0.12	LBSE-07
OCDF	pg/g	21	20	1100	0.82	96	240	2.6	0.23	0.23	LBSE-07
Calculated TEQ (ND=0), Mammalian	pg/g	21	21	21	0.00066	1.6	4.5	2.8			LBSE-07
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	21	21	21	0.072	1.7	4.5	2.6			LBSE-07
Calculated TEQ (ND=0), Avian	pg/g	21	21	280	0.00007	20	63	3.1			LBSE-07
Calculated TEQ (ND=1/2 DL), Avian	pg/g	21	21	280	12	33	59	1.8			LBSE-07
PCB-77	pg/g	21	12	20	1.3	6.3	5.4	1.2	0.35	9.0	LBN-02
PCB-81	pg/g	21	1	2.6	2.6	2.6	0.50	0.97	0.22	0.85	LBSE-07
PCB-105	pg/g	21	18	33	0.85	5.2	7.0	1.5	0.18	0.76	LBSE-07
PCB-114	pg/g	21	2	5.5	0.87	3.2	1.1	1.6	0.18	1.1	LBSE-07
PCB-118	pg/g	21	21	56	0.39	8.7	12	1.4			LBSE-07
PCB-123	pg/g	21	6	5	0.24	1.3	1.0	1.5	0.17	0.99	LBSE-07
PCB-126	pg/g	21	4	4.8	0.47	2.2	1.0	1.2	0.22	1.5	LBSE-07
PCB-156/157	pg/g	21	11	16	0.58	3.0	3.4	1.8	0.18	1.8	LBSE-07
PCB-167	pg/g	21	11	9.2	0.35	1.8	1.9	1.6	0.14	1.6	LBSE-07
PCB-169	pg/g	21	0				0.29	1.1	0.13	1.5	
PCB-189	pg/g	21	8	11	0.27	1.9	2.3	2.5	0.15	1.1	LBSE-07
Monochlorobiphenyls, Total	mg/kg	21	21	0.000015	0.0000014	0.0000055	0.0000037	0.67			LBN-02
Dichlorobiphenyls, Total	mg/kg	21	9	0.000038	0.0000034	0.000014	0.0000097	1.2	0.0000019	0.0000060	LBN-02
Trichlorobiphenyls, Total	mg/kg	21	16	0.0001	0.00000072	0.000019	0.000024	1.6	0.00000044	0.0000029	LBN-02
Tetrachlorobiphenyls, Total	mg/kg	21	21	0.00021	0.00000098	0.000041	0.000049	1.2			LBSE-07
Pentachlorobiphenyls, Total	mg/kg	21	21	0.00037	0.0000022	0.000069	0.000083	1.2			LBSE-07
Hexachlorobiphenyls, Total	mg/kg	21	21	0.0003	0.00000093	0.000065	0.000072	1.1			LBSE-07
Heptachlorobiphenyls, Total	mg/kg	21	20	0.00042	0.00000034	0.000064	0.000090	1.5	0.00000027	0.00000027	LBSE-07
Octachlorobiphenyls, Total	mg/kg	21	19	0.00067	0.0000063	0.000067	0.00014	2.3	0.00000032	0.00000037	LBSE-07
Nonachlorobiphenyls, Total	mg/kg	21	19	0.001	0.0000046	0.000093	0.00021	2.5	0.00000023	0.00000030	LBSE-07
Decachlorobiphenyl (PCB-209)	mg/kg	21	20	0.015	0.0000014	0.0011	0.0032	3.2	0.00000042	0.00000042	LBSE-07
Total PCBs	mg/kg	21	21	0.018	0.0000073	0.0014	0.0039	2.7			LBSE-07
Total Aluminum	mg/kg	33	33	18000	860	7,900	6,300	0.80			LBN-06
Total Antimony	mg/kg	33	33	1.1	0.085	0.40	0.25	0.61			LBSE-07

Table 5-15
Phase 1A-B RI Prevalence Table for Lakebed Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Total Arsenic	mg/kg	33	33	23	4.9	10	4.0	0.40			LBN-02
Total Barium	mg/kg	33	33	480	130	240	86	0.36			LBSE-01
Total Beryllium	mg/kg	33	33	0.87	0.04	0.38	0.30	0.78			LBN-03
Total Cadmium	mg/kg	33	25	0.44	0.041	0.21	0.12	0.67	0.033	0.054	LBN-06
Total Calcium	mg/kg	33	33	320000	50000	170,000	99,000	0.57			LBB-03
Total Chromium	mg/kg	33	33	21	1.2	9.8	7.4	0.76			LBN-06
Total Cobalt	mg/kg	33	33	6.4	0.54	3.2	2.2	0.69			LBN-05 LBN-09
Total Copper	mg/kg	33	33	22	1.3	10	6.3	0.61			LBN-08
Total Iron	mg/kg	33	33	17000	740	7,700	6,200	0.81			LBN-02 LBN-03 LBN-05 LBN-06 LBN-08
Total Lead	mg/kg	33	33	18	4	11	3.3	0.31			LBB-04
Total Magnesium	mg/kg	33	33	53000	10000	25,000	13,000	0.53			LBN-01
Total Manganese	mg/kg	33	33	360	22	180	130	0.69			LBN-08
Total Mercury	mg/kg	33	32	0.16	0.011	0.039	0.032	0.84	0.0092	0.0092	LBSE-10
Total Molybdenum	mg/kg	33	33	13	0.051	2.4	3.1	1.3			LBB-10
Total Nickel	mg/kg	33	33	17	1.1	8.3	6.0	0.73			LBN-05 LBN-06 LBN-08
Total Potassium	mg/kg	33	33	9000	320	4,800	3,300	0.69			LBSE-04
Total Selenium	mg/kg	33	29	1.1	0.092	0.47	0.30	0.72	0.098	0.10	LBN-02 LBN-06
Total Silver	mg/kg	33	22	0.21	0.024	0.066	0.036	0.68	0.019	0.033	LBN-06
Total Sodium	mg/kg	33	33	60000	2200	25,000	18,000	0.73			LBSE-06
Total Thallium	mg/kg	33	25	0.48	0.034	0.17	0.095	0.67	0.049	0.054	LBN-06
Total Vanadium	mg/kg	33	33	46	4.5	19	14	0.71			LBN-06
Total Zinc	mg/kg	33	33	81	6.5	29	19	0.65			LBN-03
Hexachlorobenzene	mg/kg	21	3	0.024	0.0032	0.012	0.0047	1.2	0.0023	0.0036	LBSE-07
Total Organic Carbon	mg/kg	21	19	26000	1700	6,600	5,900	0.97	1,700	1,700	LBSE-03
pH	pH units	33	33	9.73	7.86	8.5	0.48	0.056			LBB-03

Notes:

Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPN-01**	**UPN-02**	**UPN-03**	**UPN-04**	**UPN-05**	**UPN-06**	**UPN-06**	**UPN-07**	**UPN-08**
	Sample Date	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**UPN-1-SS-01-101415**	**UPN-2-SS-01-101415**	**UPN-3-SS-01-101415**	**UPN-4-SS-01-101415**	**UPN-5-SS-01-101415**	**UPN-6-SS-01-101415**	**UPN-6-SB-01-02-36-101415**	**UPN-7-SS-01-101415**	**UPN-8-SS-01-101415**
Analyte	**Unit**									
01-Dioxins and Furans in Solids for Phase 1AB										
2,3,7,8-TCDD	pg/g		*< 0.032 U*		*< 0.052 UJ*		*< 0.032 U*	*< 0.032 U*	*< 0.043 U*	
1,2,3,7,8-PeCDD	pg/g		*< 0.042 U*		*< 0.049 UJ*		*< 0.041 UQ*	*< 0.031 U*	*< 0.040 U*	
1,2,3,4,7,8-HxCDD	pg/g		*< 0.082 U*		*< 0.030 UJ*		*< 0.034 U*	*< 0.035 U*	*< 0.042 U*	
1,2,3,6,7,8-HxCDD	pg/g		*< 0.071 U*		*< 0.079 UJ*		*< 0.11 U*	*< 0.031 U*	*< 0.036 U*	
1,2,3,7,8,9-HxCDD	pg/g		0.086 J		0.099 J		0.12 J	*< 0.029 U*	0.079 J	
1,2,3,4,6,7,8-HpCDD	pg/g		0.79 J		0.84 J		1.1 J	*< 0.15 U*	*< 0.79 UQ*	
OCDD	pg/g		3.4 J		4.1 J		5.3 J	*< 0.34 U*	3.6 J	
2,3,7,8-TCDF	pg/g		*< 0.064 UQ*		0.12 J		0.10 J	0.059 J	0.12 J	
1,2,3,7,8-PeCDF	pg/g		*< 0.037 U*		*< 0.048 UJ*		*< 0.086 UQ*	*< 0.025 U*	0.089 J	
2,3,4,7,8-PeCDF	pg/g		*< 0.039 U*		*< 0.050 UJ*		0.065 J	*< 0.026 U*	0.076 J	
1,2,3,4,7,8-HxCDF	pg/g		0.18 J		*< 0.21 UJ*		0.22 J	*< 0.029 UJ*	0.27 J	
1,2,3,6,7,8-HxCDF	pg/g		*< 0.11 UJQ*		*< 0.046 UJ*		0.15 J	*< 0.037 UJ*	*< 0.16 UJQ*	
1,2,3,7,8,9-HxCDF	pg/g		*< 0.047 UJ*		*< 0.055 UJ*		*< 0.048 UJ*	*< 0.021 UJ*	*< 0.045 UJ*	
2,3,4,6,7,8-HxCDF	pg/g		*< 0.087 UJQ*		*< 0.063 UJQ*		*< 0.084 UJQ*	*< 0.019 UJ*	*< 0.073 UJ*	
1,2,3,4,6,7,8-HpCDF	pg/g		1.2 J		1.4 J		1.5 J	0.099 J	1.6 J	
1,2,3,4,7,8,9-HpCDF	pg/g		0.15 J		*< 0.070 UJ*		0.18 J	*< 0.017 U*	0.15 J	
OCDF	pg/g		6.9 J		9.5 J		10 J	0.48 J	11	
Calculated TEQ (ND=0), Mammalian	pg/g		0.051		0.049		0.11	0.0070	0.095	
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g		0.14		0.15		0.18	0.067	0.18	
Calculated TEQ (ND=0), Avian	pg/g		0.097		0.15		0.23	0.060	0.32	
Calculated TEQ (ND=1/2 DL), Avian	pg/g		12		12		12	13	12	
02-PCBs for Solids from Phase 1AB										
PCB-77	pg/g		1.1 J		*< 1.2 UQ*		*< 1.1 UQ*	*< 0.28 U*	1.3 J	
PCB-81	pg/g		*< 0.26 U*		*< 0.37 U*		*< 0.36 U*	*< 0.26 U*	*< 0.37 U*	
PCB-105	pg/g		2.3		1.7 J		2.1 J	*< 0.17 U*	1.7 J	
PCB-114	pg/g		*< 0.29 U*		*< 0.24 U*		*< 0.27 U*	*< 0.18 U*	*< 0.25 U*	
PCB-118	pg/g		4.4		3.5		4.7	0.50 J	3.9	
PCB-123	pg/g		*< 0.28 U*		*< 0.24 U*		*< 0.29 U*	*< 0.17 U*	*< 0.26 U*	
PCB-126	pg/g		*< 0.35 U*		*< 0.28 U*		*< 0.33 U*	*< 0.21 U*	*< 0.31 U*	
PCB-156/157	pg/g		1.1 J		0.66 J		*< 0.57 UQ*	*< 0.19 U*	*< 0.51 UQ*	
PCB-167	pg/g		0.54 J		*< 0.23 UQ*		*< 0.30 UQ*	*< 0.13 U*	*< 0.27 UQ*	
PCB-169	pg/g		*< 0.16 U*		*< 0.16 U*		*< 0.19 U*	*< 0.16 U*	*< 0.15 U*	
PCB-189	pg/g		*< 0.17 U*		*< 0.21 U*		*< 0.23 U*	*< 0.83 UQ*	*< 0.21 U*	
Monochlorobiphenyls, Total	mg/kg		*< 0.00000020 U*		*< 0.00000023 U*		0.00000055 J	*< 0.00000014 U*	*< 0.00000015 U*	
Dichlorobiphenyls, Total	mg/kg		*< 0.0000024 U*		*< 0.0000052 U*		*< 0.0000027 U*	*< 0.0000020 U*	*< 0.0000014 U*	
Trichlorobiphenyls, Total	mg/kg		0.0000046 J		0.0000051 J		0.0000056 J	0.0000020 J	0.0000057 J	
Tetrachlorobiphenyls, Total	mg/kg		0.000012 J		0.00001 J		0.000014 J	0.0000026 J	0.000011 J	
Pentachlorobiphenyls, Total	mg/kg		0.000038 J		0.000024 J		0.000033 J	0.0000019 J	0.000024 J	
Hexachlorobiphenyls, Total	mg/kg		0.000042 J		0.00003 J		0.000037 J	0.0000013 J	0.000028 J	
Heptachlorobiphenyls, Total	mg/kg		0.000031 J		0.000024 J		0.000032 J	0.0000012 J	0.000023 J	
Octachlorobiphenyls, Total	mg/kg		0.000016 J		0.000012 J		0.000017 J	*< 0.00000033 U*	0.000013 J	
Nonachlorobiphenyls, Total	mg/kg		0.000014 J		0.000013 J		0.000017 J	*< 0.00000023 U*	0.000014 J	
Decachlorobiphenyl (PCB-209)	mg/kg		0.000036		0.000041		0.00005	0.0000028 J	0.000046	
Total PCBs	mg/kg		0.00019		0.00016		0.00021	0.000012	0.00016	

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPN-01**	**UPN-02**	**UPN-03**	**UPN-04**	**UPN-05**	**UPN-06**	**UPN-06**	**UPN-07**	**UPN-08**
	Sample Date	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**UPN-1-SS-01-101415**	**UPN-2-SS-01-101415**	**UPN-3-SS-01-101415**	**UPN-4-SS-01-101415**	**UPN-5-SS-01-101415**	**UPN-6-SS-01-101415**	**UPN-6-SB-01-02-36-101415**	**UPN-7-SS-01-101415**	**UPN-8-SS-01-101415**
Analyte	**Unit**									
03- Metals in Solids from Phase 1AB										
Total Aluminum	mg/kg	12,000	7,600	8,100	10,000	11,000	11,000	14,000	13,000	14,000
Total Antimony	mg/kg	0.29 J-	0.19 J-	0.22 J-	0.25 J-	0.23 J-	0.26 J-	0.30 J-	0.32 J-	0.32 J-
Total Arsenic	mg/kg	5.8	4.7	4.8	5.2	4.6	4.7	7.0	5.4	6.5
Total Barium	mg/kg	170	120 J	120	160	160	220	200	220	210
Total Beryllium	mg/kg	0.52	0.41	0.37	0.49	0.51	0.45	0.60	0.57	0.63
Total Cadmium	mg/kg	0.46	0.29	0.32	0.31	0.31	0.41	0.30	0.40	0.44
Total Calcium	mg/kg	69,000	84,000	63,000	71,000	72,000	73,000	120,000	66,000	76,000
Total Chromium	mg/kg	12	8.2	8.7	11	11	12	14	13	14
Total Cobalt	mg/kg	3.6 J-	2.8 J-	2.6 J-	3.5 J-	3.2 J-	3.1 J-	4.4 J-	3.8 J-	4.3 J-
Total Copper	mg/kg	13 J	9.5 J	9.4 J	10 J	10 J	11 J	15 J	13 J	16 J
Total Iron	mg/kg	11,000	10,000	8,700	11,000	10,000	9,800	11,000	11,000	13,000
Total Lead	mg/kg	21 J-	12 J	13 J	13 J	12 J	16 J-	7.8 J	16 J-	19 J-
Total Magnesium	mg/kg	21,000	24,000	17,000	20,000	20,000	18,000	25,000	20,000	22,000
Total Manganese	mg/kg	400	340	330	330	410	380	360	440	410
Total Mercury	mg/kg	0.035 J	0.032 J	0.033 J	0.029 J	0.032 J	0.030 J	0.026 J	0.031 J	0.038 J
Total Molybdenum	mg/kg	0.74	0.52	0.53	0.70	0.48	0.68	0.47	0.70	0.92
Total Nickel	mg/kg	8.2 J-	6.2 J-	5.9 J-	7.7 J-	7.5 J-	7.4 J-	10 J-	8.8 J-	10 J-
Total Potassium	mg/kg	4,100	3,400	3,200	4,500	4,800	4,900	7,100	5,200	6,800
Total Selenium	mg/kg	0.24	0.19 J	0.18 J	0.26	0.21	0.24	0.27	0.28	0.32
Total Silver	mg/kg	0.071 J	0.039 J	0.048 J	0.049 J	0.050 J	0.053 J	0.063 J	0.062 J	0.085 J
Total Sodium	mg/kg	520	390	420	990	690	1,600	6,200	1,300	3,600
Total Thallium	mg/kg	0.17	0.11	0.11	0.15	0.15	0.16	0.21	0.18	0.21
Total Vanadium	mg/kg	20	14	16	19	19	19	24	22	23
Total Zinc	mg/kg	41 J-	26 J-	28 J-	34 J-	36 J-	37 J-	45 J-	43 J-	51 J-
05-SVOCs in Solids for Phase 1AB										
Hexachlorobenzene	mg/kg		*< 0.0023 U*		*< 0.0024 UJ*		*< 0.0024 UJ*	*< 0.0025 U*	*< 0.0023 UJ*	

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPN-01**	**UPN-02**	**UPN-03**	**UPN-04**	**UPN-05**	**UPN-06**	**UPN-06**	**UPN-07**	**UPN-08**
	Sample Date	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**	**14-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**UPN-1-SS-01-101415**	**UPN-2-SS-01-101415**	**UPN-3-SS-01-101415**	**UPN-4-SS-01-101415**	**UPN-5-SS-01-101415**	**UPN-6-SS-01-101415**	**UPN-6-SB-01-02-36-101415**	**UPN-7-SS-01-101415**	**UPN-8-SS-01-101415**
Analyte	**Unit**									
08-General Solids Parameters for Phase 1AB										
Total Organic Carbon	mg/kg		17,000 J		2,900 J		15,000 J	1,800 J	4,900 J	
pH	pH units	8.39	8.50	8.47	8.45	8.84	8.74	9.32	8.94	8.25

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPN-09**	**UPN-10**	**UPS-01**	**UPS-02**	**UPS-03**	**UPS-04**	**UPS-05**	**UPS-06**	**UPS-06**	**UPS-07**
	Sample Date	**14-Oct-15**	**14-Oct-15**	**12-Oct-15**	**12-Oct-15**	**12-Oct-15**	**12-Oct-15**	**12-Oct-15**	**13-Oct-15**	**13-Oct-15**	**13-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**
	Sample ID	**UPN-9-SS-01-101415**	**UPN-10-SS-01-101415**	**UPS-1-SS-01-101215**	**UPS-2-SS-01-101215**	**UPS-3-SS-01-101215**	**UPS-4-SS-01-101215**	**UPS-5-SS-01-101215**	**UPS-6-SS-01-101315**	**UPS-6-SB-01-02-36-101315**	**UPS-7-SS-01-101315**
Analyte	**Unit**										
01-Dioxins and Furans in Solids for Phase 1AB											
2,3,7,8-TCDD	pg/g	*< 0.044 UJ*	*< 0.040 U*	*< 0.033 U*	*< 0.028 U*		*< 0.038 U*		*< 0.027 U*	*< 0.028 U*	
1,2,3,7,8-PeCDD	pg/g	*< 0.061 UJ*	*< 0.037 U*	*< 0.051 U*	*< 0.052 U*		*< 0.057 U*		*< 0.045 U*	*< 0.040 U*	
1,2,3,4,7,8-HxCDD	pg/g	*< 0.28 UJ*	*< 0.040 U*	0.076 J	*< 0.037 U*		0.087 J		*< 0.079 UQ*	*< 0.037 U*	
1,2,3,6,7,8-HxCDD	pg/g	*< 0.20 UJ*	*< 0.034 U*	*< 0.12 UQ*	0.14 J		*< 0.14 UQ*		0.14 J	*< 0.036 U*	
1,2,3,7,8,9-HxCDD	pg/g	*< 0.043 UJ*	*< 0.032 U*	0.16 J	0.17 J		0.15 J		0.20 J	*< 0.031 U*	
1,2,3,4,6,7,8-HpCDD	pg/g	*< 1.3 UJQ*	1.1 J	1.1 J	1.2 J		1.4 J		1.5 J	*< 0.12 U*	
OCDD	pg/g	5.7 J	4.4 J	4.8 J	5.4 J		7.5 J		7.3 J	*< 0.71 U*	
2,3,7,8-TCDF	pg/g	0.21 J	0.17 J	0.19 J	0.20 J		0.20 J		0.18 J	*< 0.021 U*	
1,2,3,7,8-PeCDF	pg/g	*< 0.11 UJQ*	*< 0.12 U*	*< 0.11 UQ*	*< 0.11 UQ*		0.18 J		*< 0.10 UQ*	*< 0.034 U*	
2,3,4,7,8-PeCDF	pg/g	*< 0.057 UJ*	*< 0.10 U*	*< 0.043 U*	0.11 J		0.13 J		0.16 J	*< 0.035 U*	
1,2,3,4,7,8-HxCDF	pg/g	*< 0.073 UJ*	0.27 J	0.41 J	0.44 J		0.51 J		0.54 J	*< 0.029 UQ*	
1,2,3,6,7,8-HxCDF	pg/g	*< 0.31 UJ*	0.18 J	0.27 J	0.28 J		0.29 J		0.35 J	0.031 J	
1,2,3,7,8,9-HxCDF	pg/g	*< 0.076 UJ*	*< 0.045 UJ*	*< 0.031 U*	*< 0.042 U*		*< 0.037 U*		*< 0.034 U*	*< 0.021 U*	
2,3,4,6,7,8-HxCDF	pg/g	0.14 J	*< 0.095 UJQ*	0.16 J	0.14 J		0.20 J		0.23 J	*< 0.020 U*	
1,2,3,4,6,7,8-HpCDF	pg/g	2.4 J	2.0 J	2.4 J	2.5 J		3.3 J		3.8 J	*< 0.12 UQ*	
1,2,3,4,7,8,9-HpCDF	pg/g	0.22 J	0.18 J	0.31 J	0.32 J		0.32 J		0.36 J	*< 0.038 U*	
OCDF	pg/g	16 J	14	17	15		18		19	0.53 J	
Calculated TEQ (ND=0), Mammalian	pg/g	0.069	0.10	0.17	0.22		0.25		0.28	0.0033	
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	0.29	0.21	0.25	0.28		0.33		0.34	0.068	
Calculated TEQ (ND=0), Avian	pg/g	0.48	0.37	0.32	0.54		0.58		0.52	0.0032	
Calculated TEQ (ND=1/2 DL), Avian	pg/g	12	13	12	12		12		12	12	
02-PCBs for Solids from Phase 1AB											
PCB-77	pg/g	4.5 J	2.6	*< 1.1 UQ*	1.9 J		1.5 J		*< 1.6 UQ*	*< 0.38 U*	
PCB-81	pg/g	*< 1.5 UJ*	*< 0.44 U*	*< 0.29 U*	*< 0.40 U*		*< 0.31 U*		*< 0.31 U*	*< 0.34 U*	
PCB-105	pg/g	7.9	4.8	1.8 J	2.6		2.4		2.9	*< 0.19 U*	
PCB-114	pg/g	*< 1.3 UJ*	*< 0.52 U*	*< 0.24 U*	*< 0.30 U*		*< 0.34 U*		*< 0.36 U*	*< 0.18 U*	
PCB-118	pg/g	19 J	11	3.9	5.5		4.7		5.7	0.49 J	
PCB-123	pg/g	*< 1.4 UJ*	*< 0.56 U*	*< 0.24 U*	*< 0.31 U*		*< 0.34 U*		*< 0.35 U*	*< 0.18 U*	
PCB-126	pg/g	*< 1.8 U*	*< 0.68 U*	*< 0.28 U*	*< 0.35 U*		*< 0.40 U*		*< 0.40 U*	*< 0.23 U*	
PCB-156/157	pg/g	*< 3.4 UQ*	*< 1.8 UQ*	0.77 J	1.1 J		*< 1.0 UQ*		1.3 J	*< 0.18 U*	
PCB-167	pg/g	1.4 J	0.90 J	*< 0.33 UQ*	*< 0.42 UQ*		0.62 J		*< 0.68 UQ*	*< 0.13 U*	
PCB-169	pg/g	*< 1.0 U*	*< 0.18 U*	*< 0.15 U*	*< 0.18 U*		*< 0.15 U*		*< 0.15 U*	*< 0.16 U*	
PCB-189	pg/g	*< 1.4 UJ*	*< 0.33 U*	*< 0.18 U*	*< 0.20 U*		*< 0.35 U*		*< 0.17 U*	*< 0.22 U*	
Monochlorobiphenyls, Total	mg/kg	0.00000018 J	0.0000010 J	*< 0.00000024 U*	*< 0.00000063 U*		0.00000053 J		*< 0.00000028 U*	*< 0.00000024 U*	
Dichlorobiphenyls, Total	mg/kg	*< 0.0000038 U*	0.0000067 J	*< 0.0000022 U*	*< 0.0000037 U*		0.000017 J		*< 0.0000015 U*	*< 0.0000022 U*	
Trichlorobiphenyls, Total	mg/kg	0.000012 J	0.0000089 J	0.0000049 J	0.0000054 J		0.0000059 J		0.0000049 J	0.00000054 J	
Tetrachlorobiphenyls, Total	mg/kg	0.00004 J	0.000035 J	0.000011 J	0.000016 J		0.000014 J		0.000013 J	0.0000014 J	
Pentachlorobiphenyls, Total	mg/kg	0.00012 J	0.000085 J	0.000026 J	0.000039 J		0.000037 J		0.000043 J	0.0000017 J	
Hexachlorobiphenyls, Total	mg/kg	0.00013 J	0.000076 J	0.000035 J	0.000056 J		0.000062 J		0.000069 J	0.0000016 J	
Heptachlorobiphenyls, Total	mg/kg	0.0001 J	0.000053 J	0.000028 J	0.000043 J		0.000047 J		0.000053 J	0.0000012 J	
Octachlorobiphenyls, Total	mg/kg	0.000045 J	0.000023 J	0.000015 J	0.000025 J		0.000029 J		0.000031 J	*< 0.00000023 U*	
Nonachlorobiphenyls, Total	mg/kg	0.000048 J	0.000022 J	0.000019 J	0.000026 J		0.000032 J		0.000031 J	0.00000066 J	
Decachlorobiphenyl (PCB-209)	mg/kg	0.00016	0.000065	0.000075	0.000089		0.000098		0.000093	*< 0.0000022 U*	
Total PCBs	mg/kg	0.00066	0.00037	0.00021	0.0003		0.00034		0.00034	0.0000093	

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPN-09**	**UPN-10**	**UPS-01**	**UPS-02**	**UPS-03**	**UPS-04**	**UPS-05**	**UPS-06**	**UPS-06**	**UPS-07**
	Sample Date	**14-Oct-15**	**14-Oct-15**	**12-Oct-15**	**12-Oct-15**	**12-Oct-15**	**12-Oct-15**	**12-Oct-15**	**13-Oct-15**	**13-Oct-15**	**13-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**
	Sample ID	**UPN-9-SS-01-101415**	**UPN-10-SS-01-101415**	**UPS-1-SS-01-101215**	**UPS-2-SS-01-101215**	**UPS-3-SS-01-101215**	**UPS-4-SS-01-101215**	**UPS-5-SS-01-101215**	**UPS-6-SS-01-101315**	**UPS-6-SB-01-02-36-101315**	**UPS-7-SS-01-101315**
Analyte	**Unit**										
03- Metals in Solids from Phase 1AB											
Total Aluminum	mg/kg	14,000	14,000	11,000	10,000	10,000	11,000	9,200	10,000	8,600	9,100
Total Antimony	mg/kg	0.31 J-	0.34 J-	0.22 J-	0.20 J-	0.11 J-	0.18 J-	0.11 J-	0.17 J-	0.11 J-	0.11 J-
Total Arsenic	mg/kg	5.5	6.0	4.7	4.6	6.2	5.6	4.3	4.4	5.1	4.4
Total Barium	mg/kg	220	230	250	270	240	250	270	230	180	270
Total Beryllium	mg/kg	0.59	0.61	0.46	0.41	0.45	0.43	0.41	0.42	0.38	0.40
Total Cadmium	mg/kg	0.43	0.47	0.42	0.42	0.39	0.50	0.46	0.55	0.25	0.42
Total Calcium	mg/kg	83,000	69,000	92,000	89,000	120,000	95,000	90,000	78,000	99,000	85,000
Total Chromium	mg/kg	14	15	12	11	10	12	9.6	10	8.1	9.8
Total Cobalt	mg/kg	4.0 J-	4.1 J-	3.9	3.6	3.5	3.5	3.3	2.9	2.8	3.4
Total Copper	mg/kg	14 J	15 J	13 J-	14 J-	11	15 J-	13	13 J-	8.0	12
Total Iron	mg/kg	12,000	13,000	9,500	9,100	11,000	9,000	10,000	8,400	8,600	11,000
Total Lead	mg/kg	17 J-	20 J-	17 J+	20	11 J+	20	18	19	5.6 J+	14 J+
Total Magnesium	mg/kg	21,000	21,000	19,000	18,000	23,000	21,000	18,000	17,000	21,000	18,000
Total Manganese	mg/kg	400	450	430	450	320	380	420	340	220	410
Total Mercury	mg/kg	0.028 J	0.071	0.045	0.046	0.050	0.044	0.036 J	0.038 J	0.037 J	0.040 J
Total Molybdenum	mg/kg	0.71	1.8	0.78	0.72	0.76	0.76	0.87	0.65	0.58	1.1
Total Nickel	mg/kg	9.8 J-	10 J-	9.2	8.4	8.7	8.7	7.7	7.1	6.9	8.1
Total Potassium	mg/kg	5,900	8,500	4,900	4,400	5,400 J	4,900	5,000 J	4,300	4,400 J	5,200 J
Total Selenium	mg/kg	0.30	0.29	0.28 J-	0.23 J-	0.31 J-	0.27 J-	0.25 J-	0.20 J-	0.34 J-	0.31 J-
Total Silver	mg/kg	0.065 J	0.072 J	0.062 J	0.055 J	0.096 J	0.084 J	0.058 J	0.071 J	0.041 J	0.056 J
Total Sodium	mg/kg	2,100	7,000	1,900	1,200	3,300	1,800	880	1,400	4,200	2,300
Total Thallium	mg/kg	0.19	0.20	0.17	0.15	0.22	0.17	0.14	0.15	0.17	0.14
Total Vanadium	mg/kg	22	24	19	18	18	18	15	16	14	15
Total Zinc	mg/kg	43 J-	47 J-	34 J-	35 J-	31 J-	39 J-	31 J-	34 J-	25 J-	32 J-
05-SVOCs in Solids for Phase 1AB											
Hexachlorobenzene	mg/kg	*< 0.0023 UJ*	*< 0.0025 U*	*< 0.0023 UJ*	*< 0.0023 UJ*		*< 0.0023 UJ*		*< 0.0023 UJ*	*< 0.0024 U*	

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPN-09**	**UPN-10**	**UPS-01**	**UPS-02**	**UPS-03**	**UPS-04**	**UPS-05**	**UPS-06**	**UPS-06**	**UPS-07**
	Sample Date	**14-Oct-15**	**14-Oct-15**	**12-Oct-15**	**12-Oct-15**	**12-Oct-15**	**12-Oct-15**	**12-Oct-15**	**13-Oct-15**	**13-Oct-15**	**13-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**
	Sample ID	**UPN-9-SS-01-101415**	**UPN-10-SS-01-101415**	**UPS-1-SS-01-101215**	**UPS-2-SS-01-101215**	**UPS-3-SS-01-101215**	**UPS-4-SS-01-101215**	**UPS-5-SS-01-101215**	**UPS-6-SS-01-101315**	**UPS-6-SB-01-02-36-101315**	**UPS-7-SS-01-101315**
Analyte	**Unit**										
08-General Solids Parameters for Phase 1AB											
Total Organic Carbon	mg/kg	5,900 J	7,100 J	11,000	9,800		19,000		9,700	*< 1,700 U*	
pH	pH units	8.51	8.59	8.89	9.20	8.26	8.30	8.90	9.30	8.47	8.18

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPS-08**	**UPS-09**	**UPS-10**	**UPSE-01**	**UPSE-02**	**UPSE-03**	**UPSE-04**	**UPSE-05**	**UPSE-05**
	Sample Date	**13-Oct-15**	**13-Oct-15**	**13-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**
	Sample ID	**UPS-8-SS-01-101315**	**UPS-9-SS-01-101315**	**UPS-10-SS-01-101315**	**UPSE-1-SS-01-100115**	**UPSE-2-SS-01-100115**	**UPSE-3-SS-01-100115**	**UPSE-4-SS-01-100115**	**UPSE-5-SS-01-100115**	**UPSE-5-SB-01-02-36-100115**
Analyte	**Unit**									
01-Dioxins and Furans in Solids for Phase 1AB										
2,3,7,8-TCDD	pg/g	*< 0.080 UJ*	*< 0.028 U*		*< 0.024 U*		*< 0.029 U*		*< 0.038 U*	*< 0.032 U*
1,2,3,7,8-PeCDD	pg/g	*< 0.13 UJ*	*< 0.035 U*		*< 0.037 U*		*< 0.041 U*		*< 0.055 U*	*< 0.049 U*
1,2,3,4,7,8-HxCDD	pg/g	*< 0.10 UJ*	*< 0.029 U*		0.12 J		0.10 J		*< 0.062 U*	*< 0.029 U*
1,2,3,6,7,8-HxCDD	pg/g	*< 0.098 UJ*	*< 0.12 U*		0.26 J		0.17 J		0.11 J	*< 0.029 U*
1,2,3,7,8,9-HxCDD	pg/g	0.49 J	*< 0.085 U*		*< 0.21 U*		0.19 J		*< 0.17 U*	*< 0.025 U*
1,2,3,4,6,7,8-HpCDD	pg/g	3.7 J	1.2 J		2.5 J		1.6 J		1.1 J	*< 0.16 U*
OCDD	pg/g	17 J	5.0 J		9.1 J		6.5 J		5.3 J	*< 0.53 U*
2,3,7,8-TCDF	pg/g	0.50 J	*< 0.16 UJQ*		0.18 J		0.14 J		0.13 J	0.069 J
1,2,3,7,8-PeCDF	pg/g	*< 0.32 UJQ*	0.17 J		0.16 J		*< 0.14 U*		*< 0.041 U*	*< 0.029 U*
2,3,4,7,8-PeCDF	pg/g	*< 0.11 UJ*	0.094 J		0.13 J		0.11 J		*< 0.042 U*	*< 0.029 U*
1,2,3,4,7,8-HxCDF	pg/g	1.4 J	0.36 J		0.49 J		0.37 J		0.27 J	*< 0.086 U*
1,2,3,6,7,8-HxCDF	pg/g	0.87 J	*< 0.25 UJQ*		0.30 J		*< 0.25 UQ*		0.25 J	*< 0.065 U*
1,2,3,7,8,9-HxCDF	pg/g	*< 0.098 UJ*	*< 0.052 UJ*		*< 0.065 U*		0.097 J		0.075 J	*< 0.061 U*
2,3,4,6,7,8-HxCDF	pg/g	0.47 J	*< 0.13 UJ*		0.20 J		0.18 J		0.14 J	*< 0.029 U*
1,2,3,4,6,7,8-HpCDF	pg/g	9.4 J	2.7 J		2.2 J		1.9 J		1.7 J	*< 0.14 U*
1,2,3,4,7,8,9-HpCDF	pg/g	0.98 J	0.33 J		0.32 J		*< 0.20 U*		*< 0.20 U*	*< 0.046 U*
OCDF	pg/g	60 J	19		11		9.0 J		7.9 J	0.66 J
Calculated TEQ (ND=0), Mammalian	pg/g	0.54	0.12		0.26		0.20		0.13	0.0071
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	0.71	0.22		0.33		0.27		0.22	0.090
Calculated TEQ (ND=0), Avian	pg/g	0.94	0.18		0.55		0.42		0.28	0.069
Calculated TEQ (ND=1/2 DL), Avian	pg/g	12	12		12		12		11	13
02-PCBs for Solids from Phase 1AB										
PCB-77	pg/g	*< 2.1 UQ*	*< 1.2 UQ*		1.8 J		1.2 J		1.2 J	*< 0.30 U*
PCB-81	pg/g	*< 0.50 U*	*< 0.62 U*		*< 0.34 U*		*< 0.38 U*		*< 0.27 U*	*< 0.33 U*
PCB-105	pg/g	*< 2.8 UQ*	2.3		4.4		2.3		3.0	*< 0.23 U*
PCB-114	pg/g	*< 0.37 U*	*< 0.35 U*		*< 0.41 U*		*< 0.30 U*		*< 0.31 U*	*< 0.24 U*
PCB-118	pg/g	7.0	5.4		8.8		4.8		5.6	1.0 J
PCB-123	pg/g	*< 0.38 U*	*< 0.37 U*		*< 0.42 U*		*< 0.34 U*		*< 0.30 U*	*< 0.23 U*
PCB-126	pg/g	*< 0.48 U*	*< 0.49 U*		*< 0.47 U*		*< 0.39 U*		*< 0.39 U*	*< 0.30 U*
PCB-156/157	pg/g	1.5 J	*< 0.96 UQ*		1.8 J		*< 0.82 UQ*		1.2 J	*< 0.30 U*
PCB-167	pg/g	0.74 J	*< 0.47 UQ*		0.97 J		0.54 J		*< 0.71 UQ*	*< 0.23 U*
PCB-169	pg/g	*< 0.35 U*	*< 0.21 U*		*< 0.17 U*		*< 0.20 U*		*< 0.14 U*	*< 0.29 U*
PCB-189	pg/g	*< 0.38 U*	*< 0.35 U*		*< 0.23 UQ*		*< 0.25 U*		*< 0.17 U*	*< 0.26 U*
Monochlorobiphenyls, Total	mg/kg	*< 0.00000025 U*	*< 0.00000040 U*		0.0000019 J		0.00000097 J		0.0000014 J	*< 0.00000022 U*
Dichlorobiphenyls, Total	mg/kg	*< 0.0000023 U*	*< 0.0000045 U*		*< 0.0000013 U*		*< 0.0000027 U*		*< 0.0000013 U*	*< 0.0000033 U*
Trichlorobiphenyls, Total	mg/kg	0.0000059 J	0.0000037 J		0.0000066 J		0.0000051 J		0.0000060 J	0.0000013 J
Tetrachlorobiphenyls, Total	mg/kg	0.000017 J	0.000012 J		0.000019 J		0.000011 J		0.000011 J	0.0000037 J
Pentachlorobiphenyls, Total	mg/kg	0.000048 J	0.000037 J		0.00006 J		0.000028 J		0.000042 J	0.0000037 J
Hexachlorobiphenyls, Total	mg/kg	0.000086 J	0.000057 J		0.000067 J		0.000041 J		0.000056 J	0.0000022 J
Heptachlorobiphenyls, Total	mg/kg	0.000063 J	0.000049 J		0.00006 J		0.000036 J		0.000046 J	0.00000058 J
Octachlorobiphenyls, Total	mg/kg	0.000037 J	0.000024 J		0.00003 J		0.000016 J		0.000021 J	*< 0.00000024 U*
Nonachlorobiphenyls, Total	mg/kg	0.000044 J	0.000027 J		0.000019 J		0.000014 J		0.000015 J	*< 0.00000025 U*
Decachlorobiphenyl (PCB-209)	mg/kg	0.00015	0.0001		0.00005		0.000043		0.000036	0.0000013 J
Total PCBs	mg/kg	0.00045	0.00031		0.00031		0.00019		0.00023	0.000013

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPS-08**	**UPS-09**	**UPS-10**	**UPSE-01**	**UPSE-02**	**UPSE-03**	**UPSE-04**	**UPSE-05**	**UPSE-05**
	Sample Date	**13-Oct-15**	**13-Oct-15**	**13-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**
	Sample ID	**UPS-8-SS-01-101315**	**UPS-9-SS-01-101315**	**UPS-10-SS-01-101315**	**UPSE-1-SS-01-100115**	**UPSE-2-SS-01-100115**	**UPSE-3-SS-01-100115**	**UPSE-4-SS-01-100115**	**UPSE-5-SS-01-100115**	**UPSE-5-SB-01-02-36-100115**
Analyte	**Unit**									
03- Metals in Solids from Phase 1AB										
Total Aluminum	mg/kg	7,700	8,400	9,200	15,000 J	10,000 J	11,000 J	8,200 J	12,000 J	16,000 J
Total Antimony	mg/kg	0.10 J-	0.13 J-	0.12 J-	0.37 J	0.34 J	0.29 J	0.20 J	0.30 J	0.34 J
Total Arsenic	mg/kg	4.1	4.8	4.6	7.5	10	7.9	8.7	7.4	9.8
Total Barium	mg/kg	190	260	260	230	280	220	200	150	210
Total Beryllium	mg/kg	0.35	0.39	0.40	0.75	0.53	0.55	0.38	0.65	0.85
Total Cadmium	mg/kg	0.43	0.42	0.44	0.65	0.56	0.39	0.33	0.37	0.31
Total Calcium	mg/kg	82,000	98,000	100,000	100,000 J	110,000 J	120,000 J	130,000 J	150,000 J	120,000 J
Total Chromium	mg/kg	7.7	9.5	10	14	10	11	9.1	12	16
Total Cobalt	mg/kg	2.6	3.4	3.7	4.7	4.5	4.9	4.3	5.8	7.6
Total Copper	mg/kg	11	14	15	22 J-	19 J-	16 J-	15 J-	20 J-	17 J-
Total Iron	mg/kg	8,800	10,000	11,000	18,000 J	15,000 J	17,000 J	15,000 J	19,000 J	20,000 J
Total Lead	mg/kg	14 J+	19	19	38	89	25	26	22	15
Total Magnesium	mg/kg	17,000	19,000	20,000	21,000 J+	21,000 J+	15,000 J+	12,000 J+	15,000 J+	20,000 J+
Total Manganese	mg/kg	270	410	430	580	630	510	450	440	510
Total Mercury	mg/kg	0.029 J	0.032 J	0.033 J	0.032 J	0.030 J	0.020 J	0.019 J	0.026 J	0.017 J
Total Molybdenum	mg/kg	0.42	0.69	0.65	0.89	0.88	1.3	0.74	0.82	1.1
Total Nickel	mg/kg	6.4	8.1	8.8	11	9.7	11	10	12	15
Total Potassium	mg/kg	4,600 J	5,000 J	4,700 J	5,900	3,300	4,400	1,700	3,600	7,000
Total Selenium	mg/kg	0.23 J-	0.25 J-	0.25 J-	0.30 J-	0.25 J-	0.31 J-	0.22 J-	0.25 J-	0.29 J-
Total Silver	mg/kg	0.048 J	0.055 J	0.082 J	0.12	0.11	0.086 J	0.059 J	0.080 J	0.070 J
Total Sodium	mg/kg	1,200	2,200	1,000	810	390	870	250	360	3,800
Total Thallium	mg/kg	0.12	0.13	0.14	0.27	0.17	0.16	0.13	0.15	0.25
Total Vanadium	mg/kg	12	15	16	22	16	17	13	17	26
Total Zinc	mg/kg	28 J-	32 J-	33 J-	69 J-	73 J-	47 J-	39 J-	52 J-	53 J-
05-SVOCs in Solids for Phase 1AB										
Hexachlorobenzene	mg/kg	*< 0.0022 UJ*	*< 0.0023 UJ*		*< 0.0023 UJ*		*< 0.0022 UJ*		*< 0.0022 UJ*	*< 0.0025 UJ*

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPS-08**	**UPS-09**	**UPS-10**	**UPSE-01**	**UPSE-02**	**UPSE-03**	**UPSE-04**	**UPSE-05**	**UPSE-05**
	Sample Date	**13-Oct-15**	**13-Oct-15**	**13-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**	**01-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**
	Sample ID	**UPS-8-SS-01-101315**	**UPS-9-SS-01-101315**	**UPS-10-SS-01-101315**	**UPSE-1-SS-01-100115**	**UPSE-2-SS-01-100115**	**UPSE-3-SS-01-100115**	**UPSE-4-SS-01-100115**	**UPSE-5-SS-01-100115**	**UPSE-5-SB-01-02-36-100115**
Analyte	**Unit**									
08-General Solids Parameters for Phase 1AB										
Total Organic Carbon	mg/kg	13,000	15,000		17,000		8,900		17,000	3,000 J
pH	pH units	9.62	8.51	9.27	8.52	8.03	7.98	8.25	8.40	8.62

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPSE-06**	**UPSE-07**	**UPSE-08**	**UPSE-09**	**UPSE-10**
	Sample Date	**30-Sep-15**	**30-Sep-15**	**30-Sep-15**	**30-Sep-15**	**30-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**UPSE-6-SS-01-093015**	**UPSE-7-SS-01-093015**	**UPSE-8-SS-01-093015**	**UPSE-9-SS-01-093015**	**UPSE-10-SS-01-093015**
Analyte	**Unit**					
01-Dioxins and Furans in Solids for Phase 1AB						
2,3,7,8-TCDD	pg/g	*< 0.032 U*		*< 0.037 U*		*< 0.035 U*
1,2,3,7,8-PeCDD	pg/g	*< 0.045 U*		*< 0.057 U*		*< 0.053 U*
1,2,3,4,7,8-HxCDD	pg/g	0.068 J		*< 0.029 U*		0.10 J
1,2,3,6,7,8-HxCDD	pg/g	0.11 J		0.14 J		0.23 J
1,2,3,7,8,9-HxCDD	pg/g	*< 0.13 U*		*< 0.16 U*		0.22 J
1,2,3,4,6,7,8-HpCDD	pg/g	1.1 J		1.0 J		1.6 J
OCDD	pg/g	4.9 J		4.5 J		8.3 J
2,3,7,8-TCDF	pg/g	0.11 J		0.16 J		0.23 J
1,2,3,7,8-PeCDF	pg/g	0.10 J		*< 0.044 U*		0.17 J
2,3,4,7,8-PeCDF	pg/g	*< 0.038 U*		*< 0.092 UQ*		0.20 J
1,2,3,4,7,8-HxCDF	pg/g	0.35 J		0.44 J		0.55 J
1,2,3,6,7,8-HxCDF	pg/g	0.26 J		0.26 J		0.43 J
1,2,3,7,8,9-HxCDF	pg/g	0.13 J		0.18 J		*< 0.043 U*
2,3,4,6,7,8-HxCDF	pg/g	0.15 J		0.15 J		0.36 J
1,2,3,4,6,7,8-HpCDF	pg/g	1.7 J		1.8 J		2.3 J
1,2,3,4,7,8,9-HpCDF	pg/g	*< 0.18 U*		0.26 J		0.34 J
OCDF	pg/g	7.6 J		8.8 J		9.2 J
Calculated TEQ (ND=0), Mammalian	pg/g	0.15		0.17		0.33
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	0.23		0.27		0.40
Calculated TEQ (ND=0), Avian	pg/g	0.23		0.40		0.71
Calculated TEQ (ND=1/2 DL), Avian	pg/g	12		12		12
02-PCBs for Solids from Phase 1AB						
PCB-77	pg/g	*< 0.63 UQ*		2.2		1.4 J
PCB-81	pg/g	*< 0.29 U*		*< 0.86 UQ*		*< 0.27 U*
PCB-105	pg/g	2.3		3.8		4.6
PCB-114	pg/g	*< 0.30 U*		*< 0.49 U*		*< 0.42 U*
PCB-118	pg/g	4.0		6.3		8.4
PCB-123	pg/g	*< 0.26 U*		0.92 J		*< 0.42 U*
PCB-126	pg/g	*< 0.37 U*		*< 0.58 U*		*< 0.52 U*
PCB-156/157	pg/g	1.1 J		1.7 J		2.0 J
PCB-167	pg/g	0.60 J		0.85 J		0.85 J
PCB-169	pg/g	*< 0.18 U*		*< 0.18 U*		*< 0.32 U*
PCB-189	pg/g	*< 0.25 U*		0.28 J		*< 0.34 U*
Monochlorobiphenyls, Total	mg/kg	0.0000024 J		0.0000086 J		0.0000015 J
Dichlorobiphenyls, Total	mg/kg	*< 0.0000021 U*		*< 0.0000022 U*		*< 0.0000016 U*
Trichlorobiphenyls, Total	mg/kg	0.0000030 J		0.000011 J		0.0000051 J
Tetrachlorobiphenyls, Total	mg/kg	0.0000093 J		0.00002 J		0.000019 J
Pentachlorobiphenyls, Total	mg/kg	0.000027 J		0.000043 J		0.000064 J
Hexachlorobiphenyls, Total	mg/kg	0.00004 J		0.000052 J		0.000062 J
Heptachlorobiphenyls, Total	mg/kg	0.000029 J		0.000038 J		0.000042 J
Octachlorobiphenyls, Total	mg/kg	0.000016 J		0.000022 J		0.000019 J
Nonachlorobiphenyls, Total	mg/kg	0.000014 J		0.000015 J		0.000013 J
Decachlorobiphenyl (PCB-209)	mg/kg	0.000036		0.00004		0.000037
Total PCBs	mg/kg	0.00018		0.00025		0.00026

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPSE-06**	**UPSE-07**	**UPSE-08**	**UPSE-09**	**UPSE-10**
	Sample Date	**30-Sep-15**	**30-Sep-15**	**30-Sep-15**	**30-Sep-15**	**30-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**UPSE-6-SS-01-093015**	**UPSE-7-SS-01-093015**	**UPSE-8-SS-01-093015**	**UPSE-9-SS-01-093015**	**UPSE-10-SS-01-093015**
Analyte	**Unit**					
03- Metals in Solids from Phase 1AB						
Total Aluminum	mg/kg	10,000 J	15,000 J	12,000 J	10,000 J	9,100 J
Total Antimony	mg/kg	0.31 J	0.36 J	0.24 J	0.24 J	0.25 J
Total Arsenic	mg/kg	8.0	7.8	6.2	8.0	6.2
Total Barium	mg/kg	180	240	190	220	170
Total Beryllium	mg/kg	0.52	0.72	0.57	0.52	0.46
Total Cadmium	mg/kg	0.46	0.52	0.51	0.39	0.41
Total Calcium	mg/kg	120,000 J	130,000 J	140,000 J	110,000 J	110,000 J
Total Chromium	mg/kg	11	13	12	11	9.0
Total Cobalt	mg/kg	5.0	5.3	4.0	4.2	3.2
Total Copper	mg/kg	18 J-	20 J-	19 J-	15 J-	23 J-
Total Iron	mg/kg	16,000 J	17,000 J	14,000 J	14,000 J	11,000 J
Total Lead	mg/kg	33	29	27	20	19
Total Magnesium	mg/kg	15,000 J+	16,000 J+	17,000 J+	16,000 J+	13,000 J+
Total Manganese	mg/kg	540	580	470	530	350
Total Mercury	mg/kg	0.024 J	0.030 J	0.027 J	0.026 J	0.021 J
Total Molybdenum	mg/kg	0.98	0.85	0.71	0.97	0.67
Total Nickel	mg/kg	12	11	9.2	9.8	7.4
Total Potassium	mg/kg	3,200	4,900	4,500	4,000	3,600
Total Selenium	mg/kg	0.26 J-	0.29 J-	0.24 J-	0.25 J-	0.22 J-
Total Silver	mg/kg	0.080 J	0.090 J	0.088 J	0.073 J	0.065 J
Total Sodium	mg/kg	340	730	1,500	690	740
Total Thallium	mg/kg	0.17	0.20	0.21	0.18	0.15
Total Vanadium	mg/kg	17	20	18	17	15
Total Zinc	mg/kg	47 J-	52 J-	52 J-	43 J-	36 J-
05-SVOCs in Solids for Phase 1AB						
Hexachlorobenzene	mg/kg	< *0.0023 UJ*		< *0.0022 UJ*		< *0.0022 UJ*

Table 5-16
Phase 1A-B RI Analytical Results for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**UPSE-06**	**UPSE-07**	**UPSE-08**	**UPSE-09**	**UPSE-10**
	Sample Date	**30-Sep-15**	**30-Sep-15**	**30-Sep-15**	**30-Sep-15**	**30-Sep-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**UPSE-6-SS-01-093015**	**UPSE-7-SS-01-093015**	**UPSE-8-SS-01-093015**	**UPSE-9-SS-01-093015**	**UPSE-10-SS-01-093015**
Analyte	**Unit**					
08-General Solids Parameters for Phase 1AB						
Total Organic Carbon	mg/kg	20,000		24,000		15,000
pH	pH units	8.26	8.35	8.55	7.98	8.40

Notes:

Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:

J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Denver, CO.

Table 5-17
Phase 1A-B RI Prevalence Table for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2,3,7,8-TCDD	pg/g	21	0				0.012	0.33	0.024	0.080	
1,2,3,7,8-PeCDD	pg/g	21	0				0.020	0.40	0.031	0.13	
1,2,3,4,7,8-HxCDD	pg/g	21	6	0.12	0.068	0.092	0.056	0.79	0.029	0.28	UPSE-01
1,2,3,6,7,8-HxCDD	pg/g	21	8	0.26	0.11	0.16	0.065	0.57	0.029	0.20	UPSE-01
1,2,3,7,8,9-HxCDD	pg/g	21	11	0.49	0.079	0.18	0.10	0.75	0.025	0.21	UPS-08
1,2,3,4,6,7,8-HpCDD	pg/g	21	16	3.7	0.79	1.4	0.78	0.65	0.12	1.3	UPS-08
OCDD	pg/g	21	18	17	3.4	6.2	3.5	0.65	0.34	0.71	UPS-08
2,3,7,8-TCDF	pg/g	21	18	0.5	0.059	0.17	0.096	0.61	0.021	0.16	UPS-08
1,2,3,7,8-PeCDF	pg/g	21	6	0.18	0.089	0.14	0.070	0.66	0.025	0.32	UPS-04
2,3,4,7,8-PeCDF	pg/g	21	9	0.2	0.065	0.12	0.047	0.57	0.026	0.11	UPSE-10
1,2,3,4,7,8-HxCDF	pg/g	21	16	1.4	0.18	0.44	0.29	0.81	0.029	0.21	UPS-08
1,2,3,6,7,8-HxCDF	pg/g	21	13	0.87	0.031	0.30	0.18	0.73	0.037	0.31	UPS-08
1,2,3,7,8,9-HxCDF	pg/g	21	4	0.18	0.075	0.12	0.038	0.61	0.021	0.098	UPSE-08
2,3,4,6,7,8-HxCDF	pg/g	21	12	0.47	0.14	0.21	0.11	0.73	0.019	0.13	UPS-08
1,2,3,4,6,7,8-HpCDF	pg/g	21	19	9.4	0.099	2.4	1.9	0.87	0.12	0.14	UPS-08
1,2,3,4,7,8,9-HpCDF	pg/g	21	14	0.98	0.15	0.32	0.20	0.81	0.017	0.20	UPS-08
OCDF	pg/g	21	21	60	0.48	13	12	0.95			UPS-08
Calculated TEQ (ND=0), Mammalian	pg/g	21	21	0.54	0.0033	0.16	0.13	0.81			UPS-08
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	21	21	0.71	0.067	0.25	0.14	0.56			UPS-08
Calculated TEQ (ND=0), Avian	pg/g	21	21	0.94	0.0032	0.35	0.24	0.66			UPS-08
Calculated TEQ (ND=1/2 DL), Avian	pg/g	21	21	13	11	12	0.44	0.036			UPN-06UPN-10UPSE-05
PCB-77	pg/g	21	11	4.5	1.1	1.9	0.92	0.63	0.28	2.1	UPN-09
PCB-81	pg/g	21	0				0.28	0.65	0.26	1.5	
PCB-105	pg/g	21	17	7.9	1.7	3.1	1.8	0.66	0.17	2.8	UPN-09
PCB-114	pg/g	21	0				0.23	0.64	0.18	1.3	
PCB-118	pg/g	21	21	19	0.49	5.6	4.0	0.71			UPN-09
PCB-123	pg/g	21	1	0.92	0.92	0.92	0.28	0.71	0.17	1.4	UPSE-08
PCB-126	pg/g	21	0				0.33	0.72	0.21	1.8	
PCB-156/157	pg/g	21	11	2	0.66	1.3	0.74	0.65	0.18	3.4	UPSE-10
PCB-167	pg/g	21	10	1.4	0.54	0.80	0.32	0.56	0.13	0.71	UPN-09
PCB-169	pg/g	21	0				0.19	0.81	0.14	1.0	
PCB-189	pg/g	21	1	0.28	0.28	0.28	0.28	0.85	0.17	1.4	UPSE-08
Monochlorobiphenyls, Total	mg/kg	21	10	0.0000086	0.00000018	0.0000019	0.0000018	1.8	0.00000014	0.00000063	UPSE-08
Dichlorobiphenyls, Total	mg/kg	21	2	0.000017	0.0000067	0.000012	0.0000034	0.99	0.0000013	0.0000052	UPS-04
Trichlorobiphenyls, Total	mg/kg	21	21	0.000012	0.00000054	0.0000054	0.0000028	0.51			UPN-09
Tetrachlorobiphenyls, Total	mg/kg	21	21	0.00004	0.0000014	0.000014	0.0000092	0.64			UPN-09
Pentachlorobiphenyls, Total	mg/kg	21	21	0.00012	0.0000017	0.000039	0.000027	0.69			UPN-09
Hexachlorobiphenyls, Total	mg/kg	21	21	0.00013	0.0000013	0.000049	0.000030	0.61			UPN-09
Heptachlorobiphenyls, Total	mg/kg	21	21	0.0001	0.00000058	0.000038	0.000023	0.60			UPN-09
Octachlorobiphenyls, Total	mg/kg	21	18	0.000045	0.000012	0.000023	0.000011	0.59	0.00000023	0.00000033	UPN-09
Nonachlorobiphenyls, Total	mg/kg	21	19	0.000048	0.00000066	0.000021	0.000013	0.66	0.00000023	0.00000025	UPN-09
Decachlorobiphenyl (PCB-209)	mg/kg	21	20	0.00016	0.0000013	0.000062	0.000043	0.72	0.0000022	0.0000022	UPN-09
Total PCBs	mg/kg	21	21	0.00066	0.0000093	0.00025	0.00015	0.61			UPN-09
Total Aluminum	mg/kg	33	33	16000	7600	11,000	2,300	0.21			UPSE-05
Total Antimony	mg/kg	33	33	0.37	0.1	0.24	0.084	0.35			UPSE-01

Table 5-17
Phase 1A-B RI Prevalence Table for Upland Background Areas
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Total Arsenic	mg/kg	33	33	10	4.1	6.1	1.6	0.27			UPSE-02
Total Barium	mg/kg	33	33	280	120	210	43	0.20			UPSE-02
Total Beryllium	mg/kg	33	33	0.85	0.35	0.51	0.12	0.24			UPSE-05
Total Cadmium	mg/kg	33	33	0.65	0.25	0.42	0.087	0.21			UPSE-01
Total Calcium	mg/kg	33	33	150,000	63,000	97,000	23,000	0.24			UPSE-05
Total Chromium	mg/kg	33	33	16	7.7	11	2.1	0.19			UPSE-05
Total Cobalt	mg/kg	33	33	7.6	2.6	3.9	1.0	0.26			UPSE-05
Total Copper	mg/kg	33	33	23	8	15	3.7	0.26			UPSE-10
Total Iron	mg/kg	33	33	20,000	8,400	12,000	3,300	0.27			UPSE-05
Total Lead	mg/kg	33	33	89	5.6	21	14	0.67			UPSE-02
Total Magnesium	mg/kg	33	33	25,000	12,000	19,000	3,000	0.16			UPN-06
Total Manganese	mg/kg	33	33	630	220	420	90	0.21			UPSE-02
Total Mercury	mg/kg	33	33	0.071	0.017	0.033	0.010	0.31			UPN-10
Total Molybdenum	mg/kg	33	33	1.8	0.42	0.79	0.26	0.33			UPN-10
Total Nickel	mg/kg	33	33	15	5.9	9.0	1.9	0.21			UPSE-05
Total Potassium	mg/kg	33	33	8,500	1,700	4,800	1,300	0.27			UPN-10
Total Selenium	mg/kg	33	33	0.34	0.18	0.26	0.039	0.15			UPS-06
Total Silver	mg/kg	33	33	0.12	0.039	0.069	0.019	0.27			UPSE-01
Total Sodium	mg/kg	33	33	7,000	250	1,700	1,600	0.95			UPN-10
Total Thallium	mg/kg	33	33	0.27	0.11	0.17	0.037	0.22			UPSE-01
Total Vanadium	mg/kg	33	33	26	12	18	3.4	0.19			UPSE-05
Total Zinc	mg/kg	33	33	73	25	41	11	0.28			UPSE-02
Hexachlorobenzene	mg/kg	21	0				0.000098	0.042	0.0022	0.0025	
Total Organic Carbon	mg/kg	21	20	24,000	1,800	12,000	6,500	0.58	1,700	1,700	UPSE-08
pH	pH units	33	33	9.62	7.98	8.6	0.41	0.048			UPS-08

Notes:

Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran

PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

Table 5-18
Phase 1A-B RI Analytical Results for Bear River Migratory Bird Refuge
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**BR-01**	**BR-02**	**BR-03**	**BR-03**	**BR-04**	**BR-05**
	Sample Date	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**BR-1-SS-01-102215**	**BR-2-SS-01-102215**	**BR-3-SS-01-102215**	**BR-3-SB-01-02-36-102215**	**BR-4-SS-01-102215**	**BR-5-SS-01-102215**
Analyte	**Unit**						
01-Dioxins and Furans in Solids for Phase 1AB							
2,3,7,8-TCDD	pg/g	*< 0.040 U*	*< 0.040 U*	*< 0.035 U*	*< 0.049 U*	*< 0.036 U*	*< 0.030 U*
1,2,3,7,8-PeCDD	pg/g	*< 0.075 UQ*	*< 0.053 U*	*< 0.043 UQ*	*< 0.066 U*	*< 0.12 UQ*	*< 0.047 U*
1,2,3,4,7,8-HxCDD	pg/g	0.12 J	*< 0.12 UQ*	*< 0.043 U*	*< 0.056 U*	*< 0.086 UQ*	*< 0.073 UQ*
1,2,3,6,7,8-HxCDD	pg/g	0.22 J	0.26 J	0.18 J	*< 0.048 U*	*< 0.20 UQ*	*< 0.12 UQ*
1,2,3,7,8,9-HxCDD	pg/g	0.28 J	0.27 J	*< 0.035 U*	*< 0.046 U*	0.29 J	0.17 J
1,2,3,4,6,7,8-HpCDD	pg/g	2.4 J	3.5 J	1.4 J	0.29 J	2.7 J	1.5 J
OCDD	pg/g	9.7 J	14	4.4 J	0.70 J	11 J	6.1 J
2,3,7,8-TCDF	pg/g	0.82 J	0.82 J	0.81 J	*< 0.42 UQ*	0.82 J	0.73 J
1,2,3,7,8-PeCDF	pg/g	0.25 J	*< 0.23 UQ*	*< 0.18 UQ*	*< 0.11 U*	0.25 J	0.22 J
2,3,4,7,8-PeCDF	pg/g	0.27 J	0.23 J	0.17 J	*< 0.058 U*	*< 0.17 UQ*	0.18 J
1,2,3,4,7,8-HxCDF	pg/g	0.43 J	*< 0.36 UQ*	0.31 J	*< 0.048 U*	*< 0.37 UQ*	*< 0.28 UQ*
1,2,3,6,7,8-HxCDF	pg/g	0.28 J	0.29 J	0.18 J	*< 0.096 U*	0.29 J	*< 0.25 UQ*
1,2,3,7,8,9-HxCDF	pg/g	*< 0.056 U*	*< 0.065 U*	*< 0.043 U*	*< 0.050 U*	*< 0.057 U*	*< 0.046 U*
2,3,4,6,7,8-HxCDF	pg/g	*< 0.22 UQ*	*< 0.16 UQ*	*< 0.12 UQ*	*< 0.046 U*	0.23 J	0.17 J
1,2,3,4,6,7,8-HpCDF	pg/g	1.5 J	1.3 J	*< 0.81 UQ*	*< 0.42 U*	1.3 J	*< 1.0 UQ*
1,2,3,4,7,8,9-HpCDF	pg/g	*< 0.21 UQ*	0.27 J	0.19 J	*< 0.15 UQ*	0.19 J	*< 0.19 UQ*
OCDF	pg/g	6.0 J	6.0 J	3.6 J	*< 2.1 U*	5.7 J	4.9 J
Calculated TEQ (ND=0), Mammalian	pg/g	0.35	0.29	0.22	0.0031	0.22	0.19
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	0.47	0.42	0.31	0.14	0.40	0.30
Calculated TEQ (ND=0), Avian	pg/g	1.5	1.4	1.3	0.00036	1.2	1.1
Calculated TEQ (ND=1/2 DL), Avian	pg/g	15	17	15	15	14	15
02-PCBs for Solids from Phase 1AB							
PCB-77	pg/g	4.3	5.1	4.5	*< 0.51 U*	4.5	2.7
PCB-81	pg/g	*< 0.49 U*	*< 0.48 U*	*< 0.42 U*	*< 0.48 U*	*< 0.47 U*	*< 0.40 U*
PCB-105	pg/g	5.8	6.5	4.4	*< 0.24 U*	7.3	3.2
PCB-114	pg/g	*< 0.69 U*	*< 0.72 U*	*< 0.51 U*	*< 0.29 U*	*< 0.62 U*	*< 0.44 U*
PCB-118	pg/g	13	14	9.7	*< 0.63 UQ*	16	7.0
PCB-123	pg/g	*< 0.70 U*	*< 0.70 U*	*< 0.51 U*	*< 0.27 U*	*< 0.65 U*	*< 0.43 U*
PCB-126	pg/g	*< 0.89 U*	*< 0.87 U*	*< 0.61 U*	*< 0.37 U*	*< 0.78 U*	*< 0.56 U*
PCB-156/157	pg/g	2.0 J	*< 2.1 UQ*	1.4 J	*< 0.26 U*	2.2 J	*< 0.52 UQ*
PCB-167	pg/g	*< 0.68 UQ*	1.0 J	0.64 J	*< 0.19 U*	1.4 J	0.43 J

Table 5-18
Phase 1A-B RI Analytical Results for Bear River Migratory Bird Refuge
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**BR-01**	**BR-02**	**BR-03**	**BR-03**	**BR-04**	**BR-05**
	Sample Date	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**BR-1-SS-01-102215**	**BR-2-SS-01-102215**	**BR-3-SS-01-102215**	**BR-3-SB-01-02-36-102215**	**BR-4-SS-01-102215**	**BR-5-SS-01-102215**
Analyte	**Unit**						
PCB-169	pg/g	*< 0.30 U*	*< 0.27 U*	*< 0.20 U*	*< 0.22 U*	*< 0.21 U*	*< 0.21 U*
PCB-189	pg/g	*< 0.28 U*	*< 0.23 U*	*< 0.22 U*	*< 0.88 UQ*	*< 0.22 U*	*< 0.35 U*
Monochlorobiphenyls, Total	mg/kg	*< 0.0000050 U*	0.0000077 J	*< 0.0000050 U*	*< 0.0000050 U*	0.0000052 J	*< 0.0000050 U*
Dichlorobiphenyls, Total	mg/kg	0.000013 J	0.000015 J	0.000014 J	*< 0.00001 U*	0.000017 J	0.000011 J
Trichlorobiphenyls, Total	mg/kg	0.000044	0.000048	0.000041	0.0000056 J	0.000043	0.000032
Tetrachlorobiphenyls, Total	mg/kg	0.000054	0.000059	0.000046	*< 0.0000050 U*	0.000061	0.000032
Pentachlorobiphenyls, Total	mg/kg	0.000073	0.000079	0.000054	*< 0.0000050 U*	0.000098	0.000036
Hexachlorobiphenyls, Total	mg/kg	0.000066	0.000074	0.000048	*< 0.0000050 U*	0.000081	0.000031
Heptachlorobiphenyls, Total	mg/kg	0.000045	0.000052	0.000035	*< 0.0000050 U*	0.000052	0.000021
Octachlorobiphenyls, Total	mg/kg	0.000018 J	0.000019 J	0.000014 J	*< 0.0000050 U*	0.000019 J	0.0000089 J
Nonachlorobiphenyls, Total	mg/kg	0.0000072 J	0.0000082 J	0.0000053 J	*< 0.0000050 U*	0.0000077 J	*< 0.0000050 U*
Decachlorobiphenyl (PCB-209)	mg/kg	0.000014 J	0.000016 J	0.000014 J	*< 0.0000073 U*	0.000016 J	0.000013 J
Total PCBs	mg/kg	0.00034	0.00038	0.00028	0.000031	0.0004	0.00019
03- Metals in Solids from Phase 1AB							
Total Aluminum	mg/kg	24,000	22,000	22,000	20,000	22,000	23,000
Total Antimony	mg/kg	0.45	0.47	0.46	0.36	0.42	0.29
Total Arsenic	mg/kg	15	14	15	19	13	15
Total Barium	mg/kg	330	220	250	190	150	220
Total Beryllium	mg/kg	1.1	1.1	1.1	0.89	0.96	1.0
Total Cadmium	mg/kg	0.35	0.32	0.24	0.17	0.33	0.29
Total Calcium	mg/kg	48,000	47,000	24,000	45,000	63,000	36,000
Total Chromium	mg/kg	27	26	26	22	24	27
Total Cobalt	mg/kg	8.1	7.6	7.8	7.0	7.2	8.1
Total Copper	mg/kg	23	22	20	16	21	20
Total Iron	mg/kg	20,000	19,000	20,000	17,000	20,000	20,000
Total Lead	mg/kg	19	14	17	14	16	16
Total Magnesium	mg/kg	48,000	55,000	64,000	57,000	50,000	53,000
Total Manganese	mg/kg	500	500	520	500	480	520
Total Mercury	mg/kg	0.033 J	0.027 J	0.023 J	0.032 J	0.026 J	0.039 J
Total Molybdenum	mg/kg	0.38	0.60	0.41	0.59	0.39	0.35
Total Nickel	mg/kg	20	19	20	18	18	20
Total Potassium	mg/kg	8,800	8,200	8,600	7,800	8,700	8,600

Table 5-18
Phase 1A-B RI Analytical Results for Bear River Migratory Bird Refuge
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**BR-01**	**BR-02**	**BR-03**	**BR-03**	**BR-04**	**BR-05**
	Sample Date	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**	**22-Oct-15**
	Sample Type	**N**	**N**	**N**	**N**	**N**	**N**
	Depth	**0 - 2 in**	**0 - 2 in**	**0 - 2 in**	**2 - 36 in**	**0 - 2 in**	**0 - 2 in**
	Sample ID	**BR-1-SS-01-102215**	**BR-2-SS-01-102215**	**BR-3-SS-01-102215**	**BR-3-SB-01-02-36-102215**	**BR-4-SS-01-102215**	**BR-5-SS-01-102215**
Analyte	**Unit**						
Total Selenium	mg/kg	0.32	0.34	0.30	0.31	0.27	0.28
Total Silver	mg/kg	0.078 J	0.058 J	0.075 J	*< 0.039 U*	0.046 J	0.063 J
Total Sodium	mg/kg	21,000	13,000	28,000	27,000	10,000	14,000
Total Thallium	mg/kg	0.24	0.24	0.23	0.19	0.22	0.23
Total Vanadium	mg/kg	41	40	41	35	37	40
Total Zinc	mg/kg	64	62	63	54	60	67
05-SVOCs in Solids for Phase 1AB							
Hexachlorobenzene	mg/kg	*< 0.0026 U*	*< 0.0030 U*	*< 0.0028 U*	*< 0.0030 U*	*< 0.0026 UJ*	*< 0.0027 U*
08-General Solids Parameters for Phase 1AB							
Total Organic Carbon	mg/kg	3,100 J	4,200	2,500 J	*< 1,700 U*	4,500	1,800 J
pH	pH units	8.28	8.59	8.53	8.29	8.25	8.29

Notes:

Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:

J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Denver, CO.

Table 5-19
Phase 1A-B RI Prevalence Table for Bear River Migratory Bird Refuge
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
2,3,7,8-TCDD	pg/g	6	0				0.0064	0.17	0.030	0.049	
1,2,3,7,8-PeCDD	pg/g	6	0				0.028	0.42	0.043	0.12	
1,2,3,4,7,8-HxCDD	pg/g	6	1	0.12	0.12	0.12	0.032	0.39	0.043	0.12	BR-01
1,2,3,6,7,8-HxCDD	pg/g	6	3	0.26	0.18	0.22	0.076	0.44	0.048	0.20	BR-02
1,2,3,7,8,9-HxCDD	pg/g	6	4	0.29	0.17	0.25	0.12	0.65	0.035	0.046	BR-04
1,2,3,4,6,7,8-HpCDD	pg/g	6	6	3.5	0.29	2.0	1.1	0.58			BR-02
OCDD	pg/g	6	6	14	0.7	7.7	4.8	0.63			BR-02
2,3,7,8-TCDF	pg/g	6	5	0.82	0.73	0.80	0.16	0.22	0.42	0.42	BR-01BR-02BR-04
1,2,3,7,8-PeCDF	pg/g	6	3	0.25	0.22	0.24	0.054	0.26	0.11	0.23	BR-01BR-04
2,3,4,7,8-PeCDF	pg/g	6	4	0.27	0.17	0.21	0.072	0.40	0.058	0.17	BR-01
1,2,3,4,7,8-HxCDF	pg/g	6	2	0.43	0.31	0.37	0.13	0.45	0.048	0.37	BR-01
1,2,3,6,7,8-HxCDF	pg/g	6	4	0.29	0.18	0.26	0.078	0.34	0.096	0.25	BR-02BR-04
1,2,3,7,8,9-HxCDF	pg/g	6	0				0.0081	0.15	0.043	0.065	
2,3,4,6,7,8-HxCDF	pg/g	6	2	0.23	0.17	0.20	0.068	0.43	0.046	0.22	BR-04
1,2,3,4,6,7,8-HpCDF	pg/g	6	3	1.5	1.3	1.4	0.40	0.38	0.42	1.0	BR-01
1,2,3,4,7,8,9-HpCDF	pg/g	6	3	0.27	0.19	0.22	0.039	0.20	0.15	0.21	BR-02
OCDF	pg/g	6	5	6	3.6	5.2	1.6	0.33	2.1	2.1	BR-01BR-02
Calculated TEQ (ND=0), Mammalian	pg/g	6	6	0.35	0.0031	0.21	0.12	0.56			BR-01
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	6	6	0.47	0.14	0.34	0.12	0.35			BR-01
Calculated TEQ (ND=0), Avian	pg/g	6	6	1.5	0.00036	1.1	0.55	0.51			BR-01
Calculated TEQ (ND=1/2 DL), Avian	pg/g	6	6	17	14	15	0.98	0.065			BR-02
PCB-77	pg/g	6	5	5.1	2.7	4.2	1.7	0.48	0.51	0.51	BR-02
PCB-81	pg/g	6	0				0.037	0.082	0.40	0.49	
PCB-105	pg/g	6	5	7.3	3.2	5.4	2.6	0.56	0.24	0.24	BR-04
PCB-114	pg/g	6	0				0.16	0.30	0.29	0.72	
PCB-118	pg/g	6	5	16	7	12	5.6	0.56	0.63	0.63	BR-04
PCB-123	pg/g	6	0				0.17	0.32	0.27	0.70	
PCB-126	pg/g	6	0				0.20	0.30	0.37	0.89	
PCB-156/157	pg/g	6	3	2.2	1.4	1.9	0.84	0.60	0.26	2.1	BR-04
PCB-167	pg/g	6	4	1.4	0.43	0.87	0.43	0.59	0.19	0.68	BR-04
PCB-169	pg/g	6	0				0.040	0.17	0.20	0.30	
PCB-189	pg/g	6	0				0.26	0.71	0.22	0.88	
Monochlorobiphenyls, Total	mg/kg	6	2	0.0000077	0.0000052	0.0000065	0.0000011	0.20	0.0000050	0.0000050	BR-02
Dichlorobiphenyls, Total	mg/kg	6	5	0.000017	0.000011	0.000014	0.0000026	0.19	0.000010	0.000010	BR-04
Trichlorobiphenyls, Total	mg/kg	6	6	0.000048	0.0000056	0.000036	0.000016	0.44			BR-02
Tetrachlorobiphenyls, Total	mg/kg	6	5	0.000061	0.000032	0.000050	0.000021	0.50	0.0000050	0.0000050	BR-04
Pentachlorobiphenyls, Total	mg/kg	6	5	0.000098	0.000036	0.000068	0.000033	0.58	0.0000050	0.0000050	BR-04
Hexachlorobiphenyls, Total	mg/kg	6	5	0.000081	0.000031	0.000060	0.000029	0.57	0.0000050	0.0000050	BR-04
Heptachlorobiphenyls, Total	mg/kg	6	5	0.000052	0.000021	0.000041	0.000019	0.54	0.0000050	0.0000050	BR-02BR-04
Octachlorobiphenyls, Total	mg/kg	6	5	0.000019	0.0000089	0.000016	0.0000059	0.42	0.0000050	0.0000050	BR-02BR-04
Nonachlorobiphenyls, Total	mg/kg	6	4	0.0000082	0.0000053	0.0000071	0.0000015	0.23	0.0000050	0.0000050	BR-02
Decachlorobiphenyl (PCB-209)	mg/kg	6	5	0.000016	0.000013	0.000015	0.0000032	0.24	0.0000073	0.0000073	BR-02BR-04
Total PCBs	mg/kg	6	6	0.0004	0.000031	0.00027	0.00014	0.52			BR-04

Table 5-19
Phase 1A-B RI Prevalence Table for Bear River Migratory Bird Refuge
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Average Result	Standard Deviation	Coefficient of Variation	Minimum Detection Limit	Maximum Detection Limit	Location with Maximum Detection
Total Aluminum	mg/kg	6	6	24,000	20,000	22,000	1,300	0.060			BR-01
Total Antimony	mg/kg	6	6	0.47	0.29	0.41	0.070	0.17			BR-02
Total Arsenic	mg/kg	6	6	19	13	15	2.0	0.13			BR-03
Total Barium	mg/kg	6	6	330	150	230	61	0.27			BR-01
Total Beryllium	mg/kg	6	6	1.1	0.89	1.0	0.089	0.087			BR-01BR-02BR-03
Total Cadmium	mg/kg	6	6	0.35	0.17	0.28	0.067	0.24			BR-01
Total Calcium	mg/kg	6	6	63,000	24,000	44,000	13,000	0.30			BR-04
Total Chromium	mg/kg	6	6	27	22	25	2.0	0.078			BR-01BR-05
Total Cobalt	mg/kg	6	6	8.1	7	7.6	0.46	0.060			BR-01BR-05
Total Copper	mg/kg	6	6	23	16	20	2.4	0.12			BR-01
Total Iron	mg/kg	6	6	20,000	17,000	19,000	1,200	0.063			BR-01BR-03BR-04BR-05
Total Lead	mg/kg	6	6	19	14	16	1.9	0.12			BR-01
Total Magnesium	mg/kg	6	6	64,000	48,000	55,000	5,700	0.10			BR-03
Total Manganese	mg/kg	6	6	520	480	500	15	0.030			BR-03BR-05
Total Mercury	mg/kg	6	6	0.039	0.023	0.030	0.0058	0.19			BR-05
Total Molybdenum	mg/kg	6	6	0.6	0.35	0.45	0.11	0.25			BR-02
Total Nickel	mg/kg	6	6	20	18	19	0.98	0.051			BR-01BR-03BR-05
Total Potassium	mg/kg	6	6	8,800	7800	8,500	380	0.045			BR-01
Total Selenium	mg/kg	6	6	0.34	0.27	0.30	0.026	0.085			BR-02
Total Silver	mg/kg	6	5	0.078	0.046	0.064	0.015	0.26	0.039	0.039	BR-01
Total Sodium	mg/kg	6	6	28,000	10,000	19,000	7,600	0.40			BR-03
Total Thallium	mg/kg	6	6	0.24	0.19	0.23	0.019	0.083			BR-01BR-02
Total Vanadium	mg/kg	6	6	41	35	39	2.4	0.063			BR-01BR-03
Total Zinc	mg/kg	6	6	67	54	62	4.4	0.072			BR-05
Hexachlorobenzene	mg/kg	6	0				0.00018	0.066	0.0026	0.0030	
Total Organic Carbon	mg/kg	6	5	4,500	1,800	3,200	1,200	0.40	1,700	1,700	BR-04
pH	pH units	6	6	8.59	8.25	8.4	0.15	0.018			BR-02

Notes:

Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency

Table 6-1
Phase 1A-B RI Field Duplicate Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-03**	**1-10**	**3-06**	**4-01**	**4-02**	**5-10**	**6-01**	**6-07**	**7-12**	**7-14**
	Sample Date	**03-Dec-15**	**23-Nov-15**	**17-Nov-15**	**19-Oct-15**	**19-Oct-15**	**15-Oct-15**	**16-Oct-15**	**16-Oct-15**	**21-Sep-15**	**22-Sep-15**
	Sample Type	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-03-SS-11-120315**	**1-10-SS-11-112315**	**3-06-SS-11-111715**	**4-01-SS-11-101915**	**4-02-SS-11-101915**	**5-10-SS-11-101515**	**6-01-SS-11-101615**	**6-07-SS-11-101615**	**7-12-SS-11-092115**	**7-14-SS-11-092215**
Analyte	**Unit**										
01-Dioxins and Furans											
2,3,7,8-TCDD	pg/g	350 J	210	44	*< 12 UQ*	2.5 J	0.30 J	*< 0.040 U*	*< 0.37 U*	*< 1.3 UQ*	*< 1.7 U*
1,2,3,7,8-PeCDD	pg/g	3,200 J	970	270	120	24 J	1.3 J	*< 0.041 U*	*< 0.58 U*	5.6 J	7.5 J
1,2,3,4,7,8-HxCDD	pg/g	4,600 J	1,400	600	160	*< 30 UQ*	1.3 J	*< 0.038 U*	*< 1.9 U*	4.8 J	6.0 J
1,2,3,6,7,8-HxCDD	pg/g	15,000	4,600	1,000	580	120	3.0 J	*< 0.096 UQ*	*< 1.8 U*	15 J	17 J
1,2,3,7,8,9-HxCDD	pg/g	16,000	5,400	1,300	730	150	3.8 J	*< 0.031 U*	*< 1.6 U*	23 J	20 J
1,2,3,4,6,7,8-HpCDD	pg/g	120,000	28,000 J	6,600	4,200	930	23	1.0 J	6.2 J	110	110
OCDD	pg/g	330,000	55,000	15,000	9,500	2,100	68	3.1 J	37 J	360	420
2,3,7,8-TCDF	pg/g	28,000	15,000	6,200	1,000	220	32 J	0.88 J	10 J	130	190
1,2,3,7,8-PeCDF	pg/g	260,000	60,000 J+	28,000	7,500	1,800	77	1.7 J	12 J	320	440
2,3,4,7,8-PeCDF	pg/g	110,000	29,000 J+	20,000	4,300	990	32	0.85 J	5.7 J	150	210
1,2,3,4,7,8-HxCDF	pg/g	880,000	270,000 J+	130,000	24,000	6,700	240 J	4.4 J	35 J	920	1,300
1,2,3,6,7,8-HxCDF	pg/g	620,000	190,000 J+	78,000	20,000	4,900	160 J	3.7 J	27 J	710	1,000
1,2,3,7,8,9-HxCDF	pg/g	100,000	37,000 J+	9,700	4,300	990	21 J	0.30 J	3.7 J	86	120
2,3,4,6,7,8-HxCDF	pg/g	100,000	28,000	22,000	3,400	900	31 J	1.1 J	6.0 J	160	*< 200 UQ*
1,2,3,4,6,7,8-HpCDF	pg/g	4,500,000	1,700,000	800,000	150,000	37,000	1,300	35	260	6,400	6,900
1,2,3,4,7,8,9-HpCDF	pg/g	1,700,000	570,000	220,000	54,000	15,000	450	8.4	65	1,800	2,200
OCDF	pg/g	20,000,000 J	10,000,000 J	4,200,000 J	1,100,000	230,000	7,500	250	1,700 J	64,000	60,000
Calculated TEQ (ND=0), Mammalian	pg/g	290,000	93,000	46,000	9,500	2,400	84	1.9	14	370	460
Calculated TEQ (ND=1/2 DL), Mammalian	pg/g	290,000	93,000	46,000	9,500	2,400	84	1.9	31	390	470
Calculated TEQ (ND=0), Avian	pg/g	16,000,000	11,000,000	8,900,000	260,000	52,000	750	180	27	2,900	5,800
Calculated TEQ (ND=1/2 DL), Avian	pg/g	16,000,000	11,000,000	8,900,000	260,000	52,000	750	180	1,400	2,900	5,800
02-PCBs											
PCB-77	pg/g	*< 2,380 U*	*< 6,300 U*	85,000 J-	*< 278 U*	286 J	22	*< 0.64 UQ*	*< 249 U*	*< 269 U*	
PCB-81	pg/g	8,450	*< 6,300 U*	16,000	*< 278 UJ*	*< 222 UJ*	5.0	*< 0.26 U*	*< 249 UJ*	*< 269 UJ*	
PCB-105	pg/g	*< 2,380 U*	*< 6,300 U*	26,000	*< 278 U*	*< 222 U*	36	*< 1.7 UQ*	*< 249 U*	*< 269 U*	
PCB-107/123	pg/g	*< 4,760 U*	*< 12,600 U*	60,400	*< 557 U*	*< 444 U*			*< 499 U*	*< 538 U*	
PCB-114	pg/g	*< 2,380 U*	*< 6,300 U*	13,800	*< 278 U*	*< 222 U*	5.9	*< 0.25 U*	*< 249 U*	*< 269 U*	
PCB-118	pg/g	*< 2,380 U*	8,090 J+	53,200	*< 278 U*	*< 222 U*	44	3.0	*< 249 U*	*< 269 U*	
PCB-123	pg/g						8.3	0.26 J			
PCB-126	pg/g	*< 2,380 U*	*< 6,300 U*	19,200	*< 278 U*	*< 222 U*	12	*< 0.30 U*	*< 249 U*	*< 269 U*	
PCB-156	pg/g	36,500	8,090 J+	42,400	*< 278 U*	369 J			*< 249 U*	*< 269 U*	
PCB-157	pg/g	14,800 J	*< 6,300 U*	24,600	*< 278 U*	*< 222 U*			*< 249 U*	*< 269 U*	
PCB-156/157	pg/g						33	0.93 J			
PCB-167	pg/g	21,300 J	7,840 J+	22,600 J	*< 278 U*	*< 222 U*	28	*< 0.58 UQ*	*< 249 U*	*< 269 U*	
PCB-169	pg/g	8,230	*< 6,300 U*	13,600	*< 278 U*	*< 222 U*	*< 3.2 U*	*< 0.20 U*	*< 249 U*	*< 269 U*	
PCB-189	pg/g	71,800	10,900 J+	43,800	*< 278 U*	*< 222 U*	34	0.90 J	*< 249 U*	*< 269 U*	

Table 6-1
Phase 1A-B RI Field Duplicate Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-03**	**1-10**	**3-06**	**4-01**	**4-02**	**5-10**	**6-01**	**6-07**	**7-12**	**7-14**
	Sample Date	**03-Dec-15**	**23-Nov-15**	**17-Nov-15**	**19-Oct-15**	**19-Oct-15**	**15-Oct-15**	**16-Oct-15**	**16-Oct-15**	**21-Sep-15**	**22-Sep-15**
	Sample Type	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-03-SS-11-120315**	**1-10-SS-11-112315**	**3-06-SS-11-111715**	**4-01-SS-11-101915**	**4-02-SS-11-101915**	**5-10-SS-11-101515**	**6-01-SS-11-101615**	**6-07-SS-11-101615**	**7-12-SS-11-092115**	**7-14-SS-11-092215**
Analyte	**Unit**										
Monochlorobiphenyls, Total	mg/kg	*< 0.00238 U*	0.135 J+	*< 0.00258 U*	*< 0.000278 U*	*< 0.000222 U*	0.0000012 J	0.0000011 J	*< 0.000249 U*	*< 0.000269 U*	
Dichlorobiphenyls, Total	mg/kg	0.0371	0.756 J+	0.0491	*< 0.000278 U*	*< 0.000222 U*	0.000016 J	0.000012 J	*< 0.000249 U*	*< 0.000269 U*	
Trichlorobiphenyls, Total	mg/kg	0.0931 J	0.78 J	0.245	*< 0.000278 UJ*	0.000281 J	0.000015 J	0.0000034 J	*< 0.000249 U*	*< 0.000269 U*	
Tetrachlorobiphenyls, Total	mg/kg	0.163	0.264 J+	0.675 J-	0.000834 J	0.00291 J	0.0001 J	0.0000057 J	*< 0.000249 UJ*	*< 0.000269 UJ*	
Pentachlorobiphenyls, Total	mg/kg	0.317	0.958 J+	1.05	*< 0.000278 UJ*	0.000274 J-	0.0004	0.000019 J	*< 0.000249 UJ*	*< 0.000269 U*	
Hexachlorobiphenyls, Total	mg/kg	0.942	0.205 J+	1.49 J-	*< 0.000278 UJ*	0.00544	0.00078	0.000036 J	*< 0.000249 U*	*< 0.000269 U*	
Heptachlorobiphenyls, Total	mg/kg	1.79	0.351 J+	1.92	0.00323 J	0.0123	0.0011	0.000051 J	*< 0.000249 U*	*< 0.000269 U*	
Octachlorobiphenyls, Total	mg/kg	3.44	0.714 J+	2.59	0.00661 J	0.0243 J+	0.0019	0.000092 J	*< 0.000249 U*	*< 0.000269 U*	
Nonachlorobiphenyls, Total	mg/kg	8.15	1.53 J+	5.29	0.0183 J	0.0565	0.0042	0.00022	*< 0.000249 U*	0.000319 J	
Decachlorobiphenyl (PCB-209)	mg/kg	127	30.2	31.1	0.218 J	0.706	0.025	0.0012	0.00413 J	0.0125	
Total PCBs	mg/kg	142	35.9 J+	44.4	0.247	0.808	0.033	0.0016	0.00413	0.0128	
03- Metals											
Total Aluminum	mg/kg	6,400	2,700	3,200	750	280	2,500	13,000	12,000	7,800	7,300 J
Total Antimony	mg/kg	6.3 J-	3.7 J-	0.86 J-	1.7	0.85	0.12 J	0.21 J-	0.21 J-	0.58 J-	0.75 J-
Total Arsenic	mg/kg	69	49	17	23	9.2	5.7	4.5	5.3	18	15 J-
Total Barium	mg/kg	610	210	420	82	65	200	350	310	240	170 J
Total Beryllium	mg/kg	0.26	0.17	0.20	0.15	0.092 J	0.095 J	0.61	0.51	0.34	0.32
Total Cadmium	mg/kg	*< 0.058 U*	*< 0.052 U*	0.11 J	*< 0.036 U*	*< 0.057 U*	0.072 J	0.36	0.23	0.17	0.22
Total Calcium	mg/kg	9,800 J	100,000	170,000	170,000	270,000	170,000	96,000	110,000	130,000	140,000
Total Chromium	mg/kg	23 J-	11	31	12	3.5	3.2	14	13	15	22 J
Total Cobalt	mg/kg	0.93	0.97	2.0	1.1	0.77	1.2	4.1	4.0	4.5	3.6
Total Copper	mg/kg	3.3	3.1	23	2.1	1.4	4.8	11	9.3	15	15 J
Total Iron	mg/kg	120,000	40,000	46,000	45,000	28,000 J	2,200	11,000	10,000	15,000	16,000
Total Lead	mg/kg	1.9 J+	1.9 J+	18 J+	1.6 J+	0.89 J+	10 J+	11 J+	9.0 J+	12	12
Total Magnesium	mg/kg	25,000	16,000 J-	18,000 J-	30,000	8,800	8,900	25,000	20,000	35,000	33,000
Total Manganese	mg/kg	22	48	76	270	170	73	340	250	480	190
Total Mercury	mg/kg	0.020 J	0.021 J	0.28	0.085	0.062	0.019 J	0.054	0.083 J	0.027 J	0.042 J
Total Molybdenum	mg/kg	64 J-	33	7.6	4.3	1.5	0.19 J	0.48	0.90	7.1	12
Total Nickel	mg/kg	11 J-	6.6	11	8.4	4.4	2.6	9.6	9.8	12	11 J
Total Potassium	mg/kg	2,000	5,100	2,000	480	*< 140 U*	930	6,200	4,900	3,300	4,400
Total Selenium	mg/kg	0.62 J-	0.17 J	0.31	0.16 J-	*< 0.11 UJ*	0.11 J	0.34 J-	0.21 J-	0.41 J-	0.44 J-
Total Silver	mg/kg	*< 0.035 U*	*< 0.031 U*	0.12 J	*< 0.022 U*	*< 0.034 U*	*< 0.032 U*	0.080 J	0.035 J	*< 0.041 U*	0.047 J
Total Sodium	mg/kg	2,200	6,900	5,100	980	410	3,100	1,800	2,000	7,800	21,000
Total Thallium	mg/kg	0.11 J	0.091 J	*< 0.072 U*	0.078	*< 0.057 U*	*< 0.053 U*	0.16	0.17	0.11 J	0.14
Total Vanadium	mg/kg	59	52	74	54	19	6.6	21	19	23	25
Total Zinc	mg/kg	11 J	18 J	58	15 J	3.2	17	38	32	42	34 J-
05-SVOCs											
1,1'-Biphenyl	mg/kg	*< 77 U*	*< 53 U*	*< 36 U*	*< 24 U*	*< 18 U*	*< 0.87 U*	*< 0.88 U*	*< 19 U*	*< 15 U*	*< 2.2 U*
1,2,4,5-Tetrachlorobenzene	mg/kg	*< 12 U*	*< 8.4 U*	*< 5.7 U*	*< 3.7 U*	*< 2.8 U*	*< 0.14 U*	*< 0.14 U*	*< 3.1 U*	*< 2.3 U*	*< 0.35 U*

Table 6-1
Phase 1A-B RI Field Duplicate Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-03**	**1-10**	**3-06**	**4-01**	**4-02**	**5-10**	**6-01**	**6-07**	**7-12**	**7-14**
	Sample Date	**03-Dec-15**	**23-Nov-15**	**17-Nov-15**	**19-Oct-15**	**19-Oct-15**	**15-Oct-15**	**16-Oct-15**	**16-Oct-15**	**21-Sep-15**	**22-Sep-15**
	Sample Type	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-03-SS-11-120315**	**1-10-SS-11-112315**	**3-06-SS-11-111715**	**4-01-SS-11-101915**	**4-02-SS-11-101915**	**5-10-SS-11-101515**	**6-01-SS-11-101615**	**6-07-SS-11-101615**	**7-12-SS-11-092115**	**7-14-SS-11-092215**
Analyte	**Unit**										
2,3,4,6-Tetrachlorophenol	mg/kg	*< 38 U*	*< 26 U*	*< 18 U*	*< 12 U*	*< 8.8 U*	*< 0.43 U*	*< 0.44 U*	*< 9.6 U*	*< 7.2 U*	*< 1.1 U*
2,4,5-Trichlorophenol	mg/kg	*< 39 U*	*< 27 U*	*< 18 U*	*< 12 U*	*< 8.9 U*	*< 0.44 U*	*< 0.44 U*	*< 9.7 U*	*< 7.3 U*	*< 1.1 U*
2,4,6-Trichlorophenol	mg/kg	*< 1 U*	*< 0.71 U*	*< 0.48 U*	*< 0.63 U*	*< 0.47 U*	*< 0.023 U*	*< 0.024 U*	*< 0.52 U*	*< 0.39 U*	*< 0.06 U*
2,2-Oxybis(1-chloropropane)	mg/kg	*< 37 U*	*< 25 U*	*< 17 U*	*< 11 U*	*< 8.5 U*	*< 0.42 U*	*< 0.42 U*	*< 9.3 U*	*< 6.9 U*	*< 1.1 U*
2,4-Dichlorophenol	mg/kg	*< 41 U*	*< 29 U*	*< 19 U*	*< 13 U*	*< 9.5 U*	*< 0.47 U*	*< 0.48 U*	*< 10 U*	*< 7.8 U*	*< 1.2 U*
2,4-Dimethylphenol	mg/kg	*< 78 U*	*< 54 U*	*< 36 U*	*< 24 U*	*< 18 U*	*< 0.88 U*	*< 0.89 U*	*< 20 U*	*< 15 U*	*< 2.3 U*
2,4-Dinitrophenol	mg/kg	*< 100 U*	*< 69 U*	*< 47 U*	*< 31 U*	*< 23 U*	*< 1.1 U*	*< 1.1 U*	*< 25 U*	*< 19 U*	*< 2.9 U*
2,4-Dinitrotoluene	mg/kg	*< 41 U*	*< 29 U*	*< 19 U*	*< 13 U*	*< 9.5 U*	*< 0.47 U*	*< 0.48 U*	*< 10 U*	*< 7.8 U*	*< 1.2 U*
2,6-Dinitrotoluene	mg/kg	*< 46 U*	*< 32 U*	*< 22 U*	*< 14 U*	*< 11 U*	*< 0.52 U*	*< 0.53 U*	*< 12 U*	*< 8.7 U*	*< 1.3 U*
2-Chloronaphthalene	mg/kg	*< 38 U*	*< 26 U*	*< 18 U*	*< 12 U*	*< 8.7 U*	*< 0.43 U*	*< 0.43 U*	*< 9.5 U*	*< 7.1 U*	*< 1.1 U*
2-Chlorophenol	mg/kg	*< 41 U*	*< 28 U*	*< 19 U*	*< 13 U*	*< 9.4 U*	*< 0.47 U*	*< 0.47 U*	*< 10 U*	*< 7.7 U*	*< 1.2 U*
2-Methylphenol	mg/kg	*< 27 U*	*< 19 U*	*< 13 U*	*< 8.3 U*	*< 6.2 U*	*< 0.31 U*	*< 0.31 U*	*< 6.8 U*	*< 5.1 U*	*< 0.79 U*
2-Nitroaniline	mg/kg	*< 39 U*	*< 27 U*	*< 18 U*	*< 12 U*	*< 9 U*	*< 0.44 U*	*< 0.45 U*	*< 9.9 U*	*< 7.4 U*	*< 1.1 U*
2-Nitrophenol	mg/kg	*< 38 U*	*< 26 U*	*< 18 U*	*< 12 U*	*< 8.8 U*	*< 0.43 U*	*< 0.44 U*	*< 9.6 U*	*< 7.2 U*	*< 1.1 U*
3,3'-Dichlorobenzidine	mg/kg	*< 44 U*	*< 30 U*	*< 20 U*	*< 14 U*	*< 10 U*	*< 0.5 U*	*< 0.5 U*	*< 11 U*	*< 8.3 U*	*< 1.3 U*
3-Nitroaniline	mg/kg	*< 78 U*	*< 54 U*	*< 36 U*	*< 24 U*	*< 18 U*	*< 0.88 U*	*< 0.89 U*	*< 20 U*	*< 15 U*	*< 2.3 U*
4,6-Dinitro-2-methylphenol	mg/kg	*< 38 U*	*< 26 U*	*< 18 U*	*< 12 U*	*< 8.7 U*	*< 0.43 U*	*< 0.43 U*	*< 9.5 U*	*< 7.1 U*	*< 1.1 U*
4-Bromophenyl-phenylether	mg/kg	*< 40 U*	*< 27 U*	*< 18 U*	*< 12 U*	*< 9.1 U*	*< 0.45 U*	*< 0.45 U*	*< 10 U*	*< 7.5 U*	*< 1.2 U*
4-Chloro-3-methylphenol	mg/kg	*< 43 U*	*< 30 U*	*< 20 U*	*< 13 U*	*< 9.9 U*	*< 0.49 U*	*< 0.49 U*	*< 11 U*	*< 8.1 U*	*< 1.2 U*
4-Chloroaniline	mg/kg	*< 27 U*	*< 19 U*	*< 13 U*	*< 8.3 U*	*< 6.2 U*	*< 0.31 U*	*< 0.31 U*	*< 6.8 U*	*< 5.1 U*	*< 0.79 U*
4-Chlorophenyl-phenylether	mg/kg	*< 43 U*	*< 30 U*	*< 20 U*	*< 13 U*	*< 10 U*	*< 0.49 U*	*< 0.5 U*	*< 11 U*	*< 8.2 U*	*< 1.3 U*
3 & 4 Methylphenol	mg/kg	*< 150 U*	*< 110 U*	*< 72 U*	*< 47 U*	*< 35 U*	*< 1.7 U*	*< 1.8 U*	*< 39 U*	*< 29 U*	*< 4.5 U*
4-Nitroaniline	mg/kg	*< 41 U*	*< 28 U*	*< 19 U*	*< 13 U*	*< 9.4 U*	*< 0.47 U*	*< 0.47 U*	*< 10 U*	*< 7.7 U*	*< 1.2 U*
4-Nitrophenol	mg/kg	*< 130 U*	*< 90 U*	*< 61 U*	*< 40 U*	*< 30 U*	*< 1.5 U*	*< 1.5 U*	*< 33 U*	*< 25 U*	*< 3.8 U*
Acetophenone	mg/kg	*< 12 U*	*< 8 U*	*< 5.4 U*	*< 7.6 U*	*< 3.4 U*	*< 0.13 U*	*< 0.13 U*	*< 2.9 U*	*< 2.2 U*	*< 0.68 U*
Benzaldehyde	mg/kg	*< 77 U*	*< 53 U*	*< 36 U*	*< 24 U*	*< 18 U*	*< 0.87 U*	*< 0.88 U*	*< 19 U*	*< 15 U*	*< 2.2 U*
Benzylbutylphthalate	mg/kg	*< 44 U*	*< 31 U*	*< 21 U*	*< 14 U*	*< 10 U*	*< 0.5 U*	*< 0.51 U*	*< 11 U*	*< 8.4 U*	*< 1.3 U*
Bis(2-chloroethoxy)methane	mg/kg	*< 41 U*	*< 28 U*	*< 19 U*	*< 13 U*	*< 9.4 U*	*< 0.47 U*	*< 0.47 U*	*< 10 U*	*< 7.7 U*	*< 1.2 U*
bis(2-Chloroethyl) ether	mg/kg	*< 38 U*	*< 26 U*	*< 18 U*	*< 12 U*	*< 8.7 U*	*< 0.43 U*	*< 0.43 U*	*< 9.5 U*	*< 7.1 U*	*< 1.1 U*
Bis(2-ethylhexyl)phthalate	mg/kg	*< 46 U*	*< 32 U*	*< 21 U*	*< 14 U*	*< 11 U*	*< 0.52 U*	*< 0.52 U*	*< 12 U*	*< 8.6 U*	*< 1.3 U*
Carbazole	mg/kg	*< 44 U*	*< 31 U*	*< 21 U*	*< 14 U*	*< 10 U*	*< 0.5 U*	*< 0.51 U*	*< 11 U*	*< 8.4 U*	*< 1.3 U*
Dibenzofuran	mg/kg	*< 40 U*	*< 28 U*	*< 19 U*	*< 12 U*	*< 9.2 U*	*< 0.45 U*	*< 0.46 U*	*< 10 U*	*< 7.6 U*	*< 1.2 U*
Diethyl phthalate	mg/kg	*< 42 U*	*< 29 U*	*< 20 U*	*< 13 U*	*< 9.7 U*	*< 0.48 U*	*< 0.48 U*	*< 11 U*	*< 7.9 U*	*< 1.2 U*
Dimethylphthalate	mg/kg	*< 40 U*	*< 28 U*	*< 19 U*	*< 13 U*	*< 9.3 U*	*< 0.46 U*	*< 0.47 U*	*< 10 U*	*< 7.6 U*	*< 1.2 U*
Di-n-butylphthalate	mg/kg	*< 45 U*	*< 31 U*	*< 21 U*	*< 14 U*	*< 10 U*	*< 0.51 U*	*< 0.52 U*	*< 11 U*	*< 8.5 U*	*< 1.3 U*
Di-n-octylphthalate	mg/kg	*< 45 U*	*< 31 U*	*< 21 U*	*< 14 U*	*< 10 U*	*< 0.51 U*	*< 0.52 U*	*< 11 U*	*< 8.5 U*	*< 1.3 U*
Hexachlorobenzene	mg/kg	1,600 J	1,100	880	25	4.9	0.061 J	0.018 J	*< 0.26 U*	0.23 J	0.5
Hexachlorobutadiene	mg/kg	2.8 J	3.5	*< 0.4 U*	*< 0.53 U*	*< 0.4 U*	*< 0.02 U*	*< 0.02 U*	*< 0.43 U*	*< 0.33 U*	*< 0.05 U*
Hexachlorocyclopentadiene	mg/kg	*< 29 U*	*< 20 U*	*< 13 U*	*< 8.9 U*	*< 6.7 U*	*< 0.33 U*	*< 0.33 U*	*< 7.3 U*	*< 5.5 U*	*< 0.84 U*
Hexachloroethane	mg/kg	*< 38 U*	*< 26 U*	*< 18 U*	*< 12 U*	*< 8.7 U*	*< 0.43 U*	*< 0.43 U*	*< 9.5 U*	*< 7.1 U*	*< 1.1 U*
Isophorone	mg/kg	*< 43 U*	*< 30 U*	*< 20 U*	*< 13 U*	*< 10 U*	*< 0.49 U*	*< 0.5 U*	*< 11 U*	*< 8.2 U*	*< 1.3 U*

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Phase 1A-B RI Field Duplicate Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-03**	**1-10**	**3-06**	**4-01**	**4-02**	**5-10**	**6-01**	**6-07**	**7-12**	**7-14**
	Sample Date	**03-Dec-15**	**23-Nov-15**	**17-Nov-15**	**19-Oct-15**	**19-Oct-15**	**15-Oct-15**	**16-Oct-15**	**16-Oct-15**	**21-Sep-15**	**22-Sep-15**
	Sample Type	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-03-SS-11-120315**	**1-10-SS-11-112315**	**3-06-SS-11-111715**	**4-01-SS-11-101915**	**4-02-SS-11-101915**	**5-10-SS-11-101515**	**6-01-SS-11-101615**	**6-07-SS-11-101615**	**7-12-SS-11-092115**	**7-14-SS-11-092215**
Analyte	**Unit**										
Nitrobenzene	mg/kg	< 35 U	< 24 U	< 17 U	< 11 U	< 8.2 U	< 0.4 U	< 0.41 U	< 8.9 U	< 6.7 U	< 1 U
N-Nitrosodimethylamine	mg/kg	< 22 U	< 15 U	< 10 U	< 14 U	< 10 U	< 0.51 U	< 0.51 U	< 11 U	< 8.4 U	< 1.3 U
N-Nitroso-di-n-propylamine	mg/kg	< 39 U	< 27 U	< 18 U	< 12 U	< 9 U	< 0.44 U	< 0.45 U	< 9.9 U	< 7.4 U	< 1.1 U
N-Nitrosodiphenylamine	mg/kg	< 40 U	< 28 U	< 19 U	< 12 U	< 9.2 U	< 0.45 U	< 0.46 U	< 10 U	< 7.6 U	< 1.2 U
Pentachlorobenzene	mg/kg	57 J	35 J	70 J	< 1.9 U	< 1.4 U	< 0.069 U	< 0.07 U	< 1.5 U	< 1.1 U	< 0.18 U
Pentachlorophenol	mg/kg	< 5.6 U	4.1 J+	< 2.6 U	< 3.5 U	< 2.6 U	< 0.13 U	< 0.13 U	< 2.8 U	< 2.1 U	< 0.33 U
Phenol	mg/kg	< 39 U	< 27 U	< 18 U	< 12 U	< 8.9 U	< 0.44 U	< 0.44 U	< 9.7 U	< 7.3 U	< 1.1 U
06-PAHs											
2-Methylnaphthalene	mg/kg	0.56 J	0.79	< 0.03 U	< 0.0059 U	< 0.0046 U	< 0.0021 U	< 0.00049 U	< 0.0051 U	< 0.0058 U	< 0.0077 U
Acenaphthene	mg/kg	< 0.058 U	< 0.043 U	< 0.033 U	< 0.0065 U	< 0.0050 U	< 0.0023 U	< 0.00053 U	< 0.0056 U	< 0.0064 U	< 0.0085 U
Acenaphthylene	mg/kg	< 0.04 U	< 0.03 U	< 0.023 U	< 0.0046 U	< 0.0035 U	< 0.0016 U	< 0.00038 U	< 0.0039 U	< 0.0045 U	< 0.0059 U
Anthracene	mg/kg	< 0.048 U	< 0.036 U	< 0.027 U	< 0.0054 U	< 0.0042 U	< 0.0019 U	< 0.00045 U	< 0.0047 U	< 0.0054 U	< 0.0071 U
Benzo(a)anthracene	mg/kg	< 0.037 U	< 0.027 U	< 0.021 U	< 0.0042 U	< 0.0033 U	< 0.0015 U	< 0.00034 U	< 0.0036 U	< 0.0041 U	< 0.0054 U
Benzo(a)pyrene	mg/kg	0.85	0.15 J	0.26 J	< 0.0055 U	< 0.0043 U	< 0.0019 U	< 0.00045 U	< 0.0047 U	< 0.0054 U	< 0.0072 U
Benzo(b)fluoranthene	mg/kg	< 0.062 U	< 0.046 U	< 0.035 U	< 0.0070 U	< 0.0054 U	< 0.0024 U	< 0.00057 U	< 0.0060 U	< 0.0069 U	< 0.0091 U
Benzo(g,h,i)perylene	mg/kg	< 0.12 U	< 0.091 U	< 0.069 U	< 0.014 U	< 0.011 U	< 0.0048 U	< 0.0011 U	< 0.012 U	< 0.014 U	< 0.018 U
Benzo(k)fluoranthene	mg/kg	< 0.093 U	< 0.069 U	< 0.053 U	< 0.01 U	< 0.0082 U	< 0.0036 U	< 0.00086 U	< 0.0090 U	< 0.01 U	< 0.014 U
Chrysene	mg/kg	< 0.042 U	< 0.031 U	< 0.024 U	< 0.0048 U	< 0.0037 U	< 0.0017 U	< 0.00039 U	< 0.0041 U	< 0.0047 U	< 0.0062 U
Dibenzo(a,h)anthracene	mg/kg	< 0.15 U	< 0.11 U	< 0.083 U	< 0.017 U	< 0.013 U	< 0.0058 U	< 0.0014 U	< 0.014 U	< 0.016 U	< 0.022 U
Fluoranthene	mg/kg	0.053 J	< 0.027 U	< 0.02 U	< 0.0040 U	< 0.0031 U	< 0.0014 U	< 0.00033 U	< 0.0035 U	< 0.0040 U	< 0.0053 U
Fluorene	mg/kg	< 0.06 U	0.14 J	< 0.034 U	< 0.0068 U	< 0.0053 U	< 0.0024 U	< 0.00056 U	< 0.0058 U	< 0.0067 U	< 0.0088 U
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.059 U	< 0.043 U	< 0.033 U	< 0.0066 U	< 0.0051 U	< 0.0023 U	< 0.00055 U	< 0.0057 U	< 0.0065 U	< 0.0086 U
Naphthalene	mg/kg	< 0.06 U	< 0.23 U	< 0.021 U	< 0.0042 U	< 0.0033 U	< 0.0015 U	< 0.00036 U	< 0.0036 U	< 0.0042 U	< 0.0055 U
Phenanthrene	mg/kg	< 0.099 U	< 0.12 U	< 0.024 U	< 0.0048 U	< 0.0038 U	< 0.0017 U	< 0.00040 U	< 0.0041 U	< 0.0048 U	< 0.0063 U
Pyrene	mg/kg	< 0.043 U	< 0.032 U	< 0.024 U	< 0.0048 U	< 0.0038 U	< 0.0017 U	< 0.00040 U	< 0.0041 U	< 0.0048 U	< 0.0063 U
07-VOCs											
1,4-Dioxane	mg/kg	< 0.15 UJ	< 0.13 UJ	< 0.065 U	< 0.067 U	< 0.048 U	< 0.065 U	< 0.058 U	< 0.05 U	< 0.063 U	< 0.07 U
1,1-Dichloroethane	mg/kg	< 0.0011 U	< 0.00097 U	< 0.00048 U	< 0.00050 U	< 0.00036 U	< 0.00048 U	< 0.00043 UJ	< 0.00037 U	< 0.00047 U	< 0.00052 U
1,1-Dichloroethene	mg/kg	< 0.0010 U	< 0.00087 U	< 0.00043 U	< 0.00045 U	< 0.00032 U	< 0.00043 U	< 0.00039 UJ	< 0.00033 U	< 0.00042 U	< 0.00047 U
1,2-Dibromo-3-chloropropane	mg/kg	< 0.0035 U	< 0.0029 U	< 0.0015 U	< 0.0015 U	< 0.0011 U	< 0.0015 U	< 0.0013 UJ	< 0.0011 U	< 0.0014 U	< 0.0016 U
1,2-Dibromoethane	mg/kg	< 0.0011 U	< 0.00090 U	< 0.00045 U	< 0.00047 U	< 0.00033 U	< 0.00045 U	< 0.00040 UJ	< 0.00034 U	< 0.00044 U	< 0.00049 U
1,2-Dichlorobenzene	mg/kg	< 0.0025 U	< 0.0021 U	< 0.0011 U	< 0.0011 U	< 0.00079 U	< 0.0011 U	< 0.00095 UJ	< 0.00082 U	< 0.0010 U	< 0.0012 U
1,2-Dichloroethane	mg/kg	< 0.0029 U	< 0.0024 U	< 0.0012 U	< 0.0013 U	< 0.00090 U	< 0.0012 U	< 0.0011 UJ	< 0.00093 U	< 0.0012 U	< 0.0013 U
cis-1,2-Dichloroethene	mg/kg	< 0.0035 U	0.0064 J	< 0.0015 U	< 0.0015 U	< 0.0011 U	< 0.0015 U	< 0.0013 UJ	< 0.0011 U	< 0.0014 U	< 0.0016 U
trans-1,2-Dichloroethene	mg/kg	< 0.0015 U	< 0.0013 U	< 0.00063 U	< 0.00066 U	< 0.00047 U	< 0.00063 U	< 0.00056 UJ	< 0.00048 U	< 0.00062 U	< 0.00068 U
1,2-Dichloropropane	mg/kg	< 0.0024 U	< 0.0020 U	< 0.00099 U	< 0.0010 U	< 0.00074 U	< 0.0010 U	< 0.00089 UJ	< 0.00076 U	< 0.00097 U	< 0.0011 U
1,3-Dichlorobenzene	mg/kg	< 0.0012 U	< 0.0010 U	< 0.00050 U	< 0.00052 U	< 0.00037 U	< 0.00050 U	< 0.00044 UJ	< 0.00038 U	< 0.00049 U	0.0015 J
cis-1,3-Dichloropropene	mg/kg	< 0.0025 U	< 0.0021 U	< 0.0011 U	< 0.0011 U	< 0.00079 U	< 0.0011 U	< 0.00095 UJ	< 0.00082 U	< 0.0010 U	< 0.0012 U
trans-1,3-Dichloropropene	mg/kg	< 0.0030 U	< 0.0025 U	< 0.0012 U	< 0.0013 U	< 0.00093 U	< 0.0012 U	< 0.0011 UJ	< 0.00096 U	< 0.0012 U	< 0.0014 U

Table 6-1
Phase 1A-B RI Field Duplicate Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-03**	**1-10**	**3-06**	**4-01**	**4-02**	**5-10**	**6-01**	**6-07**	**7-12**	**7-14**
	Sample Date	**03-Dec-15**	**23-Nov-15**	**17-Nov-15**	**19-Oct-15**	**19-Oct-15**	**15-Oct-15**	**16-Oct-15**	**16-Oct-15**	**21-Sep-15**	**22-Sep-15**
	Sample Type	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-03-SS-11-120315**	**1-10-SS-11-112315**	**3-06-SS-11-111715**	**4-01-SS-11-101915**	**4-02-SS-11-101915**	**5-10-SS-11-101515**	**6-01-SS-11-101615**	**6-07-SS-11-101615**	**7-12-SS-11-092115**	**7-14-SS-11-092215**
Analyte	**Unit**										
1,4-Dichlorobenzene	mg/kg	< 0.0031 U	< 0.0026 U	< 0.0013 U	< 0.0013 U	< 0.00096 U	< 0.0013 U	< 0.0012 UJ	< 0.00099 U	< 0.0013 U	< 0.0014 U
1,1,1-Trichloroethane	mg/kg	< 0.0014 U	< 0.0012 U	< 0.00060 U	< 0.00062 U	< 0.00044 U	< 0.00060 U	< 0.00053 UJ	< 0.00046 U	< 0.00058 U	< 0.00065 U
1,1,2-Trichloroethane	mg/kg	< 0.0017 U	< 0.0015 U	< 0.00073 U	< 0.00076 U	< 0.00054 U	< 0.00073 U	< 0.00065 UJ	< 0.00056 U	< 0.00071 U	< 0.00079 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	mg/kg	< 0.0033 U	< 0.0028 U	< 0.0014 U	< 0.0014 U	< 0.0010 U	< 0.0014 U	< 0.0012 UJ	< 0.0011 U	< 0.0013 U	< 0.0015 U
1,2,3-Trichlorobenzene	mg/kg	< 0.0030 U	< 0.0025 U	< 0.0012 U	< 0.0013 U	< 0.00093 U	< 0.0012 U	< 0.0011 UJ	< 0.00096 U	< 0.0012 U	< 0.0014 U
1,2,4-Trichlorobenzene	mg/kg	0.03	0.0029 J	< 0.0012 U	< 0.0013 U	< 0.00093 U	< 0.0012 U	< 0.0011 UJ	< 0.00096 U	< 0.0012 U	0.013
1,1,2,2-Tetrachloroethane	mg/kg	< 0.0027 U	< 0.0023 U	< 0.0011 U	< 0.0012 U	< 0.00084 U	< 0.0011 U	< 0.0010 UJ	< 0.00087 U	< 0.0011 U	< 0.0012 U
2-Butanone	mg/kg	0.014 J	0.01 J	< 0.0023 U	< 0.0024 U	< 0.0017 U	< 0.011 U	< 0.0021 U	0.038	< 0.0058 U	0.077
2-Hexanone	mg/kg	< 0.0029 U	< 0.0025 U	< 0.0012 U	< 0.0013 U	< 0.00091 U	< 0.0012 U	< 0.0011 UJ	0.0029 J	< 0.0012 U	0.0018 J
4-Methyl-2-pentanone	mg/kg	< 0.0036 U	< 0.0031 U	< 0.0015 U	< 0.0016 U	< 0.0011 U	< 0.0015 U	< 0.0014 U	0.0013 J	< 0.0015 U	< 0.0017 U
Acetone	mg/kg	0.086	< 0.029 U	< 0.0023 U	< 0.014 U	< 0.0036 U	< 0.0023 U	< 0.0021 U	< 0.056 U	0.013 J	0.28
Benzene	mg/kg	< 0.0010 U	< 0.00087 U	< 0.00043 U	< 0.00045 U	< 0.00032 U	< 0.00043 U	< 0.00039 UJ	0.00060 J	< 0.00042 U	< 0.00047 U
Bromochloromethane	mg/kg	< 0.0037 U	< 0.0031 U	< 0.0016 U	< 0.0016 U	< 0.0012 U	< 0.0016 U	< 0.0014 UJ	< 0.0012 U	< 0.0015 U	< 0.0017 U
Bromodichloromethane	mg/kg	0.15 J	< 0.0054 UJ	< 0.00088 U	< 0.00092 U	< 0.00065 U	< 0.00088 U	< 0.00079 UJ	< 0.0019 U	< 0.00086 U	< 0.0016 U
Bromoform	mg/kg	1.5 J	0.0055 J	< 0.00066 U	< 0.00069 U	< 0.00049 U	< 0.00067 U	< 0.00059 UJ	0.015	< 0.0011 U	< 0.0060 U
Bromomethane	mg/kg	< 0.0034 U	< 0.0029 U	< 0.0014 U	< 0.0015 U	< 0.0011 U	< 0.0014 U	< 0.0013 UJ	< 0.0011 U	< 0.0014 U	< 0.0015 U
Carbon disulfide	mg/kg	0.0032 J	< 0.0016 U	< 0.00081 U	< 0.00085 U	< 0.00061 U	< 0.00082 U	< 0.00073 UJ	< 0.00062 U	< 0.00079 U	0.027
Carbon tetrachloride	mg/kg	0.099 J	< 0.0018 UJ	< 0.00088 U	< 0.00092 U	< 0.00065 U	< 0.00088 U	< 0.00079 UJ	< 0.00068 U	< 0.00086 U	< 0.00096 U
Chlorobenzene	mg/kg	< 0.0011 U	< 0.00097 U	< 0.00048 U	< 0.00050 U	< 0.00036 U	< 0.00048 U	< 0.00043 UJ	< 0.00037 U	< 0.00047 U	< 0.00052 U
Cyclohexane	mg/kg	< 0.01 U	< 0.0088 U	< 0.0044 U	< 0.0046 U	< 0.0032 U	< 0.0044 U	< 0.0039 UJ	< 0.0034 U	< 0.0043 U	< 0.0047 U
Dibromochloromethane	mg/kg	0.39 J	0.0041 J	< 0.00035 U	< 0.00036 U	< 0.00026 U	< 0.00035 U	< 0.00031 UJ	< 0.0046 U	< 0.00042 U	< 0.0031 U
Chloroethane	mg/kg	< 0.0018 U	< 0.0015 U	< 0.00075 U	< 0.00078 U	< 0.00056 U	< 0.00075 U	< 0.00067 UJ	< 0.00057 U	< 0.00073 U	< 0.00081 U
Chloroform	mg/kg	0.041	0.062 J	< 0.00043 U	< 0.00045 U	< 0.00032 U	< 0.00043 U	< 0.00039 UJ	0.025	< 0.00071 U	< 0.0046 U
Chloromethane	mg/kg	0.014 J	< 0.0017 U	< 0.00083 U	< 0.00087 U	< 0.00062 U	< 0.00083 U	< 0.00074 UJ	< 0.00064 U	< 0.00081 U	< 0.00090 U
Dichlorodifluoromethane (Freon-12)	mg/kg	< 0.0035 U	< 0.0030 U	< 0.0015 U	< 0.0015 U	< 0.0011 U	< 0.0015 U	< 0.0013 UJ	< 0.0011 U	< 0.0014 U	< 0.0016 U
Ethyl benzene	mg/kg	< 0.0013 U	0.0043 J	< 0.00056 U	< 0.00059 U	< 0.00042 U	< 0.00057 U	< 0.00050 UJ	< 0.00043 U	< 0.00055 U	< 0.00061 U
Isopropylbenzene	mg/kg	0.0060 J	< 0.0017 U	< 0.00086 U	< 0.00090 U	< 0.00064 U	< 0.00087 U	< 0.00077 UJ	< 0.00066 U	< 0.00084 U	< 0.00094 U
Methyl tertbutyl ether (MTBE)	mg/kg	< 0.0024 U	< 0.0020 U	< 0.00099 U	< 0.0010 U	< 0.00074 U	< 0.0010 U	< 0.00089 UJ	< 0.00076 U	< 0.00097 U	< 0.0011 U
Dichloromethane (Methylene chloride)	mg/kg	0.0039 J	0.0039 J	< 0.0014 U	< 0.0015 U	< 0.0010 U	< 0.0014 U	< 0.0012 UJ	< 0.0011 U	< 0.0014 U	< 0.0015 U
Styrene	mg/kg	< 0.0012 U	< 0.0010 U	< 0.00051 U	< 0.00054 U	< 0.00038 U	< 0.00052 U	< 0.00046 UJ	< 0.00040 U	< 0.00050 U	< 0.00056 U
Tetrachloroethene	mg/kg	0.073 J	< 0.0020 UJ	< 0.0010 U	< 0.0011 U	< 0.00075 U	< 0.0010 U	< 0.00090 UJ	< 0.00078 U	< 0.00099 U	< 0.0011 U
Toluene	mg/kg	0.0030 J	< 0.0020 U	< 0.0010 U	< 0.0011 U	< 0.00075 U	< 0.0010 U	< 0.00090 UJ	0.0011 J	< 0.00099 U	< 0.0011 U
Trichloroethene	mg/kg	0.0039 J	0.0071 J	< 0.00099 U	< 0.0010 U	< 0.00074 U	< 0.0010 U	< 0.00089 UJ	< 0.00076 U	< 0.00097 U	< 0.0011 U
Trichlorofluoromethane (Freon-11)	mg/kg	< 0.0013 U	< 0.0011 U	< 0.00056 U	< 0.00059 U	< 0.00042 U	< 0.00057 U	< 0.00050 UJ	< 0.00043 U	< 0.00055 U	< 0.00061 U
Vinyl chloride	mg/kg	< 0.0014 U	< 0.0012 U	< 0.00060 U	< 0.00062 U	< 0.00044 U	< 0.00060 U	< 0.00053 UJ	< 0.00046 U	< 0.00058 U	< 0.00065 U
o-Xylene	mg/kg	0.0076 J	0.0050 J	< 0.00055 U	< 0.00057 U	< 0.00041 U	0.00076 J	< 0.00049 UJ	< 0.00042 U	< 0.00053 U	< 0.00059 U
m,p Xylenes	mg/kg	0.021	0.0062 J	< 0.0013 U	< 0.0014 U	< 0.0010 U	0.0023 J	< 0.0012 UJ	< 0.0010 U	< 0.0013 U	< 0.0015 U
08-General Solids Parameters											
Perchlorate	mg/kg	< 0.048 UJ	< 0.068 U	< 0.027 U	< 0.071 U	0.063	0.00017 J	< 0.021 U	< 0.024 U	< 0.00021 U	< 0.00024 U
Total Organic Carbon	mg/kg	50,000	15,000	25,000	3,100 J	< 1,700 U	< 1,700 U	6,300	2,500 J	3,200 J	8,400

Table 6-1
Phase 1A-B RI Field Duplicate Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location ID	**1-03**	**1-10**	**3-06**	**4-01**	**4-02**	**5-10**	**6-01**	**6-07**	**7-12**	**7-14**
	Sample Date	**03-Dec-15**	**23-Nov-15**	**17-Nov-15**	**19-Oct-15**	**19-Oct-15**	**15-Oct-15**	**16-Oct-15**	**16-Oct-15**	**21-Sep-15**	**22-Sep-15**
	Sample Type	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**	**FD**
	Depth	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**	**0 - 6 in**
	Sample ID	**1-03-SS-11-120315**	**1-10-SS-11-112315**	**3-06-SS-11-111715**	**4-01-SS-11-101915**	**4-02-SS-11-101915**	**5-10-SS-11-101515**	**6-01-SS-11-101615**	**6-07-SS-11-101615**	**7-12-SS-11-092115**	**7-14-SS-11-092215**
Analyte	**Unit**										
pH	pH units	1.55	2.41	8.06	6.91	7.13	8.41	7.76	7.05	7.22	6.68
Cyanide, Total	mg/kg	*< 0.50 UJ*	*< 0.36 U*	*< 0.28 U*	*< 0.44 U*	*< 0.23 U*	0.50	*< 0.22 U*	*< 0.25 U*	*< 0.30 U*	*< 0.35 U*
Percent finer than 0.25 mm	%	97.3	85.9	91.1	98.1	73	43.7	87.1		75.6	

Notes:

% = percent
Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
in = inches
mg/kg = milligrams per kilogram
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = picogram per gram
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
VOC = Volatile organic compound
< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:

J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The result is an estimated quantity, biased high. The associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Savannah, GA, TestAmerica - Denver, CO, Alpha Woods Hole Laboratories, TestAmerica - St. Louis, MO, GeoStrata.

Table 6-2
Phase 1A-B RI Trip Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-3**
	Location ID	**1-04**	**1-06**	**1-07**	**1-08**	**1-08**	**1-09**	**1-14**	**1-14**	**3-01**
	Sample Date	**24-Nov-15**	**03-Dec-15**	**04-Nov-15**	**05-Nov-15**	**02-Dec-15**	**23-Nov-15**	**03-Nov-15**	**19-Nov-15**	**17-Nov-15**
	Sample Type	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**
	Sample ID	**1-04-SS-21-112415**	**1-06-SS-21-120315**	**1-07-SB-21-5-7-110415**	**1-08-SB-21-8.5-10-110515**	**1-08-SB-21-1-3-120215**	**1-09-SS-21-112315**	**1-14-SB-21-10-11-110315**	**1-14-SS-21-111915**	**3-01-SS-21-111715**
Analyte	**Unit**									
07-VOCs										
1,4-Dioxane	µg/L	< 25 U	< 34 UJ	< 25 U	< 25 U	< 34 UJ	< 25 U	< 25 U	< 25 U	< 25 U
1,1-Dichloroethane	µg/L	< 0.10 U	< 0.12 U	< 0.10 U	< 0.10 U	< 0.12 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
1,1-Dichloroethene	µg/L	< 0.14 U	< 0.30 U	< 0.14 U	< 0.14 U	< 0.30 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
1,2-Dibromo-3-chloropropane	µg/L	< 0.32 U	< 0.14 U	< 0.32 U	< 0.32 U	< 0.14 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U
1,2-Dibromoethane	µg/L	< 0.22 U	< 0.18 U	< 0.22 U	< 0.22 U	< 0.18 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U
1,2-Dichlorobenzene	µg/L	< 0.14 U	< 0.15 U	< 0.14 U	< 0.14 U	< 0.15 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
1,2-Dichloroethane	µg/L	< 0.22 U	< 0.21 U	< 0.22 U	< 0.22 U	< 0.21 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U
cis-1,2-Dichloroethene	µg/L	< 0.10 U	< 0.24 U	< 0.10 U	< 0.10 U	< 0.24 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
trans-1,2-Dichloroethene	µg/L	< 0.11 U	< 0.17 U	< 0.11 U	< 0.11 U	< 0.17 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U
1,2-Dichloropropane	µg/L	< 0.15 U	< 0.095 U	< 0.15 U	< 0.15 U	< 0.095 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U
1,3-Dichlorobenzene	µg/L	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U
cis-1,3-Dichloropropene	µg/L	< 0.22 U	< 0.19 U	< 0.22 U	< 0.22 U	< 0.19 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U
trans-1,3-Dichloropropene	µg/L	< 0.080 U	< 0.15 U	< 0.080 U	< 0.080 U	< 0.15 U	< 0.080 U	< 0.080 U	< 0.080 U	< 0.080 U
1,4-Dichlorobenzene	µg/L	< 0.13 U	< 0.21 U	< 0.13 U	< 0.13 U	< 0.21 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
1,1,1-Trichloroethane	µg/L	< 0.19 U	< 0.29 U	< 0.19 U	< 0.19 U	< 0.29 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U
1,1,2-Trichloroethane	µg/L	< 0.31 U	< 0.20 U	< 0.31 U	< 0.31 U	< 0.20 U	< 0.31 U	< 0.31 U	< 0.31 U	< 0.31 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	µg/L	< 0.25 U	< 0.32 U	< 0.25 U	< 0.25 U	< 0.32 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,3-Trichlorobenzene	µg/L	< 0.14 U	< 0.15 U	< 0.14 U	< 0.14 U	< 0.15 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
1,2,4-Trichlorobenzene	µg/L	< 0.10 U	< 0.27 U	< 0.10 U	< 0.10 U	< 0.27 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
1,1,2,2-Tetrachloroethane	µg/L	< 0.090 U	< 0.20 U	< 0.090 U	< 0.090 U	< 0.20 U	< 0.090 U	< 0.090 U	< 0.090 U	< 0.090 U
2-Butanone	µg/L	< 0.35 U	< 0.55 U	< 0.35 U	< 0.35 U	< 0.55 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U
2-Hexanone	µg/L	< 0.17 U	< 0.16 U	< 0.17 U	< 0.17 U	< 0.16 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U
4-Methyl-2-pentanone	µg/L	< 0.18 U	< 0.53 U	< 0.18 U	< 0.18 U	< 0.53 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U
Acetone	µg/L	< 2.1 U	< 2.5 U	< 2.1 U	< 2.1 U	< 2.5 U	< 2.1 U	2.5 J	< 2.1 U	< 2.1 U
Benzene	µg/L	< 0.13 U	< 0.11 U	< 0.13 U	< 0.13 U	< 0.11 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Bromochloromethane	µg/L	< 0.14 U	< 0.18 U	< 0.14 U	< 0.14 U	< 0.18 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
Bromodichloromethane	µg/L	< 0.14 U	< 0.13 U	< 0.14 U	< 0.14 U	< 0.13 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
Bromoform	µg/L	< 0.10 U	< 0.19 U	< 0.10 U	< 0.10 U	< 0.19 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
Bromomethane	µg/L	< 0.29 U	< 0.31 U	< 0.29 U	< 0.29 U	< 0.31 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U
Carbon disulfide	µg/L	< 0.16 U	< 0.21 U	< 0.16 U	< 0.16 U	< 0.21 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U
Carbon tetrachloride	µg/L	< 0.15 U	< 0.14 U	< 0.15 U	< 0.15 U	< 0.14 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U
Chlorobenzene	µg/L	< 0.12 U	< 0.14 U	< 0.12 U	< 0.12 U	< 0.14 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U
Cyclohexane	µg/L	< 0.12 U	< 0.25 U	< 0.12 U	< 0.12 U	< 0.25 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U
Dibromochloromethane	µg/L	< 0.13 U	< 0.14 U	< 0.13 U	< 0.13 U	< 0.14 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Chloroethane	µg/L	< 0.34 U	< 0.21 U	< 0.34 U	< 0.34 U	< 0.21 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U
Chloroform	µg/L	< 0.12 U	< 0.17 U	< 0.12 U	< 0.12 U	< 0.17 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U
Chloromethane	µg/L	< 0.25 U	< 0.28 U	< 0.25 U	< 0.25 U	< 0.28 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
Dichlorodifluoromethane (Freon-12)	µg/L	< 0.16 U	< 0.19 U	< 0.16 U	< 0.16 U	< 0.19 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U
Ethyl benzene	µg/L	< 0.10 U	< 0.23 U	< 0.10 U	< 0.10 U	< 0.23 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
Isopropylbenzene	µg/L	< 0.12 U	< 0.16 U	< 0.12 U	< 0.12 U	< 0.16 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U

Table 6-2
Phase 1A-B RI Trip Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-1**	**PRI-3**
	Location ID	**1-04**	**1-06**	**1-07**	**1-08**	**1-08**	**1-09**	**1-14**	**1-14**	**3-01**
	Sample Date	**24-Nov-15**	**03-Dec-15**	**04-Nov-15**	**05-Nov-15**	**02-Dec-15**	**23-Nov-15**	**03-Nov-15**	**19-Nov-15**	**17-Nov-15**
	Sample Type	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**
	Sample ID	**1-04-SS-21-112415**	**1-06-SS-21-120315**	**1-07-SB-21-5-7-110415**	**1-08-SB-21-8.5-10-110515**	**1-08-SB-21-1-3-120215**	**1-09-SS-21-112315**	**1-14-SB-21-10-11-110315**	**1-14-SS-21-111915**	**3-01-SS-21-111715**
Analyte	**Unit**									
Methyl tertbutyl ether (MTBE)	µg/L	*< 0.19 U*	*< 0.18 U*	*< 0.19 U*	*< 0.19 U*	*< 0.18 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*
Dichloromethane (Methylene chloride)	µg/L	*< 0.35 U*	*< 0.13 U*	*< 0.35 U*	*< 0.35 U*	*< 0.13 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*
Styrene	µg/L	*< 0.15 U*	*< 0.097 U*	*< 0.15 U*	*< 0.15 U*	*< 0.097 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*
Tetrachloroethene	µg/L	*< 0.10 U*	*< 0.15 U*	*< 0.10 U*	*< 0.10 U*	*< 0.15 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
Toluene	µg/L	*< 0.25 U*	*< 0.15 U*	*< 0.25 U*	*< 0.25 U*	*< 0.15 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
Trichloroethene	µg/L	*< 0.13 U*	*< 0.14 U*	*< 0.13 U*	*< 0.13 U*	*< 0.14 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
Trichlorofluoromethane (Freon-11)	µg/L	*< 0.23 U*	*< 0.20 U*	*< 0.23 U*	*< 0.23 U*	*< 0.20 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*
Vinyl chloride	µg/L	*< 0.22 U*	*< 0.23 U*	*< 0.22 U*	*< 0.22 U*	*< 0.23 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
o-Xylene	µg/L	*< 0.10 U*	*< 0.11 U*	*< 0.10 U*	*< 0.10 U*	*< 0.11 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
m,p Xylenes	µg/L	*< 0.18 U*	*< 0.41 U*	*< 0.18 U*	*< 0.18 U*	*< 0.41 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*

Table 6-2
Phase 1A-B RI Trip Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-3**	**PRI-3**	**PRI-4**	**PRI-4**	**PRI-4**	**PRI-4**	**PRI-4**	**PRI-4**	**PRI-5**	**PRI-5**
	Location ID	**3-03**	**3-10**	**4-02**	**4-05**	**4-07**	**4-09**	**4-10**	**4-14**	**5-05**	**5-12**
	Sample Date	**16-Nov-15**	**18-Nov-15**	**19-Oct-15**	**09-Nov-15**	**20-Oct-15**	**23-Oct-15**	**21-Oct-15**	**29-Oct-15**	**25-Sep-15**	**27-Oct-15**
	Sample Type	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**
	Sample ID	**3-03-SS-21-111615**	**3-10-SS-21-111815**	**4-02-SS-21-101915**	**4-05-SB-21-7-9-110915**	**4-07-SS-21-102015**	**4-09-SS-21-102315**	**4-10-SS-21-102115**	**4-14-SS-21-102915**	**5-05-SS-21-092515**	**5-12-SS-21-102715**
Analyte	**Unit**										
07-VOCs											
1,4-Dioxane	µg/L	41 J	< 25 UJ	< 25 U	< 25 U	< 25 UJ	< 25 U	< 25 U	< 25 U	< 25 U	< 25 U
1,1-Dichloroethane	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
1,1-Dichloroethene	µg/L	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
1,2-Dibromo-3-chloropropane	µg/L	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U
1,2-Dibromoethane	µg/L	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U
1,2-Dichlorobenzene	µg/L	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
1,2-Dichloroethane	µg/L	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U
cis-1,2-Dichloroethene	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
trans-1,2-Dichloroethene	µg/L	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U
1,2-Dichloropropane	µg/L	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U
1,3-Dichlorobenzene	µg/L	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U	< 0.11 U
cis-1,3-Dichloropropene	µg/L	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U
trans-1,3-Dichloropropene	µg/L	< 0.080 U	< 0.080 U	< 0.080 U	< 0.080 U	< 0.080 U	< 0.080 U	< 0.080 U	< 0.080 U	< 0.080 U	< 0.080 U
1,4-Dichlorobenzene	µg/L	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
1,1,1-Trichloroethane	µg/L	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U
1,1,2-Trichloroethane	µg/L	< 0.31 U	< 0.31 U	< 0.31 U	< 0.31 U	< 0.31 U	< 0.31 U	< 0.31 U	< 0.31 U	< 0.31 U	< 0.31 U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	µg/L	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
1,2,3-Trichlorobenzene	µg/L	0.21 J	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
1,2,4-Trichlorobenzene	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
1,1,2,2-Tetrachloroethane	µg/L	< 0.090 U	< 0.090 U	< 0.090 U	< 0.090 U	< 0.090 U	< 0.090 U	< 0.090 U	< 0.090 U	< 0.090 U	< 0.090 U
2-Butanone	µg/L	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U
2-Hexanone	µg/L	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U
4-Methyl-2-pentanone	µg/L	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U
Acetone	µg/L	< 2.1 U	< 2.1 U	2.5 J	< 2.1 U	3.4 J	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U	< 2.1 U
Benzene	µg/L	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Bromochloromethane	µg/L	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
Bromodichloromethane	µg/L	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
Bromoform	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	0.17 J	< 0.10 U	< 0.10 U
Bromomethane	µg/L	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U
Carbon disulfide	µg/L	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U
Carbon tetrachloride	µg/L	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U
Chlorobenzene	µg/L	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U
Cyclohexane	µg/L	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U
Dibromochloromethane	µg/L	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Chloroethane	µg/L	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U
Chloroform	µg/L	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U
Chloromethane	µg/L	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	0.33 J	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
Dichlorodifluoromethane (Freon-12)	µg/L	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U
Ethyl benzene	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
Isopropylbenzene	µg/L	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U

Table 6-2
Phase 1A-B RI Trip Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-3**	**PRI-3**	**PRI-4**	**PRI-4**	**PRI-4**	**PRI-4**	**PRI-4**	**PRI-4**	**PRI-5**	**PRI-5**
	Location ID	**3-03**	**3-10**	**4-02**	**4-05**	**4-07**	**4-09**	**4-10**	**4-14**	**5-05**	**5-12**
	Sample Date	**16-Nov-15**	**18-Nov-15**	**19-Oct-15**	**09-Nov-15**	**20-Oct-15**	**23-Oct-15**	**21-Oct-15**	**29-Oct-15**	**25-Sep-15**	**27-Oct-15**
	Sample Type	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**
	Sample ID	**3-03-SS-21-111615**	**3-10-SS-21-111815**	**4-02-SS-21-101915**	**4-05-SB-21-7-9-110915**	**4-07-SS-21-102015**	**4-09-SS-21-102315**	**4-10-SS-21-102115**	**4-14-SS-21-102915**	**5-05-SS-21-092515**	**5-12-SS-21-102715**
Analyte	**Unit**										
Methyl tertbutyl ether (MTBE)	µg/L	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*
Dichloromethane (Methylene chloride)	µg/L	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*
Styrene	µg/L	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*
Tetrachloroethene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
Toluene	µg/L	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
Trichloroethene	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
Trichlorofluoromethane (Freon-11)	µg/L	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*
Vinyl chloride	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
o-Xylene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
m,p Xylenes	µg/L	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*

Table 6-2
Phase 1A-B RI Trip Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	PRI-5	PRI-5	PRI-6	PRI-6	PRI-6	PRI-6	PRI-6	PRI-7	PRI-7
	Location ID	5-14SB	5-20	6-04	6-06	6-13	6-15	6-16	7-02	7-04
	Sample Date	01-Dec-15	18-Sep-15	16-Oct-15	17-Sep-15	28-Oct-15	16-Sep-15	06-Nov-15	24-Sep-15	29-Sep-15
	Sample Type	TB	TB	TB	TB	TB	TB	TB	TB	TB
	Sample ID	5-14SB-SB-21-0-2-120115	5-20-SS-21-091815	6-04-SS-21-101615	6-06-SS-21-091715	6-13-SS-21-102815	6-15-SS-21-091615	6-16-SB-21-4.5-6.5-110615	7-02-SS-21-092415	7-04-SS-21-092915
Analyte	**Unit**									
07-VOCs										
1,4-Dioxane	µg/L	*< 25 UJ*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*
1,1-Dichloroethane	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
1,1-Dichloroethene	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
1,2-Dibromo-3-chloropropane	µg/L	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*
1,2-Dibromoethane	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
1,2-Dichlorobenzene	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
1,2-Dichloroethane	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
cis-1,2-Dichloroethene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
trans-1,2-Dichloroethene	µg/L	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*
1,2-Dichloropropane	µg/L	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*
1,3-Dichlorobenzene	µg/L	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*
cis-1,3-Dichloropropene	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
trans-1,3-Dichloropropene	µg/L	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*
1,4-Dichlorobenzene	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
1,1,1-Trichloroethane	µg/L	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*
1,1,2-Trichloroethane	µg/L	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	µg/L	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
1,2,3-Trichlorobenzene	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
1,2,4-Trichlorobenzene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
1,1,2,2-Tetrachloroethane	µg/L	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*
2-Butanone	µg/L	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*
2-Hexanone	µg/L	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*
4-Methyl-2-pentanone	µg/L	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*
Acetone	µg/L	4.8 J	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*
Benzene	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
Bromochloromethane	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
Bromodichloromethane	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
Bromoform	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
Bromomethane	µg/L	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*
Carbon disulfide	µg/L	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*
Carbon tetrachloride	µg/L	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*
Chlorobenzene	µg/L	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*
Cyclohexane	µg/L	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*
Dibromochloromethane	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
Chloroethane	µg/L	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*
Chloroform	µg/L	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*
Chloromethane	µg/L	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
Dichlorodifluoromethane (Freon-12)	µg/L	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*
Ethyl benzene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
Isopropylbenzene	µg/L	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*

Table 6-2
Phase 1A-B RI Trip Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-5**	**PRI-5**	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**
	Location ID	**5-14SB**	**5-20**	**6-04**	**6-06**	**6-13**	**6-15**	**6-16**	**7-02**	**7-04**
	Sample Date	**01-Dec-15**	**18-Sep-15**	**16-Oct-15**	**17-Sep-15**	**28-Oct-15**	**16-Sep-15**	**06-Nov-15**	**24-Sep-15**	**29-Sep-15**
	Sample Type	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**
	Sample ID	**5-14SB-SB-21-0-2-120115**	**5-20-SS-21-091815**	**6-04-SS-21-101615**	**6-06-SS-21-091715**	**6-13-SS-21-102815**	**6-15-SS-21-091615**	**6-16-SB-21-4.5-6.5-110615**	**7-02-SS-21-092415**	**7-04-SS-21-092915**
Analyte	**Unit**									
Methyl tertbutyl ether (MTBE)	µg/L	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*
Dichloromethane (Methylene chloride)	µg/L	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*
Styrene	µg/L	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*
Tetrachloroethene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
Toluene	µg/L	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
Trichloroethene	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
Trichlorofluoromethane (Freon-11)	µg/L	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*
Vinyl chloride	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
o-Xylene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
m,p Xylenes	µg/L	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*

Table 6-2
Phase 1A-B RI Trip Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**7-04**	**7-04SB**	**7-08**	**7-09**	**7-12**	**7-15**
	Sample Date	**10-Nov-15**	**10-Dec-15**	**23-Sep-15**	**28-Sep-15**	**21-Sep-15**	**22-Sep-15**
	Sample Type	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**
	Sample ID	**7-04-SB-21-9.5-11.5-111015**	**7-04SB-SB-21-0.5-2.5-121015**	**7-08-SS-21-092315**	**7-09-SS-21-092815**	**7-12-SS-21-092115**	**7-15-SS-21-092215**
Analyte	**Unit**						
07-VOCs							
1,4-Dioxane	µg/L	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*
1,1-Dichloroethane	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
1,1-Dichloroethene	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
1,2-Dibromo-3-chloropropane	µg/L	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*
1,2-Dibromoethane	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
1,2-Dichlorobenzene	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
1,2-Dichloroethane	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
cis-1,2-Dichloroethene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
trans-1,2-Dichloroethene	µg/L	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*
1,2-Dichloropropane	µg/L	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*
1,3-Dichlorobenzene	µg/L	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*
cis-1,3-Dichloropropene	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
trans-1,3-Dichloropropene	µg/L	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*
1,4-Dichlorobenzene	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
1,1,1-Trichloroethane	µg/L	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*
1,1,2-Trichloroethane	µg/L	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	µg/L	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
1,2,3-Trichlorobenzene	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
1,2,4-Trichlorobenzene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
1,1,2,2-Tetrachloroethane	µg/L	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*
2-Butanone	µg/L	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*
2-Hexanone	µg/L	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*	*< 0.17 U*
4-Methyl-2-pentanone	µg/L	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*
Acetone	µg/L	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*
Benzene	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
Bromochloromethane	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
Bromodichloromethane	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
Bromoform	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
Bromomethane	µg/L	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*	*< 0.29 U*
Carbon disulfide	µg/L	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*
Carbon tetrachloride	µg/L	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*
Chlorobenzene	µg/L	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*
Cyclohexane	µg/L	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*
Dibromochloromethane	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
Chloroethane	µg/L	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*	*< 0.34 U*
Chloroform	µg/L	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*
Chloromethane	µg/L	*< 0.25 U*	*< 0.25 U*	0.32 J	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
Dichlorodifluoromethane (Freon-12)	µg/L	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*	*< 0.16 U*
Ethyl benzene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
Isopropylbenzene	µg/L	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*	*< 0.12 U*

Table 6-2
Phase 1A-B RI Trip Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**7-04**	**7-04SB**	**7-08**	**7-09**	**7-12**	**7-15**
	Sample Date	**10-Nov-15**	**10-Dec-15**	**23-Sep-15**	**28-Sep-15**	**21-Sep-15**	**22-Sep-15**
	Sample Type	**TB**	**TB**	**TB**	**TB**	**TB**	**TB**
	Sample ID	**7-04-SB-21-9.5-11.5-111015**	**7-04SB-SB-21-0.5-2.5-121015**	**7-08-SS-21-092315**	**7-09-SS-21-092815**	**7-12-SS-21-092115**	**7-15-SS-21-092215**
Analyte	**Unit**						
Methyl tertbutyl ether (MTBE)	µg/L	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*
Dichloromethane (Methylene chloride)	µg/L	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*
Styrene	µg/L	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*
Tetrachloroethene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
Toluene	µg/L	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
Trichloroethene	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
Trichlorofluoromethane (Freon-11)	µg/L	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*	*< 0.23 U*
Vinyl chloride	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
o-Xylene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
m,p Xylenes	µg/L	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*

Notes:
Empty cells = Not analyzed
TB = Trip Blank
Units are in µg/L = micrograms per liter
VOC = Volatile organic compound
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.

Qualifiers - Organic:
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Pittsburg, PA.

Table 6-3
Phase 1A-B RI Equipment Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-3**	**PRI-4**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**1-04**	**3-10**	**4-10**	**6-13**	**6-16**	**7-01**	**7-04SB**	**7-04SB**
	Sample Date	**24-Nov-15**	**18-Nov-15**	**21-Oct-15**	**28-Oct-15**	**06-Nov-15**	**23-Sep-15**	**10-Dec-15**	**10-Dec-15**
	Sample Type	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**
	Sample ID	**1-04-SS-31-112415**	**3-10-SS-31-111815**	**4-10-SS-31-102115**	**6-13-SS-31-102815**	**6-16-SB-31-0.5-3.5-110615**	**7-01-SS-31-092315**	**7-04SB-SB-31-0.5-2.5-121015**	**7-04SB-SB-32-0.5-2.5-121015**
Analyte	**Unit**								
01-Dioxins and Furans									
2,3,7,8-TCDD	pg/l	*< 0.21 U*	*< 0.33 U*	*< 0.33 U*	*< 0.40 U*	*< 0.98 U*	*< 0.38 U*	*< 0.20 U*	*< 0.16 U*
1,2,3,7,8-PeCDD	pg/l	*< 0.27 U*	*< 0.45 U*	*< 0.31 U*	*< 0.58 U*	*< 1.2 U*	*< 0.50 U*	*< 0.24 U*	*< 0.26 U*
1,2,3,4,7,8-HxCDD	pg/l	*< 0.19 U*	*< 0.28 U*	*< 1.2 U*	*< 0.53 U*	*< 0.89 U*	*< 0.22 U*	*< 0.18 U*	*< 0.17 U*
1,2,3,6,7,8-HxCDD	pg/l	*< 0.16 U*	*< 0.23 U*	*< 1.1 U*	*< 0.51 U*	*< 0.86 U*	*< 0.19 U*	*< 0.14 U*	*< 0.14 U*
1,2,3,7,8,9-HxCDD	pg/l	0.43 J	*< 0.21 U*	0.75 J	*< 0.45 U*	*< 0.75 U*	*< 0.18 U*	*< 0.14 U*	*< 0.45 UQ*
1,2,3,4,6,7,8-HpCDD	pg/l	*< 1.0 UQ*	1.1 J	1.2 J	*< 3.9 UQ*	*< 7.4 UQ*	0.61 J	0.73 J	*< 1.7 UQ*
OCDD	pg/l	*< 1.9 UQ*	3.4 J	2.4 J	*< 37 U*	78 J	*< 1.6 UQ*	*< 1.6 U*	*< 3.4 U*
2,3,7,8-TCDF	pg/l	*< 2.3 UQ*	2.2 J	*< 0.21 U*	8.7 J	*< 0.82 U*	*< 0.25 U*	4.9 J	5.2 J
1,2,3,7,8-PeCDF	pg/l	2.5 J	*< 0.74 U*	0.93 J	11 J	*< 1.1 U*	*< 0.35 U*	2.8 J	4.6 J
2,3,4,7,8-PeCDF	pg/l	1.5 J	*< 0.78 U*	0.85 J	*< 5.1 UQ*	*< 1.1 U*	*< 0.37 U*	1.8 J	*< 0.45 U*
1,2,3,4,7,8-HxCDF	pg/l	8.8 J	*< 1.5 U*	*< 1.1 U*	33 J	2.6 J	*< 0.38 U*	4.1 J	12 J
1,2,3,6,7,8-HxCDF	pg/l	*< 5.0 UQ*	*< 1.2 U*	*< 1.0 UQ*	23 J	*< 1.6 UQ*	*< 0.33 U*	2.9 J	8.2 J
1,2,3,7,8,9-HxCDF	pg/l	*< 1.1 U*	*< 1.4 U*	0.95 J	*< 3.1 UQ*	*< 1.1 U*	*< 0.40 U*	0.61 J	1.8 J
2,3,4,6,7,8-HxCDF	pg/l	*< 2.4 UQ*	*< 1.4 U*	1.0 J	5.7 J	*< 1.0 U*	*< 0.37 U*	*< 0.65 UQ*	*< 1.5 UQ*
1,2,3,4,6,7,8-HpCDF	pg/l	27 J	24 J	1.5 J	200	14 J	*< 2.7 U*	14 J	58
1,2,3,4,7,8,9-HpCDF	pg/l	12 J	6.9 J	1.0 J	37 J	2.6 J	*< 0.54 UQ*	5.3 J	25 J
OCDF	pg/l	180	290	*< 4.3 U*	750	93 J	22 J	61 J	410
02-PCBs									
PCB-77	pg/l	*< 2.7 U*	*< 1.9 U*	*< 2.7 U*	*< 3.5 U*	*< 1.8 U*	*< 1.4 U*	*< 4.0 U*	*< 2.7 U*
PCB-81	pg/l	*< 2.7 U*	*< 1.9 U*	*< 2.3 U*	*< 3.1 U*	*< 1.6 U*	*< 1.3 U*	*< 3.5 U*	*< 2.4 U*
PCB-105	pg/l	9.9 J	*< 5.6 UQ*	*< 2.2 U*	*< 2.5 U*	*< 1.6 U*	*< 0.82 U*	*< 3.2 U*	*< 1.9 U*
PCB-114	pg/l	*< 3.0 U*	*< 2.5 U*	*< 1.9 U*	*< 2.2 U*	*< 1.4 U*	*< 0.75 U*	*< 2.7 U*	*< 1.6 U*
PCB-118	pg/l	15 J	17 J	*< 1.8 U*	*< 3.6 UQ*	3.8 J	*< 2.7 U*	*< 6.9 UQ*	*< 2.8 UQ*
PCB-123	pg/l	*< 2.9 U*	*< 2.4 U*	*< 1.8 U*	*< 2.1 U*	*< 1.3 U*	*< 0.71 U*	*< 2.6 U*	*< 1.5 U*
PCB-126	pg/l	*< 3.6 U*	*< 3.0 U*	*< 3.1 U*	*< 3.5 U*	*< 2.1 U*	*< 1.0 U*	*< 5.1 U*	*< 3.1 U*
PCB-156 & 157	pg/l	*< 5.4 UQ*	*< 3.6 U*	*< 1.8 U*	*< 2.4 U*	*< 1.5 U*	*< 0.92 U*	*< 1.9 U*	*< 2.1 U*
PCB-167	pg/l	*< 5.9 UQ*	*< 1.8 UQ*	*< 1.3 U*	*< 1.7 U*	*< 1.0 U*	*< 0.65 U*	*< 1.3 U*	*< 1.4 U*
PCB-169	pg/l	*< 1.2 U*	*< 1.0 U*	*< 2.0 U*	*< 2.6 U*	*< 1.4 U*	*< 0.84 U*	*< 2.2 U*	*< 2.3 U*
PCB-189	pg/l	*< 4.6 UQ*	2.3 J	*< 1.7 U*	*< 2.2 U*	*< 1.7 U*	*< 1.0 U*	*< 1.4 U*	*< 2.2 U*
Monochlorobiphenyls, Total	pg/l	36 J	*< 20 U*	*< 20 U*	*< 20 U*	*< 20 U*	5.0 J	*< 20 U*	*< 20 U*
Dichlorobiphenyls, Total	pg/l	760	330	41 J	73 J	240	95 J	140 J	*< 20 U*
Trichlorobiphenyls, Total	pg/l	680	480	68 J	77 J	520	120 J	220	84 J
Tetrachlorobiphenyls, Total	pg/l	340	280	49 J	44 J	170 J	37 J	130 J	51 J
Pentachlorobiphenyls, Total	pg/l	120 J	240	*< 20 U*	45 J	37 J	10 J	48 J	28 J
Hexachlorobiphenyls, Total	pg/l	56 J	130 J	*< 20 U*	*< 20 U*	*< 20 U*	4.6 J	23 J	*< 20 U*
Heptachlorobiphenyls, Total	pg/l	170 J	120 J	*< 20 U*	*< 20 U*	*< 20 U*	2.0 J	46 J	93 J
Octachlorobiphenyls, Total	pg/l	290	140 J	*< 20 U*	22 J	36 J	*< 0.70 U*	73 J	180 J

Table 6-3
Phase 1A-B RI Equipment Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-3**	**PRI-4**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**1-04**	**3-10**	**4-10**	**6-13**	**6-16**	**7-01**	**7-04SB**	**7-04SB**
	Sample Date	**24-Nov-15**	**18-Nov-15**	**21-Oct-15**	**28-Oct-15**	**06-Nov-15**	**23-Sep-15**	**10-Dec-15**	**10-Dec-15**
	Sample Type	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**
	Sample ID	**1-04-SS-31-112415**	**3-10-SS-31-111815**	**4-10-SS-31-102115**	**6-13-SS-31-102815**	**6-16-SB-31-0.5-3.5-110615**	**7-01-SS-31-092315**	**7-04SB-SB-31-0.5-2.5-121015**	**7-04SB-SB-32-0.5-2.5-121015**
Analyte	**Unit**								
Nonachlorobiphenyls, Total	pg/l	610	220	22 J	80 J	82 J	7.3 J	110 J	430
Decachlorobiphenyl (PCB-209)	pg/l	12,000	990	220	1,400	850	150 J	870	4,700
Total PCBs	pg/l	15,000	2,900	420	1,800	2,000	430	1,700	5,600
03-Metals									
Total Aluminum	mg/L	*< 0.025 U*	*< 0.025 U*	*< 0.025 U*	*< 0.025 U*	*< 0.025 U*	*< 0.025 U*	*< 0.025 U*	*< 0.025 U*
Total Antimony	mg/L	*< 0.00020 U*	*< 0.00020 U*	*< 0.00020 U*	*< 0.00020 UJ*	*< 0.00020 U*	*< 0.00020 U*	*< 0.00020 U*	*< 0.00020 U*
Total Arsenic	mg/L	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*
Total Barium	mg/L	*< 0.00050 U*	0.0018	*< 0.00050 U*	*< 0.00050 U*	0.00096 J	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*
Total Beryllium	mg/L	*< 0.00010 U*	*< 0.00010 U*	*< 0.00010 U*	*< 0.00010 U*	*< 0.00010 U*	*< 0.00010 U*	*< 0.00010 U*	*< 0.00010 U*
Total Cadmium	mg/L	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*
Total Calcium	mg/L	0.16 J	0.63	0.16 J	0.050 J	0.29 J	0.11 J	*< 0.050 U*	*< 0.050 U*
Total Chromium	mg/L	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*
Total Cobalt	mg/L	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*
Total Copper	mg/L	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	0.0010 J	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*
Total Iron	mg/L	*< 0.025 U*	0.038 J	*< 0.025 U*	*< 0.025 U*	0.033 J	*< 0.025 U*	*< 0.025 U*	*< 0.025 U*
Total Lead	mg/L	0.043	0.076	0.015	*< 0.00060 U*	0.042	0.0019	0.087	0.27
Total Magnesium	mg/L	*< 0.040 U*	0.078 J	*< 0.040 U*	*< 0.040 U*	0.062 J	*< 0.040 U*	*< 0.040 U*	*< 0.040 U*
Total Manganese	mg/L	*< 0.0014 U*	0.0017 J	*< 0.0014 U*	*< 0.0014 U*	*< 0.0014 U*	*< 0.0014 U*	*< 0.0014 U*	*< 0.0014 U*
Total Mercury	mg/L	*< 0.00010 U*	*< 0.00010 U*	*< 0.00010 U*	*< 0.00010 U*	*< 0.00013 U*	*< 0.00010 U*	*< 0.00010 U*	*< 0.00010 U*
Total Molybdenum	mg/L	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*	*< 0.00060 U*
Total Nickel	mg/L	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	0.0011 J	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*
Total Potassium	mg/L	*< 0.093 U*	0.096 J	*< 0.19 U*	*< 0.093 UJ*	*< 0.093 UJ*	*< 0.13 U*	*< 0.093 U*	*< 0.093 U*
Total Selenium	mg/L	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 UJ*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*	*< 0.0010 U*
Total Silver	mg/L	*< 0.00030 U*	*< 0.00030 U*	*< 0.00030 U*	*< 0.00030 U*	*< 0.00030 U*	*< 0.00030 U*	*< 0.00030 U*	*< 0.00030 U*
Total Sodium	mg/L	*< 0.25 U*	*< 0.25 U*	*< 0.45 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
Total Thallium	mg/L	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*	*< 0.00050 U*
Total Vanadium	mg/L	*< 0.0030 U*	*< 0.0030 U*	*< 0.0030 U*	*< 0.0030 U*	*< 0.0030 U*	*< 0.0030 U*	*< 0.0030 U*	*< 0.0030 U*
Total Zinc	mg/L	*< 0.0040 U*	*< 0.0040 U*	*< 0.0040 U*	*< 0.0040 UJ*	*< 0.0040 U*	*< 0.0040 U*	*< 0.0040 U*	*< 0.0040 U*
05-SVOCs									
1,1'-Biphenyl	µg/L	*< 4.9 U*	*< 4.8 UJ*	*< 4.8 U*	*< 4.7 U*	*< 4.7 U*	*< 5.1 U*	*< 24 U*	*< 25 U*
1,2,4,5-Tetrachlorobenzene	µg/L	*< 0.53 U*	*< 0.51 UJ*	*< 0.51 U*	*< 0.51 U*	*< 0.51 U*	*< 0.55 U*	*< 2.6 U*	*< 2.7 U*
2,3,4,6-Tetrachlorophenol	µg/L	*< 2.5 U*	*< 2.4 UJ*	*< 2.4 U*	*< 2.4 U*	*< 2.4 U*	*< 2.5 U*	*< 12 U*	*< 12 U*
2,4,5-Trichlorophenol	µg/L	*< 2.0 U*	*< 1.9 UJ*	*< 1.9 U*	*< 1.9 U*	*< 1.9 U*	*< 2.0 U*	*< 9.7 U*	*< 9.9 U*
2,4,6-Trichlorophenol (SIM Screen)	µg/L	*< 0.19 UJ*	*< 0.18 UJ*	*< 0.18 U*	*< 0.18 U*	*< 0.18 U*	*< 0.19 U*	*< 0.93 U*	*< 0.94 U*
2,2-Oxybis(1-chloropropane)	µg/L	*< 1.3 U*	*< 1.2 UJ*	*< 1.2 U*	*< 1.2 U*	*< 1.2 U*	*< 1.3 U*	*< 6.3 U*	*< 6.4 U*
2,4-Dichlorophenol	µg/L	*< 2.6 U*	*< 2.5 UJ*	*< 2.5 U*	*< 2.5 U*	*< 2.5 U*	*< 2.6 U*	*< 13 U*	*< 13 U*
2,4-Dimethylphenol	µg/L	*< 2.2 U*	*< 2.1 UJ*	*< 2.1 U*	*< 2.1 U*	*< 2.1 U*	*< 2.2 U*	*< 11 U*	*< 11 U*
2,4-Dinitrophenol	µg/L	*< 20 U*	*< 19 UJ*	*< 19 U*	*< 19 U*	*< 19 U*	*< 20 U*	*< 97 U*	*< 99 U*
2,4-Dinitrotoluene	µg/L	*< 2.0 U*	*< 1.9 UJ*	*< 1.9 U*	*< 1.9 U*	*< 1.9 U*	*< 2.0 U*	*< 9.7 U*	*< 9.9 U*

Table 6-3
Phase 1A-B RI Equipment Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-3**	**PRI-4**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**1-04**	**3-10**	**4-10**	**6-13**	**6-16**	**7-01**	**7-04SB**	**7-04SB**
	Sample Date	**24-Nov-15**	**18-Nov-15**	**21-Oct-15**	**28-Oct-15**	**06-Nov-15**	**23-Sep-15**	**10-Dec-15**	**10-Dec-15**
	Sample Type	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**
	Sample ID	**1-04-SS-31-112415**	**3-10-SS-31-111815**	**4-10-SS-31-102115**	**6-13-SS-31-102815**	**6-16-SB-31-0.5-3.5-110615**	**7-01-SS-31-092315**	**7-04SB-SB-31-0.5-2.5-121015**	**7-04SB-SB-32-0.5-2.5-121015**
Analyte	**Unit**								
2,6-Dinitrotoluene	µg/L	< 2.0 U	< 1.9 UJ	< 1.9 U	< 1.9 U	< 1.9 U	< 2.0 U	< 9.7 U	< 9.9 U
2-Chloronaphthalene	µg/L	< 1.3 U	< 1.2 UJ	< 1.2 U	< 1.2 U	< 1.2 U	< 1.3 U	< 6.3 U	< 6.4 U
2-Chlorophenol	µg/L	< 1.6 U	< 1.5 UJ	< 1.5 U	< 1.5 U	< 1.5 U	< 1.6 U	< 7.8 U	< 7.9 U
2-Methylphenol	µg/L	< 0.92 U	< 0.89 UJ	< 0.89 U	< 0.88 U	< 0.88 U	< 0.94 U	< 4.5 U	< 4.6 U
2-Nitroaniline	µg/L	< 2.0 U	< 1.9 UJ	< 1.9 U	< 1.9 U	< 1.9 U	< 2.0 U	< 9.7 U	< 9.9 U
2-Nitrophenol	µg/L	< 1.9 U	< 1.8 UJ	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 9.3 U	< 9.4 U
3,3'-Dichlorobenzidine	µg/L	< 0.95 U	< 0.92 UJ	< 0.91 U	< 0.91 U	< 0.91 U	< 0.97 U	< 4.7 U	< 4.8 U
3-Nitroaniline	µg/L	< 1.4 U	< 1.3 UJ	< 1.3 U	< 1.3 U	< 1.3 U	< 1.4 U	< 6.8 U	< 6.9 U
4,6-Dinitro-2-methylphenol	µg/L	< 2.2 U	< 2.1 UJ	< 2.1 U	< 2.1 U	< 2.1 U	< 2.2 U	< 11 U	< 11 U
4-Bromophenyl-phenylether	µg/L	< 1.1 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.1 U	< 5.4 U	< 5.5 U
4-Chloro-3-methylphenol	µg/L	< 2.0 U	< 1.9 UJ	< 1.9 U	< 1.9 U	< 1.9 U	< 2.0 U	< 9.7 U	< 9.9 U
4-Chloroaniline	µg/L	< 2.0 U	< 1.9 UJ	< 1.9 U	< 1.9 U	< 1.9 U	< 2.0 U	< 9.7 U	< 9.9 U
4-Chlorophenyl-phenylether	µg/L	< 1.1 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.1 U	< 5.4 U	< 5.5 U
3 & 4 Methylphenol	µg/L	< 1.1 U	< 1.1 UJ	< 1.1 U	< 1.1 U	< 1.1 U	< 1.2 U	< 5.6 U	< 5.7 U
4-Nitroaniline	µg/L	< 1.5 U	< 1.4 UJ	< 1.4 U	< 1.4 U	< 1.4 U	< 1.5 U	< 7.3 U	< 7.4 U
4-Nitrophenol	µg/L	< 6.0 U	< 5.8 UJ	< 5.8 U	< 5.8 U	< 5.8 U	< 6.2 U	< 30 U	< 30 U
Acetophenone	µg/L	< 0.77 U	< 0.74 UJ	< 0.74 U	< 0.74 U	< 0.74 U	< 0.79 U	< 3.8 U	< 3.9 U
Benzaldehyde	µg/L	< 8.3 U	< 8.0 UJ	< 7.9 U	< 7.9 U	< 7.9 UJ	< 8.4 U	< 41 U	< 41 U
Benzylbutylphthalate	µg/L	< 1.4 U	< 1.3 UJ	< 1.3 U	< 1.3 U	< 1.3 U	< 1.4 U	< 6.8 U	< 6.9 U
Bis(2-chloroethoxy)methane	µg/L	< 0.99 U	< 0.95 UJ	< 0.95 U	< 0.95 U	< 0.95 U	< 1.0 U	< 4.9 U	< 5.0 U
bis(2-Chloroethyl) ether	µg/L	< 1.5 U	< 1.4 UJ	< 1.4 U	< 1.4 U	< 1.4 U	< 1.5 U	< 7.3 U	< 7.4 U
Bis(2-ethylhexyl)phthalate	µg/L	< 0.99 U	1.6 J-	< 0.95 U	< 0.95 U	< 0.95 U	< 1.0 U	< 4.9 U	< 5.0 U
Carbazole	µg/L	< 1.2 U	< 1.1 UJ	< 1.1 U	< 1.1 U	< 1.1 U	< 1.2 U	< 5.8 U	< 5.9 U
Dibenzofuran	µg/L	< 1.1 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.1 U	< 5.4 U	< 5.5 U
Diethyl phthalate	µg/L	< 0.92 U	< 0.89 UJ	< 0.89 U	< 0.88 U	< 0.88 U	< 0.94 U	< 4.5 U	< 4.6 U
Dimethylphthalate	µg/L	< 0.87 U	< 0.84 UJ	< 0.84 U	< 0.84 U	< 0.83 U	< 0.89 U	< 4.3 U	< 4.4 U
Di-n-butylphthalate	µg/L	< 1.1 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.1 U	< 5.4 U	< 5.5 U
Di-n-octylphthalate	µg/L	< 1.5 U	< 1.4 UJ	< 1.4 U	< 1.4 U	< 1.4 U	< 1.5 U	< 7.3 U	< 7.4 U
Hexachlorobenzene (SIM Screen)	µg/L	< 0.069 UJ	< 0.067 UJ	< 0.067 U	< 0.066 U	0.32 J	< 0.071 U	< 0.34 U	< 0.35 U
Hexachlorobutadiene (SIM Screen)	µg/L	< 0.079 UJ	< 0.076 UJ	< 0.076 U	< 0.076 U	< 0.076 U	< 0.081 U	< 0.39 U	< 0.40 U
Hexachlorocyclopentadiene	µg/L	< 4.9 U	< 4.8 UJ	< 4.8 U	< 4.7 U	< 4.7 U	< 5.1 U	< 24 U	< 25 U
Hexachloroethane	µg/L	< 1.4 U	< 1.3 UJ	< 1.3 U	< 1.3 U	< 1.3 U	< 1.4 U	< 6.8 U	< 6.9 U
Isophorone	µg/L	< 0.99 U	< 0.95 UJ	< 0.95 U	< 0.95 U	< 0.95 U	< 1.0 U	< 4.9 U	< 5.0 U
Nitrobenzene	µg/L	< 1.6 U	< 1.5 UJ	< 1.5 U	< 1.5 U	< 1.5 U	< 1.6 U	< 7.8 U	< 7.9 U
n-Nitrosodimethylamine (SIM Screen)	µg/L	< 0.069 UJ	< 0.067 UJ	< 0.067 U	< 0.066 U	< 0.066 U	< 0.071 U	< 0.34 U	< 0.35 U
N-Nitroso-di-n-propylamine	µg/L	< 1.4 U	< 1.3 UJ	< 1.3 U	< 1.3 U	< 1.3 U	< 1.4 U	< 6.8 U	< 6.9 U
N-Nitrosodiphenylamine	µg/L	< 0.53 U	< 0.51 UJ	< 0.51 U	< 0.51 U	< 0.51 U	< 0.55 U	< 2.6 U	< 2.7 U
Pentachlorobenzene	µg/L	< 0.45 U	< 0.44 UJ	< 0.44 U	< 0.44 U	< 0.44 U	< 0.47 U	< 2.2 U	< 2.3 U
Pentachlorophenol (SIM Screen)	µg/L	< 2.0 UJ	< 1.9 UJ	< 1.9 U	< 1.9 U	< 1.9 U	< 2.0 U	< 9.7 U	< 9.9 U
Phenol	µg/L	< 1.1 U	< 1.0 UJ	< 1.0 U	< 1.0 U	< 1.0 U	< 1.1 U	< 5.4 U	< 5.5 U

Table 6-3
Phase 1A-B RI Equipment Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-3**	**PRI-4**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**1-04**	**3-10**	**4-10**	**6-13**	**6-16**	**7-01**	**7-04SB**	**7-04SB**
	Sample Date	**24-Nov-15**	**18-Nov-15**	**21-Oct-15**	**28-Oct-15**	**06-Nov-15**	**23-Sep-15**	**10-Dec-15**	**10-Dec-15**
	Sample Type	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**
	Sample ID	**1-04-SS-31-112415**	**3-10-SS-31-111815**	**4-10-SS-31-102115**	**6-13-SS-31-102815**	**6-16-SB-31-0.5-3.5-110615**	**7-01-SS-31-092315**	**7-04SB-SB-31-0.5-2.5-121015**	**7-04SB-SB-32-0.5-2.5-121015**
Analyte	**Unit**								
06-PAHs									
2-Methylnaphthalene	ng/l	*< 5.4 U*	*< 5.2 U*	6.7 J	11 J	*< 5.4 U*	6.7 J	*< 5.7 U*	*< 5.5 U*
Acenaphthene	ng/l	*< 4.9 U*	*< 4.8 U*	*< 4.8 U*	*< 4.7 U*	*< 4.9 U*	*< 4.9 U*	*< 5.1 U*	*< 5.0 U*
Acenaphthylene	ng/l	*< 4.9 U*	*< 4.8 U*	*< 4.8 U*	*< 4.7 U*	*< 4.9 U*	*< 4.9 U*	*< 5.1 U*	*< 5.0 U*
Anthracene	ng/l	*< 4.4 U*	*< 4.2 U*	*< 4.2 U*	*< 4.2 U*	*< 4.4 U*	*< 4.3 U*	*< 4.6 U*	*< 4.4 U*
Benzo(a)anthracene	ng/l	*< 4.5 U*	*< 4.4 U*	*< 4.4 U*	*< 4.4 U*	*< 4.5 U*	*< 4.5 U*	*< 4.7 U*	*< 4.6 U*
Benzo(a)pyrene	ng/l	*< 4.3 U*	*< 4.2 U*	*< 4.2 U*	*< 4.2 U*	*< 4.3 U*	*< 4.3 U*	*< 4.5 U*	*< 4.4 U*
Benzo(b)fluoranthene	ng/l	*< 12 U*	*< 12 U*	*< 12 U*	*< 12 U*	*< 12 U*	*< 12 U*	*< 13 U*	*< 12 U*
Benzo(g,h,i)perylene	ng/l	*< 5.4 U*	*< 5.2 U*	*< 5.2 U*	*< 5.2 U*	*< 5.4 U*	*< 5.4 U*	*< 5.7 U*	*< 5.5 U*
Benzo(k)fluoranthene	ng/l	*< 7.7 U*	*< 7.4 U*	*< 7.4 U*	*< 7.4 U*	*< 7.7 U*	*< 7.6 U*	*< 8.0 U*	*< 7.8 U*
Chrysene	ng/l	*< 3.9 U*	*< 3.8 U*	*< 3.8 U*	*< 3.8 U*	*< 3.9 U*	*< 3.9 U*	*< 4.1 U*	*< 4.0 U*
Dibenzo(a,h)anthracene	ng/l	*< 14 U*	*< 14 U*	*< 14 U*	*< 14 U*	*< 14 U*	*< 14 U*	*< 15 U*	*< 15 U*
Fluoranthene	ng/l	*< 4.2 U*	*< 4.1 U*	*< 4.1 U*	5.8 J	*< 4.2 U*	*< 4.2 U*	*< 4.4 U*	*< 4.3 U*
Fluorene	ng/l	*< 4.0 U*	4.8 J	4.4 J	15 J	4.7 J	13 J	*< 4.2 U*	*< 4.0 U*
Indeno(1,2,3-cd)pyrene	ng/l	*< 14 U*	*< 13 U*	*< 13 U*	*< 13 U*	*< 14 U*	*< 14 U*	*< 14 U*	*< 14 U*
Naphthalene	ng/l	13 J	12 J	16 J	33 J	9.5 J	16 J	12 J	11 J
Phenanthrene	ng/l	*< 6.2 U*	13 J	*< 6.0 U*	15 J	9.8 J	16 J	7.4 J	*< 6.3 U*
Pyrene	ng/l	*< 4.1 U*	*< 4.0 U*	*< 4.0 U*	*< 4.0 U*	*< 4.1 U*	*< 4.1 U*	*< 4.3 U*	*< 4.2 U*
07-VOCs									
1,4-Dioxane	µg/L	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*	*< 25 U*
1,1-Dichloroethane	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
1,1-Dichloroethene	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
1,2-Dibromo-3-chloropropane	µg/L	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*	*< 0.32 U*
1,2-Dibromoethane	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
1,2-Dichlorobenzene	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
1,2-Dichloroethane	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
cis-1,2-Dichloroethene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
trans-1,2-Dichloroethene	µg/L	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*
1,2-Dichloropropane	µg/L	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*	*< 0.15 U*
1,3-Dichlorobenzene	µg/L	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*	*< 0.11 U*
cis-1,3-Dichloropropene	µg/L	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*	*< 0.22 U*
trans-1,3-Dichloropropene	µg/L	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*	*< 0.080 U*
1,4-Dichlorobenzene	µg/L	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*	*< 0.13 U*
1,1,1-Trichloroethane	µg/L	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*	*< 0.19 U*
1,1,2-Trichloroethane	µg/L	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*	*< 0.31 U*
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	µg/L	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*	*< 0.25 U*
1,2,3-Trichlorobenzene	µg/L	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*	*< 0.14 U*
1,2,4-Trichlorobenzene	µg/L	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*	*< 0.10 U*
1,1,2,2-Tetrachloroethane	µg/L	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*	*< 0.090 U*
2-Butanone	µg/L	*< 0.35 U*	1.8 J	1.6 J	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*	*< 0.35 U*

Table 6-3
Phase 1A-B RI Equipment Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-3**	**PRI-4**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**1-04**	**3-10**	**4-10**	**6-13**	**6-16**	**7-01**	**7-04SB**	**7-04SB**
	Sample Date	**24-Nov-15**	**18-Nov-15**	**21-Oct-15**	**28-Oct-15**	**06-Nov-15**	**23-Sep-15**	**10-Dec-15**	**10-Dec-15**
	Sample Type	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**
	Sample ID	**1-04-SS-31-112415**	**3-10-SS-31-111815**	**4-10-SS-31-102115**	**6-13-SS-31-102815**	**6-16-SB-31-0.5-3.5-110615**	**7-01-SS-31-092315**	**7-04SB-SB-31-0.5-2.5-121015**	**7-04SB-SB-32-0.5-2.5-121015**
Analyte	**Unit**								
2-Hexanone	µg/L	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U	< 0.17 U
4-Methyl-2-pentanone	µg/L	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U
Acetone	µg/L	< 9.2 U	49	64	< 3.3 U	14	< 2.1 U	< 3.7 U	< 4.0 U
Benzene	µg/L	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Bromochloromethane	µg/L	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U	< 0.14 U
Bromodichloromethane	µg/L	1.0	1.1	0.82 J	< 0.91 U	< 0.95 U	< 0.41 U	< 0.63 U	< 0.64 U
Bromoform	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	0.19 J	< 0.10 U	0.23 J	< 0.10 U	< 0.10 U
Bromomethane	µg/L	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U	< 0.29 U
Carbon disulfide	µg/L	< 0.16 U	0.16 J	0.16 J	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U
Carbon tetrachloride	µg/L	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U
Chlorobenzene	µg/L	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U
Cyclohexane	µg/L	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U
Dibromochloromethane	µg/L	< 0.13 U	< 0.13 U	0.14 J	0.15 J	< 0.13 U	0.14 J	< 0.13 U	< 0.13 U
Chloroethane	µg/L	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U	< 0.34 U
Chloroform	µg/L	< 11 U	< 13 U	6.4	< 10 U	< 11 U	< 4.6 U	14	14
Chloromethane	µg/L	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	0.28 J	< 0.25 U	< 0.25 U	< 0.25 U
Dichlorodifluoromethane (Freon-12)	µg/L	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U	< 0.16 U
Ethyl benzene	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
Isopropylbenzene	µg/L	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U	< 0.12 U
Methyl tertbutyl ether (MTBE)	µg/L	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U	< 0.19 U
Dichloromethane (Methylene chloride)	µg/L	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U
Styrene	µg/L	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U	< 0.15 U
Tetrachloroethene	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
Toluene	µg/L	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U	< 0.25 U
Trichloroethene	µg/L	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U	< 0.13 U
Trichlorofluoromethane (Freon-11)	µg/L	< 0.23 U	< 0.23 U	< 0.23 U	< 0.23 U	< 0.23 U	< 0.23 U	< 0.23 U	< 0.23 U
Vinyl chloride	µg/L	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U	< 0.22 U
o-Xylene	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
m,p Xylenes	µg/L	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U	< 0.18 U
09-General Water Quality Parameters									
Total Cyanide - Unfiltered	mg/L	< 0.0025 U	< 0.0025 U	< 0.0025 U	< 0.0025 U	< 0.0025 U	< 0.0050 U	< 0.0025 U	< 0.0025 U
Perchlorate	µg/L	< 0.082 U	< 0.082 U	< 0.082 U	< 0.082 U	< 0.082 U	0.088 J	< 0.082 U	< 0.082 U

Table 6-3
Phase 1A-B RI Equipment Blank Results
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

	Location Group	**PRI-1**	**PRI-3**	**PRI-4**	**PRI-6**	**PRI-6**	**PRI-7**	**PRI-7**	**PRI-7**
	Location ID	**1-04**	**3-10**	**4-10**	**6-13**	**6-16**	**7-01**	**7-04SB**	**7-04SB**
	Sample Date	**24-Nov-15**	**18-Nov-15**	**21-Oct-15**	**28-Oct-15**	**06-Nov-15**	**23-Sep-15**	**10-Dec-15**	**10-Dec-15**
	Sample Type	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**	**EB**
	Sample ID	**1-04-SS-31-112415**	**3-10-SS-31-111815**	**4-10-SS-31-102115**	**6-13-SS-31-102815**	**6-16-SB-31-0.5-3.5-110615**	**7-01-SS-31-092315**	**7-04SB-SB-31-0.5-2.5-121015**	**7-04SB-SB-32-0.5-2.5-121015**
Analyte	**Unit**								

Notes:

µg/L = micrograms per liter
Empty cells = Not analyzed
HpCDD = Heptachlorodibenzo-p-dioxin
HpCDF = Heptachlorodibenzofuran
HxCDD = Hexachlorodibenzo-p-dioxin
HxCDF = Hexachlorodibenzofuran
mg/kg = Milligrams per kilogram
ng/l = Nanogram per liter
OCDD = Octachlorodibenzo-p-dioxin
OCDF = Octachlorodibenzofuran
PAH = Polycyclic aromatic hydrocarbon
PCB = Polychlorinated biphenyl
PeCDD = Pentachlorodibenzo-p-dioxin
PeCDF = Pentachlorodibenzofuran
pg/g = Picogram per gram
pg/l = Picogram per liter
SVOC = Semi-volatile organic compound
TCDD = Tetrachlorodibenzodioxin
TCDF = Tetrachlorodibenzofuran
TEQ = Toxic equivalency
VOC = Volatile organic compound

< = Compound not detected at concentrationsabove the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

Qualifiers - Organic:
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
J- = The result is an estimated quantity, biased low. The associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.
UJ = The nondetected analyte was qualified as estimated at the sample quantitation limit. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.
UQ = The result was qualified as a non-detected at the listed concentration due to an estimated maximum possible concentration.

Analysis performed by TestAmerica - Sacramento, CA, TestAmerica - Savannah, GA.

Table 7-1
Historical Sample Results Deemed Not Representative of Current Conditions
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location		Sample Date	HCB	Total PCBs	Mammal TEQ
PRI 1	CENDSD-03	PRI 1-CENDSD-03	6/23/2003	X		
	CENDSD-04	PRI 1-CENDSD-04	6/23/2003	X		
	CENDSD-05	PRI 1-CENDSD-05	6/23/2003	X		
	CHLDSD-01	PRI 1-CHLDSD-01	6/23/2003	X		X
	CHLDSD-02	PRI 1-CHLDSD-02	6/23/2003	X		
	MC-CD-01	PRI 1-MC-CD-01	9/18/2002	X	X	X
	MC-MD-02	PRI 1-MC-MD-02	9/11/2002		X	X
	MC-WD-01	PRI 1-MC-WD-01	9/13/2002	X	X	
	MDSD-01	PRI 1-MDSD-01	6/23/2003	X		X
	MDSD-02	PRI 1-MDSD-02	6/23/2003	X		X
	WDSD-01	PRI 1-WDSD-01	6/17/2003	X	X	
	WDSD-02	PRI 1-WDSD-02	6/17/2003	X	X	
	WDSD-03	PRI 1-WDSD-03	6/17/2003		X	
	WDSD-04	PRI 1-WDSD-04	6/17/2003	X	X	
	WDSD-05	PRI 1-WDSD-05	6/17/2003		X	
	WDSD-06	PRI 1-WDSD-06	6/17/2003	X	X	
	WDSD-07	PRI 1-WDSD-07	6/17/2003	X	X	
	WDSD-08	PRI 1-WDSD-08	6/17/2003	X	X	
	WDSD-09	PRI 1-WDSD-09	6/17/2003	X	X	
	WDSD-10	PRI 1-WDSD-10	6/17/2003	X	X	
PRI 3				None	None	None
PRI 4	CWP-02	PRI 4-CWP-02	12/29/2004	X		
	CWP-AREA 9	PRI 4-CWP-AREA 9	4/21/2005	X	X	X
	GPSD-04	PRI 4-GPSD-04	6/18/2003			X
	GPSD-07	PRI 4-GPSD-07	6/18/2003	X		X
	GPSD-08	PRI 4-GPSD-08	6/20/2003	X	X	
	GPSD-09	PRI 4-GPSD-09	6/20/2003	X		X
	MC-CS-02	PRI 4-MC-CS-02	8/22/2001	X	X	
	MC-CS-03	PRI 4-MC-CS-03	9/10/2002			X
	MC-CSO-01	PRI 4-MC-CSO-01	9/10/2002	X	X	X
	PMX-GP-SO-001	PRI 4-PMX-GP-SO-001	9/17/2003			X
	PMX-GP-SO-002	PRI 4-PMX-GP-SO-002	9/17/2003			X
	PMX-GP-SO-003	PRI 4-PMX-GP-SO-003	9/17/2003	X		X
	PMX-SG-SO-001	PRI 4-PMX-SG-SO-001	9/20/2003	X		X
	PMX-SG-SO-002	PRI 4-PMX-SG-SO-002	9/20/2003	X		X
PRI 5				None	None	None
PRI 6	CWP-AREA 2	PRI 6-CWP-AREA 2	4/19/2005	X		X
	CWP-AREA 3	PRI 6-CWP-AREA 3	4/19/2005	X	X	X
	CWP-AREA 4	PRI 6-CWP-AREA 4	4/19/2005	X		
	CWP-AREA 5	PRI 6-CWP-AREA 5	4/12/2005	X	X	X
	CWP-AREA 6	PRI 6-CWP-AREA 6	4/19/2005	X	X	X
	GPSD-10	PRI 6-GPSD-10	6/20/2003	X	X	X
	PMX-BP-SD-001	PRI 6-PMX-BP-SD-001	9/19/2003	X		X
	PMX-BP-SD-002	PRI 6-PMX-BP-SD-002	9/19/2003	X		X
	PMX-BP-SD-003	PRI 6-PMX-BP-SD-003	9/19/2003	X		X

Table 7-1
Historical Sample Results Deemed Not Representative of Current Conditions
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location		Sample Date	HCB	Total PCBs	Mammal TEQ
PRI 7	MC-SO-01S	PRI 7-MC-SO-01S	8/21/2001	X		X
	MC-SO-03	PRI 7-MC-SO-03	8/21/2001		X	X
	MC-SO-04	PRI 7-MC-SO-04	8/21/2001		X	X
	MC-SO-05	PRI 7-MC-SO-05	8/22/2001			X
	OWP-PMX-01	PRI 7-OWP-PMX-01	8/24/2006	X	X	X
	OWP-PMX-02	PRI 7-OWP-PMX-02	8/24/2006	X		
	OWP-PMX-03	PRI 7-OWP-PMX-03	8/24/2006	X		
	OWP-PMX-04	PRI 7-OWP-PMX-04	8/25/2006	X		
	OWP-PMX-05	PRI 7-OWP-PMX-05	8/24/2006		X	
	OWPSD-06	PRI 7-OWPSD-06	6/20/2003		X	X

Notes:
HCB = Hexachlorobenzene
PCB = Polychlorinated biphenyl
PRI = Preliminary Remedial Investigation
TEQ = Toxic equivalency
"X" denotes historical sample result deemed not representative of current conditions based on comparison to recent (Phase 1A-B RI/Phase 1A DMA) results.

Table 7-2
Inner PRI Nature and Extent Mapping Dataset
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 1	1-01	11/19/2015	1298598	7505120	4218.0	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	390	pg/g	Y	
PRI 1	1-02	11/19/2015	1298606	7505858	4218.0	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	240	pg/g	Y	
PRI 1	1-03	12/3/2015	1299174	7506478	4218.0	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	260,000	pg/g	Y	
PRI 1	1-04	11/24/2015	1299328	7505295	4222.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	150,000	pg/g	Y	
PRI 1	1-05	11/19/2015	1299294	7506049	4217.1	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	79,000	pg/g	Y	
PRI 1	1-06	12/3/2015	1299641	7505129	4218.7	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	4,900	pg/g	Y	
PRI 1	1-07	12/3/2015	1299661	7505694	4218.1	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	1,700	pg/g	Y	
PRI 1	1-08	12/3/2015	1299886	7506453	4219.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	360,000	pg/g	Y	
PRI 1	1-09	11/23/2015	1300414	7506479	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	13,000	pg/g	Y	
PRI 1	1-10	11/23/2015	1300992	7506867	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	98,000	pg/g	Y	
PRI 1	1-11	11/23/2015	1301475	7507345	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	430,000	pg/g	Y	
PRI 1	1-12	11/24/2015	1301713	7507652	4215.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	3,300	pg/g	Y	
PRI 1	1-13	11/23/2015	1302496	7508346	4216.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	32	pg/g	Y	
PRI 1	1-14	11/19/2015	1299803	7505967	4222.7	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	21,000	pg/g	Y	
PRI 1	CHLDSD-02	6/23/2003	1299682	7506020	4221.0	N	0	24	in	Calculated TEQ (ND=0), Mammals		1,140	pg/g	Y	
PRI 1	DMA-Sed-PRI01-1	10/9/2012	1300714	7506623	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals	SW8290	13,600	pg/g	Y	
PRI 1	DMA-Sed-PRI01-2	10/8/2012	1299999	7506504	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals	SW8290	18,300	pg/g	Y	
PRI 1	MC-MD-01	9/12/2002	1300700	7506568	4214.2	Y	0	6	in	Calculated TEQ (ND=0), Mammals		33,500	pg/g	Y	
PRI 1	MC-WD-01	9/13/2002	1298585	7505130	4220.7	N	0	6	in	Calculated TEQ (ND=0), Mammals		544	pg/g	Y	
PRI 1	MDSD-03	6/24/2003	1300516	7506499	4213.9	Y	0	1.3	ft	Calculated TEQ (ND=0), Mammals		11,500	pg/g	Y	
PRI 1	MDSD-04	6/24/2003	1300762	7506617	4215.1	N	0	1.5	ft	Calculated TEQ (ND=0), Mammals		13,600	pg/g	Y	
PRI 1	MDSD-05	6/24/2003	1300825	7506707	4213.9	Y	0	1	ft	Calculated TEQ (ND=0), Mammals		20,500	pg/g	Y	
PRI 1	MDSD-06	6/24/2003	1300929	7506809	4213.9	Y	0	1	ft	Calculated TEQ (ND=0), Mammals		26,600	pg/g	Y	
PRI 1	1-01	11/19/2015	1298598	7505120	4218.0	Y	0	6	in	Hexachlorobenzene	SW8270_SIM	2,700	ug/kg	Y	
PRI 1	1-02	11/19/2015	1298606	7505858	4218.0	Y	0	6	in	Hexachlorobenzene	SW8270_SIM	2,300	ug/kg	Y	
PRI 1	1-03	12/3/2015	1299174	7506478	4218.0	Y	0	6	in	Hexachlorobenzene	SW8270C	5,000,000	ug/kg	Y	J
PRI 1	1-04	11/24/2015	1299328	7505295	4222.9	N	0	6	in	Hexachlorobenzene	SW8270C	4,700,000	ug/kg	Y	
PRI 1	1-05	11/19/2015	1299294	7506049	4217.1	Y	0	6	in	Hexachlorobenzene	SW8270C	870,000	ug/kg	Y	
PRI 1	1-06	12/3/2015	1299641	7505129	4218.7	N	0	6	in	Hexachlorobenzene	SW8270_SIM	14,000	ug/kg	Y	
PRI 1	1-07	12/3/2015	1299661	7505694	4218.1	N	0	6	in	Hexachlorobenzene	SW8270_SIM	5,100	ug/kg	Y	
PRI 1	1-08	12/3/2015	1299886	7506453	4219.4	N	0	6	in	Hexachlorobenzene	SW8270C	5,500,000	ug/kg	Y	
PRI 1	1-09	11/23/2015	1300414	7506479	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	220,000	ug/kg	Y	
PRI 1	1-10	11/23/2015	1300992	7506867	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	930,000	ug/kg	Y	
PRI 1	1-11	11/23/2015	1301475	7507345	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	5,400,000	ug/kg	Y	
PRI 1	1-12	11/24/2015	1301713	7507652	4215.4	N	0	6	in	Hexachlorobenzene	SW8270_SIM	40,000	ug/kg	Y	
PRI 1	1-13	11/23/2015	1302496	7508346	4216.0	N	0	6	in	Hexachlorobenzene	SW8270_SIM	58	ug/kg	Y	J
PRI 1	1-14	11/19/2015	1299803	7505967	4222.7	N	0	6	in	Hexachlorobenzene	SW8270C	280,000	ug/kg	Y	
PRI 1	CENDSD-01	6/23/2003	1299297	7505539	4217.1	Y	0	16	in	Hexachlorobenzene	SW8270C	2,100,000	ug/kg	Y	
PRI 1	CENDSD-02	6/23/2003	1299296	7505795	4217.1	Y	0	10	in	Hexachlorobenzene	SW8270C	910,000	ug/kg	Y	
PRI 1	DMA-Sed/W-PRI01-2	10/8/2012	1299999	7506504	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270C	730,000	ug/kg	N	U
PRI 1	DMA-Sed-PRI01-1	10/9/2012	1300714	7506623	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270C	89,000	ug/kg	Y	
PRI 1	MC-MD-01	9/12/2002	1300700	7506568	4214.2	Y	0	6	in	Hexachlorobenzene	SW8270C	1,200,000	ug/kg	Y	
PRI 1	MC-MD-02	9/11/2002	1299299	7506479	4217.1	Y	0	6	in	Hexachlorobenzene	SW8270C	640,000	ug/kg	Y	
PRI 1	MDSD-03	6/24/2003	1300516	7506499	4213.9	Y	0	1.3	ft	Hexachlorobenzene	SW8270C	340,000	ug/kg	Y	
PRI 1	MDSD-04	6/24/2003	1300762	7506617	4215.1	N	0	1.5	ft	Hexachlorobenzene	SW8270C	400,000	ug/kg	Y	
PRI 1	MDSD-05	6/24/2003	1300825	7506707	4213.9	Y	0	1	ft	Hexachlorobenzene	SW8270C	440,000	ug/kg	Y	
PRI 1	MDSD-06	6/24/2003	1300929	7506809	4213.9	Y	0	1	ft	Hexachlorobenzene	SW8270C	750,000	ug/kg	Y	
PRI 1	WDSD-03	6/17/2003	1298626	7505668	4222.0	N	0	0	in	Hexachlorobenzene	SW8270C	4,900	ug/kg	Y	
PRI 1	WDSD-05	6/17/2003	1298626	7506024	4220.1	N	0	8	in	Hexachlorobenzene	SW8270C	3,000	ug/kg	Y	
PRI 1	1-01	11/19/2015	1298598	7505120	4218.0	Y	0	6	in	Total PCBs	E1668A	240	ug/kg	Y	
PRI 1	1-02	11/19/2015	1298606	7505858	4218.0	Y	0	6	in	Total PCBs	E1668A	380	ug/kg	Y	
PRI 1	1-03	12/3/2015	1299174	7506478	4218.0	Y	0	6	in	Total PCBs	8270D-SIM/680(M)	96,200	ug/kg	Y	

Table 7-2
Inner PRI Nature and Extent Mapping Dataset
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 1	1-04	11/24/2015	1299328	7505295	4222.9	N	0	6	in	Total PCBs	8270D-SIM/680(M)	59,400	ug/kg	Y	
PRI 1	1-05	11/19/2015	1299294	7506049	4217.1	Y	0	6	in	Total PCBs	8270D-SIM/680(M)	28,700	ug/kg	Y	
PRI 1	1-06	12/3/2015	1299641	7505129	4218.7	N	0	6	in	Total PCBs	8270D-SIM/680(M)	391	ug/kg	Y	
PRI 1	1-07	12/3/2015	1299661	7505694	4218.1	N	0	6	in	Total PCBs	8270D-SIM/680(M)	1,250	ug/kg	Y	
PRI 1	1-08	12/3/2015	1299886	7506453	4219.4	N	0	6	in	Total PCBs	8270D-SIM/680(M)	154,000	ug/kg	Y	
PRI 1	1-09	11/23/2015	1300414	7506479	4213.9	Y	0	6	in	Total PCBs	8270D-SIM/680(M)	6,670	ug/kg	Y	J+
PRI 1	1-10	11/23/2015	1300992	7506867	4213.9	Y	0	6	in	Total PCBs	8270D-SIM/680(M)	38,000	ug/kg	Y	J+
PRI 1	1-11	11/23/2015	1301475	7507345	4213.9	Y	0	6	in	Total PCBs	8270D-SIM/680(M)	172,000	ug/kg	Y	
PRI 1	1-12	11/24/2015	1301713	7507652	4215.4	N	0	6	in	Total PCBs	8270D-SIM/680(M)	2,630	ug/kg	Y	
PRI 1	1-13	11/23/2015	1302496	7508346	4216.0	N	0	6	in	Total PCBs	E1668A	14	ug/kg	Y	
PRI 1	1-14	11/19/2015	1299803	7505967	4222.7	N	0	6	in	Total PCBs	E1668A	5,900	ug/kg	Y	
PRI 1	DMA-Sed-PRI01-1	10/9/2012	1300714	7506623	4213.9	Y	0	4	in	Total PCBs	E1668	6,036	ug/kg	Y	
PRI 1	DMA-Sed-PRI01-2	10/8/2012	1299999	7506504	4213.9	Y	0	4	in	Total PCBs	E1668	3,683	ug/kg	Y	
PRI 1	MC-MD-01	9/12/2002	1300700	7506568	4214.2	Y	0	6	in	Total PCBs	E680	75,016	ug/kg	Y	
PRI 3	3-01	11/17/2015	1299398	7505705	4219.3	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	36,000	pg/g	Y	
PRI 3	3-02	11/16/2015	1299480	7505706	4217.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	4,800	pg/g	Y	
PRI 3	3-03	11/16/2015	1299559	7505706	4218.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	2,900	pg/g	Y	
PRI 3	3-04	11/17/2015	1299437	7505774	4217.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	2,100	pg/g	Y	
PRI 3	3-05	11/17/2015	1299519	7505775	4217.3	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	69	pg/g	Y	
PRI 3	3-06	11/17/2015	1299397	7505846	4219.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	48,000	pg/g	Y	
PRI 3	3-07	11/18/2015	1299479	7505847	4217.7	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	110	pg/g	Y	
PRI 3	3-08	11/18/2015	1299561	7505847	4217.5	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	290	pg/g	Y	
PRI 3	3-09	11/18/2015	1299439	7505915	4217.6	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	130	pg/g	Y	
PRI 3	3-10	11/18/2015	1299518	7505916	4217.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	86	pg/g	Y	
PRI 3	3-11	11/19/2015	1299396	7505987	4223.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	9,300	pg/g	Y	
PRI 3	3-12	11/19/2015	1299478	7505988	4222.6	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	81	pg/g	Y	
PRI 3	3-13	11/19/2015	1299560	7505985	4222.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	100	pg/g	Y	
PRI 3	3-14	11/17/2015	1299468	7505696	4218.1	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	8,400	pg/g	Y	
PRI 3	SL-01	6/24/2003	1299486	7505699	4217.8	N	0.25	0.75	ft	Calculated TEQ (ND=0), Mammals	SW8290	1,460	pg/g	Y	
PRI 3	SL-02	6/24/2003	1299414	7505977	4220.1	N	0	0.2	ft	Calculated TEQ (ND=0), Mammals		531	pg/g	Y	
PRI 3	SL-03	6/24/2003	1299573	7505977	4221.4	N	0	0.2	ft	Calculated TEQ (ND=0), Mammals		469	pg/g	Y	
PRI 3	3-01	11/17/2015	1299398	7505705	4219.3	N	0	6	in	Hexachlorobenzene	SW8270C	550,000	ug/kg	Y	
PRI 3	3-02	11/16/2015	1299480	7505706	4217.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	2,400	ug/kg	Y	
PRI 3	3-03	11/16/2015	1299559	7505706	4218.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	6,500	ug/kg	Y	
PRI 3	3-04	11/17/2015	1299437	7505774	4217.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	3,500	ug/kg	Y	
PRI 3	3-05	11/17/2015	1299519	7505775	4217.3	N	0	6	in	Hexachlorobenzene	SW8270_SIM	39	ug/kg	Y	J
PRI 3	3-06	11/17/2015	1299397	7505846	4219.4	N	0	6	in	Hexachlorobenzene	SW8270C	680,000	ug/kg	Y	
PRI 3	3-07	11/18/2015	1299479	7505847	4217.7	N	0	6	in	Hexachlorobenzene	SW8270_SIM	61	ug/kg	Y	J
PRI 3	3-08	11/18/2015	1299561	7505847	4217.5	N	0	6	in	Hexachlorobenzene	SW8270_SIM	85	ug/kg	Y	J
PRI 3	3-09	11/18/2015	1299439	7505915	4217.6	N	0	6	in	Hexachlorobenzene	SW8270_SIM	130	ug/kg	Y	J
PRI 3	3-10	11/18/2015	1299518	7505916	4217.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	56	ug/kg	Y	J
PRI 3	3-11	11/19/2015	1299396	7505987	4223.4	N	0	6	in	Hexachlorobenzene	SW8270C	51000	ug/kg	Y	
PRI 3	3-12	11/19/2015	1299478	7505988	4222.6	N	0	6	in	Hexachlorobenzene	SW8270_SIM	150	ug/kg	Y	J
PRI 3	3-13	11/19/2015	1299560	7505985	4222.0	N	0	6	in	Hexachlorobenzene	SW8270_SIM	210	ug/kg	Y	
PRI 3	3-14	11/17/2015	1299468	7505696	4218.1	N	0	6	in	Hexachlorobenzene	SW8270_SIM	9,800	ug/kg	Y	
PRI 3	SL-01	6/24/2003	1299486	7505699	4217.8	N	0.25	0.75	ft	Hexachlorobenzene	SW8270C	6,000	ug/kg	Y	
PRI 3	SL-02	6/24/2003	1299414	7505977	4220.1	N	0	0.2	ft	Hexachlorobenzene	SW8270C	1,100	ug/kg	Y	
PRI 3	SL-03	6/24/2003	1299573	7505977	4221.4	N	0	0.2	ft	Hexachlorobenzene	SW8270C	500	ug/kg	Y	
PRI 3	3-01	11/17/2015	1299398	7505705	4219.3	N	0	6	in	Total PCBs	8270D-SIM/680(M)	48,500	ug/kg	Y	
PRI 3	3-02	11/16/2015	1299480	7505706	4217.8	N	0	6	in	Total PCBs	E1668A	4,000	ug/kg	Y	
PRI 3	3-03	11/16/2015	1299559	7505706	4218.8	N	0	6	in	Total PCBs	8270D-SIM/680(M)	1,650	ug/kg	Y	
PRI 3	3-04	11/17/2015	1299437	7505774	4217.9	N	0	6	in	Total PCBs	E1668A	1,400	ug/kg	Y	

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Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 3	3-05	11/17/2015	1299519	7505775	4217.3	N	0	6	in	Total PCBs	E1668A	100	ug/kg	Y	
PRI 3	3-06	11/17/2015	1299397	7505846	4219.4	N	0	6	in	Total PCBs	8270D-SIM/680(M)	38,600	ug/kg	Y	
PRI 3	3-07	11/18/2015	1299479	7505847	4217.7	N	0	6	in	Total PCBs	E1668A	170	ug/kg	Y	
PRI 3	3-08	11/18/2015	1299561	7505847	4217.5	N	0	6	in	Total PCBs	E1668A	310	ug/kg	Y	
PRI 3	3-09	11/18/2015	1299439	7505915	4217.6	N	0	6	in	Total PCBs	E1668A	290	ug/kg	Y	
PRI 3	3-10	11/18/2015	1299518	7505916	4217.9	N	0	6	in	Total PCBs	E1668A	130	ug/kg	Y	
PRI 3	3-11	11/19/2015	1299396	7505987	4223.4	N	0	6	in	Total PCBs	E1668A	2,200	ug/kg	Y	
PRI 3	3-12	11/19/2015	1299478	7505988	4222.6	N	0	6	in	Total PCBs	E1668A	72	ug/kg	Y	
PRI 3	3-13	11/19/2015	1299560	7505985	4222.0	N	0	6	in	Total PCBs	E1668A	92	ug/kg	Y	
PRI 3	3-14	11/17/2015	1299468	7505696	4218.1	N	0	6	in	Total PCBs	E1668A	4,500	ug/kg	Y	
PRI 3	SL-01	6/24/2003	1299486	7505699	4217.8	N	0.25	0.75	ft	Total PCBs	E680	1,725	ug/kg	Y	
PRI 3	SL-02	6/24/2003	1299414	7505977	4220.1	N	0	0.2	ft	Total PCBs	E680	720	ug/kg	Y	
PRI 3	SL-03	6/24/2003	1299573	7505977	4221.4	N	0	0.2	ft	Total PCBs	E680	347	ug/kg	Y	
PRI 4	4-01	10/19/2015	1298687	7507105	4226.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	7,300	pg/g	Y	
PRI 4	4-02	10/19/2015	1299508	7507081	4239.2	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	2,500	pg/g	Y	
PRI 4	4-03	10/20/2015	1300351	7507083	4226.1	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	630	pg/g	Y	
PRI 4	4-04	10/23/2015	1299087	7507813	4225.2	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	7,500	pg/g	Y	
PRI 4	4-05	10/20/2015	1299930	7507812	4225.3	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	1,000	pg/g	Y	
PRI 4	4-06	10/20/2015	1300773	7507814	4220.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	2,000	pg/g	Y	
PRI 4	4-07	10/20/2015	1301620	7507799	4216.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	1,000	pg/g	Y	
PRI 4	4-08	10/23/2015	1298666	7508543	4219.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	6,000	pg/g	Y	
PRI 4	4-09	10/23/2015	1299509	7508544	4220.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	4,700	pg/g	Y	
PRI 4	4-10	10/21/2015	1300352	7508543	4219.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	5,300	pg/g	Y	
PRI 4	4-11	10/21/2015	1301196	7508541	4216.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	3,100	pg/g	Y	
PRI 4	4-12	10/29/2015	1299084	7509274	4216.1	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	9,300	pg/g	Y	
PRI 4	4-13	10/29/2015	1299931	7509272	4216.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	5,200	pg/g	Y	
PRI 4	4-14	10/29/2015	1300768	7509105	4215.7	N	0	6	in	Calculated TEQ (ND=0), Mammals	CALC	7,700	pg/g	Y	
PRI 4	CWP-01	12/29/2004	1300610	7509193	4215.8	N	0	8	in	Calculated TEQ (ND=0), Mammals		16,800	pg/g	Y	
PRI 4	CWP-02	12/29/2004	1300935	7508822	4216.5	N	0	3	in	Calculated TEQ (ND=0), Mammals		5,920	pg/g	Y	
PRI 4	CWP-03	12/29/2004	1301458	7508569	4215.4	N	0	7	in	Calculated TEQ (ND=0), Mammals		4,360	pg/g	Y	
PRI 4	CWP-AREA 11	4/21/2005	1300455	7508408	4219.9	N	0	20	in	Calculated TEQ (ND=0), Mammals		6,320	pg/g	Y	
PRI 4	CWP-AREA 7	4/21/2005	1299363	7509202	4216.6	N	0	12	in	Calculated TEQ (ND=0), Mammals		10,900	pg/g	Y	
PRI 4	DMA-Gyp-PRI04-1	10/5/2012	1299773	7507275	4230.7	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	1,950	pg/g	Y	
PRI 4	DMA-Gyp-PRI04-2	10/5/2012	1300935	7507091	4221.6	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	1,550	pg/g	Y	
PRI 4	GPSD-01	6/18/2003	1299159	7506613	4226.9	N	0	5	ft	Calculated TEQ (ND=0), Mammals		877	pg/g	Y	
PRI 4	GPSD-03	6/18/2003	1300036	7506603	4225.6	N	0	4	ft	Calculated TEQ (ND=0), Mammals		662	pg/g	Y	
PRI 4	GPSD-05	6/18/2003	1299437	7507184	4237.6	N	0	4	ft	Calculated TEQ (ND=0), Mammals		694	pg/g	Y	
PRI 4	GPSD-06	6/18/2003	1300224	7506974	4227.7	N	0	4	ft	Calculated TEQ (ND=0), Mammals		458	pg/g	Y	
PRI 4	GPSD-08	6/20/2003	1300778	7507892	4220.8	N	0	24	ft	Calculated TEQ (ND=0), Mammals		2,260	pg/g	Y	
PRI 4	MC-CS-01	8/22/2001	1299485	7506748	4229.9	N	0	4	in	Calculated TEQ (ND=0), Mammals		2,100	pg/g	Y	
PRI 4	MC-CS-02	8/22/2001	1299868	7507134	4231.8	N	0	4	in	Calculated TEQ (ND=0), Mammals		456	pg/g	Y	
PRI 4	4-01	10/19/2015	1298687	7507105	4226.0	N	0	6	in	Hexachlorobenzene	SW8270_SIM	21,000	ug/kg	Y	
PRI 4	4-02	10/19/2015	1299508	7507081	4239.2	N	0	6	in	Hexachlorobenzene	SW8270_SIM	5,700	ug/kg	Y	
PRI 4	4-03	10/20/2015	1300351	7507083	4226.1	N	0	6	in	Hexachlorobenzene	SW8270_SIM	4,200	ug/kg	Y	
PRI 4	4-04	10/23/2015	1299087	7507813	4225.2	N	0	6	in	Hexachlorobenzene	SW8270_SIM	14,000	ug/kg	Y	
PRI 4	4-05	10/20/2015	1299930	7507812	4225.3	N	0	6	in	Hexachlorobenzene	SW8270_SIM	5,300	ug/kg	Y	
PRI 4	4-06	10/20/2015	1300773	7507814	4220.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	14,000	ug/kg	Y	
PRI 4	4-07	10/20/2015	1301620	7507799	4216.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	15,000	ug/kg	Y	
PRI 4	4-08	10/23/2015	1298666	7508543	4219.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	14,000	ug/kg	Y	
PRI 4	4-09	10/23/2015	1299509	7508544	4220.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	14,000	ug/kg	Y	
PRI 4	4-10	10/21/2015	1300352	7508543	4219.4	N	0	6	in	Hexachlorobenzene	SW8270_SIM	26,000	ug/kg	Y	
PRI 4	4-11	10/21/2015	1301196	7508541	4216.4	N	0	6	in	Hexachlorobenzene	SW8270_SIM	23,000	ug/kg	Y	

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Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 4	4-12	10/29/2015	1299084	7509274	4216.1	N	0	6	in	Hexachlorobenzene	SW8270_SIM	28,000	ug/kg	Y	
PRI 4	4-13	10/29/2015	1299931	7509272	4216.0	N	0	6	in	Hexachlorobenzene	SW8270_SIM	38,000	ug/kg	Y	
PRI 4	4-14	10/29/2015	1300768	7509105	4215.7	N	0	6	in	Hexachlorobenzene	SW8270_SIM	76,000	ug/kg	Y	
PRI 4	CWP-01	12/29/2004	1300610	7509193	4215.8	N	0	8	in	Hexachlorobenzene	SW8270C_SIM	73,000	ug/kg	Y	
PRI 4	CWP-03	12/29/2004	1301458	7508569	4215.4	N	0	7	in	Hexachlorobenzene	SW8270C_SIM	33,000	ug/kg	Y	
PRI 4	CWP-AREA 11	4/21/2005	1300455	7508408	4219.9	N	0	20	in	Hexachlorobenzene	SW8270C_SIM	23,000	ug/kg	Y	
PRI 4	CWP-AREA 7	4/21/2005	1299363	7509202	4216.6	N	0	12	in	Hexachlorobenzene	SW8270C_SIM	15,000	ug/kg	Y	
PRI 4	DMA-Gyp-PRI04-1	10/5/2012	1299773	7507275	4230.7	N	0	6	in	Hexachlorobenzene	SW8270C	13,000	ug/kg	Y	
PRI 4	DMA-Gyp-PRI04-2	10/5/2012	1300935	7507091	4221.6	N	0	6	in	Hexachlorobenzene	SW8270C	18,000	ug/kg	Y	
PRI 4	GPSD-01	6/18/2003	1299159	7506613	4226.9	N	0	5	ft	Hexachlorobenzene	SW8270C	18,000	ug/kg	Y	
PRI 4	GPSD-03	6/18/2003	1300036	7506603	4225.6	N	0	4	ft	Hexachlorobenzene	SW8270C	19,000	ug/kg	Y	
PRI 4	GPSD-04	6/18/2003	1299152	7507287	4230.0	N	0	5	ft	Hexachlorobenzene	SW8270C	19,000	ug/kg	Y	
PRI 4	GPSD-05	6/18/2003	1299437	7507184	4237.6	N	0	4	ft	Hexachlorobenzene	SW8270C	5,100	ug/kg	Y	
PRI 4	GPSD-06	6/18/2003	1300224	7506974	4227.7	N	0	4	ft	Hexachlorobenzene	SW8270C	13,000	ug/kg	Y	
PRI 4	MC-CS-01	8/22/2001	1299485	7506748	4229.9	N	0	4	in	Hexachlorobenzene	SW8270C	11,600	ug/kg	Y	
PRI 4	MC-CS-03	9/10/2002	1299200	7507941	4224.9	N	0	6	in	Hexachlorobenzene	SW8270C	14,000	ug/kg	Y	
PRI 4	PMX-GP-SO-001	9/17/2003	1299315	7507651	4227.6	N	0	5	in	Hexachlorobenzene	SW8081A	26,000	ug/kg	Y	
PRI 4	PMX-GP-SO-002	9/17/2003	1299327	7507448	4229.2	N	0	5	in	Hexachlorobenzene	SW8081A	14,000	ug/kg	Y	
PRI 4	4-01	10/19/2015	1298687	7507105	4226.0	N	0	6	in	Total PCBs	8270D-SIM/680(M)	1,320	ug/kg	Y	
PRI 4	4-02	10/19/2015	1299508	7507081	4239.2	N	0	6	in	Total PCBs	8270D-SIM/680(M)	847	ug/kg	Y	
PRI 4	4-03	10/20/2015	1300351	7507083	4226.1	N	0	6	in	Total PCBs	8270D-SIM/680(M)	349	ug/kg	Y	
PRI 4	4-04	10/23/2015	1299087	7507813	4225.2	N	0	6	in	Total PCBs	8270D-SIM/680(M)	757	ug/kg	Y	
PRI 4	4-05	10/20/2015	1299930	7507812	4225.3	N	0	6	in	Total PCBs	8270D-SIM/680(M)	862	ug/kg	Y	
PRI 4	4-06	10/20/2015	1300773	7507814	4220.8	N	0	6	in	Total PCBs	8270D-SIM/680(M)	418	ug/kg	Y	
PRI 4	4-07	10/20/2015	1301620	7507799	4216.8	N	0	6	in	Total PCBs	8270D-SIM/680(M)	336	ug/kg	Y	
PRI 4	4-08	10/23/2015	1298666	7508543	4219.8	N	0	6	in	Total PCBs	8270D-SIM/680(M)	815	ug/kg	Y	
PRI 4	4-09	10/23/2015	1299509	7508544	4220.8	N	0	6	in	Total PCBs	8270D-SIM/680(M)	1,760	ug/kg	Y	
PRI 4	4-10	10/21/2015	1300352	7508543	4219.4	N	0	6	in	Total PCBs	8270D-SIM/680(M)	1,840	ug/kg	Y	
PRI 4	4-11	10/21/2015	1301196	7508541	4216.4	N	0	6	in	Total PCBs	8270D-SIM/680(M)	1,880	ug/kg	Y	
PRI 4	4-12	10/29/2015	1299084	7509274	4216.1	N	0	6	in	Total PCBs	8270D-SIM/680(M)	1,960	ug/kg	Y	
PRI 4	4-13	10/29/2015	1299931	7509272	4216.0	N	0	6	in	Total PCBs	8270D-SIM/680(M)	1,890	ug/kg	Y	
PRI 4	4-14	10/29/2015	1300768	7509105	4215.7	N	0	6	in	Total PCBs	8270D-SIM/680(M)	3,140	ug/kg	Y	
PRI 4	CWP-01	12/29/2004	1300610	7509193	4215.8	N	0	8	in	Total PCBs	E680	4,080	ug/kg	Y	
PRI 4	CWP-02	12/29/2004	1300935	7508822	4216.5	N	0	3	in	Total PCBs	E680	850	ug/kg	Y	
PRI 4	CWP-03	12/29/2004	1301458	7508569	4215.4	N	0	7	in	Total PCBs	E680	3,040	ug/kg	Y	
PRI 4	CWP-AREA 11	4/21/2005	1300455	7508408	4219.9	N	0	20	in	Total PCBs	E680	3,322	ug/kg	Y	
PRI 4	CWP-AREA 7	4/21/2005	1299363	7509202	4216.6	N	0	12	in	Total PCBs	E680	3,450	ug/kg	Y	
PRI 4	DMA-Gyp-PRI04-1	10/5/2012	1299773	7507275	4230.7	N	0	6	in	Total PCBs	E1668	589.4317	ug/kg	Y	
PRI 4	DMA-Gyp-PRI04-2	10/5/2012	1300935	7507091	4221.6	N	0	6	in	Total PCBs	E1668	502.7043	ug/kg	Y	
PRI 4	GPSD-01	6/18/2003	1299159	7506613	4226.9	N	0	5	ft	Total PCBs	E680	338	ug/kg	Y	
PRI 4	GPSD-03	6/18/2003	1300036	7506603	4225.6	N	0	4	ft	Total PCBs	E680	539	ug/kg	Y	
PRI 4	GPSD-04	6/18/2003	1299152	7507287	4230.0	N	0	5	ft	Total PCBs	E680	537	ug/kg	Y	
PRI 4	GPSD-05	6/18/2003	1299437	7507184	4237.6	N	0	4	ft	Total PCBs	E680	273	ug/kg	Y	
PRI 4	GPSD-06	6/18/2003	1300224	7506974	4227.7	N	0	4	ft	Total PCBs	E680	366	ug/kg	Y	
PRI 4	GPSD-07	6/18/2003	1298873	7507744	4225.0	N	0	17	in	Total PCBs	E680	1,166	ug/kg	Y	
PRI 4	GPSD-09	6/20/2003	1299291	7508441	4221.5	N	0	12	in	Total PCBs	E680	787	ug/kg	Y	
PRI 4	MC-CS-01	8/22/2001	1299485	7506748	4229.9	N	0	4	in	Total PCBs	E680	763.41	ug/kg	Y	
PRI 4	MC-CS-03	9/10/2002	1299200	7507941	4224.9	N	0	6	in	Total PCBs	E1668A	700.889	ug/kg	Y	
PRI 5	5-01	10/15/2015	1302862	7504916	4216.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	17	pg/g	Y	
PRI 5	5-02	10/27/2015	1303915	7504915	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals	8280	17,000	pg/g	Y	
PRI 5	5-03	9/25/2015	1304965	7504915	4213.6	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	1.5	pg/g	Y	
PRI 5	5-04	9/25/2015	1306023	7505025	4210.5	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	0.11	pg/g	Y	

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Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 5	5-05	9/25/2015	1307072	7504918	4216.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	1.1	pg/g	Y	
PRI 5	5-06	10/15/2015	1302334	7505828	4216.3	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	2.2	pg/g	Y	
PRI 5	5-07	10/27/2015	1303388	7505828	4215.5	N	0	4	in	Calculated TEQ (ND=0), Mammals	SW8290	380	pg/g	Y	
PRI 5	5-08	10/27/2015	1304441	7505827	4213.9	Y	0	3	in	Calculated TEQ (ND=0), Mammals	SW8290	830	pg/g	Y	
PRI 5	5-09	9/17/2015	1305491	7505827	4214.1	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	1.2	pg/g	Y	
PRI 5	5-10	10/15/2015	1306545	7505827	4209.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	87	pg/g	Y	
PRI 5	5-11	10/27/2015	1301810	7506740	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals	SW8290	1,400	pg/g	Y	
PRI 5	5-12	10/27/2015	1302860	7506740	4218.7	N	0	3	in	Calculated TEQ (ND=0), Mammals	SW8290	27	pg/g	Y	
PRI 5	5-13	10/27/2015	1303914	7506740	4213.9	Y	0	5	in	Calculated TEQ (ND=0), Mammals	8280	5,500	pg/g	Y	
PRI 5	5-14	10/27/2015	1302337	7507649	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals	8280	28,000	pg/g	Y	
PRI 5	5-15	9/17/2015	1303387	7507652	4219.6	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	2	pg/g	Y	
PRI 5	5-16	10/15/2015	1302298	7505352	4215.3	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	630	pg/g	Y	
PRI 5	5-17	9/18/2015	1303190	7504304	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	3,100	pg/g	Y	
PRI 5	5-18	9/18/2015	1303141	7504235	4217.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	6.6	pg/g	Y	
PRI 5	5-19	9/18/2015	1304060	7504352	4212.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	1.2	pg/g	Y	
PRI 5	5-20	9/18/2015	1303876	7504377	4216.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	38	pg/g	Y	
PRI 5	CWP-04	12/29/2004	1302605	7507802	4213.9	Y	0	7	in	Calculated TEQ (ND=0), Mammals		3,990	pg/g	Y	
PRI 5	CWP-05	12/29/2004	1303975	7506957	4213.9	Y	0	10	in	Calculated TEQ (ND=0), Mammals		775	pg/g	Y	
PRI 5	CWP-06	12/29/2004	1304905	7505393	4216.7	N	0	8	in	Calculated TEQ (ND=0), Mammals		775	pg/g	Y	
PRI 5	CWP-07	12/29/2004	1301887	7507772	4213.9	Y	0	13	in	Calculated TEQ (ND=0), Mammals		16,900	pg/g	Y	
PRI 5	CWP-AREA 16	4/21/2005	1302209	7507946	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals		10,100	pg/g	Y	
PRI 5	CWP-AREA 21	4/21/2005	1302537	7505586	4216.3	N	0	2	in	Calculated TEQ (ND=0), Mammals		34.4	pg/g	Y	
PRI 5	CWP-AREA 23	4/21/2005	1303525	7505599	4214.9	N	0	2.5	in	Calculated TEQ (ND=0), Mammals		178	pg/g	Y	
PRI 5	CWP-AREA 25	4/19/2005	1303139	7504328	4214.2	Y	0	2	in	Calculated TEQ (ND=0), Mammals		9,440	pg/g	Y	
PRI 5	CWP-AREA 26	4/19/2005	1304375	7504507	4216.5	N	0	3.5	in	Calculated TEQ (ND=0), Mammals		1,180	pg/g	Y	
PRI 5	CWP-AREA 29	4/19/2005	1305434	7505427	4215.6	N	0	1	in	Calculated TEQ (ND=0), Mammals		1.99	pg/g	Y	
PRI 5	CWP-AREA 30	4/19/2005	1305837	7506051	4210.2	N	0	2	in	Calculated TEQ (ND=0), Mammals		3.89	pg/g	Y	
PRI 5	DMA-Sed/W-PRI05-1	10/3/2012	1302288	7508064	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	640	pg/g	Y	
PRI 5	DMA-Sed-PRI05-2	10/2/2012	1301840	7506458	4215.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	4.03	pg/g	Y	
PRI 5	DMA-Soil-PRI05	10/5/2012	1301532	7506842	4216.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	4.63	pg/g	Y	
PRI 5	MC-SE-02	8/22/2001	1301795	7507484	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals		1,800	pg/g	Y	
PRI 5	MC-SE-03	8/22/2001	1303388	7507104	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals		2,610	pg/g	Y	
PRI 5	MC-SE-04	8/22/2001	1303662	7506246	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals		3,620	pg/g	Y	
PRI 5	MC-SE-05	9/16/2002	1304737	7506302	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals		342	pg/g	Y	
PRI 5	MC-SE-06	9/19/2002	1302262	7506599	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals		620	pg/g	Y	
PRI 5	PMX-AP-SD-001	9/19/2003	1302863	7507754	4213.9	Y	0	5	in	Calculated TEQ (ND=0), Mammals		662	pg/g	Y	
PRI 5	PMX-AP-SD-002	9/19/2003	1303730	7507114	4213.9	Y	0	5	in	Calculated TEQ (ND=0), Mammals		69.5	pg/g	Y	
PRI 5	PMX-AP-SD-003	9/19/2003	1305219	7506537	4212.0	N	0	5	in	Calculated TEQ (ND=0), Mammals		119	pg/g	Y	
PRI 5	PMX-OA-SO-001	9/19/2003	1303028	7508156	4215.1	N	0	2	in	Calculated TEQ (ND=0), Mammals		14.7	pg/g	Y	
PRI 5	PMX-OA-SO-002	9/19/2003	1303160	7507945	4215.7	N	0	2	in	Calculated TEQ (ND=0), Mammals		6.69	pg/g	Y	
PRI 5	PMX-OA-SO-003	9/19/2003	1303200	7507847	4216.5	N	0	2	in	Calculated TEQ (ND=0), Mammals		1.58	pg/g	Y	
PRI 5	5-01	10/15/2015	1302862	7504916	4216.0	N	0	6	in	Hexachlorobenzene	SW8270_SIM	67	ug/kg	Y	J
PRI 5	5-02	10/27/2015	1303915	7504915	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270C	310,000	ug/kg	Y	
PRI 5	5-03	9/25/2015	1304965	7504915	4213.6	N	0	6	in	Hexachlorobenzene	SW8270_SIM	12	ug/kg	N	U
PRI 5	5-04	9/25/2015	1306023	7505025	4210.5	N	0	6	in	Hexachlorobenzene	SW8270_SIM	13	ug/kg	N	U
PRI 5	5-05	9/25/2015	1307072	7504918	4216.0	N	0	6	in	Hexachlorobenzene	SW8270_SIM	19	ug/kg	Y	J
PRI 5	5-06	10/15/2015	1302334	7505828	4216.3	N	0	6	in	Hexachlorobenzene	SW8270_SIM	13	ug/kg	N	U
PRI 5	5-07	10/27/2015	1303388	7505828	4215.5	N	0	4	in	Hexachlorobenzene	SW8270_SIM	3,600	ug/kg	Y	
PRI 5	5-08	10/27/2015	1304441	7505827	4213.9	Y	0	3	in	Hexachlorobenzene	SW8270_SIM	11,000	ug/kg	Y	
PRI 5	5-09	9/17/2015	1305491	7505827	4214.1	N	0	6	in	Hexachlorobenzene	SW8270_SIM	12	ug/kg	Y	J
PRI 5	5-10	10/15/2015	1306545	7505827	4209.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	77	ug/kg	Y	J
PRI 5	5-11	10/27/2015	1301810	7506740	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270_SIM	17,000	ug/kg	Y	

Table 7-2
Inner PRI Nature and Extent Mapping Dataset
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 5	5-12	10/27/2015	1302860	7506740	4218.7	N	0	3	in	Hexachlorobenzene	SW8270_SIM	320	ug/kg	Y	J
PRI 5	5-13	10/27/2015	1303914	7506740	4213.9	Y	0	5	in	Hexachlorobenzene	SW8270_SIM	63,000	ug/kg	Y	
PRI 5	5-14	10/27/2015	1302337	7507649	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	610,000	ug/kg	Y	
PRI 5	5-15	9/17/2015	1303387	7507652	4219.6	N	0	6	in	Hexachlorobenzene	SW8270_SIM	26	ug/kg	Y	
PRI 5	5-16	10/15/2015	1302298	7505352	4215.3	Y	0	6	in	Hexachlorobenzene	SW8270_SIM	3,100	ug/kg	Y	
PRI 5	5-17	9/18/2015	1303190	7504304	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	8,000	ug/kg	Y	
PRI 5	5-18	9/18/2015	1303141	7504235	4217.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	24	ug/kg	N	U
PRI 5	5-19	9/18/2015	1304060	7504352	4212.4	N	0	6	in	Hexachlorobenzene	SW8270_SIM	6.9	ug/kg	Y	J
PRI 5	5-20	9/18/2015	1303876	7504377	4216.0	N	0	6	in	Hexachlorobenzene	SW8270_SIM	26	ug/kg	Y	
PRI 5	CWP-04	12/29/2004	1302605	7507802	4213.9	Y	0	7	in	Hexachlorobenzene	SW8270C_SIM	55,000	ug/kg	Y	
PRI 5	CWP-05	12/29/2004	1303975	7506957	4213.9	Y	0	10	in	Hexachlorobenzene	SW8270C_SIM	9,200	ug/kg	Y	
PRI 5	CWP-06	12/29/2004	1304905	7505393	4216.7	N	0	8	in	Hexachlorobenzene	SW8270C_SIM	3,800	ug/kg	Y	
PRI 5	CWP-07	12/29/2004	1301887	7507772	4213.9	Y	0	13	in	Hexachlorobenzene	SW8270C_SIM	140,000	ug/kg	Y	
PRI 5	CWP-AREA 16	4/21/2005	1302209	7507946	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270C_SIM	120,000	ug/kg	Y	
PRI 5	CWP-AREA 21	4/21/2005	1302537	7505586	4216.3	N	0	2	in	Hexachlorobenzene	SW8270C_SIM	28	ug/kg	Y	
PRI 5	CWP-AREA 23	4/21/2005	1303525	7505599	4214.9	N	0	2.5	in	Hexachlorobenzene	SW8270C_SIM	430	ug/kg	Y	
PRI 5	CWP-AREA 25	4/19/2005	1303139	7504328	4214.2	Y	0	2	in	Hexachlorobenzene	SW8270C_SIM	7,600	ug/kg	Y	
PRI 5	CWP-AREA 26	4/19/2005	1304375	7504507	4216.5	N	0	3.5	in	Hexachlorobenzene	SW8270C_SIM	2,400	ug/kg	Y	
PRI 5	CWP-AREA 29	4/19/2005	1305434	7505427	4215.6	N	0	1	in	Hexachlorobenzene	SW8270C_SIM	22	ug/kg	Y	
PRI 5	CWP-AREA 30	4/19/2005	1305837	7506051	4210.2	N	0	2	in	Hexachlorobenzene	SW8270C_SIM	22	ug/kg	N	
PRI 5	DMA-Sed/W-PRI05-1	10/3/2012	1302288	7508064	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	270,000	ug/kg	N	U
PRI 5	DMA-Sed-PRI05-2	10/2/2012	1301840	7506458	4215.8	N	0	6	in	Hexachlorobenzene	SW8270C	1100	ug/kg	N	U
PRI 5	DMA-Soil-PRI05	10/5/2012	1301532	7506842	4216.8	N	0	6	in	Hexachlorobenzene	SW8270C	100	ug/kg	N	U
PRI 5	MC-SE-02	8/22/2001	1301795	7507484	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	25,700	ug/kg	Y	
PRI 5	MC-SE-03	8/22/2001	1303388	7507104	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	58,200	ug/kg	Y	
PRI 5	MC-SE-04	8/22/2001	1303662	7506246	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	57,800	ug/kg	Y	
PRI 5	MC-SE-05	9/16/2002	1304737	7506302	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	4000	ug/kg	Y	
PRI 5	MC-SE-06	9/19/2002	1302262	7506599	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	18,000	ug/kg	Y	
PRI 5	PMX-AP-SD-001	9/19/2003	1302863	7507754	4213.9	Y	0	5	in	Hexachlorobenzene	SW8081A	30,000	ug/kg	Y	
PRI 5	PMX-AP-SD-002	9/19/2003	1303730	7507114	4213.9	Y	0	5	in	Hexachlorobenzene	SW8081A	13,000	ug/kg	Y	
PRI 5	PMX-AP-SD-003	9/19/2003	1305219	7506537	4212.0	N	0	5	in	Hexachlorobenzene	SW8081A	16,000	ug/kg	Y	
PRI 5	PMX-OA-SO-001	9/19/2003	1303028	7508156	4215.1	N	0	2	in	Hexachlorobenzene	SW8081A	110	ug/kg	Y	
PRI 5	PMX-OA-SO-002	9/19/2003	1303160	7507945	4215.7	N	0	2	in	Hexachlorobenzene	SW8081A	110	ug/kg	Y	
PRI 5	PMX-OA-SO-003	9/19/2003	1303200	7507847	4216.5	N	0	2	in	Hexachlorobenzene	SW8081A	31	ug/kg	Y	
PRI 5	5-01	10/15/2015	1302862	7504916	4216.0	N	0	6	in	Total PCBs	E1668A	23	ug/kg	Y	
PRI 5	5-02	10/27/2015	1303915	7504915	4213.9	Y	0	4	in	Total PCBs	8270D-SIM/680(M)	27,400	ug/kg	Y	
PRI 5	5-03	9/25/2015	1304965	7504915	4213.6	N	0	6	in	Total PCBs	E1668A	1.6	ug/kg	Y	
PRI 5	5-04	9/25/2015	1306023	7505025	4210.5	N	0	6	in	Total PCBs	E1668A	0.19	ug/kg	Y	
PRI 5	5-05	9/25/2015	1307072	7504918	4216.0	N	0	6	in	Total PCBs	E1668A	0.86	ug/kg	Y	
PRI 5	5-06	10/15/2015	1302334	7505828	4216.3	N	0	6	in	Total PCBs	E1668A	2.5	ug/kg	Y	
PRI 5	5-07	10/27/2015	1303388	7505828	4215.5	N	0	4	in	Total PCBs	8270D-SIM/680(M)	176	ug/kg	Y	
PRI 5	5-08	10/27/2015	1304441	7505827	4213.9	Y	0	3	in	Total PCBs	8270D-SIM/680(M)	997	ug/kg	Y	
PRI 5	5-09	9/17/2015	1305491	7505827	4214.1	N	0	6	in	Total PCBs	E1668A	1.6	ug/kg	Y	
PRI 5	5-10	10/15/2015	1306545	7505827	4209.8	N	0	6	in	Total PCBs	E1668A	35	ug/kg	Y	
PRI 5	5-11	10/27/2015	1301810	7506740	4213.9	Y	0	4	in	Total PCBs	8270D-SIM/680(M)	1,950	ug/kg	Y	
PRI 5	5-12	10/27/2015	1302860	7506740	4218.7	N	0	3	in	Total PCBs	E1668A	35	ug/kg	Y	
PRI 5	5-13	10/27/2015	1303914	7506740	4213.9	Y	0	5	in	Total PCBs	8270D-SIM/680(M)	6530	ug/kg	Y	
PRI 5	5-14	10/27/2015	1302337	7507649	4213.9	Y	0	6	in	Total PCBs	8270D-SIM/680(M)	36,300	ug/kg	Y	
PRI 5	5-15	9/17/2015	1303387	7507652	4219.6	N	0	6	in	Total PCBs	E1668A	2.2	ug/kg	Y	
PRI 5	5-16	10/15/2015	1302298	7505352	4215.3	Y	0	6	in	Total PCBs	8270D-SIM/680(M)	221	ug/kg	Y	
PRI 5	5-17	9/18/2015	1303190	7504304	4213.9	Y	0	6	in	Total PCBs	8270D-SIM/680(M)	171	ug/kg	Y	
PRI 5	5-18	9/18/2015	1303141	7504235	4217.9	N	0	6	in	Total PCBs	E1668A	19	ug/kg	Y	

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Inner PRI Nature and Extent Mapping Dataset
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 5	5-19	9/18/2015	1304060	7504352	4212.4	N	0	6	in	Total PCBs	E1668A	1.6	ug/kg	Y	
PRI 5	5-20	9/18/2015	1303876	7504377	4216.0	N	0	6	in	Total PCBs	E1668A	53	ug/kg	Y	
PRI 5	CWP-04	12/29/2004	1302605	7507802	4213.9	Y	0	7	in	Total PCBs	E680	13,466	ug/kg	Y	
PRI 5	CWP-05	12/29/2004	1303975	7506957	4213.9	Y	0	10	in	Total PCBs	E680	2,100	ug/kg	Y	
PRI 5	CWP-06	12/29/2004	1304905	7505393	4216.7	N	0	8	in	Total PCBs	E680	1,000	ug/kg	Y	
PRI 5	CWP-07	12/29/2004	1301887	7507772	4213.9	Y	0	13	in	Total PCBs	E680	10,212	ug/kg	Y	
PRI 5	CWP-AREA 16	4/21/2005	1302209	7507946	4213.9	Y	0	4	in	Total PCBs	E680	12,900	ug/kg	Y	
PRI 5	CWP-AREA 21	4/21/2005	1302537	7505586	4216.3	N	0	2	in	Total PCBs	E680	15	ug/kg	N	
PRI 5	CWP-AREA 23	4/21/2005	1303525	7505599	4214.9	N	0	2.5	in	Total PCBs	E680	170	ug/kg	Y	
PRI 5	CWP-AREA 25	4/19/2005	1303139	7504328	4214.2	Y	0	2	in	Total PCBs	E680	5,150	ug/kg	Y	
PRI 5	CWP-AREA 26	4/19/2005	1304375	7504507	4216.5	N	0	3.5	in	Total PCBs	E680	640	ug/kg	Y	
PRI 5	CWP-AREA 29	4/19/2005	1305434	7505427	4215.6	N	0	1	in	Total PCBs	E680	12	ug/kg	N	
PRI 5	CWP-AREA 30	4/19/2005	1305837	7506051	4210.2	N	0	2	in	Total PCBs	E680	13	ug/kg	N	
PRI 5	DMA-Sed/W-PRI05-1	10/3/2012	1302288	7508064	4213.9	Y	0	6	in	Total PCBs	E1668	487.1	ug/kg	Y	
PRI 5	DMA-Sed-PRI05-2	10/2/2012	1301840	7506458	4215.8	N	0	6	in	Total PCBs	E1668	471.015	ug/kg	Y	
PRI 5	DMA-Soil-PRI05	10/5/2012	1301532	7506842	4216.8	N	0	6	in	Total PCBs	E1668	5.4718	ug/kg	Y	
PRI 5	MC-SE-02	8/22/2001	1301795	7507484	4213.9	Y	0	6	in	Total PCBs	E680	2371.3	ug/kg	Y	
PRI 5	MC-SE-03	8/22/2001	1303388	7507104	4213.9	Y	0	6	in	Total PCBs	E680	4226.7	ug/kg	Y	
PRI 5	MC-SE-04	8/22/2001	1303662	7506246	4213.9	Y	0	6	in	Total PCBs	E680	2204.9	ug/kg	Y	
PRI 5	MC-SE-05	9/16/2002	1304737	7506302	4213.9	Y	0	6	in	Total PCBs	E1668A	676.404	ug/kg	Y	
PRI 5	MC-SE-06	9/19/2002	1302262	7506599	4213.9	Y	0	6	in	Total PCBs	E1668A	2302.621	ug/kg	Y	
PRI 6	6-01	10/16/2015	1298438	7508735	4218.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	2.3	pg/g	Y	
PRI 6	6-02	10/28/2015	1301474	7508720	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals	SW8290	2500	pg/g	Y	
PRI 6	6-03	9/17/2015	1302205	7508705	4216.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	0.3	pg/g	Y	
PRI 6	6-04	10/16/2015	1298066	7509405	4215.5	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	50	pg/g	Y	
PRI 6	6-05	10/28/2015	1298766	7509367	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals	SW8290	2900	pg/g	Y	
PRI 6	6-06	9/17/2015	1301059	7509364	4217.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	11	pg/g	Y	
PRI 6	6-07	10/16/2015	1297620	7510029	4215.6	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	8.5	pg/g	Y	
PRI 6	6-08	10/28/2015	1298384	7510028	4213.9	Y	0	5.5	in	Calculated TEQ (ND=0), Mammals	SW8290	10,000	pg/g	Y	
PRI 6	6-09	10/28/2015	1299149	7510029	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals	SW8290	3,000	pg/g	Y	
PRI 6	6-10	10/28/2015	1299913	7510027	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals	SW8290	4,500	pg/g	Y	
PRI 6	6-11	10/28/2015	1300678	7510028	4213.9	Y	0	3	in	Calculated TEQ (ND=0), Mammals	SW8290	1,200	pg/g	Y	
PRI 6	6-12	10/28/2015	1298764	7510689	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals	SW8290	2,600	pg/g	Y	
PRI 6	6-13	10/28/2015	1299529	7510691	4213.9	Y	0	3	in	Calculated TEQ (ND=0), Mammals	SW8290	3,500	pg/g	Y	
PRI 6	6-14	9/16/2015	1300293	7510689	4218.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	11	pg/g	Y	
PRI 6	6-15	9/16/2015	1299912	7511353	4217.5	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	300	pg/g	Y	
PRI 6	CWP-AREA 1	4/19/2005	1297757	7509832	4215.6	N	0	1	in	Calculated TEQ (ND=0), Mammals		3.2	pg/g	Y	
PRI 6	CWP-AREA 4	4/19/2005	1299734	7510700	4213.9	Y	0	4	in	Calculated TEQ (ND=0), Mammals		772	pg/g	Y	
PRI 6	DMA-Sed/W-PRI06	10/4/2012	1300939	7509350	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	928	pg/g	Y	
PRI 6	DMA-Soil-PRI06	10/2/2012	1301441	7509075	4217.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	20.4	pg/g	Y	
PRI 6	MC-SE-01	8/22/2001	1301776	7508373	4213.9	Y	0	6	in	Calculated TEQ (ND=0), Mammals		5,660	pg/g	Y	
PRI 6	6-01	10/16/2015	1298438	7508735	4218.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	24	ug/kg	Y	
PRI 6	6-02	10/28/2015	1301474	7508720	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270_SIM	14,000	ug/kg	Y	
PRI 6	6-03	9/17/2015	1302205	7508705	4216.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	2.4	ug/kg	N	U
PRI 6	6-04	10/16/2015	1298066	7509405	4215.5	N	0	6	in	Hexachlorobenzene	SW8270_SIM	250	ug/kg	N	U
PRI 6	6-05	10/28/2015	1298766	7509367	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270_SIM	31,000	ug/kg	Y	
PRI 6	6-06	9/17/2015	1301059	7509364	4217.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	30	ug/kg	Y	
PRI 6	6-07	10/16/2015	1297620	7510029	4215.6	N	0	6	in	Hexachlorobenzene	SW8270_SIM	260	ug/kg	N	U
PRI 6	6-08	10/28/2015	1298384	7510028	4213.9	Y	0	5.5	in	Hexachlorobenzene	SW8270C	220,000	ug/kg	Y	
PRI 6	6-09	10/28/2015	1299149	7510029	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270_SIM	37,000	ug/kg	Y	
PRI 6	6-10	10/28/2015	1299913	7510027	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270_SIM	35,000	ug/kg	Y	
PRI 6	6-11	10/28/2015	1300678	7510028	4213.9	Y	0	3	in	Hexachlorobenzene	SW8270_SIM	7,300	ug/kg	Y	

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Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 6	6-12	10/28/2015	1298764	7510689	4213.9	Y	0	4	in	Hexachlorobenzene	SW8270_SIM	58,000	ug/kg	Y	
PRI 6	6-13	10/28/2015	1299529	7510691	4213.9	Y	0	3	in	Hexachlorobenzene	SW8270_SIM	57,000	ug/kg	Y	
PRI 6	6-14	9/16/2015	1300293	7510689	4218.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	28	ug/kg	Y	
PRI 6	6-15	9/16/2015	1299912	7511353	4217.5	N	0	6	in	Hexachlorobenzene	SW8270_SIM	390	ug/kg	Y	
PRI 6	CWP-AREA 1	4/19/2005	1297757	7509832	4215.6	N	0	1	in	Hexachlorobenzene	SW8270C_SIM	22	ug/kg	N	
PRI 6	DMA-Sed/W-PRI06	10/4/2012	1300939	7509350	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	13,000	ug/kg	Y	
PRI 6	DMA-Soil-PRI06	10/2/2012	1301441	7509075	4217.0	N	0	6	in	Hexachlorobenzene	SW8270C	1,800	ug/kg	N	U
PRI 6	MC-SE-01	8/22/2001	1301776	7508373	4213.9	Y	0	6	in	Hexachlorobenzene	SW8270C	38,100	ug/kg	Y	
PRI 6	6-01	10/16/2015	1298438	7508735	4218.9	N	0	6	in	Total PCBs	E1668A	1.8	ug/kg	Y	
PRI 6	6-02	10/28/2015	1301474	7508720	4213.9	Y	0	4	in	Total PCBs	8270D-SIM/680(M)	1560	ug/kg	Y	
PRI 6	6-03	9/17/2015	1302205	7508705	4216.8	N	0	6	in	Total PCBs	E1668A	0.41	ug/kg	Y	
PRI 6	6-04	10/16/2015	1298066	7509405	4215.5	N	0	6	in	Total PCBs	E1668A	48	ug/kg	Y	
PRI 6	6-05	10/28/2015	1298766	7509367	4213.9	Y	0	4	in	Total PCBs	8270D-SIM/680(M)	2,080	ug/kg	Y	
PRI 6	6-06	9/17/2015	1301059	7509364	4217.8	N	0	6	in	Total PCBs	E1668A	16	ug/kg	Y	
PRI 6	6-07	10/16/2015	1297620	7510029	4215.6	N	0	6	in	Total PCBs	E1668A	16	ug/kg	Y	
PRI 6	6-08	10/28/2015	1298384	7510028	4213.9	Y	0	5.5	in	Total PCBs	8270D-SIM/680(M)	7,470	ug/kg	Y	
PRI 6	6-09	10/28/2015	1299149	7510029	4213.9	Y	0	4	in	Total PCBs	8270D-SIM/680(M)	2,350	ug/kg	Y	
PRI 6	6-10	10/28/2015	1299913	7510027	4213.9	Y	0	4	in	Total PCBs	8270D-SIM/680(M)	3,600	ug/kg	Y	
PRI 6	6-11	10/28/2015	1300678	7510028	4213.9	Y	0	3	in	Total PCBs	8270D-SIM/680(M)	673	ug/kg	Y	
PRI 6	6-12	10/28/2015	1298764	7510689	4213.9	Y	0	4	in	Total PCBs	8270D-SIM/680(M)	2,300	ug/kg	Y	
PRI 6	6-13	10/28/2015	1299529	7510691	4213.9	Y	0	3	in	Total PCBs	8270D-SIM/680(M)	2,970	ug/kg	Y	
PRI 6	6-14	9/16/2015	1300293	7510689	4218.9	N	0	6	in	Total PCBs	E1668A	14	ug/kg	Y	
PRI 6	6-15	9/16/2015	1299912	7511353	4217.5	N	0	6	in	Total PCBs	E1668A	340	ug/kg	Y	
PRI 6	CWP-AREA 1	4/19/2005	1297757	7509832	4215.6	N	0	1	in	Total PCBs	E680	12	ug/kg	N	
PRI 6	CWP-AREA 2	4/19/2005	1298677	7509845	4213.9	Y	0	1	in	Total PCBs	E680	2,270	ug/kg	Y	
PRI 6	CWP-AREA 4	4/19/2005	1299734	7510700	4213.9	Y	0	4	in	Total PCBs	E680	840	ug/kg	Y	
PRI 6	DMA-Sed/W-PRI06	10/4/2012	1300939	7509350	4213.9	Y	0	6	in	Total PCBs	E1668	546.2	ug/kg	Y	
PRI 6	DMA-Soil-PRI06	10/2/2012	1301441	7509075	4217.0	N	0	6	in	Total PCBs	E1668	33.78	ug/kg	Y	
PRI 6	MC-SE-01	8/22/2001	1301776	7508373	4213.9	Y	0	6	in	Total PCBs	E680	2,837	ug/kg	Y	
PRI 7	7-01	9/23/2015	1307695	7506001	4206.1	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	2,500	pg/g	Y	
PRI 7	7-02	9/24/2015	1305239	7507421	4206.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	720	pg/g	Y	
PRI 7	7-03	9/24/2015	1306876	7507421	4206.2	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	360	pg/g	Y	
PRI 7	7-04	9/29/2015	1302779	7508840	4209.3	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	19,000	pg/g	Y	
PRI 7	7-05	9/24/2015	1304420	7508840	4207.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	720	pg/g	Y	
PRI 7	7-06	9/28/2015	1306057	7508840	4205.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	150	pg/g	Y	
PRI 7	7-07	9/23/2015	1301960	7510259	4208.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	790	pg/g	Y	
PRI 7	7-08	9/23/2015	1303597	7510259	4208.5	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	41	pg/g	Y	
PRI 7	7-09	9/28/2015	1305238	7510259	4206.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	300	pg/g	Y	
PRI 7	7-10	9/28/2015	1306876	7510259	4205.6	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	150	pg/g	Y	
PRI 7	7-11	9/21/2015	1301141	7511678	4210.5	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	31	pg/g	Y	
PRI 7	7-12	9/21/2015	1302778	7511678	4208.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	350	pg/g	Y	
PRI 7	7-13	9/22/2015	1304419	7511678	4206.8	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	330	pg/g	Y	
PRI 7	7-14	9/22/2015	1306057	7511679	4205.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	510	pg/g	Y	
PRI 7	7-15	9/22/2015	1307655	7511695	4206.0	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	41	pg/g	Y	
PRI 7	7-16	9/29/2015	1303909	7512184	4203.2	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	94	pg/g	Y	
PRI 7	7-17	9/29/2015	1306573	7512241	4203.9	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	1.2	pg/g	Y	
PRI 7	DMA-Sed-PRI07-1	10/9/2012	1300724	7510869	4211.1	N	0	3	in	Calculated TEQ (ND=0), Mammals	SW8290	884	pg/g	Y	
PRI 7	DMA-Sed-PRI07-2	10/2/2012	1302807	7508724	4209.4	N	0	6	in	Calculated TEQ (ND=0), Mammals	SW8290	9,390	pg/g	Y	
PRI 7	OWP-PMX-02	8/24/2006	1302672	7511832	4208.4	N	0	5	in	Calculated TEQ (ND=0), Mammals		147	pg/g	Y	
PRI 7	OWP-PMX-03	8/24/2006	1306315	7511772	4205.8	N	0	5	in	Calculated TEQ (ND=0), Mammals		558	pg/g	Y	
PRI 7	OWP-PMX-04	8/25/2006	1301573	7510175	4209.2	N	0	5	in	Calculated TEQ (ND=0), Mammals		366	pg/g	Y	
PRI 7	OWP-PMX-05	8/24/2006	1303694	7509981	4209.2	N	0	5	in	Calculated TEQ (ND=0), Mammals		0.522	pg/g	Y	

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Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 7	OWP-PMX-06	8/24/2006	1303220	7509233	4208.6	N	0	5	in	Calculated TEQ (ND=0), Mammals		10,900	pg/g	Y	
PRI 7	OWP-PMX-07	8/24/2006	1305425	7508741	4206.5	N	0	5	in	Calculated TEQ (ND=0), Mammals		393	pg/g	Y	
PRI 7	OWP-PMX-08	8/25/2006	1303896	7508154	4208.5	N	0	5	in	Calculated TEQ (ND=0), Mammals		17,400	pg/g	Y	
PRI 7	OWP-PMX-09	8/24/2006	1306931	7506499	4206.4	N	0	5	in	Calculated TEQ (ND=0), Mammals		132	pg/g	Y	
PRI 7	OWPS1-01	6/25/2003	1304593	7509098	4207.2	N	0	0.25	ft	Calculated TEQ (ND=0), Mammals		171	pg/g	Y	
PRI 7	OWPSD-02	6/25/2003	1306155	7508065	4206.3	N	0	0.25	ft	Calculated TEQ (ND=0), Mammals		328	pg/g	Y	
PRI 7	OWPSD-03	6/20/2003	1307325	7506960	4206.0	N	0	0.38	ft	Calculated TEQ (ND=0), Mammals		132	pg/g	Y	
PRI 7	OWPSD-04	6/20/2003	1308546	7505864	4206.1	N	0	0.67	ft	Calculated TEQ (ND=0), Mammals		52.3	pg/g	Y	
PRI 7	OWPSD-05	6/20/2003	1302396	7511039	4208.7	N	0	0.08	ft	Calculated TEQ (ND=0), Mammals		3.6	pg/g	Y	
PRI 7	OWPSD-07	6/20/2003	1305731	7510380	4205.9	N	0	0.21	ft	Calculated TEQ (ND=0), Mammals		16.2	pg/g	Y	
PRI 7	OWPSD-08	6/25/2003	1307138	7509567	4205.3	N	0	0.25	ft	Calculated TEQ (ND=0), Mammals		93.6	pg/g	Y	
PRI 7	7-01	9/23/2015	1307695	7506001	4206.1	N	0	6	in	Hexachlorobenzene	SW8270_SIM	6,500	ug/kg	Y	
PRI 7	7-02	9/24/2015	1305239	7507421	4206.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	1,200	ug/kg	Y	
PRI 7	7-03	9/24/2015	1306876	7507421	4206.2	N	0	6	in	Hexachlorobenzene	SW8270_SIM	350	ug/kg	Y	
PRI 7	7-04	9/29/2015	1302779	7508840	4209.3	N	0	6	in	Hexachlorobenzene	SW8270C	87,000	ug/kg	Y	
PRI 7	7-05	9/24/2015	1304420	7508840	4207.4	N	0	6	in	Hexachlorobenzene	SW8270_SIM	1,600	ug/kg	Y	
PRI 7	7-06	9/28/2015	1306057	7508840	4205.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	110	ug/kg	Y	J
PRI 7	7-07	9/23/2015	1301960	7510259	4208.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	3,700	ug/kg	Y	
PRI 7	7-08	9/23/2015	1303597	7510259	4208.5	N	0	6	in	Hexachlorobenzene	SW8270_SIM	21	ug/kg	Y	
PRI 7	7-09	9/28/2015	1305238	7510259	4206.0	N	0	6	in	Hexachlorobenzene	SW8270_SIM	210	ug/kg	Y	J
PRI 7	7-10	9/28/2015	1306876	7510259	4205.6	N	0	6	in	Hexachlorobenzene	SW8270_SIM	230	ug/kg	Y	J
PRI 7	7-11	9/21/2015	1301141	7511678	4210.5	N	0	6	in	Hexachlorobenzene	SW8270_SIM	3.3	ug/kg	N	U
PRI 7	7-12	9/21/2015	1302778	7511678	4208.4	N	0	6	in	Hexachlorobenzene	SW8270_SIM	170	ug/kg	Y	J
PRI 7	7-13	9/22/2015	1304419	7511678	4206.8	N	0	6	in	Hexachlorobenzene	SW8270_SIM	190	ug/kg	Y	J
PRI 7	7-14	9/22/2015	1306057	7511679	4205.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	500	ug/kg	Y	
PRI 7	7-15	9/22/2015	1307655	7511695	4206.0	N	0	6	in	Hexachlorobenzene	SW8270_SIM	93	ug/kg	Y	J
PRI 7	7-16	9/29/2015	1303909	7512184	4203.2	N	0	6	in	Hexachlorobenzene	SW8270_SIM	95	ug/kg	N	U
PRI 7	7-17	9/29/2015	1306573	7512241	4203.9	N	0	6	in	Hexachlorobenzene	SW8270_SIM	81	ug/kg	N	U
PRI 7	DMA-Sed/W-PRI07-1	10/9/2012	1300724	7510869	4211.1	N	0	3	in	Hexachlorobenzene	SW8270C	8,600	ug/kg	Y	
PRI 7	DMA-Sed-PRI07-2	10/2/2012	1302807	7508724	4209.4	N	0	6	in	Hexachlorobenzene	SW8270C	49,000	ug/kg	Y	
PRI 7	MC-SO-03	8/21/2001	1306509	7508097	4206.1	N	6	6	in	Hexachlorobenzene	SW8270C	200	ug/kg	N	U
PRI 7	MC-SO-04	8/21/2001	1303385	7510245	4208.5	N	6	6	in	Hexachlorobenzene	SW8270C	9	ug/kg	Y	TJ
PRI 7	MC-SO-05	8/22/2001	1303145	7509058	4208.8	N	6	6	in	Hexachlorobenzene	SW8270C	36,400	ug/kg	Y	
PRI 7	OWP-PMX-05	8/24/2006	1303694	7509981	4209.2	N	0	5	in	Hexachlorobenzene	SW8270C_SIM	23	ug/kg	N	
PRI 7	OWP-PMX-06	8/24/2006	1303220	7509233	4208.6	N	0	5	in	Hexachlorobenzene	SW8270C_SIM	15,000	ug/kg	Y	
PRI 7	OWP-PMX-07	8/24/2006	1305425	7508741	4206.5	N	0	5	in	Hexachlorobenzene	SW8270C_SIM	62	ug/kg	Y	
PRI 7	OWP-PMX-08	8/25/2006	1303896	7508154	4208.5	N	0	5	in	Hexachlorobenzene	SW8270C_SIM	62,000	ug/kg	Y	
PRI 7	OWP-PMX-09	8/24/2006	1306931	7506499	4206.4	N	0	5	in	Hexachlorobenzene	SW8270C_SIM	65	ug/kg	Y	
PRI 7	OWPS1-01	6/25/2003	1304593	7509098	4207.2	N	0	0.25	ft	Hexachlorobenzene	SW8270C	1,400	ug/kg	Y	
PRI 7	OWPSD-02	6/25/2003	1306155	7508065	4206.3	N	0	0.25	ft	Hexachlorobenzene	SW8270C	390	ug/kg	Y	
PRI 7	OWPSD-03	6/20/2003	1307325	7506960	4206.0	N	0	0.38	ft	Hexachlorobenzene	SW8270C	3,000	ug/kg	Y	
PRI 7	OWPSD-04	6/20/2003	1308546	7505864	4206.1	N	0	0.67	ft	Hexachlorobenzene	SW8270C	1,000	ug/kg	Y	
PRI 7	OWPSD-05	6/20/2003	1302396	7511039	4208.7	N	0	0.08	ft	Hexachlorobenzene	SW8270C	450	ug/kg	Y	
PRI 7	OWPSD-06	6/20/2003	1304714	7511631	4206.5	N	0	0.54	ft	Hexachlorobenzene	SW8270C	500	ug/kg	Y	
PRI 7	OWPSD-07	6/20/2003	1305731	7510380	4205.9	N	0	0.21	ft	Hexachlorobenzene	SW8270C	220	ug/kg	Y	
PRI 7	OWPSD-08	6/25/2003	1307138	7509567	4205.3	N	0	0.25	ft	Hexachlorobenzene	SW8270C	720	ug/kg	Y	
PRI 7	7-01	9/23/2015	1307695	7506001	4206.1	N	0	6	in	Total PCBs	8270D-SIM/680(M)	403	ug/kg	Y	
PRI 7	7-02	9/24/2015	1305239	7507421	4206.9	N	0	6	in	Total PCBs	8270D-SIM/680(M)	91.7	ug/kg	Y	
PRI 7	7-03	9/24/2015	1306876	7507421	4206.2	N	0	6	in	Total PCBs	8270D-SIM/680(M)	36.5	ug/kg	Y	
PRI 7	7-04	9/29/2015	1302779	7508840	4209.3	N	0	6	in	Total PCBs	8270D-SIM/680(M)	1860	ug/kg	Y	
PRI 7	7-05	9/24/2015	1304420	7508840	4207.4	N	0	6	in	Total PCBs	E1668A	300	ug/kg	Y	J
PRI 7	7-06	9/28/2015	1306057	7508840	4205.9	N	0	6	in	Total PCBs	8270D-SIM/680(M)	26.3	ug/kg	Y	

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US Magnesium LLC
Tooele County, Utah

PRI Area	Location ID	Sample Date	X Coordinate, UT State Plane Central (feet)	Y Coordinate, UT State Plane Central (feet)	Elevation, NAVD88 (feet AMSL)	Inundated November 2015	Starting Depth	Ending Depth	Depth Unit	Chemical	Analytical Method	Result	Result Units	Detect	Data Qualifier
PRI 7	7-07	9/23/2015	1301960	7510259	4208.9	N	0	6	in	Total PCBs	8270D-SIM/680(M)	96.2	ug/kg	Y	
PRI 7	7-08	9/23/2015	1303597	7510259	4208.5	N	0	6	in	Total PCBs	E1668A	24	ug/kg	Y	
PRI 7	7-09	9/28/2015	1305238	7510259	4206.0	N	0	6	in	Total PCBs	E1668A	360	ug/kg	Y	
PRI 7	7-10	9/28/2015	1306876	7510259	4205.6	N	0	6	in	Total PCBs	8270D-SIM/680(M)	63.1	ug/kg	Y	
PRI 7	7-11	9/21/2015	1301141	7511678	4210.5	N	0	6	in	Total PCBs	E1668A	32	ug/kg	Y	
PRI 7	7-12	9/21/2015	1302778	7511678	4208.4	N	0	6	in	Total PCBs	E1668A	340	ug/kg	Y	
PRI 7	7-13	9/22/2015	1304419	7511678	4206.8	N	0	6	in	Total PCBs	E1668A	400	ug/kg	Y	
PRI 7	7-14	9/22/2015	1306057	7511679	4205.9	N	0	6	in	Total PCBs	8270D-SIM/680(M)	106	ug/kg	Y	
PRI 7	7-15	9/22/2015	1307655	7511695	4206.0	N	0	6	in	Total PCBs	E1668A	58	ug/kg	Y	
PRI 7	7-16	9/29/2015	1303909	7512184	4203.2	N	0	6	in	Total PCBs	E1668A	40	ug/kg	Y	
PRI 7	7-17	9/29/2015	1306573	7512241	4203.9	N	0	6	in	Total PCBs	E1668A	1.8	ug/kg	Y	
PRI 7	DMA-Sed-PRI07-1	10/9/2012	1300724	7510869	4211.1	N	0	3	in	Total PCBs	E1668	678.72	ug/kg	Y	
PRI 7	DMA-Sed-PRI07-2	10/2/2012	1302807	7508724	4209.4	N	0	6	in	Total PCBs	E1668	2382.5	ug/kg	Y	
PRI 7	MC-SO-01S	8/21/2001	1302897	7508729	4209.4	N	6	6	in	Total PCBs	E680	1288.1	ug/kg	Y	
PRI 7	MC-SO-05	8/22/2001	1303145	7509058	4208.8	N	6	6	in	Total PCBs	E680	2312.5	ug/kg	Y	
PRI 7	OWP-PMX-02	8/24/2006	1302672	7511832	4208.4	N	0	5	in	Total PCBs	E1668A	170.98	ug/kg	Y	
PRI 7	OWP-PMX-03	8/24/2006	1306315	7511772	4205.8	N	0	5	in	Total PCBs	E1668A	267.75	ug/kg	Y	
PRI 7	OWP-PMX-04	8/25/2006	1301573	7510175	4209.2	N	0	5	in	Total PCBs	E1668A	226.47	ug/kg	Y	
PRI 7	OWP-PMX-06	8/24/2006	1303220	7509233	4208.6	N	0	5	in	Total PCBs	E1668A	4795.3	ug/kg	Y	
PRI 7	OWP-PMX-07	8/24/2006	1305425	7508741	4206.5	N	0	5	in	Total PCBs	E1668A	322.2	ug/kg	Y	
PRI 7	OWP-PMX-08	8/25/2006	1303896	7508154	4208.5	N	0	5	in	Total PCBs	E1668A	5587	ug/kg	Y	
PRI 7	OWP-PMX-09	8/24/2006	1306931	7506499	4206.4	N	0	5	in	Total PCBs	E1668A	217.605	ug/kg	Y	
PRI 7	OWPS1-01	6/25/2003	1304593	7509098	4207.2	N	0	0.25	ft	Total PCBs	E680	51	ug/kg	Y	
PRI 7	OWPSD-02	6/25/2003	1306155	7508065	4206.3	N	0	0.25	ft	Total PCBs	E680	505	ug/kg	Y	
PRI 7	OWPSD-03	6/20/2003	1307325	7506960	4206.0	N	0	0.38	ft	Total PCBs	E680	497	ug/kg	Y	
PRI 7	OWPSD-04	6/20/2003	1308546	7505864	4206.1	N	0	0.67	ft	Total PCBs	E680	171	ug/kg	Y	
PRI 7	OWPSD-05	6/20/2003	1302396	7511039	4208.7	N	0	0.08	ft	Total PCBs	E680	21	ug/kg	Y	
PRI 7	OWPSD-07	6/20/2003	1305731	7510380	4205.9	N	0	0.21	ft	Total PCBs	E680	58	ug/kg	Y	
PRI 7	OWPSD-08	6/25/2003	1307138	7509567	4205.3	N	0	0.25	ft	Total PCBs	E680	78	ug/kg	Y	

Notes:
µg/L = micrograms per liter
PCB = Polychlorinated biphenyl
pg/g = Picogram per gram
PRI = Preliminary Remedial Investigation
TEQ = Toxic equivalency

Qualifiers - Organic:
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
U = Compound was analyzed for, but not detected. The associated numerical value is the SQL.

Table 7-3
Descriptive Statistics for Combined Historic and Recent Data for Inner PRIs
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Analyte	PRI	Unit	N	Number of Detects	Percent Detected	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	SD	CV	Distribution [1]
Calculated TEQ (ND=0), Mammals	PRI-1	pg/g	23	23	100%	--	--	32	13,600	67,860	430,000	120,300	177%	Lognormal
Calculated TEQ (ND=0), Mammals	PRI-3	pg/g	17	17	100%	--	--	69	531	6,754	48,000	13,740	203%	Lognormal
Calculated TEQ (ND=0), Mammals	PRI-4	pg/g	28	28	100%	--	--	456	2,800	4,233	16,800	3,858	91%	Lognormal
Calculated TEQ (ND=0), Mammals	PRI-5	pg/g	45	45	100%	--	--	0.11	178	2,465	28,000	5,565	226%	NDD
Calculated TEQ (ND=0), Mammals	PRI-6	pg/g	20	20	100%	--	--	0.3	850	1,898	10,000	2,574	136%	NDD
Calculated TEQ (ND=0), Mammals	PRI-7	pg/g	34	34	100%	--	--	0.522	314	1,972	19,000	4,763	242%	Lognormal
Hexachlorobenzene	PRI-1	ug/kg	26	25	96%	730,000	730,000	58	382,500	1,162,000	5,500,000	1,805,000	155%	NDD
Hexachlorobenzene	PRI-3	ug/kg	17	17	100%	--	--	39	1100	77,150	680,000	204,100	265%	Lognormal
Hexachlorobenzene	PRI-4	ug/kg	29	29	100%	--	--	4200	15,000	21,130	76,000	16,790	80%	Lognormal
Hexachlorobenzene	PRI-5	ug/kg	45	37	82%	12	270000	6.9	3,100	38,300	610,000	103,500	270%	NDD
Hexachlorobenzene	PRI-6	ug/kg	19	14	74%	2.4	1800	24	7,300	26,950	220,000	50,900	189%	Lognormal
Hexachlorobenzene	PRI-7	ug/kg	35	30	86%	3.3	200	9	390	8,025	87,000	19,750	246%	Lognormal
Total PCBs	PRI-1	ug/kg	17	17	100%	--	--	14	6,036	38,270	172,000	55,470	145%	Lognormal
Total PCBs	PRI-3	ug/kg	17	17	100%	--	--	72	720	6,165	48,500	14,240	231%	Lognormal
Total PCBs	PRI-4	ug/kg	30	30	100%	--	--	273	831	1,316	4080	1087	83%	Lognormal
Total PCBs	PRI-5	ug/kg	39	36	92%	12	15	0.19	221	3,393	36,300	7,585	224%	Lognormal
Total PCBs	PRI-6	ug/kg	21	20	95%	12	12	0.41	673	1,427	7470	1,832	128%	NDD
Total PCBs	PRI-7	ug/kg	35	35	100%	--	--	1.8	217.6	682	5587	1,284	188%	Lognormal

Notes:

[1] Based on Shapiro-Wilks test for normality
µg/kg = Micrograms per kilogram
CV = Coefficient of variation
Max = Mmaximum
Min = Minimum
N = Number
ND = Non-detected result
NDD = No discernable distribution
PCB = Polychlorinated biphenyl
pg/g = Picogram per gram
PRI = Preliminary Remedial Investigation
SD - Standard deviation
TEQ = Toxic equivalency

Table 7-4
Vertical Concentration Profiles for Expected Risk Drivers at Inner PRI Subsurface Sample Locations
Phase 1A-B RI Data Report
US Magnesium LLC
Tooele County, Utah

Location ID	Start Depth (feet bgs)	End Depth (feet bgs)	Sample ID	Calculated TEQ (ND=0), Mammal	Hexachlorobenzene	Total PCBs
				µg/kg	µg/kg	µg/kg
1-03	0	0.5	1-03-SS-01-120315	260	5,000,000 J	96200
	0.3	0.9	1-03-SB-01-0.5-1.5-110415	0.62	*< 2,000 U*	359
	0.9	2.2	1-03-SB-01-1.5-3.5-110415	1.8	11,000	1,370
	2.2	3.4	1-03-SB-01-3.5-5.5-110415	0.0087	*< 69 U*	6.8
1-07	**0**	**0.5**	1-07-SS-01-120315	1.7	*5,100*	1250
	0.4	2.1	1-07-SB-01-0.5-1.5-110415	9.6	73,000	2,610 J+
	2.1	4.1	1-07-SB-01-1.5-3-110415	0.28	5,500	330
1-08	**0**	**0.5**	1-08-SS-01-120315	360	5,500,000	154,000
	1	3	1-08-SB-01-1-3-120215	200	2,100,000	75,400
	3	5	1-08-SB-01-3-5-120215	23	240,000	9,570
	5	6	1-08-SB-01-5-6-120215	1.1	11,000	707
	6	7	1-08-SB-01-8.5-10-110515	0.48	7,900	630
1-13	**0**	**0.5**	1-13-SS-01-112315	0.032	58 J	14
	0.5	4	1-13-SB-01-0.5-4-111015	0.0035	47 J	3.5
	4	6	1-13-SB-01-4-6-111015	0.0026	35 J	2.8
	6	8	1-13-SB-01-6-8-111015	0.0049	54 J	4.4
	8	9	1-13-SB-01-8-9-111015	1.1	14,000	834
	9	11	1-13-SB-01-9-11-111015	0.044	460	18
1-14	**0**	**0.5**	1-14-SS-01-111915	21	280,000	5,900
	0.5	2	1-14-SB-01-0.5-2-110315	15	270,000	12,000
	2	4	1-14-SB-01-2-4-110315	26	400,000	11,000
	4	6	1-14-SB-01-4-6-110315	2.6	42,000	1,900
	6	7	1-14-SB-01-6-7-110315	2	38,000	2,600
	7	8.5	1-14-SB-01-7-8.5-110315	0.57	*< 260 U*	533
	8.5	10	1-14-SB-01-8.5-10-110315	0.17	1,100	240
3-14	**0**	**0.5**	3-14-SS-01-111715	8.4	9,800	4,500
	0.5	3.5	3-14-SB-01-0.5-3.5-110315	6.8	5,400	3,900
	3.5	5	3-14-SB-01-3.5-5-110315	0.046	*< 150 U*	120
4-05	**0**	**0.5**	4-05-SS-01-102015	1	*5,300*	862
	0.5	3	4-05-SB-01-0.5-3-110915	2.4	24,000	1,110
	3	5	4-05-SB-01-3-5-110915	6.8	42,000	856
	5	7	4-05-SB-01-5-7-110915	6.9	13,000	635
	7	9	4-05-SB-01-7-9-110915	0.014	110	7.4
5-16	**0**	**0.5**	5-16-SS-01-101515	0.63	3100	221
	0.5	2	5-16-SB-01-0.5-2-120215	17	180,000	9,850
	2	4	5-16-SB-01-2-4-120215	30	500,000	31,700
	4	5	5-16-SB-01-4-5-120215	15	110,000	9,490
	6.5	8	5-16-SB-01-6.5-8-110515	0.3	1,900	510
4-11 / 6-16	0	0.5	4-11-SS-01-102115	3.1	23,000	1,880
	0.5	3.5	6-16-SB-01-0.5-3.5-110615	5.2	69,000	1,900
	3.5	4.5	6-16-SB-01-3.5-4.5-110615	7	79,000	2,330
	4.5	6.5	6-16-SB-01-4.5-6.5-110615	0.13	310	130
5-14SB	0	2	5-14SB-SB-01-0-2-120115	200	3,100,000	99,600
	2	4	5-14SB-SB-01-2-4-120115	80	1,100,000	75,100
	4	6	5-14SB-SB-01-4-6-120115	40	540,000	23,600
	8	10	5-14SB-SB-01-8-10-120115	0.012	130	18
7-04 / 7-04SB	0	0.5	7-04SB-SB-01-0.5-2.5-121015	19	87,000	1,860
	0.5	2.5	7-04SB-SB-01-0.5-2.5-121015	27	260,000	11,800
	2.5	4.5	7-04-SB-01-2.5-4.5-111015	0.017	120	13

Notes:

µg/kg = Micrograms per kilogram

bgs = Below ground surface

PCB = Polychlorinated biphenyl

TEQ = Toxic equivalency

Shaded Value = denotes maximum concentration at a sample location

Appendix A
USEPA-Approved SAP Modifications

SAP Modification Document Tracking Number: 01

RECORD OF SAP MODIFICATION
EPA Site Identification Number UTN000802704
US Magnesium Phase 1A-B RI Sampling & Analysis Plan

INSTRUCTIONS: This form is required anytime a modification is being made to any worksheets or sections for any portion of the Phase 1A-B RI SAP, including attachments, tables, figures, and/or SOPs.

Requestor:	Kevin Lundmark
Title:	ERM RI Field Lead
Date of Proposed Modification:	1 October 2015
Modified SAP Section(s):	Worksheet 11, Section 11.3.7.5.2, Subsurface Soil Sampling and Analysis Worksheet 14, Section 14.1.6, Subsurface Solids Sampling Worksheet 18, Notes Worksheet 27, Section 27.2, Sample Identification Procedures

Describe the Modification:

Worksheet 11, Section 11.3.7.5.2 (page 63 of 226)

At each Sampling Area, including BRMBR, a subsurface sample will be collected from 2 inches to 3 feet bgs for analysis of HCB, PCBs, D/F, and total metals. The sample would be collected using a hand auger.

Worksheet 14, Section 14.1.614.1.6 (page 83 of 226)

At each background Sampling Area, including BRMBR, a subsurface sample will be collected from 2 inches to 3 feet bgs for analysis of HCB, PCBs, D/Fs, and total metals. The sample will be collected using a hand auger. A portable flighted auger may be used in combination with the hand auger to assist in subsurface soil recovery. Subsurface samples will be processed (sieved and homogenized) as described in SOP USM-09. Upon completion of subsurface sampling activities, the borehole will be backfilled using native soil from the immediate area.

Worksheet 18, Notes (page 104 of 226)

Subsurface solids samples within Inner PRI Areas will be collected as described in SOP USM-09. Subsurface samples from background areas will be collected using a hand auger.

Worksheet 27, Section 27.2 (page 148 of 226)

Add footnote (1) to:
SD is the starting depth of the sample interval (feet bgs)[1].
ED is the ending depth of the sample interval (feet bgs)[1].

---

[1] For subsurface samples collected at background areas, SD will be 02 (inches) and ending depth will be 36 (inches)

Justification or Reason for the Modification:

The subsurface sampling method specified in the Phase 1A-B SAP, using a portable flighted auger with soil sampling probe or a compressed-gas powered direct push corer, will not generate sufficient sample volume to fill the sample containers required by the laboratory to perform the analyses required by the Phase 1A-B RI SAP and the USEPA Oversight QAPP. The proposed alternate method, using a hand auger, will provide* adequate sample volume for the required analyses while still meeting the objective of the background subsurface samples as stated in Phase 1A-B SAP Worksheet 11, Section 11.3.7.5.2.

ERM and USEPA Oversight Contractor personnel agreed on 1 October 2015 that the sample identification scheme for background samples should be revised based on the 2-inch starting depth.

EPA Review/Approval: ______________________ **Date:** 7 Oct 2015
(RPM or designee)

*agreed per RPM-OvsContractor tele-consultation 1Oct.

Each approved SAP Modification Form will be provided by EPA to all recipients identified on SAP Worksheet #3 and will be will be incorporated into the Phase 1A-B RI Data Report.

SAP Modification Document Tracking Number: 02

RECORD OF SAP MODIFICATION
EPA Site Identification Number UTN000802704
US Magnesium Phase 1A-B RI Sampling & Analysis Plan

INSTRUCTIONS: This form is required anytime a modification is being made to any worksheets or sections for any portion of the Phase 1A-B RI SAP, including attachments, tables, figures, and/or SOPs.

Requestor: Judy Nedoff

Title: Analytical Coordinator, ERM

Date of Proposed Modification: 23 October 2015

Modified SAP Section(s): WS#24, Analytical Instrument Calibration Table

Describe the Modification:

Revise WS#24 to include correct control limits for VOCs (EPA Method 8260, pages 132-133 or 226), SVOCs (EPA Method 8270C, pages 131-132 of 226), and PAHs (EPA Method 8270C-SIM, page 130 of 226):

SAP Section	Modification Request
Worksheet 24, GC/MS PAHs (reference SOP = WS-MS-0008)	ICAL acceptance – Use criteria of 30%RSD as per SOP instead of 15%. Second Source Verification – Use acceptance criteria of 30%D as per SOP instead of 20%D. Daily Calibration Verification – Use acceptance criteria of 30%D as per SOP instead of 20%D.
Worksheet 24, GC/MS Semivolatiles (reference SOP = WS-MS-0005)	Second Source Verification – Use acceptance criteria of 25%D, 50% for benzidine & benzoic acid, 30% for bis 2-chloroisopropyl ether, and 35% for compounds defined as Appendix IX in the SOP, as per SOP, instead of 20%D for all compounds. Daily Calibration Verification – Use acceptance criteria of 50%D for non CCC compounds as per SOP instead of 20%D.

Kevin
26 Oct '15

SAP Section	Modification Request
Worksheet 24, GC/MS Volatiles (reference SOP = WS-MS-0007)	Second Source Verification – Use acceptance criteria of 25%D, 30% up to 3 gases and 2 ketones, and 35 to 50% for other compounds as specified in the SOP. Daily Calibration Verification – Use acceptance criteria of 40%D for non CCC compounds as per SOP instead of 20%D.

Complete WS#24 entries for each analysis are attached.

Justification or Reason for the Modification:

TestAmerica had submitted WS#24 with their DOD limits. The DOD limits do not agree with the limits specified in the analytical SOPs included in SAP Attachment 19. The applicable limits for US Mag samples are those listed in the SOPs.

EPA Review/Approval: ____________________ **Date:** 26 Oct '15
(RPM or designee)

Each approved SAP Modification Form will be provided by EPA to all recipients identified on SAP Worksheet #3 and will be incorporated into the Phase 1A-B RI Data Report.

Attachment 1. Worksheet #24 Entries for Volatiles, Semivolatiles, and PAHs

SAP Worksheet #24
Analytical Instrument Calibration Table - 8260

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/MS	Check of mass spectral ion intensities (tuning procedure) using BFB (8260B)	Prior to ICAL and at the beginning of each 12-hour period.	Refer to method/SOP for specific ion criteria.	Retune instrument and verify.	Lab Manager / Analyst[b]	WS-MS-0007
GC/MS	Minimum five-point initial calibration for target analytes, lowest concentration standard at or near the reporting limit. (ICAL)	Initial calibration prior to sample analysis	1) Average Response factor (RF) for SPCCs: VOCs ≥ 0.30 for chlorobenzene and 1,1,2,2-PCA, ≥ 0.10 for chloromethane, bromoform, and 1,1-dichloroethane 2) RSD for RFs for CCCs: ≤30% and one option below: a) RSD for each analyte ≤15%; b) linear least squares regression r ≥ 0.995; c) non-linear regression COD r-sq ≥ 0.99, min 6 points for second order.	Evaluate standards, chromatography, and mass spectrometer response. If problem found with above, correct as appropriate, then repeat initial calibration.	Lab Manager / Analyst[b]	WS-MS-0007

26 Oct '15

SAP Worksheet #24

Analytical Instrument Calibration Table – 8260, continued

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/MS	Second-source calibration verification	Once after each ICAL	All project analytes within ±25% of true value, with the following exceptions: 30% up to 3 gases and 2 ketones, and 35 to 50% for other compounds as specified in the SOP.	Evaluate data. If problem (e.g., concentrated standard, plugged purge line) found, correct, then repeat second source verification. If it still fails, then repeat initial calibration.	Lab Manager / Analyst [b]	WS-MS-0007
GC/MS	Retention Time Window Position Establishment	Once per ICAL, for each analyte and surrogate.	Set position using the mid-point standard of the ICAL when ICAL is performed. On days when ICAL is not performed, use initial CCV.	NA	Analyst	WS-MW-0007
GC/MS	Daily calibration verification	Daily, prior to sample analysis and every 12 hours of analysis time.	1. Min RRF for SPCCs: RRF > 0.30 for chlorobenzene and 1,1,2,2-PCA, > 0.10 for chloromethane, bromoform, and 1,1-dichloroethane. 2. %Difference/%Drift for CCCs: %D ≤ 20% 3. %Difference/%Drift for non-CCCs: %D ≤ 40%	Evaluate standard, chromatography, and mass spectrometer response. If problem found with above, correct as appropriate, then repeat CCV. If still fails, repeat initial calibration.	Lab Manager / Analyst [b]	WS-MS-0007

26 Oct 15

SAP Worksheet #24

Analytical Instrument Calibration Table – 8260, continued

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/MS	Internal Standards	During acquisition of calibration standard.	Areas within -50% to +100% of last ICAL mid-point for each CCV	Inspect mass spectrometer and GC for malfunctions; mandatory reanalysis of samples analyzed while system was malfunctioning	Lab Manager / Analyst[b]	WS-MS-0007

[b] The analyst initiates the corrective action and the lab manager and analyst are responsible for the corrective action.

Analytical Instrument Calibration Table – 8270C

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/MS	Check of mass spectral ion intensities (tuning procedure) using DFTPP (8270C)	Prior to ICAL and at the beginning of each 12-hour period.	Refer to method/SOP for specific ion criteria.	Retune instrument and verify.	Lab Manager / Analyst[b]	WS-MS-0005
GC/MS	Minimum five-point initial calibration for target analytes, lowest concentration standard at or near the reporting limit. (ICAL)	Initial calibration prior to sample analysis	1) Average Response factor (RF) for SPCCs: ≥ 0.050 2) RSD for RFs for CCCs: ≤30% and one option below: a) RSD for each analyte ≤15%; b) linear least squares regression r ≥ 0.995; c) non-linear regression COD r-sq ≥ 0.99, min 6 points for second order.	Correct problem, then repeat initial calibration	Lab Manager / Analyst[b]	WS-MS-0005

Kww
26 Oct '15

SAP Worksheet #24

Analytical Instrument Calibration Table – 8270C, continued

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/MS	Second-source calibration verification	Once after each ICAL	All project analytes within ± 25% of true value, with the following exceptions: 50% for benzidine & benzoic acid, 30% for bis 2-chloroisopropyl ether, and 35% for compounds defined as Appendix IX in the SOP.	Correct problem, and verify second source standard. Rerun verification. If still fails, repeat initial calibration.	Lab Manager / Analyst [b]	WS-MS-0005
GC/MS	Retention Time Window Position Establishment	Once per ICAL, for each analyte and surrogate.	Set position using the mid-point standard of the ICAL when ICAL is performed. On days when ICAL is not performed, use initial CCV.	NA	Analyst	WS-MS-0005
GC/MS	Daily calibration verification	Daily, prior to sample analysis and every 12 hours of analysis time.	1. Min RRF for SPCCs: ≥0.050 2. %Difference/%Drift for CCCs: %D ≤ 20% 3. %Difference/%Drift for non-CCCs: %D ≤ 50%	Correct problem, then repeat. If still fails, repeat initial calibration. Reanalyze all samples since last successful calibration verification.	Lab Manager / Analyst [b]	WS-MS-0005
GC/MS	Internal Standards	During acquisition of calibration standard.	Areas within -50% to +100% of last ICAL mid-point for each CCV	Inspect mass spectrometer and GC for malfunctions; mandatory reanalysis of samples analyzed while system was malfunctioning	Lab Manager / Analyst [b]	WS-MS-0005

[b] *The analyst initiates the corrective action and the lab manager and analyst are responsible for the corrective action.*

Kws
26Oct'15

SAP Worksheet #24

Analytical Instrument Calibration Table – 8270-SIM (PAHs)

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/MS	Check of mass tuning	Prior to ICAL and at the beginning of each 12-hour period.	Values for masses 69, 219, and 264 (if using PFTBA) within ± 0.50 amu of the target mass.	Retune instrument and verify.	Lab Manager / Analyst[b]	WS-MS-0008
GC/MS	Minimum five-point initial calibration for target analytes, lowest concentration standard at or near the reporting limit. (ICAL)	Initial calibration prior to sample analysis	a) RSD for each analyte ≤ 30%; or b) linear least squares regression r ≥ 0.995; or c) non-linear regression COD r-sq ≥ 0.99, min 6 points for second order.	Evaluate standards, chromatography, and mass spectrometer response. If problem found with above, correct as appropriate, then repeat initial calibration.	Lab Manager / Analyst[b]	WS-MS-0008
GC/MS	Second-source calibration verification	Once after each ICAL	All project analytes within ± 30% of true value.	Evaluate data. If problem (e.g., concentrated standard, plugged syringe) found, correct, then repeat second source verification. If it still fails, then repeat initial calibration.	Lab Manager / Analyst[b]	WS-MS-0008
GC/MS	Retention Time Window Position Establishment	Once per ICAL, for each analyte and surrogate.	Set position using the mid-point standard of the ICAL when ICAL is performed. On days when ICAL is not performed, use initial CCV.	NA	Analyst	WS-MS-0008

26 Oct '15

SAP Worksheet #24

Analytical Instrument Calibration Table – 8270-SIM (PAHs), continued

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference
GC/MS	Daily calibration verification	Daily, prior to sample analysis and every 12 hours of analysis time.	%Difference/ %Drift for all target compounds and surrogates: %D ≤ 30%	Evaluate standard, chromatography, and mass spectrometer response. If problem found with above, correct as appropriate, then repeat CCV. If still fails, repeat initial calibration.	Lab Manager / Analyst [b]	WS-MS-0008
GC/MS	Internal Standards	During acquisition of calibration standard.	Areas within -50% to +100% of last ICAL mid-point for each CCV	Inspect mass spectrometer and GC for malfunctions; mandatory reanalysis of samples analyzed while system was malfunctioning	Lab Manager / Analyst [b]	WS-MS-0008

[b] *The analyst initiates the corrective action and the lab manager and analyst are responsible for the corrective action.*

26 Oct '15

SAP Modification Document Tracking Number: 3

RECORD OF SAP MODIFICATION
EPA Site Identification Number UTN000802704
US Magnesium Phase 1A-B RI Sampling & Analysis Plan

INSTRUCTIONS: This form is required anytime a modification is being made to any worksheets or sections for any portion of the Phase 1A-B RI SAP, including attachments, tables, figures, and/or SOPs.

Requestor:	Kevin Lundmark
Title:	ERM RI Field Lead
Date of Proposed Modification:	18 November 2015

Modified SAP Section(s):

Worksheet 11, Sections 11.2.4.1, 11.2.7.1, 11.2.7.2 and 11.2.7.3
Worksheet 14, Sections 14.1.5 and 14.1.6
Worksheet 18
Figures 5-1 and 11-5
Attachment 21, SOP USM-09

Describe the Modification:

The SAP Sections listed above are being modified to re-locate the subsurface sampling location in the inlet area of PRI Area 5 closer to the Main Ditch outlet where a subsurface waste/sediment core can be obtained using a core sampler deployed from a long-reach excavator from the gypsum pile. The subsurface sampling SOP USM-09 has been modified to include core sampling devices, including vibracorer and core tub methods.

This SAP modification also provides for the collection of surface samples from within active wastewater ditches using a Ponar or box corer sampler deployed by excavator, per SOP USM-12.

Justification or Reason for the Modification:

USEPA, ERM, and US Magnesium have collectively agreed that constructing an earthen berm/road into the PRI Area 5 wastewater pond for drill rig access, as described in the SAP, is unlikely to be successful. After inspecting the surface sediment sample collected at location 5-14 via helicopter-deployed samplers and observing the waste deposition zone at the outlet of the Main Ditch on 27 October 2015, USEPA and ERM agreed that an alternate method of collecting the subsurface sample at location 5-14 could be attempted using a vibracore sampling device deployed by a long-reach excavator from the gypsum pile adjacent to the north of the Main Ditch

Kevin 24Nov15

Within the active wastewater ditches, several Phase 1A-B sampling locations either meet the definition of permit-required confined spaces or cannot be safely accessed by foot for sampling. ERM is proposing to collect samples using a Ponar or box corer sampler at these locations to eliminate hazards associated with entering the ditches.

EPA Review/Approval: * Date: 24 Nov '15
(RPM or designee)

Each approved SAP Modification Form will be provided by EPA to all recipients identified on SAP Worksheet #3 and will be will be incorporated into the Phase 1A-B RI Data Report.

* with EPA Attachment #1 (email string Nov. 20, 23 + 24)
and EPA Attachment #2 (email string Nov. 24)
Catherine [illegible] on behalf of K. Wangerud

Catherine D. LeCours

From: Wangerud, Ken [wangerud.ken@epa.gov]
Sent: Tuesday, November 24, 2015 8:47 AM
To: Kevin Lundmark; Catherine D. LeCours
Cc: David Abranovic
Subject: RE: SAP Mod 3 - Vibracorer in the Pond and Ponar in the Ditches

Follow Up Flag: Follow up
Flag Status: Flagged

SAP locations with core-section sample-recovery issues that I am aware of —and needing to be completed to fulfill SAP requirements.
5-14: relocation to RRDitch outfall/delta.
5-16: former Diversion Ditch.
7-04: the wet/soupy/muddy materials encountered underlying the surficial iron-crust.
1-08: the wet/soupy/muddy materials of the ditch-sediment profile.

Re the 'two-day' site equipment availability—hopefully getting the locations fully-sampled won't necessitate a Change-Order, but time/success will tell.

I am awaiting the supporting explanatory email from KevinL (per his clarifying discussions with CatherineL) which I will attachment to the SAP-Mod.

Wanting to get this signed today. Thanks.

Ken Wangerud, Remedial Project Manager
Superfund Remedial Program
Office of Ecosystems Protection and Remediation
USEPA Region 8 - EPR/SR
1595 Wynkoop, Denver CO 80202-1129
- -
ofc. tel. 303-312-6703
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wangerud.ken@epa.gov

From: Kevin Lundmark [mailto:Kevin.Lundmark@erm.com]
Sent: Monday, November 23, 2015 2:39 PM
To: Catherine D. LeCours
Cc: Wangerud, Ken; David Abranovic
Subject: RE: SAP Mod 3 - Vibracorer in the Pond and Ponar in the Ditches

Hello Catherine –
Thanks for sending this over and for the detailed summary of our call last Friday. This looks except for a couple points relating to the uses of the vibracorer/push tube equipment beyond the sampling at 5-14:

- Attempts at 1-08 and 5-16 for sampling and 1-04 for waste depth profiling would be opportunistically and provided they can be completed within the two days that we will have the coring equipment on-site.
- We did not discuss any additional sampling at 1-13 on Friday, ERM does not agree that any additional attempts are required at this location, and the coring equipment has questionable suitability for sampling subsurface solids from 0.5 to 4 ft bgs at this location (which are not "wet" and "very soft" like other locations proposed for coring, but instead are characterized as "SANDY SILT, medium to coarse oolitic sand, trace gravel, trace clay, moist")

Thank you,
Kevin

EPA Attachment #1
to SAP-Mod No 3

24 Nov'15

Kevin Lundmark
ERM

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kevin.lundmark@erm.com
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From: Catherine D. LeCours [mailto:clecours@PWT.COM]
Sent: Monday, November 23, 2015 1:16 PM
To: Kevin Lundmark
Cc: Wangerud, Ken; David Abranovic
Subject: FW: SAP Mod 3 - Vibracorer in the Pond and Ponar in the Ditches

Kevin,
Thank you very much for our call late on Friday. It was very informative.
During our team meeting this morning, we discussed the contents of my email below.
Rather than asking ERM to completely revise the SAP Mod to include supporting discussion of below and the attached photographs, Ken suggested you review the text below, and if you agree, just include this email as an attachment to the SAP mod and EPA is ready to sign.

Call me if you have any questions or we need to change anything.
Thanks
Catherine

From: Catherine D. LeCours
Sent: Friday, November 20, 2015 5:14 PM
To: 'Wangerud, Ken'
Cc: Aaron Baird; 'Howe, Robert'; Schmidt, Andrew
Subject: FW: SAP Mod 3 - Vibracorer in the Pond and Ponar in the Ditches

Ken,
The core (pardon the pun) review team had a call this morning and I followed up with Kevin Lundmark this afternoon. (a very productive and enlightening call by the way)
Andrew, Robert and Aaron had the following key **comments/questions**, to which I have added the answers/response from Kevin:

1. **Is there a procedure for determining which equipment will be used at what locations and in what order? Basically, how will you decided to use the vibra core or the tube first?**
   Kevin suggested ERM is thinking that both methods will be used a 5-14. The driller is coming both vibra and core tube and can use with or without sediment catcher in whatever configuration is required to be successful. You (Ken) will be there to make sure they use all possible options for success.

2. **Is there a reason the core tube is such a large diameter?**
   Kevin reported they are concerned the 4" vibracore will just displace the material and not allow it into the tube. Therefore, they wanted to bring in different size to increase the chance for success.

3. **Is the vibracore and core tube rigid mount to the excavator for "push" power or is gravity expected to be adequate?**
   As noted in Section 2.4 of the modified SOP, the vibracore will be *lowered* and the core tube will be *pushed*. The vibracore is designed to be lowered into the substrate using the weight of the head and the vibration to achieve the depth penetration. The vibracore and winch will have control panels at the excavator to control depth and vibration frequency, on/off, etc. I have attached two photos of the custom-made attachment for the excavator bucket to "push and pull" the core tube in and out of the substrate.

4. **Is the polycarbonate/Lexan material compatible with chlorine?**
   Per the manufacturer "good compatibility with 20% HCl." A dilute HCl solution is what ERM uses for equipment compatibility.

5. **Why is the "subsurface sample" interval 0 to 2 feet and not 0.5 to 2 feet?**
   Consistent with what EPA/PWT/Tt discussed during our call this morning, Kevin agreed there may not be a realistic way to segregate the top 6 inches. Also, since this is not an exact co-located spot with surface sample, the 0-0.5 is not sampled as a surface sample. However, IF there is good recovery and a clear core, the top 6 inches will be removed if possible.

6. **Request to include specifications regarding the vibracore unit.**
   Kevin was reluctant to include the EXACT system to be used so the SAP was not overly restrictive; however he did provide the following to me:

   > *Gravity's RIC 3500 vibracore operates at 1800 vibrations per minute with an impact force of 2000 ft/lbs of force. The frequency of the unit can be adjusted in the field to minimize disturbance of the sediment substrates for optimum collection of representative layers. The vibracorer will use polycarbonate tubes that are 4 inches in diameter. The tubes have an internal custom lexan finger system to retain substrate. The vibracorer will be lowered to the bottom, where the unit will then be energized and allowed to penetrate the sediment.*

7. **How many attempts will be taken at 5-14 with which piece of sampler?**
   Knowing that you (Ken) will be there to observe, Kevin and I agree the SAP Mod does not need to have the detailed "number of tries" and what equipment to use, etc. included in the SAP mod. Again, Kevin knows that ERM is thinking that both methods will be used at 5-14. The driller is coming with both vibra and core tube and can use both with or without sediment catcher in whatever configuration is required to be successful.

8. **How does ERM intend to determine waste thickness at each surface sample locations in PRI1 – specifically those not accessible by foot?**
   When I first introduced the idea of using the vibracore/core tube to just get a profile (waste depth) to 5 feet deep at any inaccessible locations, Kevin was not opposed to the idea. However, as we walked through the results or expectations of each ditch sample location, we concluded there is only ONE location where they are asking for a deviation from the SAP (per this SAP mod) and not hand-auger to 5 feet – location 1-06.
   In summary:
   - Western Ditch – location 1-03 was drilled and stained down to 3.5 feet, locations 1-01 and 1-02 there was no waste in 0-6 inch so they followed unmodified SAP for these samples. The only request here is to collect the surface sample at 1-03 with Ponar (per already approved SOP).
   - Central Ditch – have already hand-auger to native contact (4 inches) at location 1-05 and have identified a location for 1-04 to be access by foot and thus can follow the SAP for hand auger
   - Chlorine Ditch – location 1-07 was drilled and native clay encountered at 1.5 feet, location 1-06 is under the Mod request to collect the surface with Ponar (per already approved SOP) and therefore NOT be subject to hand auger per the SAP mod
   - Main Ditch – location 1-08 (which is on the list to try again with the vibracore/core tube) native clay at 8.5 feet and anticipate they will be able to hand auger at the rest of the locations
   - Former Boron – location 1-14 was drilled and sampled – so not impacted by this SAP mod

During the call this morning and a follow up call I made to Bill Brattin, we also discussed the following topics/conclusions:

Sample Processing: ERM is proposing to by-pass the quarters/piles for sample homogenization. The nature of the "soup" and pouring it onto the sample pan will mix up the matrix. (Bill is okay with this.)
Analytical Methods: The revision to WS18 proposed by ERM is appropriate to be consistent with the "fines vs bulk" analysis of surface samples and not of subsurface samples.

In addition, per a discussion with you, Kevin wanted to report they are bringing out a "long-arm" excavator which will reach up to 40 feet to sample location 5-14.

In summary, I recommend approval of the SAP mod as provided. I do not see anything listed above that should delay or impede the approval of the mod and the execution in the field.
I do recommend that the vibracore/core tube subcontractor and equipment be used to the fullest extent possible while in the field in the following order (Kevin supports):

1. location 5-14 to obtain complete profile samples

and only if proven successful, move the equipment to:

2. location 1-08 (to obtain better recovery of waste from 0.5 to 7 feet bgs for samples
3. location 5-16 to obtain better recovery of waste from 0.5 to 6.5 feet bgs for samples
4. location 1-06 – Chlorine ditch – for depth of waste profile (to replace hand-auger to 5 feet)
5. location 1-13 to obtain better recovery of waste from 0.5 to 4 feet bgs for samples

I know this is lengthy but I wanted you to see the process and questions asked before supporting approval.
Please let me know if there is anything else we can get to you or I can ask Kevin.
Thanks
Catherine

From: David Abranovic [mailto:David.Abranovic@erm.com]
Sent: Thursday, November 19, 2015 9:56 AM
To: Ken Wangerud (Wangerud.Ken@epamail.epa.gov)
Cc: Kevin Lundmark; Catherine D. LeCours; R. David Gibby (dgibby@usmagnesium.com); Justin Burning
Subject: FW: SAP Mod 3 - Vibracorer in the Pond and Ponar in the Ditches

Hi Ken,

Please find attached the Phase 1 A-B SAP modification for using the Vibracore sampler to collect the PRI-5 Inlet subsurface samples, as well as using the Ponar sampler for some of the ditch surface samples. We are planning on collecting the ditch samples this week, so if you could please approve that work today we can avoid a schedule delay.

Thanks, call Kevin or me if you have any questions.

david

David J. Abranovic P.E.
Partner

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Catherine D. LeCours

From: Wangerud, Ken [wangerud.ken@epa.gov]
Sent: Tuesday, November 24, 2015 3:27 PM
To: David Abranovic
Cc: Catherine D. LeCours; R. David Gibby (dgibby@usmagnesium.com); Justin Burning; Aaron Baird; Mike Storck (mstorck@utah.gov); R. David Gibby (dgibby@usmagnesium.com); Mark Ransom; Kevin Lundmark
Subject: RE: SAP Mod 3 - Vibracorer in the Pond and Ponar in the Ditches

David:

Looks good to me.

ERM is working on/towards whatever it takes to obtain the interval-samples called for in the SAP. Carry on—good luck.

Cheers, Ken

Ken Wangerud, Remedial Project Manager
Superfund Remedial Program
Office of Ecosystems Protection and Remediation
USEPA Region 8 - EPR/SR
1595 Wynkoop, Denver CO 80202-1129

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wangerud.ken@epa.gov

From: David Abranovic [mailto:David.Abranovic@erm.com]
Sent: Tuesday, November 24, 2015 2:05 PM
To: Wangerud, Ken
Cc: Catherine D. LeCours; R. David Gibby (dgibby@usmagnesium.com); Justin Burning; Aaron Baird; Mike Storck (mstorck@utah.gov); R. David Gibby (dgibby@usmagnesium.com); Mark Ransom; Kevin Lundmark
Subject: RE: SAP Mod 3 - Vibracorer in the Pond and Ponar in the Ditches

Ken,

The SAP approval that you included with this e-mail is not consistent with the conversation we had on today's RPM call. What we decided on the call was, depending on the success of the vibracorer/core tube methods at the inlet of PRI Area 5 (location 5-14SB), attempt to use the the vibracrorer/push tube methods at other locations where it is determined that the vibracorer/push tube methods may yield better sample recovery than was obtained by sonic drilling. These locations may include 1-08, 5-16, and/or 7-04. The determination to attempt vibracorer/push tube methods at locations 1-08, 5-16, and/or 7-04 will be based on observations during sampling at location 5-14SB, the expertise and recommendation of the sediment sampling subcontractors, the ability to achieve the SAP objectives (Worksheet 11), and consultation with USEPA. The decision to attempt to use of vibracorer, push tube, or other method (if identified) at locations 1-08, 5-16, and/or 7-04 will be documented as a Field Modification and is therefore not included in the modified sections referred to in SAP Mod 3.

The vibracorer/push tube methods will also be used for waste thickness profiling at ditch sample locations where waste thickness measurements are not obtained by sonic drilling or hand auger. The use of vibracorer/push tube methods for waste thickness profiling will be determined based on field conditions and would also be documented as a Field Modification.

Please acknowledge that this is the approved approach and incorporate this e-mail into SAP Mod 3. Alternately we would be happy to incorporate this language into a revised version of the modification form.

Thanks,

david

EPA Attachment #2
to SAP Mod #3
kw 30 Nov 2015

David J. Abranovic P.E.
Partner

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From: Wangerud, Ken [mailto:wangerud.ken@epa.gov]
Sent: Tuesday, November 24, 2015 12:24 PM
To: David Abranovic; Kevin Lundmark
Cc: Catherine D. LeCours; R. David Gibby (dgibby@usmagnesium.com); Justin Burning; Aaron Baird; Mike Storck (mstorck@utah.gov)
Subject: RE: SAP Mod 3 - Vibracorer in the Pond and Ponar in the Ditches

Approved (with EPA Attachment emails).

PWT Catherine LeCours to distribute accordingly.

PWT/EPA are prepared to consider field-mods as/per sampling under this Mod proceeds.

I plan to be at the Site next week to observe this sampling and participate as needed in decisions.

Ken Wangerud, Remedial Project Manager
Superfund Remedial Program
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Sent: Thursday, November 19, 2015 9:56 AM
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Subject: FW: SAP Mod 3 - Vibracorer in the Pond and Ponar in the Ditches

Hi Ken,

Please find attached the Phase 1 A-B SAP modification for using the Vibracore sampler to collect the PRI-5 Inlet subsurface samples, as well as using the Ponar sampler for some of the ditch surface samples. We are planning on collecting the ditch samples this week, so if you could please approve that work today we can avoid a schedule delay.

Thanks, call Kevin or me if you have any questions.

david

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Partner

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Attachment to Phase 1A-B RI SAP Modification No. 3

Worksheet 11

11.2.7.1 Surface Solids Sampling

[Page 41 of 226]

Surface solids sampling outside of the inundated/inaccessible areas (e.g., PRI Areas 1, 5, 6, and 7 as appropriate) will be performed using a hand auger as detailed in the SOP *USM-01: Surface Soil, Sediment, and Waste Sampling*. Within the inundated areas (e.g., PRI Areas 5, 6, and 7 as appropriate), surface solids samples will be collected using a helicopter-deployed sampler as detailed in SOP *USM-12: Surface Solids Sampling within Current Wastewater Ponds*. Surface solids sampling at locations in active wastewater ditches (PRI Area 1) that cannot be safely accessed by foot will be performed using an excavator-deployed sampler as detailed in SOP USM-12.

If waste is present at the bottom of a surface sample location (6 inches bgs) outside of the inaccessible/inundated areas (e.g., PRI Areas 1, 5, 6, and 7 as appropriate), then the hand-auger boring will be advanced to either the waste/native soil interface or a maximum depth of 5 feet bgs. The maximum depth of 5 feet bgs is based on the impracticality of advancing a hand auger to depths below 5 feet under Site conditions (e.g., standing water, shallow depth to groundwater, unconsolidated wastes) and health and safety considerations. Field screening for waste thickness at locations within the inaccessible/inundated areas (e.g., PRI Areas 1, 5, 6, and 7 as appropriate) will be to depth of penetration of the helicopter-deployed or excavator-deployed sampler.

11.2.7.2 Subsurface Solids Sampling

[Insert the following new paragraph at the end of Section 11.2.7.2, Page 43 of 226]

Surface solids sampling will not be performed at the sediment/waste coring location at the outlet of the Main Ditch (location 5-14SB, as described in Section 11.2.7.3). At this location, the targeted first subsurface sample interval will be from 0 to 2 feet bgs. Sample intervals will then be as described above: 2-foot sample intervals with the final sample interval extending to 2 feet below the waste/native soil interface with adjustments as-needed to target anomalous layers, if encountered.

24 Nov '15

11.2.7.3 *Sampling Locations*

[Page 44 of 226]

PRI Area 5

Subsurface sampling will be performed at the location nearest the inlet to the waste lagoon from the Main Ditch (location 5-14SB on Figure 11-5) and at a location within a former wastewater diversion ditch (location 5-16 in Figure 11-5). These locations were selected for subsurface sampling because they are within key waste release areas (see Figure 11-1). The lagoon inlet (location 5-14SB) is the location where the greatest amount of waste deposition occurs, as apparent in aerial photographs and field observations. The former diversion ditch location was selected by EPA to investigate accumulated sediment/wastes within the ditch and potential subsurface impacts from leachate from the landfill. Waste/sediment coring for collection of subsurface samples at ~~Drill rig access to~~ location 5-14SB will be ~~attained by the construction of an earthen ramp into the wastewater pond~~ performed using a core sampler deployed by a long-reach excavator from the gypsum pile adjacent to the north of the Main Ditch. The approximate expected location 5-14SB is shown in Figure 11-5; the actual location will be determined based on field conditions and equipment access.

The rationale for each of the ~~five~~ six biased/judgmental sampling locations in PRI Area 5 is provided below.

ID	Sample Type	Rationale
5-14SB	Subsurface	Outlet of the Main Ditch into the waste lagoon

Worksheet 14

14.1.5 Surface Solids Sampling

[Page 82 of 226]

Surface solids sampling will be performed as follows:

- Within PRI Areas ~~1,~~3, and 4, accessible areas of PRI Area 1, and non-inundated areas of PRI Areas 5, 6, and 7 (as appropriate) surface solids sampling will be performed using a hand auger to a depth of 6 inches bgs as described in SOP USM-01.
- Within inundated areas of PRI Areas 5, 6 and 7 (as appropriate), surface solids sampling will be performed using a helicopter-deployed sediment sampler with a target sampling depth of 6 inches bgs as described in SOP USM-12.
- Within areas of PRI Area 1 that cannot be safely accessed by foot, surface solids sampling will be performed using an excavator-deployed sediment sampler with a target sampling depth of 6 inches bgs as described in SOP USM-12.
- At all background/reference areas, surface sampling will be to a depth of 2 inches bgs using a flat-bottom scoop or shovel as described in SOP USM-01.

The presence/absence of visible waste will be noted on sampling forms at all sampling locations, as described in SOP USM-01. When waste is visible, the depth of waste will be measured. Waste may include gypsum, smut, salts, or sludge that have a different appearance than the native soils present within the Inner PRI Areas (e.g., oolitic sands, lacustrine clays, evaporate minerals). If waste is present at the bottom of a surface sampling location (6 inches bgs) outside of the inaccessible/inundated areas (i.e., PRI Areas 1, 5, 6, and 7 as appropriate), then the hand-auger boring will be advanced to either the waste/native soil interface or a maximum depth of 5 feet bgs. Field screening for waste thickness at locations within the inaccessible/inundated areas (i.e., PRI Areas 1, 5, 6, and 7 as appropriate) will be to depth of penetration of the helicopter-deployed or excavator-deployed sampler.

14.1.6 Subsurface Solids Sampling

[Page 82 of 226]

Subsurface sampling will be performed at one or more locations in each Inner PRI area as shown on Figures 11-2 through 11-7 and listed in WS#18. Subsurface soil sampling will also be performed as part of the background evaluation. Subsurface sampling will be performed as detailed in SOP *USM-09: Subsurface Soil, Sediment, and Waste Sampling* and using 2-foot maximum sample intervals from 6 inches bgs to 2 feet below the waste/native soil interface.

Subsurface sampling at all locations except 5-14SB will be performed using a sonic drill rig or similar equipment equipped with a 6-inch (minimum) coring barrel to help ensure adequate material is available for collecting the required sample volume from targeted intervals as short as 6 inches. At location 5-14SB, waste sediment coring will be performed using either a vibracorer with a 4-inch diameter core barrel or a core sampler constructed from an 8-inch diameter rigid tube.

Surface samples (0 to 6 inches bgs) will also be collected at each subsurface sampling location; therefore, the typical/default subsurface sample intervals will be 6 inches to 2 feet bgs, 2 feet to 4 feet bgs, and so on with the final sample interval extending to 2 feet below the waste/native soil interface, unless field conditions warrant adjustments to the sampling intervals. Native material will be segregated from waste material for the final sample interval to allow for the evaluation of potential impacts from wastes in native soil. Subsurface sampling intervals will be adjusted in the field for the following reasons:

- Native material will be segregated from waste material for the final sample interval to allow for the evaluation of potential impacts from wastes in native soil.
- If anomalous or discrete layers of waste or sediments are observed in a boring, the sample interval will be adjusted (reduced) to target the anomalous/discrete layers; however, due to sample volume requirements, no sample interval will be less than 6 inches. Anomalous layers will be identified by the EPA, EPA Contractor, or ERM field personnel based on color, texture, field screening, and comparison with other wastes/sediments within a boring.
- At location 5-14SB, surface solids sampling will not be performed; therefore, at this location, the targeted first subsurface sample interval will be from 0 to 2 feet bgs.

18.0 Sampling Locations and Methods/SOP Requirements Table (SAP Worksheet #18)

[Pages 101 and 104 of 226]

Area	**Location (a)**	**UTM Zone 12 NAD 1983**		**Utah State Plane Central**		**Sample Type: SS = Surface SB = Sub-surface**	**Location Basis**	**Rationale for Biased or Subsurface Locations**	**Analytical Group (b)**
		m N	**m E**	**X feet**	**Y feet**				
PRI Area 5 - Southeast Ponded Waste Lagoon	5-14	4531749	354897	1302335	7507651	SS ~~and SB~~	Grid	n/a ~~Subsurface sampling at location nearest the inlet to the waste lagoon from the Main Ditch~~	A ~~B~~
	5-14SB	TBD	TBD	TBD	TBD	SB	Biased	Subsurface sampling at location nearest the outlet of the Main Ditch	C

Notes:

Surface samples will be collected as described in SOPs USM-01 (outside of inaccessible/inundated areas of PRI Areas 1, 5, 6, and 7 as appropriate) or USM-12 (within inaccessible/inundated areas of PRI Areas 1, 5, 6, and 7 as appropriate). Subsurface solids samples within Inner PRI Areas will be collected as described in SOP USM-09. Subsurface samples from background areas will be collected using a hand auger. See WS#21 for sample collection SOP references.

TBD = To be determined. The actual sampling location will be determined based on field conditions and equipment access

Figure 5-1 Project Organizational Chart

Add the following to the list of ERM Subcontractors:

Organization: Gravity Consulting LLC, Fall City, WA

Role: Vibracore Sediment Sampling

Project Contact: Shawn Hinz

Figure 11-5 Phase 1A-B Sample Locations for PRI Area 5 Southeast Ponded Waste Lagoon

See revised figure, attached.

File: M:\Projects\0132520 USMagnesium_Confidential\maps\Phase1AB SAP\Fig11-5_PRI5SampleAreasRevSAPMod3.mxd

By: Mike Appel   Date: 11/17/2015 3:24:45 PM

Phase 1A-B Sample Location

- ● Surface Sample
- ○ Surface Sample (Biased)
- ▢ Subsurface Sample (Biased)
- ▢ Surface and Subsurface Sample (Biased)
- - - - Ditch Feature
- ▨ Operating Facility
- ▭ PRI 5: Southeast Ponded Waste Lagoon
- ▭ Preliminary Remedial Investigation Areas

Notes:
Location for 5-04 updated per Field Mod #1
All boundaries approximate, provided by EPA
Aerial Photo: NAIP (USDA) June 30, 2014

N

0 600 1,200 Feet

Figure 11-5
Phase 1A-B Sample Locations for PRI Area 5
Revised for SAP Modification 3
Southeast Ponded Waste Lagoon
OU-1 Phase 1A-B RI SAP
US Magnesium LLC
Tooele County, Utah

usmag®

Environmental Resources Management
136 East South Temple, Suite 2150
Salt Lake City, UT 84111
ERM

SOP USM-09
SUBSURFACE SOIL, SEDIMENT, AND WASTE SAMPLING

STANDARD OPERATING PROCEDURE

US Magnesium RI/FS
Rowley, Utah

Revision: ~~0~~1
Date: ~~September 2013~~November 2015

Prepared by:
ERM-West, Inc.
7272 E. Indian School Rd., Suite ~~100~~108
Scottsdale, AZ 85251

SOP USM-09
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Revision: ~~0~~1
Date: ~~September 2013~~November 2015

Approvals

David Abranovic, P.E.

USM RI/FS Project ~~Manager~~Coordinator

~~**Sandra Mulhearn**~~

Judy Nedoff
USM RI/FS Project QA~~/QC~~ Manager

24 Nov '15

TABLE OF CONTENTS

Section **Page**

1.0 SCOPE AND APPLICABILITY

This Standard Operating Procedure (SOP) describes methods for collecting subsurface soil, sediment, and waste (collectively referred to as "solids") samples in association with the Remedial Investigation/Feasibility Study (RI/FS) being conducted at the US Magnesium facility in Rowley, Utah (Site). This SOP is applicable for collecting subsurface solids samples from Preliminary RI Areas (PRIs) and background reference areas for analyses including volatile organic compounds (VOCs). The procedures described in this SOP are generally consistent with United States Environmental Protection Agency (USEPA) Superfund Guidance (USEPA 1991 and 1992) and available USEPA SOPs (e.g., USEPA 2011).

This SOP does not include procedures for surface solids sampling activities, which are described in a separate SOP (USM-01, *Surface Soil, Sediment, and Waste Sampling*).

Throughout this SOP the term Sampling and Analysis Plan (SAP) is used generically to refer to the SAP, Work Plan, or other project-planning document that describes the objectives, scope, and specific sampling requirements for a subsurface investigation at the Site. Where appropriate, this SOP identifies the worksheet numbers from the Uniform Federal Program Quality Assurance Project Plan (UFP-QAPP) guidance (USEPA 2005) where relevant information is found in the SAP. Per AOC Section XI, the UFP-QAPP manual will be followed for data collection activities at the Site.

2.0 SUMMARY OF METHOD

Subsurface solids samples will be collected by an appropriate drilling method that allows for collection of soil/ sediment/solid waste cores, including dual tube direct push drilling, sonic drilling, ~~or~~ hollow stem auger drilling with split spoon sampler~~.~~, or core samplers. These ~~three~~four methods are summarized below.

2.1 Direct Push

This method involves the collection and retrieval of continuous core soil samples from a cased boring using two sets of probe rods. The outer rods are driven into the ground as the outer casing. The second, smaller set of rods is placed inside the outer casing with a sample liner attached to the leading edge of the rod string. The inner rods hold the sample liner in place as the outer casing is driven to fill the lined sampler with soil. After being filled, the sampler is then removed from the cased borehole, and the liner (and soil within it) is removed from the sampler. The liner is then opened for lithologic logging and collection of samples.

2.2 Sonic Drilling

This drilling method employs simultaneous high frequency vibration and low speed rotational motion along with downward pressure to advance the core barrel and outer casing without use of drilling fluid or air. Typically, the core barrel is advanced, followed by the outer casing to ensure a stable borehole. The core barrel can generally advance from five to twenty feet at one time, depending on the length of the core barrel and material being drilled. The soil core is brought to the surface by removal of the entire core barrel from the borehole and the soil core is vibrated out of the barrel into plastic sleeves. The soil core is then collected in plastic sleeves and laid on plastic sheeting. The plastic sleeves are then opened for lithologic logging and collection of samples.

2.3 Hollow Stem Auger

This drilling method involves an auger consisting of a hollow, steel stem or shaft with a continuous, spiraled steel flight, welded onto the exterior. A hollow auger bit, generally with carbide teeth, disturbs soil material when rotated, whereupon the spiral flights transport the cuttings to the surface. While drilling with hollow stem augers, a sampling tool (e.g., split spoon or similar) is used to collect undisturbed soil cores in advance of the auger. Following soil core collection, the auger is advanced and the process repeated.

All split spoon samplers, regardless of size, are basically split cylindrical barrels that are threaded on each end. The leading end is held together with a beveled threaded collar that functions as a cutting shoe. The other end is held together with a threaded collar that serves as the sub used to attach the spoon to the string of drill rod. Two basic methods are available for use:

- **Standard Split Spoon**. A drill rig is used to advance a borehole to the target depth. The drill string is then removed, and a standard split spoon is attached to a string of drill rod. Split spoons used for soil sampling must be constructed of stainless steel and are typically 2-inches OD (1.5-inches ID) and 18-inches to 24-inches in length. Other diameters and lengths are common and may be used if constructed of the proper material. After the spoon is attached to the string of drill rod, it is lowered into the borehole. The safety hammer is then used to drive the split spoon into the soil at the bottom of the borehole. After the split spoon has been driven into the soil, filling the spoon, it is retrieved to the surface, where it is removed from the drill rod string and opened for lithologic logging and collection of samples.

- **Continuous Split Spoon.** The continuous split spoon is a large diameter split spoon that is advanced into the soil column inside a hollow stem auger, slightly ahead of the lead auger. Continuous split spoons are typically 3 to 5 inches in diameter and either 5 feet or 10 feet in length, although the 5-foot long samplers are most common. After the drill string has been advanced into the soil column a distance equal to the length of the sampler being used, it is returned to the surface. The sampler is removed from inside the drill string and then opened for lithologic logging and collection of samples.

~~This SOP covers collection of samples for VOC and non-volatiles analysis.~~

2.4 Core Samplers

Core samplers (corers) are a class of aquatic (open water) sediment sampling devices that may be used: (1) to obtain sediment samples for geological characterizations, (2) to investigate the historical input of contaminants to aquatic systems and, (3) to characterize the depth of contamination at a site (USEPA 2001). This SOP describes two types of core samplers, vibracorers and core tubes, which are described below.

Vibracorers - Vibracorers use an electric-powered, mechanical vibrator located at the head end of the corer which applies thousands of vertical vibrations per minute to help penetrate the sediment. A rigid core tube (typically a 4-inch diameter polycarbonate or Lexan) is inserted into the head and the entire assembly is lowered in the water. The vibracorer head is equipped with a check valve to release pressure from the core tube during descent and then maintain suction during sample retrieval. Depending on the horsepower of the vibrating head and its weight, a vibracorer can penetrate very compact sediments and collect cores up to 6 m long . The polycarbonate tubes may be equipped with an internal custom finger system to help retain samples. The vibracorer will be suspended from a block mounted to the arm of a long-reach excavator and will be powered using a portable generator. After positioning the vibracorer over the target sampling location, a winch is used to lower the vibracorer into the sediment/solid waste and vibrating the tube to the desired depth. The vibracorer is then withdrawn from the sediment/solid waste using the winch.

Core Tubes - A core tube sampling device consists of a rigid tube (typically 8-inch diameter polycarbonate/Lexan or aluminum) that is mounted to the bucket of an excavator and pushed into sediment/solid waste to the target depth using the arm of the excavator. Like the vibracorer, a core tube is equipped with a check valve to release pressure from the core tube during descent and then maintain suction during sample retrieval. Core tubes are also typically equipped with sediment catcher to improve sample recovery. After the excavator pushes the tube to the target depth, the core tube is withdrawn from the sediment/solid waste using the excavator.

Samples collected by either a vibracorer or core tube will be transferred by the excavator to a sample retrieval and processing area where the tube will be cut lengthwise for sample logging, composition, and sampling. The tube may also be cut into sections to help facilitate sample logging and ease of handling.

3.0 DEFINITIONS

Catcher	A device used to retain non-cohesive or loose soils in subsurface samplers such as the split spoon or dual tube ~~soil~~ sampler or core samplers.
Core Tube	A sediment sampler comprising a rigid tube (typically polycarbonate/Lexan) and check valve to obtain sediment cores from open water areas or in soft sediments. The core tube is pushed into the sediment using the bucket of an excavator.
Equipment Blank	A sample of deionized (DI) water poured over or through decontaminated field sampling equipment that is considered ready to collect or process an additional sample. This quality control (QC) sample is used to assess the adequacy of the decontamination process and the potential for potential sample contamination from non-disposable sampling equipment.
Field Duplicate	Two or more independent samples collected from the same location at the time and space so as to be considered identical. These separate samples are said to represent the same population and are carried through all steps of the sampling and analytical procedures in an identical manner. These QC samples are used to assess precision of the total method, including sampling, analysis, and site heterogeneity.
Sampling and Analysis Plan	Throughout this SOP the term Sampling and Analysis Plan (SAP) is used generically to refer to the SAP, Work Plan, or other project-planning document that describes the objectives, scope, and specific sampling requirements for a subsurface solids investigation at the Site.

Sediment	Solids, including soil, organic material, and waste, that accumulate on the bottom of a water body. Sediment may be either submerged (under standing water) or exposed during sampling, depending on the surface water elevation of the water body.
Soil	Unconsolidated inorganic and associated organic matter, irrespective of formation processes.
Solids	EPA has determined that for the Phase 1A RI, "[f]or simplicity, and because these media coexist in many areas, solid media will be jointly referred to as soil/sediment/solid-waste for the purposes of this SAP." The term "solids" is used in this SOP to refer to soil, sediment, or solid waste.
Split Sample	Two or more representative portions taken from one sample in the field or laboratory, analyzed by at least two different laboratories and/or methods. Split samples are QC samples used to assess precision, variability, and data comparability between different laboratories.
Split Spoon	Soil samplers made from steel with split cylindrical barrels that are threaded on each end. The leading end is held together with a beveled threaded collar that functions as a cutting shoe. The other end is held together with a threaded collar that serves as the sub used to attach the spoon to the string of drill rod. They are used to recover soil samples from the subsurface.
Subsurface Sample	Sample collected from a depth greater than 6 inches below ground surface (bgs).
Surface Sample	Sample collected from depths within the upper 6 inches bgs.
Vibracore Sampler	Sediment core sample collection device which utilizes rigid tubes (typically polycarbonate / Lexan) for sample collection. The vibracore is lowered to the uppermost sediment horizon and energized to penetrate the sediment using high frequency vibration to collect a sample.
Waste	Waste from the magnesium metal production process, including gypsum and smut.

4.0 HEALTH AND SAFETY

All sampling activities undertaken at the Site must be completed under an approved, site-specific Health and Safety Plan (HASP). The HASP identifies the hazards, personal protective equipment, monitoring, and emergency procedures for conducting work at the Site. Samplers and support personnel must acknowledge their review of the HASP prior to performing work at the Site.

Personal protective equipment and safety precautions for specific sampling tasks are identified in Job Hazard Analyses included with the HASP. Refer to the Job Hazard Analyses for these tasks for additional information.

5.0 PERSONNEL QUALIFICATIONS

Personnel performing soil sampling at the Site must have current 40-hour OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) certification. Respiratory protection and other site-specific health and safety training requirements are described in the HASP.

Only qualified personnel shall be allowed to perform this procedure. In addition to the above health and safety requirements, ERM employees qualified to perform subsurface sampling will be required to have:

- Read this SOP;
- Indicated to the Field Task Manager that all procedures contained in this SOP are understood; and
- Previously performed subsurface sampling in a manner generally consistent with the procedures described in this SOP.
- Current ERM Global Subsurface Clearance (SSC) Process (Attachment 2) General Employee and Experienced Person (EP) certification/status. All ERM field crew must be at least trained as SSC General Employess. One member of the ERM field crew must be certified as an SSC EP and designated the SSC EP for the sampling event.

ERM employees who do not have previous experience conducting subsurface sampling will be trained on site by a qualified ERM employee, and will be supervised directly by that employee until they have demonstrated an ability to perform the procedures.

6.0 PROCEDURES

Subsurface solids samples will be collected by an appropriate drilling method that allows for collection of soil or sediment cores, including dual tube direct push drilling, sonic drilling, ~~or~~ hollow stem auger drilling with split spoon sampler, or core samplers as described above.

6.1 Equipment

A list of required and recommended equipment is provided in Attachment 1.

6.2 Field Preparation

The following procedures will be followed when preparing for subsurface solids sample collection, regardless of the drilling method being used:

1. All subsurface drilling activities must be performed following the ERM Global ~~Subsurface Clearance (~~SSC~~)~~ Process (Attachment 2). The SSC Process provides safe work practices for subsurface obstruction and utility clearance (collectively, SSC). The SSC Process is used to avoid contact with subsurface structures, to prevent injury to ERM and subcontractor employees and to prevent damage to property or the environment.
2. Don appropriate personal protective equipment as required by the Health and Safety Plan.
3. Decontaminate all downhole drilling and sampling equipment prior to and after use. Decontamination procedures are provided in SOP USM-03, *Equipment Decontamination*.
4. Place plastic sheeting on a flat, level table or truck bed near the ~~soil~~ boring location, if possible. Place equipment and supplies, sampling equipment, sampling containers, and insulated cooler (if required) on separate plastic sheeting. Cover all equipment and supplies with plastic sheeting when not in use.
5. Calibrate the PID (Attachment ~~5~~4). Calibration should be performed daily, at minimum.
6. Record all information on appropriate instrument calibration log (Attachment ~~5~~4). Document all changes in procedure and rationale for changes in the field logbook.

6.3 Subsurface Solids Sampling Procedures

Solids samples collected for laboratory analysis will be obtained at various depths below the ground surface as specified in the SAP, following the sampling procedures outlined below for each sampling technique.

6.3.1 Dual Tube Sampling Procedures

1. Assemble the outer casing and lined inner casing assembly per manufacturer's instructions, adding a soil catcher as appropriate.
2. Advance the assembled device within the outer casing to the desired depth to collect the soil core.
3. Remove inner casing/liner or sample sleeve filled with soil core from the outer casing.
4. Remove the liner/sample sleeve and soil core from the inner casing.
5. Place the liner/sample sleeve containing the soil core on a clean plastic covered table or other suitable surface.
6. Secure the liner/sample sleeve containing the core to the table using clamps or similar equipment.
7. Cut the liner/sample sleeve open using an appropriate cutting device.
8. Scan the length of the soil core with the PID.
9. Immediately collect three En Core® devices (or equivalent) from the soil core interval with the highest PID reading for VOC analysis. If the PID readings from the scan of the soil core are less than 10 ppm, the En Core® samplers will be collected from the bottom of soil core interval.
10. After collecting the VOC sample, place an aliquot of soil into a zip-lock-type plastic bag with adequate headspace for insertion of PID probe.
11. Label the sample bag with boring number and depth of sample, over the zip-lock portion of the bag. Record the time that the headspace was prepared.
    a. Allow at least 15 minutes for volatiles to release from the soil into the void space in the sample bag. During cool weather months volatilization time may be increased to 30 minutes, or the sample may be placed in a warm environment.
    b. After sufficient time has been allowed for volatilization, gently punch a hole into the sample bag using the PID probe tip. Record the highest reading obtained by the PID.

   c. Record reading on the soil boring log.

12. Inspect and log the soil core for lithology, soil structure, and other pertinent information on a boring log form (Attachment 3). Soil logging procedures are ~~included~~provided in ~~Attachment 4~~Section 6.5.
13. Using the entire length of the recovered soil core, process the sample as described in Section 6.4, Sample Processing.
14. Before and after each use, properly decontaminate sampling equipment to prevent cross contamination per the procedures described in SOP USM-03, *Equipment Decontamination*.
15. Install a new liner (and soil catcher as needed) into the decontaminated inner casing sample tube, and insert the inner casing into the bottom of the previously driven outer casing.
16. Add a section to the outer casing and drive the entire assembly to the next depth to fill the new liner with soil.
17. Repeat steps 1 through 16 until reaching the total depth as specified in the SAP.

6.3.2 Sonic Sampling Procedures

1. Advance the core barrel to the desired interval. Intervals or "runs" can be between 5 feet to 20 feet, depending on site needs and drilling equipment available. The core intervals will be retrieved by the drilling contractor and given to the geologist as they are collected until the total depth is reached. The core will be vibrated into plastic sleeves, which will be placed on plastic sheeting by the driller in order of retrieval.
2. Label the core depth interval on the plastic sleeve using a permanent marker
3. Cut the plastic sleeve open using a safety knife or scissors.
4. Follow steps 8 through 14 of Section 6.3.1, Dual Tube Sampling Procedures.
5. Repeat steps 1 through 4 until reaching the total depth as specified in the SAP.

6.3.3 Split Spoon Sampling Procedures

1. Assemble the outer casing and liners per manufacturer's instructions.
2. Install a decontaminated split spoon or ring sampler on the wire-line winch or steel rods.
3. Lower the split spoon into the drill string.

4. Connect the hammer assembly and lightly tap the hammer to seal the drive shoe at the top of the undisturbed soil. Cease driving when the full length of the spoon has been driven or upon refusal.
5. Remove the split spoon from the boring and advance the drill string so it is just above the last sampled interval.
6. Open the split spoon sampler and remove the liner/sample sleeve containing the soil core from the inner casing.
7. Follow steps 5 through 14 of Section 6.3.1, Dual Tube Sampling Procedures.
8. Install a new liner/sample sleeve into the decontaminated split spoon, including soil catcher if needed.
9. Insert the inner casing into the bottom of the previously drilled outer casing and repeat steps 1 through 8 until reaching the total depth as specified in the SAP.

6.3.4 Continuous Split Spoon Sampling Procedures

1. Assemble the outer casing and liner/sample sleeve per manufacturer's instructions, adding a soil catcher, if required.
2. Place the continuous split spoon into the boring by attaching it to drilling rods.
3. Advance the assembled device to collect the soil core. Cease driving when the full length of the spoon has been driven or upon refusal.
4. Remove device containing liner/sample sleeve filled with soil core.
5. Remove the liner/sample sleeve containing the soil core (and the soil catcher if present) from the outer casing.
6. Follow steps 5 through 14 of Section 6.3.1, Dual Tube Sampling Procedures.
7. Install a new liner/sample sleeve and soil catcher, as appropriate, into the decontaminated inner casing sample tube.
8. Insert the inner casing into the bottom of the previously driven outer casing
9. Add a section to the outer casing and drive the entire assembly to the next depth to fill the new liner/sample sleeve with soil.
10. Repeat steps 1 through 9 until reaching the total depth as specified in the SAP.

6.3.5 Core Sampler Sample Collection Procedures

1. A pre-cleaned core barrel fit with a core-catcher is set into the vibracore apparatus *or* a core barrel is mounted directly to the excavator bucket, depending on Site conditions. Depending on sediment characteristics, a plastic sleeve may be used in the corer to assist in sample recovery.
2. The excavator is moved into place adjacent to the sample collection location and will extend its arm until the tip of the tube touches the top of the sediment surface.
3. The vibracore unit is switched on and is lowered using a winch *or* the tube is pushed into the sediment by the excavator bucket, and the progress of the tubes descent through the sediment is monitored for achievement of the target push depth or refusal.
4. For each core attempt, the sample name, location, time of collection, depth of drive, and total drive time are noted in the field log.
5. The core will be driven to the target depth, its maximum length, or to refusal.
6. The core apparatus is retrieved using the excavator and transferred to a sample retrieval/processing area. The field crew will note the condition (texture, color, presence of debris) of the material in the bottom of the core and, fix a plastic cap over the tube to retain material prior to removing the tube for cutting.
7. The amount of material retained in the core tube is measured and recorded in the field log. The recovery depth is the total length of tube penetration minus the measured depth from the top of the tube to the height of the sediment/waste in the tube. The sample is inspected using the following guidelines as indicators of sample adequacy:
    - The core penetrated to, and retained material to, desired depth or refusal;
    - Cored material did not extend out the top of the core tube or contact any part of the sampling apparatus at the top of the core tube;
    - There are no obstructions in the cored material that might have blocked the subsequent entry of sediment into the core tube and resulted in incomplete core collection.
8. The sample location, date, time, interval, and a direction arrow to the top of the tube are made with a permanent marker on the cap. The retained core tube is then placed onto a processing tray in the staging area and the sample is removed either by cutting the core tube length-wise using a circular saw or sawzall or by removing the liner/sample sleeve from the core tube. *Note: Drilling personnel will*

perform the cutting while wearing cut-resistant gloves in addition to the required PPE as outlined in the HASP.

6.4 Sample Processing Procedure

Samples are processed by passing the sample media through a ¼ inch screen and then thoroughly mixing. Samples are not dried before screening. The procedure described below may not work well for very wet, soupy samples. In this situation, the procedure will still be followed; however, it may not be possible to form discrete quarters or piles. *Note: If analysis for VOCs is required, then VOC samples must be collected prior to performing any sample screening or mixing.*

1. Prior to processing samples, all non-disposable equipment must be decontaminated as described in SOP USM-03, *Equipment Decontamination*.

2. Place a clean stainless steel pan adjacent to the sample material to be processed and begin passing the sample through a stainless steel screen with ¼ inch (6.35 mm) opening. If the sample is not free flowing, it may be worked through the screen by hand wearing a new pair of nitrile gloves. The sample material may be either poured onto the screen or transferred using a stainless steel spoon. Discard debris and rocks larger than ¼ inch.

3. If 100% of the first grab aliquot passes through the ¼ inch sieve, the remaining aliquots for that sample can be placed directly on the sample tray. If any material from the first aliquot is retained by the sieve, the remaining aliquots must be sieved.

~~3.~~4. Once the entire sample volume has been screened to remove rocks and debris, mix the screened sample in the tray, forming a pile in the middle of the tray.

~~4.~~5. Quarter the sample and move quarters to opposite sides of the tray.

~~5.~~6. Mix each quarter individually, combine and mix opposite quarters, and then consolidate the sample in the middle of the tray.

~~6.~~7. Mix the sample and then quarter again.

~~7.~~8. Mix each quarter individually, combine and mix adjacent quarters, and then consolidate sample in the middle of the tray.

~~8.~~9. Repeat steps ~~4~~5 through ~~7~~8 until a consistent sample appearance is achieved.

~~9.~~10. Flatten sample into an oblong pile. Using a flat-bottomed scoop, collect a strip of sample across the entire short axis of the pile and place into the sample container.

~~10.~~11. Repeat step ~~9~~10 at evenly spaced intervals until the required sample containers have been filled.

All samples must be packaged, handled, and shipped in accordance with SOP USM-04, *Sample Management and Shipping*. Sample management instructions in the SAP (e.g., Worksheets 26 and 27) must also be followed.

6.5 Soil/Sediment/Solid Waste Logging Procedure

Table 1 lists the soil classification system used by ERM. Modifiers are listed in Table 2. The soil classification system shown in Table 1 represents a slight variation of ASTM D2487 - 11 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System, or "USCS"), which is commonly used in geotechnical investigations. The soil classification should reflect the entire surface sample interval. However, the presence of thinner lithologic intervals or the presence of waste material should be noted within the overall description, such as when thin clay seams are present within a thicker sand interval. If waste is present, the thickness of the waste layer will be measured using a measuring tape or estimated by visual inspection and documented in the field data sheet (Attachment 3).

A soil description will be recorded in the following order:

1. Predominant grain size(s) (IN CAPITAL LETTERS). Predominant grain sizes are grain sizes comprising greater than 35% of the sample. (e.g., CLAYEY SAND, consists of greater than 50% sand and greater than 35% clay; SANDY CLAY consists of greater than 50% clay and greater than 35% sand; SAND consists of greater than 50% sand and has less than 35% each of gravel, silt or clay). See Table 1.

2. Descriptive modifiers, if appropriate (e.g., trace clay, little silt, some sand). See base of Table 1.

3. Color.

4. Grain size modifier (fine, medium, coarse), if applicable.

5. Coarse and fine-grained descriptors (from Table 2).

6. Moisture Content (dry, moist, wet).

7. Descriptions of odors and staining, if observed.

8. Minor constituents (e.g., rootlets, shells, secondary porosity, precipitation nodules).

An example of a complete sample interval description is:

> "SANDY CLAY, trace gravel, yellowish brown with orange brown mottling, sand is fine to medium, angular; gravel is fine, subrounded; firm, low plasticity, moist to wet, no odors or staining, root traces present and filled with silt grains, trace carbonate nodules."

A certain degree of subjectivity is required when visually classifying soils in the field. The intent of this classification system is not to impose rigid guidelines on soil descriptions, but to provide consistency for later interpretation.

~~6.5~~6.6 Borehole Abandonment

After reaching final depth and collecting all samples, if the boring is not to be completed as a well, the boring will be abandoned using ¼" bentonite chips (hydrated after placement) or bentonite grout~~.~~, when feasible or unless otherwise specified in the SAP. Monitoring well installation procedures are provided in SOP USM-10, *Well Installation and Development*.

7.0 DATA RECORDS AND MANAGEMENT

Refer to SOP USM-06, *Field Documentation*, for procedures for completing data records and management. The following information must be recorded on each boring log:

- Project name and number;
- Location (GPS coordinates) and borehole number;
- Owner;
- Drilling company name;
- Drilling and sampling method;
- Driller's name;
- Name of person logging the soil/sediment/solid waste;
- Date and time drilling started and finished;
- Type of auger and size (inner and outer diameters, if applicable);
- Stratigraphic description with depth per ~~Attachment 4~~Section 6.5, including PID measurements;

- Intervals from which samples collected for laboratory analysis, including date and time of sample collection and the assigned sample IDs;
- Initial depth to water, if encountered;
- Drilling observations;
- Volume of water added during drilling (if applicable);
- Photograph of the ~~well~~boring location; and
- Deviations from the SOP or SAP, if any.

8.0 QUALITY ASSURANCE/QUALITY CONTROL

QA/QC samples collected in association with subsurface sampling include field duplicates, split samples, and equipment blanks. The frequencies and location of QA/QC samples are described in SAP Worksheet 20. Field duplicates and split samples are collected concurrently with primary samples, following the stepwise procedures provided in Section 6.4 of this SOP.

Equipment blanks will be collected to verify efficacy of equipment decontamination and to assess the potential for potential sample contamination from non-disposable sampling equipment. If required (see SAP Worksheet 20), equipment blanks will be collected by pouring de-ionized water through the sampling equipment (following decontamination) and collecting the equipment rinse directly into laboratory-provided containers.

9.0 DEVIATIONS

Deviations from this SOP must be reviewed, approved, and documented in accordance with the SAP (Worksheet 14).

In cases where a deviation is "minor", and both ERM and EPA agree in "real time" that the deviation is appropriate, the deviation may be implemented and subsequently documented (e.g., later that day) by completion of a Field Modification Form. Note that agreement must be reached before implementing any such deviation. This may be accomplished by a consultation between the field team leader and an EPA oversight representative present at the site, or by calling the EPA RPM or designee. In the event that an EPA representative cannot be reached, or if the EPA representative cannot issue a decision in "real time," then no deviation shall be implemented until authorization is granted.

In the event of a proposed "major" deviation from the SOP, the proposing party (either ERM or the EPA) shall complete a Field Modification Form for review and consideration by both parties. After a decision is reached and authorization for the change is approved, then the revision may be implemented.

10.0 REFERENCES

ASTM D2487 - 11 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).

ASTMD6914 -04 (2010) Standard Practice for Sonic Drilling for Site Characterization and the Installation of Subsurface Monitoring Devices.

Geoprobe. 2010. *Geoprobe® DT45 Dual Tube Sampling System. Standard Operating Procedure.*

USEPA. 1991. *Description and sampling of Contaminated Soils: A Field Pocket Guide.* EPA/625/12-91/002.

USEPA. 1992. *Preparation of Soil Sampling Protocols: Sampling Techniques and Strategies.* EPA/600/R-92/128.

USEPA. 2001. *Methods for Collection, Storage and Manipulation of Sediments for Chemical and Toxicological Analyses: Technical Manual.* EPA-823-B-01-002. October 2001~~2011. Science and Ecosystem Support Division. Operating Procedure: Soil Sampling. SOP EPA Region 4. http://www.epa.gov/region4/sesd/fbqstp/Soil-Sampling.pdf. Accessed on 8/22/13~~.

USEPA. 2011. Science and Ecosystem Support Division. Operating Procedure: Soil Sampling. SOP EPA Region 4. http://www.epa.gov/region4/sesd/fbqstp/Soil-Sampling.pdf. Accessed on 8/22/13.

Table 1 ERM Soil Classification System

Particle Size

Boulders		10 inch diameter or greater
Cobbles		3 to 10 inch
Gravel	Coarse	3/4 inch to 3 inch
	Fine	1/8 inch to 3/4 inch
Sand	Very Coarse	1mm to 1/8 inch (3.2mm)
	Coarse	0.5mm to 1mm
	Medium	0.25mm to 0.5mm
	Fine	0.125mm to 0.25mm
	Very Fine	0.0625mm to 0.125mm
Silt		0.0039mm to 0.0625mm
Clay		0.0039mm diameter or less

Relative Proportions

Descriptive Term	*Percent*
Trace	1 – 10
Little	11-20
Some	21-35
Lithologic Modifier	36-50
And	Equal Proportions

Note: Very coarse, coarse, medium, fine, very fine can be abbreviated as vc/c/m/f/vf. Visual classification of particle size is difficult, so use a range of sizes if appropriate (e.g., f/m, m/c).

Table 2 Soil Descriptors

Coarse-Grained Samples (Boulders, Cobbles, Gravels, Sand, Silt, and Combinations)

DENSITY

DESCRIPTOR	*BLOWS/FEET*
Very loose	0-4
Loose	5-10
Firm	11-20
Dense	31-50
Very Dense	51 +

ANGULARITY

DESCRIPTOR	*CHARACTERISTIC*
Angular	Particles have sharp edges and relatively planar sides with unpolished surfaces
Subangular	Particles are similar to angular description but have rounded edges
Subrounded	Particles are similar to angular description but have well-rounded corners and edges
Rounded	Particles have smoothly curved sides and no edges

Other Descriptors: Stratified, laminated, lenses, homogeneous.

Table 2 Soil Descriptors (continued)

Fine-Grained Samples (Silt, Clay or Combinations)

CONSISTENCY

DESCRIPTOR	*BLOWS/FEET*
Very soft	0-1
Soft	2-4
Firm	5-8
Stiff	9-15
Very Stiff	16-30
Hard	31 +

PLASTICITY

DESCRIPTOR	*CHARACTERISTIC*
Nonplastic	A 3mm thread cannot be rolled at any water content
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit. The thread cannot be re-rolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit

Others: Stratified, laminated, fissured, slickensided, blocky, lenses, homogeneous.

Note: Laminated means essentially the same as stratified, except layers are less than 0.25 inches thick.

How to tell if fine-grained materials are mostly silt or mostly clay: Form a ¾-inch cube with the moist material. Allow it to dry. Compress the dry cube with your fingers. If the material is silt, it should disintegrate easily. If it is clay, the cube should be very hard and resistant to pressure.

Attachment 1

Equipment List

Equipment List for Subsurface Soil, Sediment, and Waste Sampling

Equipment	Required	Recommended
Liner cutter and extra blades	X	
PID and calibration gas	X	
Flat-bottom stainless-steel shovel		X
Flat-bottom stainless-steel scoops	X	
Stainless steel bowls/or trays	X	
¼ inch (6.35 mm) mesh screen, stainless steel	X	
Measuring Tape	X	
Portable table	X	
Plastic Sheeting	X	
Nitrile gloves	X	
Cut-resistant Gloves	X	
Putty knives	X	
Hand-held GPS with extra batteries	X	
Camera	X	
Personal protective equipment (see HASP)	X	
Field documentation forms	X	
Sample containers	X	
Coolers with Ice	X	
Dry erase board and markers	X	
~~Electronic water level indicator~~	~~X~~	
Decontamination supplies (see SOP USM-03)	X	

Attachment 2

ERM Global Subsurface Clearance Process *~~Document, Version 3.0. April 2013~~*

Attachment 3

Boring / Sediment Core Log ~~Form~~Forms

Attachment 4

~~*Soil Logging Procedure*~~

~~*Attachment 5*~~

Equipment Calibration Sheet and PID Operation Manual

Appendix B
USEPA-Approved Field Modifications

FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704

US Magnesium Phase 1A-B RI Sampling & Analysis Plan

Field Modification Tracking Number: 1

Requested by: ERM

Date: 9/25/2015

Description of Deviation:

ERM PROPOSES TO MOVE THE SAMPLE LOCATION FOR PRIS-04 100 FT. TO THE NORTHEAST FROM THE ORIGINAL SAP LOCATION. THE REASONING FOR THE ADJUSTED LOCATION IS TO MOVE THE SAMPLE OFF THE ROAD INTO NATIVE MATERIAL.

☐ EPA Region 8 has reviewed this field modification and approves as proposed.

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

of EarthFax Engineering

EPA RPM or Designee

9/25/2015

Date

Each approved Field Modification Form will be incorporated into the Phase 1A-B RI Data Report.

Kevin Lundmark

From: Kevin Lundmark
Sent: Monday, October 12, 2015 3:53 PM
To: Catherine D. LeCours (clecours@PWT.COM)
Subject: Adjusted sample locations

Hi Catherine –
Grid sample for location 5-4 was moved to 4530942.66 m N, 356015.51 m E for Field Mod #1.

Biased samples for locations 7-16 and 7-17 were collected as follow, based on access/field conditions:

7-16	4533127.94 m N, 355384.41 m E
7-17	4533140.32 m N, 356196.28 m E

Thanks,
Kevin
. . . .

Kevin Lundmark
ERM

136 East South Temple
Suite 2150
Salt Lake City, UT 84111

801-204-4300 (Main)
801-204-4313 (Direct)
801-440-8296 (Mobile)
801-595-8484 (Fax)

kevin.lundmark@erm.com
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FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704

US Magnesium Phase 1 Oversight QAPP

Document Tracking Number: 14C-1- 2

Requested by: ERM

Date: 10/1/15

Description of Deviation:

ERM PROPOSES TO ABANDON BOREHOLES RESULTING FROM HAND AUGERING IN BACKGROUND LOCATIONS WITH LEFT OVER SOIL FOLLOWING SAMPLE COLLECTION. THIS DEVIATION FROM SOP-09 WILL NOT REQUIRE BOREHOLE ABANDONMENT USING HYDRATED 1/4" BENTONITE CHIPS

☑ EPA Region 8 has reviewed this field modification approves as proposed.

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

EPA RPM or Designee

10/1/15
Date

Each approved Field Modification Form will become part of Attachment 17B in the Oversight QAPP and also incorporated into the appropriate Oversight Results Report. A copy is to be provided to all recipients identified on QAPP Worksheet #3.

FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704
US Magnesium Phase 1A-B RI Sampling & Analysis Plan

Field Modification Tracking Number: 3

Requested by: ERM Date: 10/7/15

Description of Deviation:
EPM proposes to move the sample location for LBSE-10, 25 ft. to the north from the original SAP location. The reasoning for the adjusted location is to move the sample off of a salt hardpan into soil material

☒ EPA Region 8 has reviewed this field modification and approves as proposed.

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

EPA RPM or Designee

10/9/15
Date

Each approved Field Modification Form will be incorporated into the Phase 1A-B RI Data Report.

From: Kevin Lundmark
Sent: Wednesday, October 07, 2015 3:57 PM
To: Wangerud, Ken; David Abranovic
Cc: R. David Gibby (dgibby@usmagnesium.com); Justin Burning; Judy Nedoff; Anthony Sutter; Catherine D. LeCours (clecours@PWT.COM)
Subject: Phase 1A-B RI Daily Progress Report for 7 October 2015

Ken and David –

Per the requirements of the Phase 1A-B SAP Worksheet #33, please find below the Daily Progress Report for Phase 1A-B RI sampling activities.

Sampling Completed
Collected background surface soil samples at locations LBSE-6 through LBSE-10 and collected a background subsurface soil sample at location LBSE-7.

Field Modifications
A field modification request was submitted this day to adjust the location of sample location LBSE-10 approximately 20 feet to north, modified location = UTM 4532744.75 m N, 367094.12 m E.

Other Issues
None

Thank you,
Kevin

. . . .

Kevin Lundmark
ERM

136 East South Temple
Suite 2150
Salt Lake City, UT 84111

801-204-4300 (Main)
801-204-4313 (Direct)
801-440-8296 (Mobile)
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. . . .

FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704

US Magnesium Phase 1A-B RI Sampling & Analysis Plan

Field Modification Tracking Number: 4

Requested by: Kevin Lundmark ERM Date: 10/23/2015

Description of Deviation:
A hand auger was not available for collecting subsurface screening sample @ location BR-3 on 10/22/2015. ERM collected the 2"-36" b.g.s. sample using a new post hole digger instead. The eqpt was decontaminated using detergent and alcohol before use.

☒ EPA Region 8 has reviewed this field modification and approves as proposed.

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

EPA RPM or Designee

Date: 10·23·15

Each approved Field Modification Form will be incorporated into the Phase 1A-B RI Data Report.

FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704
US Magnesium Phase 1A-B RI Sampling & Analysis Plan

Field Modification Tracking Number: 5

Requested by: Lonnie Mercer

Date: 10/27-28/2015

Description of Deviation:

Surface solids samples collected at locations 5-07, 5-08, 5-12, 6-09, 6-11, and 6-13 did not meet all sample acceptability criteria defined in SOP USM-12. After at least three sample aliquots were collected at each location (four sample aliquots were collected at location 5-07 to obtain sufficient sample volume), ERM consulted with USEPA/PWT to seek approval to composite the collected aliquots for sample collection in accordance with SOP USM-12 (see Procedure 6.3 17[a]). At the time of sampling, USEPA/PWT provided verbal approval for compositing the collected aliquots at these locations, and ERM and USEPA/PWT agreed that a field modification approval form would be completed after collection of all surface solids samples in inundated areas of PRIs 5 and 6. Sediment sampling field data sheets are attached.

The collected samples included in this field modification are considered representative of surface solid media at their respective sample locations based on visual inspection of the sample, the absence or limited presence of waste, and the native soil lithology in the collected samples.

☒ EPA Region 8 has reviewed this field modification and approves as proposed.

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

EPA RPM or Designee

10/29/15
Date

Each approved Field Modification Form will be incorporated into the Phase 1A-B RI Data Report.

FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704

US Magnesium Phase 1A-B RI Sampling & Analysis Plan

Field Modification Tracking Number: 6

Requested by: ERM

Date: 10/29/15

Description of Deviation:

ERM PROPOSES TO MOVE SAMPLING LOCATION FOR SURFACE SEDIMENT AT PRI 4-14 FROM THE SAP LOCATION DUE TO THE ORIGINAL LOCATION BEING INUNDATED WITH WASTE WATER. THE PROPOSED ADJUSTED LOCATION IS APPROX. 50 FT. SOUTH OF WASTE WATER'S EDGE, IN LINE N-S WITH SAP LOCATION. UTMs 4532195.60 mN
354421.79 mE

☒ EPA Region 8 has reviewed this field modification and approves as proposed.

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

EPA RPM or Designee

10/30/15
Date

Each approved Field Modification Form will be incorporated into the Phase 1A-B RI Data Report.

FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704

US Magnesium Phase 1A-B RI Sampling & Analysis Plan

Field Modification Tracking Number: 7

Requested by: ERM (Jason Hiller)

Date: 11/4/15

Description of Deviation:

- Sample processing during subsurface sampling
- If 100% of the 1st grab aliquot passes through the 1/4" sieve, the remaining aliquots for that sample can be placed directly on the sample tray. If any material from the 1st aliquot is retained by the sieve, the remaining aliquots must be sieved.
- this procedure is stated in USM-01 (SOP)

☒ EPA Region 8 has reviewed this field modification and approves as proposed.

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

EPA RPM or Designee

11/4/15
Date

Each approved Field Modification Form will be incorporated into the Phase 1A-B RI Data Report.

FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704
US Magnesium Phase 1A-B RI Sampling & Analysis Plan

Field Modification Tracking Number: 8

Requested by: Lonnie Mercer

Date: 11/10/2015

Description of Deviation:

Based on drill rig access limitations in the saturated/soft Old Waste Pond (OWP) sediments, subsurface solids sample location 7-04 was modified to an accessible location (referred to as location 7-04SB with coordinates UTM Zone 12 355018 m E, 4532068 m N). ERM consulted with PWT to seek approval for the field-modified sample location.

SAP location 7-04 is located in the historical inlet area of the OWP in-line with the historical Main Ditch outlet to the OWP. Locations 7-04SB and 7-04 are approximately 100 and 250 feet from the OWP shoreline, respectively. At the time of sampling, location 7-04SB was considered representative of subsurface solid media in this area based on its distance to the OWP shoreline, its location within the historical inlet area, surface conditions, and the soil lithology observed in the soil cores recovered from location 7-04SB and from hand auger borings advanced at SAP location 7-04.

☒ EPA Region 8 has reviewed this field modification and approves as proposed.

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

EPA RPM or Designee

Date 11/12/15 (approved verbally on 11/10/15)

Each approved Field Modification Form will be incorporated into the Phase 1A-B RI Data Report.

FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704

US Magnesium Phase 1A-B RI Sampling & Analysis Plan

Field Modification Tracking Number: ~~8~~ 9 RWC

Requested by: Lonnie Mercer Date: 11/24/15

Coordinates of Mod Locations
1-04
4531037mN
353976mE
1-12
4531751mN
354707mE

Description of Deviation:
Sample locations 1-04 and 1-12 were modified from their respective SAP locations. The SAP locations were not accessible by foot. The modified locations were accessible by foot and were in the intended areas (Main Ditch alignment adjacent to PRI Area 5 waste pond for 1-12 and near head of Central Ditch for 1-04).

☒ EPA Region 8 has reviewed this field modification and approves as proposed.

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

EPA RPM or Designee

Date 11/24/15

Each approved Field Modification Form will be incorporated into the Phase 1A-B RI Data Report.

FIELD MODIFICATION APPROVAL FORM

EPA Site Identification Number UTN000802704
US Magnesium Phase 1A-B RI Sampling & Analysis Plan

Field Modification Tracking Number: 10

Requested by: Kevin Lundmark Date: 7 December 2015

Description of Deviation:

ERM will analyze subsurface samples from locations 1-08 and 5-16 collected on 5 November and 2 December 2015 as follows:

Location 1-08

11/5/2015 samples - drilled at 45° angle, depths adjusted to vertical provided in parentheses
  8.5 to 10 ft (6 to 7 ft) [Native Material] – ANALYZE
  0.5 to 7 ft (0.4 to 5 ft) [Waste] and 7 to 8.5 ft (5 to 7 ft) [Waste] - CANCEL

12/2/2015 samples - cored vertically, native material at 7 ft
  1 to 3 ft [Waste], 3 to 5 ft [Waste], and 5 to 6 ft [Waste] - ANALYZE

Location 5-16

11/5/2015 samples
  6.5 to 8 ft [Native Material] - ANALYZE
  0.5 to 6.5 ft [Waste] and 8 to 10 ft [Native Material] - CANCEL

12/2/2015 samples (native material at 5 ft)
  0.5 to 2 ft [Waste], 2 to 4 ft [Waste], and 4 to 5 ft [Waste] - ANALYZE

Subsurface samples were collected at locations 1-08 and 5-16 on two occasions during Phase 1A-B, 5 November and 2 December 2015, and have been submitted to the analytical laboratories. To resolve the associated analyses, ERM proposes to analyze all shallow/waste zone samples from the 2 December event and to analyze first native material samples from the 5 November event. For the 5 November event samples that are cancelled, any short hold time analyses completed would not be reported. This proposal should provide for complete characterization of shallow/waste and native material intervals and would eliminate the need to correlate sample intervals across different sampling methods.

☒ EPA Region 8 has reviewed this field modification and approves as proposed. 12/7/15

☐ EPA Region 8 has reviewed this field modification and approves with the following exceptions:

☐ EPA Region 8 has reviewed this field modification and does not agree with the proposed approach for the following reasons:

EPA RPM or Designee

12-7-15
Date

Each approved Field Modification Form will be incorporated into the Phase 1A-B RI Data Report.

FIELD MOD 10
p. 2

Appendix C
Field Documentation

C-1 Surface Solids Sampling Forms

C-2 Field Borehole Logs

C-3 Field Logbooks

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 1-01
DATE 11/19/15
Begin Sampling Time 11:45
End Sampling Time 12:10
ERM Samplers KB, TH, SS
EPA Oversight TJ
Weather Cloudy, 40s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 5
Saturated? [✓ Y] / N (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID:
Sample Time: 11:50
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, gray, wet, w/ gravel

Bottles Filled

1 4-oz Glass (unpres)
1 8-oz Glass (unpres)
3 En Core® (unpres)
En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)
___ 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples Y / [✓ N] (circle)
Analyses ______

Signature ______ Date 11/19/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 1-02

DATE 11/19/15

Begin Sampling Time 12:30

End Sampling Time 13:00

ERM Samplers KB, TH

EPA Oversight TJ

Weather Cloudy, 40s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 6

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ____ inches

Waste Depth ____ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Sheen on water

5. Sample Description

Sample ID: 1-02-SS-01-111915

Sample Time: 12:40

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, clayey, gray, wet, gravel/cobbles

Bottles Filled

1 4-oz Glass (unpres)

1 8-oz Glass (unpres)

3 En Core® (unpres)

En Core® Pre-Engaged? ([✓ Y] N)

1 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y [✓ N] (circle)

Analyses ____

Signature

Date 11/19/15

Sediment Sampling Field Data Sheet

Date: 12/3/15	Time: 9:30	ERM Sampler(s): FB, GR, SS	Sample Location: 1-03

Sample attempt number: 1

Sampler type: PONAR

Sample penetration depth (inches): 6

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

flat

Waste thickness (inches): 6

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 1st	Aliquots composited for sample volume: 1

Sample ID: 1-03-SS-01-120315	Sample Time: 9:40	Bottles Filled: 16	EPA Split Samples? Yes / [✓ No]

Sample Description:

SILT, clayey, red, wet, areas of gray clay material

Notes / Observations:

Collected DUP: 1-03-SS-11-120315 @ 9:41

Signature ____________________ Date 12/3/15

Rev 0 July 2015

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 1-04

DATE 11/24/15

Begin Sampling Time 1130

End Sampling Time 1210

ERM Samplers Lonnie Mercer / Trent Hamada

EPA Oversight Aaron Baird

Weather

cloudy, calm, cold (temps in 30s)

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Near head of Central Ditch; access from west bank where bank erosion made slope to allow access by foot; sample location at water edge (1-1.5 feet from shoreline); Wastewater flowing in channel in the ditch; wastewater is effervesing in some locations in the ditch; no vegetation. Location field modified to enable access by foot.

3. Location

UTM North (m) 4531037

UTM East (m) 353976

GPS Accuracy

Location Field Modified? [✓ Y] N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 11

large sample volume required for EPA split

Saturated? [✓ Y] N (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness >60 inches

Waste Depth 0 - >60 inches bgs

Waste Appearance (describe):

brownish red gravelly sand with silt and clay,

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Acidic wastewater reacted by effervescence during hand augering. Sample media did not react in jars. Used pallet as platform for ditch bottom access.

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: 1-04-SS-01-112415

Sample Time: 1130

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

GRAVELLY SAND with silt and clay, brownish red, saturated, very loose, up to 1" diameter gravel, angular gravel.

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? [✓ Y] / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	1 40-mL VOA (Methanol)	En Core® Hand-Filled? [✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID

EPA Split Samples [✓ Y] N (circle)

Analyses

Signature Date 11/24/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		Gravelly sand with silt and clay, brownish red, saturated, very loose.
6 – 12		Grades to silty sand, brownish red, saturated, very loose.
12 – 18		Poor recovery from 12"-60" bgs. Very soft
18 – 24		
24 – 30		
30 – 36		
36 – 42		Firm soil at 36" bgs but still ~~poor~~ LM poor recovery.
42 – 48		
48 – 54		
54 – 60		

No native soil to 60" bgs.

Signature ____________ Date 11/24/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 1-05
DATE 11/19/15
Begin Sampling Time 13:00
End Sampling Time
ERM Samplers KB, TH
EPA Oversight TJ
Weather Cloudy, 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m)
UTM East (m)
GPS Accuracy
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 5
Saturated? [✓ Y] N (circle)
Waste Potentially Present? [✓ Y] N (circle)
Waste Thickness 4 inches
Waste Depth 0-4 inches bgs
Waste Appearance (describe):
SILT, reddish orange wet

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 1-05-SS-01-111915
Sample Time: 13:25
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
0-4" - SILT, reddish orange, wet
4-6" - CLAY, gray, wet

Bottles Filled

1 4-oz Glass (unpres)
1 4-oz Glass (1/3 headspace)
8 8-oz Glass (unpres)
___ 16-oz Glass (unpres)
3 En Core® (unpres)
1 40-mL VOA (Methanol)
En Core® Pre-Engaged? [✓ Y] N
En Core® Hand-Filled? [✓ Y] N

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID
EPA Split Samples Y / N (circle)
Analyses

Signature Date 11/19/15

Sediment Sampling Field Data Sheet

Date: 12/3/15	Time: 11:40	ERM Sampler(s): SS, GF, JB	Sample Location: 1-06

Sample attempt number:

Sampler type: PONAR

Sample penetration depth (inches): 6

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: Red

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Flat

Waste thickness (inches): 6

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 1	Aliquots composited for sample volume: 1

Sample ID: 1-06-SS-01-120315	Sample Time: 11:20	Bottles Filled: 9	EPA Split Samples? Yes / No

Sample Description:

SAND, silty, reddish orange w/ gray, wet

Notes / Observations:

Signature ______________________ Date 12/3/15

Sediment Sampling Field Data Sheet

Date:	Time:	ERM Sampler(s):	Sample Location:
12/3/15	10:50	SS, BR, KB	1-07

Sample attempt number: 1

Sampler type: PONAR

Sample penetration depth (inches): 6

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / ~~No~~

Water appearance: ~~[illegible]~~ Reddish orange

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

flat

Waste thickness (inches): 6

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No	Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 1	Aliquots composited for sample volume: 1

Sample ID: 1-07-SS-01-120315	Sample Time: 11:00	Bottles Filled: 9	EPA Split Samples? Yes [✓ No]

Sample Description:

SAND, silty, brownish orange & grey, wet,

Notes / Observations:

Signature Date 12/3/15

Sediment Sampling Field Data Sheet

Date:	Time:	ERM Sampler(s):	Sample Location:
12/3/15	10:10	SS, GR, KB	1-08

Sample attempt number: 1

Sampler type: PONAR

Sample penetration depth (inches): 6

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: Red

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Flat

Waste thickness (inches): 6

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

<table>
<tr><td colspan="2">Sample attempt number:
Sampler type:
Sample penetration depth (inches):
Sampler overfilled? Yes / No
Overlying water present? Yes / No
Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):
Acceptable sample? Yes / No</td><td colspan="2">Sample attempt number:
Sampler type:
Sample penetration depth (inches):
Sampler overfilled? Yes / No
Overlying water present? Yes / No
Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):
Acceptable sample? Yes / No</td></tr>
<tr><td colspan="2">Aliquot number from which VOCs were collected:
1</td><td colspan="2">Aliquots composited for sample volume:
1</td></tr>
<tr><td>Sample ID:
1-08-SS01-120315</td><td>Sample Time:
10:20</td><td>Bottles Filled:
14</td><td>EPA Split Samples?
Yes / [✓ No]</td></tr>
<tr><td colspan="4">Sample Description:
SILT, clayey, red, wet, with grey clay material</td></tr>
<tr><td colspan="4">Notes / Observations:
Collected sample volume for lab dup/MS/MSD</td></tr>
</table>

Signature ______________________ Date 12/3/15

Rev 0 July 2015

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 1-09

DATE 11/23/15

Begin Sampling Time 1305

End Sampling Time 1345

ERM Samplers Lonnie Mercer / Trent Hamada

EPA Oversight Tim Jimenez

Weather

Mostly cloudy, Cold (temps in 30s)

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Main Ditch between landfill and gypsum pile; access from south bank; bank is approximately 4-5 feet above ditch bottom with sloped bank for ingress/egress; no standing water at sample location; main ditch flow in channel along north bank; no vegetation; some landfill debris in ditch.

3. Location

UTM North (m)

UTM East (m)

GPS Accuracy

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 5

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness >60 inches

Waste Depth 0->60 inches bgs

Waste Appearance (describe):

reddish brown clay with trace white layers, saturated, very soft

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Used pallet to access ditch bottom. No reactivity noted in Methanol preserved vial.

5. Sample Description

Sample ID: 1-09-SS-01-112315 ~~tri~~ LM

Sample Time: 1305

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, reddish brown and white, saturated, trace silt, trace fine sand, very soft.

Bottles Filled

1 4-oz Glass (unpres)
4 8-oz Glass (unpres)
3 En Core® (unpres)
En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)
2 16-oz Glass (unpres)
1 40-mL VOA (Methanol)
En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Trip blank 1-09-SS-21-112315 @ 1330

Field Dup Sample ID

EPA Split Samples Y [✓ N] (circle)

Analyses

Signature

Date 11/23/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		CLAY, reddish brown, saturated, very soft, trace silt, trace fine sand, occassional white layers. ~~Whit.~~ LM
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		No native soil to depth of 60" bgs.

Signature ______________ Date 11/23/15

Surface Solids Sampling Form – US Magnesium RI/FS ERM

1. Site Information

LOCATION ID 1-10

DATE 11/23/15

Begin Sampling Time 1155

End Sampling Time 1230

ERM Samplers Lonnie Mercer / Trent Hamada

EPA Oversight Tim Jimenez

Weather

mostly cloudy, cold (temps in low 30s)

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Main Ditch between landfill and gypsum pile; access from south bank; bank is approximately 12" above water level in ditch; no standing water at sample location; main ditch flow in channel on north bank; no vegetation.

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 6

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 0-60 inches

Waste Depth 0-60 inches bgs

Waste Appearance (describe):

reddish brown clay, saturated, very soft

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Used pallet to access ditch bottom. No reactivity noted in Methanol preserved vial.

5. Sample Description

Sample ID: 1-10-SS-01-112315

Sample Time: 1155

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, reddish brown, saturated, trace silt, trace fine sand, very soft.

Bottles Filled

2 4-oz Glass (unpres)

2 4-oz Glass (1/3 headspace)

8 ~~4~~ LM 8-oz Glass (unpres)

4 16-oz Glass (unpres)

6 En Core® (unpres)

2 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup [✓ Y] / N (circle)

Field Dup Sample ID 1-10-SS-11-112315 @1200

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

Signature ____ Date 11/23/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		CLAY, reddish brown, saturated, very soft, trace silt, trace fine sand, occasional white layers.
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Native soil @ 60" — gray silty clay

Signature ______________ Date 11/23/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 1-11

DATE 11/23/15

Begin Sampling Time 1100

End Sampling Time 1140

ERM Samplers Lonnie Mercer / Trent Hamada

EPA Oversight Tim Jimenez

Weather

partly cloudy, cold (temps in high 20s)

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Main Ditch near ~~inf~~ LM inlet to PRI5 pond; access from south bank of ditch; bank is approximately 18" above water level in ditch; sample location is immediately upstream of meander bend of ditch flow; water in ditch is offgassing; water has slight rainbow sheen; water depth is 2-3 inches deep at sample location; no vegetation.

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 7

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness >60 inches

Waste Depth >60 inches bgs

Waste Appearance (describe):

reddish brown clay, very soft, saturated

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Used wooden pallet as platform to access ditch bottom. No reactivity noted in Methanol preserved vial.

5. Sample Description

Sample ID: 1-11-SS-01-112315

Sample Time: 1100

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, reddish brown, saturated, very soft, trace sand.

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	1 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] / N (circle)

Analyses ________

Signature ________ Date 11/23/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		CLAY, reddish brown, saturated, very soft, trace sand.
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		White layer
42 – 48		Grades to orangish brown color.
48 – 54		
54 – 60		

No native soil to depth of 60" bgs.

Signature ____________ Date 11/23/15

Surface Solids Sampling Form – US Magnesium RI/FS ERM

1. Site Information

LOCATION ID 1-12

DATE 11/24/15

Begin Sampling Time 1000

End Sampling Time 1045

ERM Samplers Lonnie Mercer / Trent Hamada

EPA Oversight Aaron Baird

Weather Cloudy, calm, cold (temps in low 30s)

2. Description / Location Notes

Description (Setting, Distance from Site Features): ~~So Lu~~ North bank of PRI5 pond adjacent to Main Ditch inlet; access from 2' high bank to shoreline along bank; sample location at water edge; bank of berm road appears to be eroding; no vegetation. Location was field modified to enable access by foot. SAP location is 60-70 feet from shoreline.

3. Location

UTM North (m) 4531751

UTM East (m) 0354707

GPS Accuracy

Location Field Modified? [✓ Y] N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 5

Saturated? [✓ Y] N (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness 7 inches

Waste Depth 0-7 inches bgs

Waste Appearance (describe): reddish brown clay with interbedded gray silty sand from bank erosion

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations) Used pallet to access pond shoreline. Sample media did not react in jars. Acidic wastewater reacted with oolitic sand during hand augering.

5. Sample Description

Sample ID: 1-12-SS-01-112415

Sample Time: 1000

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY SAND with clay, gray and reddish brown, fine to coarse oolitic sand, saturated, trace gravel.

Bottles Filled

1 4-oz Glass (unpres) 4 8-oz Glass (unpres) 3 En Core® (unpres) En Core® Pre-Engaged? ([✓ Y] / N)

1 4-oz Glass (1/3 headspace) 2 16-oz Glass (unpres) 1 40-mL VOA (Methanol) En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID

EPA Split Samples Y / [✓ N] (circle)

Analyses

Signature Date 11/24/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		Reddish brown clay from 0-1" bgs. Gray silty sand from 1-6" bgs.
6 – 12		Reddish brown silty clay from 6-7" bgs. @7" bgs Silty sand, gray to dark gray, minor clay, saturated, medium to coarse oolitic sand, very loose.
12 – 18		(Fill material beneath berm road on North bank of ditch/pond).
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		@48" bgs Silty clay, gray, stiff, high plasticity. (Native soil)
54 – 60		

Signature ______________ Date 11/24/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 1-13

DATE 11/23/15

Begin Sampling Time 930

End Sampling Time 1000

ERM Samplers Lonnie Mercer / Trent Hamada

EPA Oversight Tim Jimenez

Weather Partly cloudy, hazy, cold (temps in 20s)

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Former Main Ditch area near inlet to Old Waste Pond; ditch was filled in; surface soil is fill material that was likely sourced from native soil in the vicinity; sparse grasses at sample location.

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 1-13-SS-01-112315

Sample Time: 930

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SANDY SILT w/ gravel, brown, fine to medium sand, oolitic sand, moist, trace clay.

Bottles Filled

1 4-oz Glass (unpres)

4 8-oz Glass (unpres)

3 En Core® (unpres)

En Core® Pre-Engaged? ([✓ Y] / N)

1 4-oz Glass (1/3 headspace)

2 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / [✓ N])

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] / N (circle)

Analyses ________

Signature ________ Date 11/23/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		No waste from 0-6"
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature Date 11/23/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 1-14
DATE 11/19/15.
Begin Sampling Time 11:00
End Sampling Time 11:30
ERM Samplers KB, TH
EPA Oversight TJ
Weather Cloudy 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval ____ inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? [✓ Y] / N (circle)
Waste Thickness 6+ inches
Waste Depth 0-6 inches bgs
Waste Appearance (describe):

SILT, sandy, reddish orange, moist

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 1-14-SS-01-111915
Sample Time:
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, sandy, reddish orange, moist,

Bottles Filled

1 4-oz Glass (unpres)
1 4-oz Glass (1/3 headspace)
8 8-oz Glass (unpres)
__ 16-oz Glass (unpres)
3 En Core® (unpres)
__ 40-mL VOA (Methanol)
En Core® Pre-Engaged? ([✓ Y] / N)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y / [✓ N] (circle)
Analyses ____

Signature ____ Date 11/19/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. *Site Information*

LOCATION ID 3-01
DATE 11/17/15
Begin Sampling Time 0935
End Sampling Time 10:30
ERM Samplers TH, KB, SS
EPA Oversight A. Baird
Weather
overcast, 30s

2. *Description / Location Notes*

Description (Setting, Distance from Site Features):

3. *Location*

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. *Field Preservation / Field Measurements*

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 6
Saturated? [✓ Y] / N (circle)
Waste Potentially Present? [✓ Y] N (circle)
Waste Thickness 14 inches
Waste Depth 0-14 inches bgs
Waste Appearance (describe):
Black & orange w/ clay

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. *Sample Description*

Sample ID: 3-01-SS-01-111715
Sample Time: 09:45
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, brown/orange, wet, some sand and organics

Bottles Filled

1 4-oz Glass (unpres)
1 4-oz Glass (1/3 headspace)
4 8-oz Glass (unpres)
2 16-oz Glass (unpres)
3 En Core® (unpres)
___ 40-mL VOA (Methanol)
En Core® Pre-Engaged? ([✓ Y] / N)
En Core® Hand-Filled? ([✓ Y] N)

6. *QC Samples*

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples [✓ Y] / N (circle)
Analyses ____

Signature ____ Date 11/17/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 3-02

DATE 11/16/15

Begin Sampling Time 1240

End Sampling Time 1250

ERM Samplers KB KL

EPA Oversight TJ

Weather Cloudy, Windy, 30's

2. Description / Location Notes

Description (Setting, Distance from Site Features):

@ GAP location

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 6

Saturated? [✓ Y] N (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness — inches

Waste Depth — inches bgs

Waste Appearance (describe): N/A

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Water in holes @ 3" bgs
organic Duff/Roots over
gray silty clay.
No (Red) waste observed.
Extra grab (#6) obtained
for VOCs

5. Sample Description

Sample ID: 3-02-SS-01-111615

Sample Time: 1250

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT LOAM, clayey, Dk. Brown, wet, much organics/roots

Bottles Filled

1 4-oz Glass (unpres)

2 8-oz Glass (unpres)

3 En Core® (unpres)

En Core® Pre-Engaged? ([✓ Y] N)

1 4-oz Glass (1/3 headspace)

2 16-oz Glass (unpres)

— 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y [✓ N])

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____________

EPA Split Samples Y / [✓ N] (circle)

Analyses ____________

Signature ____________ Date 11/16/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 3-03

DATE 11/16/15

Begin Sampling Time 1320

End Sampling Time 1330

ERM Samplers KL, KB

EPA Oversight TJ

Weather Windy, cloudy, 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

@ SAP location SE corner S.L.

3. Location

UTM North (m)

UTM East (m)

GPS Accuracy

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0 - 6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness >6 inches

Waste Depth >6 inches bgs

Waste Appearance (describe):

Red silty sand

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Silty sand, Red, moist, some roots

5. Sample Description

Sample ID: 3-03-SS-01-111615

Sample Time: 1330

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

See above

~~TRBLANK~~ KWL TRIP BLANK 3-03-SS-21-111615 @1331

Bottles Filled

1 4-oz Glass (unpres)

4 8-oz Glass (unpres)

3 En Core® (unpres)

En Core® Pre-Engaged? ([✓ Y] / N)

1 4-oz Glass (1/3 headspace)

2 16-oz Glass (unpres)

0 40-mL VOA (Methanol)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID

EPA Split Samples Y / [✓ N] (circle)

Analyses

Signature

Date 11/16/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	[illegible] Waste / Soil Description
0 – 6		0 – ~~2~~ 1 inch Organic Duff 1 – 6 in Red sandy silt
6 – 12		6 – 12 Red sandy silt
12 – 18		12 – 16 Gray clay w. some sand (native clay)
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________________ Date ____________

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 3-04
DATE 11/17/15
Begin Sampling Time 10:50
End Sampling Time 12:30
ERM Samplers KB, TH, SS
EPA Oversight AB
Weather Cloudy, 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 6
Saturated? [✓ Y] / N (circle)
Waste Potentially Present? [✓ Y] N (circle)
Waste Thickness 3 inches
Waste Depth 0-3 inches bgs
Waste Appearance (describe):
SILT, clayey, brown/black, wet, organic matter

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 3-04-SS-01-111715
Sample Time: 10:58
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown/black to grey, wet, organic matter

Bottles Filled

1 4-oz Glass (unpres)
1 4-oz Glass (1/3 headspace)
4 8-oz Glass (unpres)
1 16-oz Glass (unpres)
3 En Core® (unpres)
___ 40-mL VOA (Methanol)
En Core® Pre-Engaged? ([✓ Y] / N)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples [✓ Y] / N (circle)
Analyses ____

Signature ____ Date 11/17/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 3-05

DATE 11/17/15

Begin Sampling Time 11:45

End Sampling Time 12:36

ERM Samplers KB, SS, TH

EPA Oversight AB

Weather Cloudy 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 1 inches

Waste Depth 0-1 inches bgs

Waste Appearance (describe):

SILT, clayey, black, wet w/ organic matter

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 3-05-SS-01-111715

Sample Time: 11:55

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, gray, moist, organic matter

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

5 8-oz Glass (unpres)

___ 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)

Analyses ______

Signature ______ Date 11/17/15

1. Site Information

LOCATION ID 3-06

DATE 11/17/15

Begin Sampling Time 12:30

End Sampling Time 13:30

ERM Samplers KB, TH, SS

EPA Oversight AB

Weather Cloudy, 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 6

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 8 inches

Waste Depth 0-8 inches bgs

Waste Appearance (describe):

SILT, clayey, reddish orange, dry, organic matter

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 3-06-SS-01-111715

Sample Time: 12:45

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, reddish orange, dry, organic matter

Bottles Filled

2 4-oz Glass (unpres)

16 8-oz Glass (unpres)

6 En Core® (unpres)

En Core® Pre-Engaged? ([✓ Y] N)

2 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

EPA Split Samples Y [✓ N] (circle)

Field Dup [✓ Y] / N (circle) 3-06-SS-01-111715@12:46

Analyses ____________

Field Dup Sample ID ____________

Signature

Date 11/17/15

Surface Solids Sampling Form – US Magnesium RI/FS ERM

1. Site Information

LOCATION ID 3-07

DATE 10/18/15

Begin Sampling Time 9:45

End Sampling Time 10:30

ERM Samplers KB, KL

EPA Oversight TJ

Weather Pt. Cloudy 40s

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

2. Description / Location Notes

Description (Setting, Distance from Site Features):

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Orange staining observed in clay. 0-2" silty duff, 2-4" grades to clay, 4-6" gray clay, stiff & tight.

Screen/log waste (page 2) if waste present at bottom of sample interval

5. Sample Description

Sample ID: 3-07-SS-01-101815

Sample Time: 10:05

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, brown/gray, moist, oxidized/rust ~~st~~ mottling in clay.

Bottles Filled

1 4-oz Glass (unpres) 1 8-oz Glass (unpres) 3 En Core® (unpres) En Core® Pre-Engaged? ([✓ Y] / N)

1 4-oz Glass (1/3 headspace) ___ 16-oz Glass (unpres) ___ 40-mL VOA (Methanol) En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature ________ Date 10/18/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 3-08
DATE 11/18/15
Begin Sampling Time 1040
End Sampling Time 1055
ERM Samplers Benson, Lundwade
EPA Oversight T. Jouenet
Weather
Partly sunny, breezy, 40's

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0 - 6 inches bgs
Number of Grab Aliquots 5
Saturated? [✓ Y] / N (circle) Water @ 4 inches bgs
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness 0 inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

~2" organic loamy silt over clay

5. Sample Description

Sample ID: 3-08-SS-01-111815
Sample Time: 1055
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, gray, ~~moist to~~ KWL wet

Bottles Filled
1 4-oz Glass (unpres)
1 4-oz Glass (1/3 headspace)
1 8-oz Glass (unpres)
0 16-oz Glass (unpres)
3 En Core® (unpres)
0 40-mL VOA (Methanol)
En Core® Pre-Engaged? ([✓ Y] / N)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y / [✓ N] (circle)
Analyses ____

Signature ____ Date 11/18/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 3-09
DATE 11-18-15
Begin Sampling Time 1100
End Sampling Time 1150
ERM Samplers Benson, Lindmark
EPA Oversight T. Jimenez
Weather Mostly sunny, breezy 40's

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

3 inches silty loam (duff) over clay

5. Sample Description

Sample ID: 3-09-SS-01-111815
Sample Time: 1150
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, brown, moist, organic matter (rootlets)

Bottles Filled

2 1 dup 4-oz Glass (unpres)	2 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)	0 16-oz Glass (unpres)	0 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______

EPA Split Samples Y [✓ N] (circle)
Analyses ______

Signature ______ Date 11-18-15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 3-10
DATE 11-18-15
Begin Sampling Time 1210
End Sampling Time 1245
ERM Samplers Lundmark, Benson
EPA Oversight T. Jimenez
Weather Partly Sunny, Breezy, 40's

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________
UTM East (m) ________
GPS Accuracy ________
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

2 to 3 in silty loamy over tight clay. Staining/mottling on clay

Screen/log waste (page 2) if waste present at bottom of sample interval

5. Sample Description

Sample ID: 3-10-SS-01-111815
Sample Time: 1245
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty trace gravel, Dark Gray, moist, trace roots

Bottles Filled

1 4-oz Glass (unpres) 7 8-oz Glass (unpres) 3 En Core® (unpres) En Core® Pre-Engaged? ([✓ Y] N)
+ 4-oz Glass (1/3 headspace) 0 16-oz Glass (unpres) 0 40-mL VOA (Methanol) En Core® Hand-Filled? (Y/N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ________
EPA Split Samples Y / [✓ N] (circle)
Analyses ________

TB = 3-10-SS-21-111815 @ 14:30
FB = 3-10-SS-31-111815 @ 15:00

Signature ________ Date 4 18 15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID 3-11

DATE 11/19/15

Begin Sampling Time 10:25

End Sampling Time

ERM Samplers KB, TH

EPA Oversight TJ

Weather Cloudy 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m)

UTM East (m)

GPS Accuracy

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 8 inches

Waste Depth 0-8 inches bgs

Waste Appearance (describe):

SAND, silty, reddish orange, dry, organic matter

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 3-11-SS-01-111915

Sample Time: 10:35

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, reddish orange, dry, organic matter

Bottles Filled

1 4-oz Glass (unpres)	8 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID

EPA Split Samples Y [✓ N] (circle)

Analyses

Signature

Date 11/19/15

1. Site Information

LOCATION ID 3-12

DATE 11/19/15

Begin Sampling Time 10:00

End Sampling Time 10:20

ERM Samplers KB TH

EPA Oversight TJ

Weather Cloudy 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 3-12-SS-01-111915

Sample Time: 10:10

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, light brown, dry, some organic matter

Bottles Filled

1 4-oz Glass (unpres) 1 8-oz Glass (unpres) 3 En Core® (unpres) En Core® Pre-Engaged? ([✓ Y] N)

1 4-oz Glass (1/3 headspace) ___ 16-oz Glass (unpres) ___ 40-mL VOA (Methanol) En Core® Hand-Filled? ([✓ Y]/ N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature ________ Date 11/19/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 3-13
DATE 11/19/15
Begin Sampling Time 9:30
End Sampling Time 9:55
ERM Samplers KB, TH
EPA Oversight TJ
Weather Cloudy 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 3-13-SS-01-111915
Sample Time: 9:45
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, light brown, dry, some organic matter

Bottles Filled

1 4-oz Glass (unpres)
1 4-oz Glass (1/3 headspace)
7 8-oz Glass (unpres)
___ 16-oz Glass (unpres)
3 En Core® (unpres)
___ 40-mL VOA (Methanol)
En Core® Pre-Engaged? ([✓ Y] / N)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples Y / [✓ N] (circle)
Analyses ______

Signature ______ Date 11/19/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID 3-14

DATE 10/17/15

Begin Sampling Time 10:10

End Sampling Time 10:50

ERM Samplers KB, TH, SJ

EPA Oversight AB

Weather Overcast, 30s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 10 inches

Waste Depth 0-10 inches bgs

Waste Appearance (describe):

SILT, Clayey, brown, organic matter

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 3-14-SS-01-111715

Sample Time: 10:20

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, organic matter, moist

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

__ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] / N (circle)

Analyses ________

Signature ________ Date 11/17/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-01

DATE 10/19/15

Begin Sampling Time 10:00

End Sampling Time 10:40

ERM Samplers KB, LR

EPA Oversight A. Baird

Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 7

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness >60 inches

Waste Depth 0->60" [illegible] inches bgs

Waste Appearance (describe):

GYPSUM

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-01-SS-01-101915

Sample Time: 10:20

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

GYPSUM, reddish orange, moist

Bottles Filled

~~4~~ 2 4-oz Glass (unpres)

2 4-oz Glass (1/3 headspace)

8 8-oz Glass (unpres)

4 16-oz Glass (unpres)

6 En Core® (unpres)

__ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup [✓ Y] / N (circle)

Field Dup Sample ID 4-01-SS-11-101915 @ 10:21

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

Signature

Date 10/19/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		GYPSUM, reddish orange, moist
6 – 12		↓ ↓
12 – 18		12-15 - GYPSUM, reddish orange, moist 15-18: SMUT, gray/white, moist
18 – 24		GYPSUM, reddish orange, moist to wet
24 – 30		↓
30 – 36		↓
36 – 42		↓
42 – 48		↓
48 – 54		↓
54 – 60		↓

Signature ______________________ Date 10/19/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-02

DATE 10/19/15

Begin Sampling Time 10:45

End Sampling Time 11:30

ERM Samplers KB, GR

EPA Oversight A Baird

Weather Windy, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots ____

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness ____ inches

Waste Depth ____ inches bgs

Waste Appearance (describe):

SAND, silty (gypsum), reddish orange w/ gray, moist

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-02-SS-01-101915

Sample Time: 11:00

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, reddish orange. moist to dry, some clay

Bottles Filled

2 4-oz Glass (unpres)
8 8-oz Glass (unpres)
6 En Core® (unpres)
En Core® Pre-Engaged? ([✓ Y] / N)
2 4-oz Glass (1/3 headspace)
4 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / N (circle)

Field Dup [✓ Y] / N (circle)

Field Dup Sample ID 4-02-SS-11-101915 @ 11:01

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

*Trip Blank: 4-02-SS-21-101915 @ 1330

Signature ____ Date 10/19/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		SAND, silty, reddish orange & gray, moist
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________________ Date 10/19/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-03

DATE 10/20/15

Begin Sampling Time 9:50

End Sampling Time 10:20

ERM Samplers KB, TH

EPA Oversight A Baird

Weather Windy 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 7

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / N (circle)

Waste Thickness 0-60 inches

Waste Depth 0-60 inches bgs

Waste Appearance (describe):

Gypsum, reddish orange, moist to dry

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-03-SS-01-102015

Sample Time: 10:10

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

GYPSUM, reddish orange, moist

Bottles Filled

___ 4-oz Glass (unpres)	5 8-oz Glass (unpres)	6 En Core® (unpres)	En Core® Pre-Engaged? [✓ Y] N)
___ 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? [✓ Y] N)

6. QC Samples

MS/MSD [✓ Y] N (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] N (circle)

Analyses ________

Signature ________ Date 10/20/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		Gypsum, reddish orange, moist
6 – 12		
12 – 18		
18 – 24		
24 – 30		Gypsum, reddish orange, dry
30 – 36		White ~~[illegible]~~ percipitate layer, approximately 1/4"
36 – 42		Gypsum
42 – 48		less clayey/dense/powder w/ gypsum
48 – 54		3-4"
54 – 60		Gypsum

Signature

Date 10/20/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-04
DATE 10/23/15
Begin Sampling Time 1045
End Sampling Time 1130
ERM Samplers Lonnie Mercer / Garrett Rigard
EPA Oversight Tim Jimenez
Weather
clear, calm, temps in low 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):
West area of gypsum pile. Gypsum pile discharge is flowing across the area surrounding sample location, causing saturated conditions in surface soil.

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger
Sample Depth Interval 6 inches bgs
Number of Grab Aliquots 5
Saturated? [✓ Y] / N (circle)
Waste Potentially Present? [✓ Y] / N (circle)
Waste Thickness 24 inches
Waste Depth 0-24 inches bgs
Waste Appearance (describe):
reddish brown gypsum waste

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-04-SS-01-102315
Sample Time: 1045
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
SILTY CLAY, reddish brown, high plasticity, firm, saturated, gypsum waste.

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? (Y / [✓ N])
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples Y / [✓ N] (circle)
Analyses ______

Signature
Date 10/23/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		Reddish brown gypsum waste, no layering.
6 – 12		
12 – 18		
18 – 24		
24 – 30		Native soil
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________ Date 10/23/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-05

DATE 10/20/15

Begin Sampling Time 10:41

End Sampling Time 11:15

ERM Samplers KB, TH

EPA Oversight AB

Weather Windy, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 6

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 60 inches

Waste Depth 0-60 inches bgs

Waste Appearance (describe):

GYPSUM, reddish orange, moist to dry

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-05-SS-01-102015

Sample Time: 10:50

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

GYPSUM, reddish orange moist

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples [✓ Y] / N (circle)

Analyses ____

Signature ____ Date 10/20/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		GYPSUM, reddish orange
6 – 12		SAND w/ gypsum, reddish orange, dry
12 – 18		GYPSUM
18 – 24		↓
24 – 30		↓
30 – 36		↓
36 – 42		SAND w/ gypsum reddish orange, dry
42 – 48		GYPSUM
48 – 54		↓
54 – 60		↓

Signature ______________________ Date 10/20/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-06

DATE 10/20/15

Begin Sampling Time 11:33

End Sampling Time 12:00

ERM Samplers KB, TH

EPA Oversight AB

Weather Windy, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 6

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 42 inches

Waste Depth 0-42 inches bgs

Waste Appearance (describe):

GYPSUM, reddish orange, moist

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-06-SS-01-102015

Sample Time: 11:45

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

GYPSUM, reddish orange, moist

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] N)

En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / N (circle)

Analyses ________

Signature ________ Date 10/20/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		GYPSUM
6 – 12		↓
12 – 18		↓
18 – 24		Smut material, powdery white material 24-30
24 – 30		→
30 – 36		GYPSUM
36 – 42		↓
42 – 48		Native CLAY, silty, grey, dry
48 – 54		
54 – 60		

Signature

Date 10/20/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-07

DATE 10/20/15

Begin Sampling Time 12:18

End Sampling Time 12:45

ERM Samplers KB, TH

EPA Oversight AB

Weather Windy, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) __________

UTM East (m) __________

GPS Accuracy __________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 1

Saturated? Y [✓ N] (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness 48 inches

Waste Depth 0-48 inches bgs

Waste Appearance (describe):

GYPSUM, reddish orange, wet.

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-07-SS-01-102015

Sample Time: 12:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

GYPSUM, reddish orange, wet, some barium sulfate

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? [✓ Y] N)

En Core® Hand-Filled? [✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID __________

EPA Split Samples Y / N (circle)

Analyses __________

TB= 4-07-SS-21-102015 @ 14:40

Signature __________ Date 10/20/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		GYPSUM, reddish brown, wet
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36	▽	
36 – 42		↓ ↓
42 – 48		SAND, silty, gray/black, wet
48 – 54		
54 – 60		

Signature ____________________ Date 10/20/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-08
DATE 10/23/15
Begin Sampling Time 945
End Sampling Time 1030
ERM Samplers Lonnie Mercer / Garrett Rigard
EPA Oversight Tim Jimenez
Weather
clear, calm, temps in low 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Northwest area of gypsum pile near boundary with smut piles to the west. Gypsum pile discharge currently flowing into this area, causing saturated conditions in surface soil.

3. Location

UTM North (m)
UTM East (m)
GPS Accuracy
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger
Sample Depth Interval 6 inches bgs
Number of Grab Aliquots 5
Saturated? [✓ Y] N (circle)
Waste Potentially Present? [✓ Y] N (circle)
Waste Thickness 12 inches
Waste Depth 0-12 inches bgs
Waste Appearance (describe):

Reddish brown gypsum waste, silty clay grain size.

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-08-SS-01-102315
Sample Time: 945
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
SILTY CLAY, reddish brown, high plasticity, firm, saturated.

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? Y / [✓ N]
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? [✓ Y] / N

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID
EPA Split Samples Y / [✓ N] (circle)
Analyses

Signature Date 10/23/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		Reddish brown gypsum waste, no layering.
6 – 12		
12 – 18	Native soil	
18 – 24		
24 – 30		LM
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ____________ Date 10/23/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-09

DATE 10/23/15

Begin Sampling Time 1145

End Sampling Time 1230

ERM Samplers Lonnie Mercer / Garrett Rigard

EPA Oversight Tim Jimenez

Weather clear, calm, temps in 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features): Central area of gypsum pile. Gypsum pile discharge is currently flowing west of sample location but area is still wet/saturated.

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 5

Saturated? [✓ Y] N (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness 24 inches

Waste Depth 0-24 inches bgs

Waste Appearance (describe): Reddish brown gypsum waste

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-09-SS-01-102315

Sample Time: 1145

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY CLAY, reddish brown, high plasticity, firm, saturated, gypsum waste.

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? (Y [✓ N])

En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

Signature ____ Date 10/23/15

*Trip Blank – 4-09-SS-21-102315 @1330

Surface Solids Sampling Form – US Magnesium RI/FS

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		Reddish brown gypsum pile.
6 – 12		
12 – 18		
18 – 24		
24 – 30		Native soil, gray sandy clay.
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________ Date 10/23/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID Vwc ~~PRT~~ 4-10

DATE 10-21-15

Begin Sampling Time 10:00

End Sampling Time 10:40

ERM Samplers K. Benson, G. Rigard

EPA Oversight Tim J.

Weather P. Sunny 50's

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness >60 inches

Waste Depth 0->60 inches bgs

Waste Appearance (describe):

Gypsum, moist

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-10-SS-01-102115

Sample Time: 10:20

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

Gypsum, reddish orange, moist

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] N)

En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y [✓ N] (circle)

Analyses ____

*TRIP BLANK - 4-10-SS-21-102115 @ 1400

Signature ____ Date 10/21/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		Gypsum w/ pockets of white fine grain material
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________ Date 10/21/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 4-11

DATE 10/21/15

Begin Sampling Time 9:19

End Sampling Time 9:45

ERM Samplers KB, GR

EPA Oversight TJ

Weather Clear, 50s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness 42 inches

Waste Depth 0-42 inches bgs

Waste Appearance (describe):

GYPSUM, wet

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-11-SS-01-102115

Sample Time: 9:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

GYPSUM, reddish orange, wet

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

___ En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature ________ Date 10/22/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		GYPSUM, reddish orange, wet
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		↓ ↓
42 – 48		SAND, clayey, gray, wet
48 – 54		
54 – 60		

Signature ______________________ Date 10/21/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID PRI4-12
DATE 10/29/15
Begin Sampling Time 10:45
End Sampling Time 11:15
ERM Samplers SS, TH
EPA Oversight T. Jimenez
Weather
cloudy, calm, 50 °F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 6
Saturated? [✓ Y] / N (circle)
Waste Potentially Present? [✓ Y] / N (circle)
Waste Thickness 24 inches
Waste Depth 0-24 inches bgs
Waste Appearance (describe):
Brownish red gypsum, uniform throughout

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-12-SS-01-102915
Sample Time: 1102
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
SILTY CLAY, BROWNISH RED, LOW PLASTICITY, SATURATED

Bottles Filled

1 4-oz Glass (unpres)
4 8-oz Glass (unpres)
3 En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
1 4-oz Glass (1/3 headspace)
2 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples Y / [✓ N] (circle)
Analyses ______

Signature ______ Date 10/29/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		GYPSUM, FINE GRAIN, BROWNISH RED, SATURATED
6 – 12		
12 – 18		
18 – 24		
24 – 30		SILTY SAND, DARK GRAY, SATURATED TRACE ORGANIC MATTER NATIVE MATERIAL
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ____________ Date 10/29/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID PRI 4-13

DATE 10/29/16

Begin Sampling Time 1130

End Sampling Time 1210

ERM Samplers SS, IH

EPA Oversight T. Jimenez

Weather

Cloudy, CALM, 50°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger

Sample Depth Interval 0 - 6 inches bgs

Number of Grab Aliquots 6

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness 24 inches

Waste Depth 0-24 inches bgs

Waste Appearance (describe):

Brownish red gypsum, uniform throughout

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: 4-13-SS-01-102915

Sample Time: 1149

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY CLAY, BROWNISHRED, LOW PLASTICITY, SATURATED

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? (Y / N)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

Signature

Date 10/29/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		GYPSUM, FINE GRAIN, BROWNISH RED, SATURATED
6 – 12		
12 – 18		
18 – 24		
24 – 30		NATIVE MATERIAL. SILTY SAND, DARK GRAY, SATURATED
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________ Date 10/29/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID PRI4-14
DATE 10/29/15
Begin Sampling Time 1215
End Sampling Time 1245
ERM Samplers SS, TH
EPA Oversight T. Jimenez
Weather
Cloudy, W. WIND 2-5 mph, 50°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):
~ 50' SOUTH OF WASTE WATER'S EDGE, IN LINE N-S w/ SAP LOCATION. (CONFIRMED w/ TRIMBLE GPS).

3. Location

UTM North (m) 4532195.50
UTM East (m) 354421.79
GPS Accuracy ± 20"
Location Field Modified? [✓ Y] / N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger
Sample Depth Interval 0 - 6 inches bgs
Number of Grab Aliquots 5
Saturated? [✓ Y] N (circle)
Waste Potentially Present? [✓ Y] / N (circle)
Waste Thickness 36 inches
Waste Depth 0-36 inches bgs
Waste Appearance (describe):
Brownish red gypsum, uniform throughout

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 4-14-SS-01-102915
Sample Time: 1233
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
SILTY CLAY, BROWNISH RED, LOW PLASTICITY, SATURATED

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples Y / [✓ N] (circle)
Analyses ______

Signature ______ Date 10/29/15

Surface Solids Sampling Form – US Magnesium RI/FS

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		GYPSUM, FINE GRAIN, BROWNISH RED, SATURATED
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		SILTY SAND, DARK GRAY, SATURATED, TRACE ORGANIC MATTER NATIVE MATERIAL
42 – 48		
48 – 54		
54 – 60		

Signature ______ Date 10/29/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID PRI 5-01

DATE 10/15/15

Begin Sampling Time 0940

End Sampling Time 10 10

ERM Samplers S. Smith, A. Nagle

EPA Oversight A. Baird

Weather

Sunny, Clear

2. Description / Location Notes

Description (Setting, Distance from Site Features):

East of Star pond

3. Location

UTM North (m) 4530915

UTM East (m) 355052

GPS Accuracy ______

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger

Sample Depth Interval ______ inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 5-01-SS-01-101515

Sample Time: 1005

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

Clayey Sand, Moderate brown, moist

Bottles Filled

1 4-oz Glass (unpres)	3 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)

Analyses ______

Signature Suzy Smith Date 10/15/15

Sediment Sampling Field Data Sheet

Date: 10/27/15	Time: 1015	ERM Sampler(s): LM, KB, KL	Sample Location: 5-02

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 4

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: relatively flat, 90% retained 10% washout

Waste thickness (inches): >4"

Acceptable sample? [✓ Yes] / No

Sample attempt number: 2

Sampler type: Ponar

Sample penetration depth (inches): 4

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded at exterior edges 80% retained, 20% washout

Waste thickness (inches): ≥4"

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 2	Aliquots composited for sample volume: 2

Sample ID: 5-02-SS-01-102715	Sample Time: 1015	Bottles Filled: 8 jars + 3 encores	EPA Split Samples? Yes / [✓ No]

Sample Description:

CLAYEY SILT, trace sand, reddish brown, trace roots, saturated.

Notes / Observations:

1" of native gray sand underlain by reddish brown sandy/silty material to depth of 4".

Signature ________________ Date 10/27/15

Rev 0 July 2015

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID KWL ~~PRI~~5-03

DATE 9/25/15

Begin Sampling Time 1009

End Sampling Time 1022

ERM Samplers T. HAMADA, S. SMITH

EPA Oversight T. JIMENEZ

Weather CLEAR, CALM, 80°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

APPROX 600' WEST OF ROAD SEPARATING OLD & CURRENT WASTE PONDS & ~300' NORTH OF E-W ROAD TO PUMP STATION.

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HAND AUGER

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: TH 9/25 ~~PRI~~5-03-SS-01-092515

Sample Time: 1017

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY SAND, GRAY, MOIST, NO ODOR, NO STAINING

Bottles Filled

1 4-oz Glass (unpres)

3 8-oz Glass (unpres)

3 En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

1 4-oz Glass (1/3 headspace)

2 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ____________________

EPA Split Samples Y [✓ N] (circle)

Analyses ____________________

Signature ____________________ Date 9/25/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

KWC

LOCATION ID ~~[illegible]~~5-04

DATE 9/25/15

Begin Sampling Time 1118

End Sampling Time 1150

ERM Samplers T. HAMADA, S. SMITH

EPA Oversight T. JIMENEZ

Weather CLEAR, CALM 85°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

100 ft NE of SAP LOCATION.. E. of ROAD SEPARATING OLD & CURRENT WASTE PONDS

3. Location

UTM North (m) TBD upon Survey

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? [✓ Y] / N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HAND AUGER

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 5-04-SS-01-092515

Sample Time: 1130

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY SAND, GRAY, MOIST TO WET, NO ODOR, NO STAINING

Bottles Filled

1 4-oz Glass (unpres)	3 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)

Analyses ______

Signature ______ Date 9/25/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID KWC ~~PRF~~S-05

DATE 9/25/15

Begin Sampling Time 0925

End Sampling Time 0939

ERM Samplers T. HAMADA, S. SMITH

EPA Oversight T. JIMENEZ

Weather CLEAR, CALM, 75°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

BETWEEN SKULL VALLEY DIVERSION DITCH & ROAD TO PUMP STATION, EAST OF ROAD SEPARATING OLD & CURRENT WASTE PONDS

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HAND AUGER

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 6

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: PRFS-05

Sample Time: 0935

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY SAND, GRAY, DRY, SOME ORGANIC MATTER (ROOTS), NO ODOR, NO STAINING

Bottles Filled

1 4-oz Glass (unpres)	3 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? [✓ Y] N
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y [✓ N] (circle)

Analyses ________

Signature ________ Date 9/25/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID PRIS-06

DATE 10/15/15

Begin Sampling Time 1055

End Sampling Time 1120

ERM Samplers S. Smith, A. Nagle

EPA Oversight A. Baird

Weather

Sunny, clear

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Northeast star pond

3. Location

UTM North (m) 4531194

UTM East (m) 354893

GPS Accuracy ____________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 5-06-SS-01-101515

Sample Time: 1110

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

Sandy clay, moist

Bottles Filled

1 4-oz Glass (unpres)	3 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____________________

EPA Split Samples Y / [✓ N] (circle)

Analyses ____________________

Signature Smith Date 10/15/15

Sediment Sampling Field Data Sheet

Date:	Time:	ERM Sampler(s):	Sample Location:
10/27/15	1100	LM, KB, KL	5-07

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 2

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
flat ; 0% washout

Waste thickness (inches): 0 ; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 2

Sampler type: Ponar

Sample penetration depth (inches): 1.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
flat ; 0% washout

Waste thickness (inches): 0 ; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 3

Sampler type: Ponar

Sample penetration depth (inches): 1

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
flat ; 0% washout

Waste thickness (inches): 0 ; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 4

Sampler type: Ponar

Sample penetration depth (inches): 1

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
flat ; 0% washout

Waste thickness (inches): 0 ; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No	Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 4	Aliquots composited for sample volume: 4

Sample ID: S-07-SS-01-102715	Sample Time: 1100	Bottles Filled: 8 jars + 3 encores	EPA Split Samples? Yes [✓ No]

Sample Description:

~~SILTY CLAY, brown,~~ LM
SANDY SILT with clay, brown, fine to medium sand, low plasticity, moist, rootlets.

Notes / Observations:

Sample location on island in PRIS. Soil is not saturated. Ponar sampler did not penetrate deep into soil (which is firm) but sample material is representative.

Signature ____________ Date 10/27/15

Rev 0 July 2015

Sediment Sampling Field Data Sheet

Date: 10/27/15	Time: 1130	ERM Sampler(s): LM, KB, KL	Sample Location: 5-08

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 3

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: slightly rounded at clamshell edges; 20% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 2

Sampler type: Ponar

Sample penetration depth (inches): 2.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: slightly rounded; 25% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 3

Sampler type: Ponar

Sample penetration depth (inches): 3

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: slightly rounded; 20% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 3	Aliquots composited for sample volume: 3

Sample ID: 5-08-SS-01-102715	Sample Time: 1130	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:
SAND with silt, gray, medium to coarse sand, oolitic sand, saturated, rootlets.

Notes / Observations:
Shallow water (< 1') at sample location. Sample penetration did not meet 4"; however, EPA gave approval for sample collection because waste was not present and the sample material was considered representative.

Signature ______________ Date 10/27/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LM

LOCATION ID ~~PRI~~5-09

DATE 9/17/15

Begin Sampling Time 1220

End Sampling Time 1245

ERM Samplers Garrett Rigard/Lonnie Mercer

EPA Oversight Tim Jimenez

Weather

mostly cloudy, calm, low 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Upland area between PRI5 pond and Old Waste Pond. Sample location on upland sandy area. Sparse low grasses and shrubs.

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

None

5. Sample Description

Sample ID: ~~PRI5-09-SS-01-091715~~ LM 5-09-SS-01-091715

Sample Time: 1220

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY SAND, gray, medium to coarse oolitic sand, moist, trace gravel.

Bottles Filled

1 4-oz Glass (unpres)	3 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? (Y [✓ N])
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature ________ Date 9/17/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID PRI 5-10
DATE 10/15/15
Begin Sampling Time ~~1200~~ SS 1250
End Sampling Time 1320
ERM Samplers S.Smith, A. Nagle
EPA Oversight A. Baird
Weather
Sunny, clear

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Border PRI-7

3. Location

UTM North (m) 4531186
UTM East (m) 356176
GPS Accuracy ______
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger
Sample Depth Interval 6 inches bgs
Number of Grab Aliquots 6
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 5-10-SS-01-101515
Sample Time: 1300
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

Silty fine sand, dry

Bottles Filled

2 4-oz Glass (unpres)
6 8-oz Glass (unpres)
6 En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
2 4-oz Glass (1/3 headspace)
4 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup [✓ Y] / N (circle)
Field Dup Sample ID 5-10-SS-11-101515 1302
EPA Split Samples Y [✓ N] (circle)
Analyses ______

Signature
Date 10/15/15

Sediment Sampling Field Data Sheet

Date: 10/27/15	Time: 1215	ERM Sampler(s): KB, LM, KL	Sample Location: 5-11

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 2.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
rounded, 75% washout

Waste thickness (inches): 1/8"

Acceptable sample? Yes / [✓ No]

Sample attempt number: 2

Sampler type: Ponar

Sample penetration depth (inches): 4

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
flat, ~~5% wa~~ LM 0% washout

Waste thickness (inches): 0; none observed

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 2	Aliquots composited for sample volume: 2

Sample ID: 5-11-SS-01-102715	Sample Time: 1215	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:

SAND, trace silt, gray, medium to coarse sand, oolitic sand, rootlets, saturated.

Notes / Observations:

Thin layer (~1/8") of waste in Aliquot 1. No waste present in Aliquot 2. Some sheen on water.

Signature ______________ Date 10/27/15

Rev 0 July 2015

Sediment Sampling Field Data Sheet

Date:	Time:	ERM Sampler(s):	Sample Location:
10/27/15	1415	LM, KB, KL	5-12

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 2.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
flat; 0% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 2

Sampler type: Ponar

Sample penetration depth (inches): 1.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
flat; 0% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 3

Sampler type: Ponar

Sample penetration depth (inches): 1.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
flat; 0% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No	Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 3	Aliquots composited for sample volume: 3

Sample ID:	Sample Time:	Bottles Filled:	EPA Split Samples?
5-12-SS-01-102715	1415	8 jars + 3 EnCores	Yes / [✓ No]

Sample Description:
SANDY SILT with clay, brown, fine to medium sand, low plasticity, moist, rootlets.

Notes / Observations:
Sample location on Island in PRI5. Soil is not saturated. Ponar sampler did not penetrate deep into soil (which is firm) but sample material was considered representative.

Signature ________________ Date 10/27/15

Rev 0 July 2015

Sediment Sampling Field Data Sheet

Date: 10/27/15	Time: 1345	ERM Sampler(s): LM, KB, KL	Sample Location: 5-13

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): ~~6~~ 45

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
sloped; 30% washout

Waste thickness (inches): 1/4"

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 1	Aliquots composited for sample volume: 1

Sample ID: 5-13-SS-01-102715	Sample Time: 1345	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:

SILTY SAND, gray, saturated, trace organics.

Notes / Observations:

Sloped sample with 30% washout; rootlets in native soil/sediment

Thin layer (1/4") of waste present on top of native soil/sediment.

Signature ______________ Date 10/27/15

Sediment Sampling Field Data Sheet

Date: 10/27/15	Time: 1310	ERM Sampler(s): KB, LM, KL	Sample Location: S-14

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 6

Sampler overfilled? [✓ Yes] / No slightly

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Uneven surface due to overfilled sampler; 0% washout

Waste thickness (inches): waste is interbedded with native soil to >3"

Acceptable sample? [✓ Yes] / No

Sample attempt number: 2

Sampler type: Box corer (+ 4 x 8lb weights)

Sample penetration depth (inches): 3

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded; 10% washout

Waste thickness (inches): >3"

Acceptable sample? Yes / [✓ No] Not used for sample

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 1	Aliquots composited for sample volume: 1

Sample ID: 5-14-SS-01-102715	Sample Time: 1310	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes [✓ No]

Sample Description:

SILTY CLAY, reddish brown and gray, trace fine sand, trace rootlets, saturated, Reddish brown (waste) and gray (native) layers are interbedded.

Notes / Observations:

Ponar aliquot was slightly overfilled but acceptable ~~for~~ sample. Box corer appeared to tip over (based on waste on ~~sides~~ side LM of sampler) and only had 3" of penetration. ~~Native~~ LM Gray sediment and reddish brown sediment are layered to at least 3". Layers are thin (1/8" to 1/2").

Signature ____________ Date 10/27/15

Rev 0 July 2015

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID KWC ~~PRI~~5-15

DATE 9/17/15

Begin Sampling Time 1140

End Sampling Time 1210

ERM Samplers Garrett Rigard / Lonnie Mercer

EPA Oversight Tim Jimenez

Weather

mostly cloudy, calm, low 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Upland area east of PRI5 pond. Sample location is along berm to west of gravel road. Grasses and low shrubs in area of sample location.

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 8

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

None

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: ~~PRI5-15-SS-01-091715~~ LM 5-15-SS-01-091715

Sample Time: 1140

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY SAND, gray, medium to coarse oolitic sand, moist, trace gravel.

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

3 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

__ 40-mL VOA (Methanol)

En Core® Pre-Engaged? (Y / [✓ N])

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] N (circle)

Analyses ________

Signature ________ Date 9/17/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID PRI5-16
DATE 10/15/15
Begin Sampling Time 1020
End Sampling Time 1045
ERM Samplers S.Smith, A.Nagle
EPA Oversight A.Baird
Weather
Sunny, clear

2. Description / Location Notes

Description (Setting, Distance from Site Features):
Northeast star pond

3. Location

UTM North (m) 4531049
UTM East (m) 354881
GPS Accuracy
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger
Sample Depth Interval 6" inches bgs
Number of Grab Aliquots 6
Saturated? [✓ Y] N (circle)
Waste Potentially Present? [✓ Y] N (circle)
Waste Thickness 3 inches
Waste Depth 3 inches bgs
Waste Appearance (describe):
Redish hue

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: P 5-16-SS-01-101515
Sample Time: 1040
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

0-3 inches	Silty clay	Redish hue
3-6 inches	Sandy gravel	Brown

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID
EPA Split Samples Y / [✓ N] (circle)
Analyses

Signature Sam Smith Date 10/5/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		0-3" silty clay, redish hue, saturated 3-6" sandy gravel, brown, saturated
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature Suzy Smith Date 10/20/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 5-17

DATE 9/18/15

Begin Sampling Time 9:30

End Sampling Time 10:40

ERM Samplers KB, SS

EPA Oversight Tim

Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 8

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 0-2 inches

Waste Depth 0-2 inches bgs

Waste Appearance (describe): Redish Clayey Sand

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: 5-17-SS-01-091815

Sample Time: 10:20

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, red & gray, wet to moist, some sand

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

3 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____________

EPA Split Samples [✓ Y] / N (circle)

Analyses ____________

Signature ____________ Date 9/18/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0-2 ~~0 – 6~~		CLAY, sandy, reddish brown
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature

Date 9/18/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 5-18

DATE 9/18/15

Begin Sampling Time 10:50

End Sampling Time 12:00

ERM Samplers KB, SS

EPA Oversight Tim

Weather Clear

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 7

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 2 inches

Waste Depth 2 inches bgs

Waste Appearance (describe):

Reddish clayey gravel material

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 5-18-SS-01-091815

Sample Time: 11:35

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

GRAVEL, clay, reddish brown, wet,

Bottles Filled

1 4-oz Glass (unpres)	3 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples [✓ Y] N (circle)

Analyses ____

Signature ____ Date 9/18/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0-2 ~~0 – 6~~		GRAVEL, clayey, reddish brown,
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

OK

Signature KWL Date 9/28/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID 519

DATE 9/18/15

Begin Sampling Time 12:20

End Sampling Time 13:00

ERM Samplers FB, SS

EPA Oversight Tim

Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Collected sample from side of ditch bank

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / N (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 519-SS-01-091815

Sample Time: 12:40

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, clayed, medium brown, moist

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

2 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples [✓ Y] / N (circle)

Analyses ______

Signature ______ Date 9/18/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID S-20

DATE 9/18/15

Begin Sampling Time 13:00

End Sampling Time 13:30

ERM Samplers KB, SS

EPA Oversight Tim

Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) __________

UTM East (m) __________

GPS Accuracy __________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 6

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: S-20-SS-01-091815

Sample Time: 13:10

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, medium, brown, moist

Bottles Filled

1 4-oz Glass (unpres)	3 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? [✓ Y] N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? [✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID __________

EPA Split Samples Y [✓ N] (circle)

Analyses __________

TB: S-20-SS-21-091815 @ 13:30

Signature __________ Date 9/16/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

KWC 10/16/15

LOCATION ID ~~PRI~~ 6-01

DATE 10/16/15

Begin Sampling Time 1110

End Sampling Time 1140

ERM Samplers S.Smith, A.Nagle

EPA Oversight T.Jimenez

Weather

Sunny, Clear

2. Description / Location Notes

Description (Setting, Distance from Site Features):

North of smut piles

3. Location

UTM North (m) 4532087

UTM East (m) 353711

GPS Accuracy ______

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots ~~8~~ ~~5~~ 7

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 6-01-SS-01-101615

Sample Time: 11:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

clayey silt, <5% coarse sand, Light brown, well sorted

Bottles Filled

2 4-oz Glass (unpres)	12 8-oz Glass (unpres)	12 En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
2 4-oz Glass (1/3 headspace)	6 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD [✓ Y] / N (circle)

Field Dup [✓ Y] / N (circle)

Field Dup Sample ID 6-01-SS-11-101615

EPA Split Samples Y [✓ N] (circle)

Analyses ______

Signature Suzy Smith Date 10/16/15

Sediment Sampling Field Data Sheet

Date: 10/28/15	Time: 930	ERM Sampler(s): LM, KB, GR	Sample Location: 6-02

Sample attempt number: 1	Sample attempt number: 2
Sampler type: Ponar	Sampler type: Ponar
Sample penetration depth (inches): 4	Sample penetration depth (inches): 3.5
Sampler overfilled? Yes / [✓ No]	Sampler overfilled? Yes / [✓ No]
Overlying water present? [✓ Yes] / No	Overlying water present? [✓ Yes] / No
Water appearance: slight sheen, turbid, reddish brown	Water appearance: turbid, reddish brown, slight sheen
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: sloped; 0% washout	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: ~~Slop~~ LM rounded on edges; 10% washout
Waste thickness (inches): 0; none observed	Waste thickness (inches): 0; none observed
Acceptable sample? [✓ Yes] / No	Acceptable sample? Yes / [✓ No]
Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 1	Aliquots composited for sample volume: 1 (Aliquot #1)

Sample ID: 6-02-SS-01-102815	Sample Time: 930	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:

SAND with silt, gray, saturated, coarse sand, oolitic sand, rootlets.

Notes / Observations:

Sample location near shoreline.

Signature ______________ Date 10/28/15

Surface Solids Sampling Form – US Magnesium RI/FS ERM

1. Site Information

LOCATION ID UWC ~~PRI~~6-03

DATE 9/17/15

Begin Sampling Time 1055

End Sampling Time 1115

ERM Samplers Garrett Rigard / Lonnie Mercer

EPA Oversight Tim Jimenez

Weather

mostly cloudy, calm, high 50s to low 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Upland area east of PRI6 pond. Sample location is on crest of a 3-4 foot high berm and approximately 40 feet from gravel road between PRIs 6 and 7. Sparse grasses and low shrubs.

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

None

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: ~~PRI6-03-SS-01-091715~~ LM 6-03-SS-01-091715

Sample Time: 1055

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY SAND, gray, medium to coarse oolitic sand, moist, trace gravel.

Bottles Filled

1 4-oz Glass (unpres)	3 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? (Y [✓ N])
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y [✓ N] (circle)

Analyses ______

Signature ______ Date 9/17/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

Vwe 10/19/15

1. Site Information

LOCATION ID ~~PRI~~ 6-04

DATE 10/16/15

Begin Sampling Time 1020

End Sampling Time 1040

ERM Samplers S.Smith, A. Nagle

EPA Oversight T. Jimenez

Weather

Sunny, clear

2. Description / Location Notes

Description (Setting, Distance from Site Features):

North of smut piles

3. Location

UTM North (m) 4532292

UTM East (m) 353599

GPS Accuracy ______

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 0.5 inches

Waste Depth 1.0 ~~0.5~~ ARN inches bgs

Waste Appearance (describe): well sorted clayey silt w/ organish red mottling, moist, no odor

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 6-04-SS-01-101615

Sample Time: 10:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

Silty Clay, well sorted, light gray w/ organish red mottling @ 1" for 0.5"
minor coarse sand to well rounded pebble

Bottles Filled

– 4-oz Glass (unpres)	4 8-oz Glass (unpres)	6 En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
– 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD [✓ Y] / N (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)

Analyses ______

Signature Suzy Smith Date 10/16/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		0-1" well sorted silty clay, light gray, moist, no odor 1"-1.5" well sorted clayey silt, Organish red mottling, moist, no odor 1.5"-6" A/A well sorted silty clay, light gray, moist, no odor
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature [illegible] Smith Date 10/16/15

Sediment Sampling Field Data Sheet

Date: 10/28/15	Time: 950	ERM Sampler(s): LM, KB, GR	Sample Location: 6-05

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 3.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded at edges; 20% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 2

Sampler type: Ponar

Sample penetration depth (inches): 3.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded at edges; 20% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 3

Sampler type: Ponar

Sample penetration depth (inches): 4

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded at edges; 20% washout

Waste thickness (inches): 0; none observed

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No	Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 3	Aliquots composited for sample volume: 1 (Aliquot #3)

Sample ID: 6-DS-SS-01-102815	Sample Time: 950	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:
SAND with silt, gray, saturated, coarse oolitic sand, rootlets.

Notes / Observations:
Sample location near shoreline.

Signature

Date 10/28/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LM

LOCATION ID ~~PRI~~6-06

DATE 9/17/15

Begin Sampling Time 1015

End Sampling Time 1045

ERM Samplers Lonnie Mercer / Garett Regard

EPA Oversight Tim Jimenez

Weather

mostly cloudy, calm, temps high 50s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Upland area east of PRI6 pond. Sparse grasses and low shrubs.

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method hand auger

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 8

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

None

5. Sample Description

Sample ID: ~~PRI6-06-SS-01-091715~~ LM 6-06-SS-01-091715

Sample Time: 1015

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SANDY SILT, brown, very fine to fine sand, trace gravel, moist.

Bottles Filled

1 4-oz Glass (unpres)

3 8-oz Glass (unpres)

3 En Core® (unpres)

En Core® Pre-Engaged? (Y / [✓ N])

1 4-oz Glass (1/3 headspace)

2 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Trip Blank 6-06-SS-21-091715 @ 1030

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] / N (circle)

Analyses ________

Signature ________ Date 9/17/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information KW 10/19/15

LOCATION ID ~~RS~~ 6-07
DATE 10/16/15
Begin Sampling Time 1155
End Sampling Time 1240
ERM Samplers S. Smith, A. Nagle
EPA Oversight T. Jimenez
Weather
Sunny, clear

3. Location

UTM North (m) 4532483
UTM East (m) 353464
GPS Accuracy
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

2. Description / Location Notes

Description (Setting, Distance from Site Features):

North of smut piles

4. Field Preservation / Field Measurements

Sample Collection Method Hand Auger
Sample Depth Interval 6 inches bgs
Number of Grab Aliquots 6
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? [✓ Y] / N (circle)
Waste Thickness 0.25 inches
Waste Depth 0.25 inches bgs
Waste Appearance (describe):
well sorted silty clay with orangish red mottling, moist, no odor

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: 6-07-SS-01-101615
Sample Time: 12:15
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
0.25" well sorted silty clay w/ trace organics, grayish black, then 0.25" of well sorted silty clay with orangish red mottling, then well sorted silty clay, light gray, moist throughout, no odor throughout

Bottles Filled

2 4-oz Glass (unpres)
8 8-oz Glass (unpres)
6 En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
4 4-oz Glass (1/3 headspace)
4 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup [✓ Y] / N (circle)
Field Dup Sample ID 6-07-SS-11-101615 12:16
EPA Split Samples Y / [✓ N] (circle)
Analyses

Signature Smith Date 10/16/15

Surface Solids Sampling Form – US Magnesium RI/FS

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		0.25" well sorted silty clay w/ trace organics, grayish black, moist, no odor, plastic 0.25" well sorted silty clay, organish red mottling, moist, no odor, sl. plastic 0.5"-6" well sorted silty clay, light gray, moist, no odor, plastic
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature Amy Smith Date 10/20/15

Sediment Sampling Field Data Sheet

Date: 10/28/15	Time: 1020	ERM Sampler(s): LM, KB, GR	Sample Location: 6-08

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 2.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

rounded; 25% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 2

Sampler type: Ponar

Sample penetration depth (inches): 5.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

flat; 0% washout

Waste thickness (inches): 1/8"

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 2	Aliquots composited for sample volume: 1 (Aliquot 2)

Sample ID: ~~5~~ LM6-08-SS-01-102815	Sample Time: 1020	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:

SAND with silt, gray, saturated, coarse oolitic sand.

Notes / Observations:

Signature ____________________ Date 10/28/15

Sediment Sampling Field Data Sheet

Date:	Time:	ERM Sampler(s):	Sample Location:
10/28/15	1040	LM, KB, GR	6-09

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 2

Sampler overfilled? Yes / [✓ No]

Overlying water present? Yes / [✓ No]

Water appearance: N/A

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded; 80% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 4

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: ~~N/A~~ LM turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded; 80% washout

Waste thickness (inches): trace

Acceptable sample? Yes / [✓ No]

Sample attempt number: 3

Sampler type: Ponar

Sample penetration depth (inches): 3

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid; reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded; 25% washout

Waste thickness (inches): trace

Acceptable sample? Yes / [✓ No]

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No	Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 3	Aliquots composited for sample volume: 3

Sample ID:	Sample Time:	Bottles Filled:	EPA Split Samples?
6-09-SS-01-102815	1040	8 jars + 3 EnCores	Yes / [✓ No]

Sample Description:
SAND with silt, gray, saturated, coarse oolitic sand. Trace presence of reddish brown waste overlying native sediment. (< 1/8" thick)

Notes / Observations:
Sample aliquots did not meet criteria of penetration depth and/or washout percent. However, EPA/PWT gave approval for sample collection due to trace waste observed. Will be included in field mod for all locations not meeting acceptability criteria.

Signature Date 10/28/15

Rev 0 July 2015

Sediment Sampling Field Data Sheet

Date: 10/28/15	Time: 1130	ERM Sampler(s): LM, KB, GR	Sample Location: 6-10

Sample attempt number: 1 Sampler type: Ponar Sample penetration depth (inches): 4 Sampler overfilled? Yes / [✓ No] Overlying water present? [✓ Yes] / No Water appearance: reddish brown, turbid Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: flat; 5% washout Waste thickness (inches): trace Acceptable sample? [✓ Yes] / No	Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No
Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No	Sample attempt number: Sampler type: Sample penetration depth (inches): Sampler overfilled? Yes / No Overlying water present? Yes / No Water appearance: Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: Waste thickness (inches): Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 1	Aliquots composited for sample volume: 1

Sample ID: 6-10-SS-01-102815	Sample Time: 1130	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:

SAND with silt, gray, saturated, coarse oolitic sand. Trace presence of reddish brown waste overlying native sediment. (< 1/8" thick)

Notes / Observations:

Signature ____________ Date 10/28/15

Rev 0 July 2015

Sediment Sampling Field Data Sheet

Date: 10/28/15	Time: 1150	ERM Sampler(s): LM, KB, GR	Sample Location: 6-11

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 3

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: yellowish brown, slightly turbid

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: flat; 0% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 2

Sampler type: Ponar

Sample penetration depth (inches): 1.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: yellowish brown, slightly turbid

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: flat; 0% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 3

Sampler type: Ponar

Sample penetration depth (inches): 2.5

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: yellowish brown, slightly turbid

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: flat; 5% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 3	Aliquots composited for sample volume: 3

Sample ID: 6-11-SS-01-102815	Sample Time: 1150	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:
SAND with silt, gray, saturated, coarse oolitic sand, rootlets.

Notes / Observations:
Sample aliquots did not meet penetration depth criterion. However, PWT gave approval for sample collection due to absence of waste in aliquots. Will be included in field mod for all locations not meeting acceptability criteria. Acidic wastewater had minor reactivity (bubbling from sediment).

Signature Date 10/28/15

Sediment Sampling Field Data Sheet

Date:	Time:	ERM Sampler(s):	Sample Location:
10/28/15	1220	LM, KB, GR	6-12

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 4

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, reddish brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded at edges; 20% washout

Waste thickness (inches): trace

Acceptable sample? [✓ Yes] / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 1	Aliquots composited for sample volume: 1

Sample ID: 6-12-SS-01-102815	Sample Time: 1220	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:

SAND with silt, gray, saturated, coarse oolitic sand, rootlets. Trace presence of reddish brown waste overlying native sediment. (<1/4" thick)

Notes / Observations:

Signature ____________ Date 10/28/15

Rev 0 July 2015

Sediment Sampling Field Data Sheet

Date: 10/28/15	Time: 1230	ERM Sampler(s): LM, KB, GR	Sample Location: 6-13

Sample attempt number: 1

Sampler type: Ponar

Sample penetration depth (inches): 3

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: flat; 0% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 2

Sampler type: Ponar

Sample penetration depth (inches): 2

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: rounded; 20% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number: 3

Sampler type: Ponar

Sample penetration depth (inches): 1

Sampler overfilled? Yes / [✓ No]

Overlying water present? [✓ Yes] / No

Water appearance: turbid, brown

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out: flat; 0% washout

Waste thickness (inches): 0; none observed

Acceptable sample? Yes / [✓ No]

Sample attempt number:

Sampler type:

Sample penetration depth (inches):

Sampler overfilled? Yes / No

Overlying water present? Yes / No

Water appearance:

Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:

Waste thickness (inches):

Acceptable sample? Yes / No

*TRIP BLANK - 6-13-SS-21-102815 @ 1400

*EQUIP BLANK - 6-13-SS-31-102815 @ 1500

Sample attempt number:	Sample attempt number:
Sampler type:	Sampler type:
Sample penetration depth (inches):	Sample penetration depth (inches):
Sampler overfilled? Yes / No	Sampler overfilled? Yes / No
Overlying water present? Yes / No	Overlying water present? Yes / No
Water appearance:	Water appearance:
Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:	Appearance of sediment surface (flat, rounded, sloped), including visual approximation of the area percent of the surface that appears washed out:
Waste thickness (inches):	Waste thickness (inches):
Acceptable sample? Yes / No	Acceptable sample? Yes / No
Aliquot number from which VOCs were collected: 3	Aliquots composited for sample volume: 3

Sample ID: 6-13-SS-01-102815	Sample Time: 1230	Bottles Filled: 8 jars + 3 EnCores	EPA Split Samples? Yes / [✓ No]

Sample Description:
SAND with silt, gray, saturated, coarse oolitic sand, rootlets.

Notes / Observations:
Sample aliquots did not meet penetration depth criterion. However, PWT gave approval for sample collection due to absence of waste in aliquots. Include in field mod for all locations not meeting acceptability criteria.

Signature ______________ Date 10/28/15

Rev 0 July 2015

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 6-14

DATE 9/16/15

Begin Sampling Time 12:30

End Sampling Time 13:20

ERM Samplers KB, GR

EPA Oversight Tim

Weather

Rain, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 6 inches bgs

Number of Grab Aliquots 8

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 6-14-SS-01-091615

Sample Time: 12:40

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILTY SAND, medium brown, medium-grain, dry, no odors
some vegetation

Bottles Filled

1 4-oz Glass (unpres)
2 8-oz Glass (unpres)
3 En Core® (unpres)
En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)
2 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] / N (circle)

Analyses ________

Signature ________ Date 9/16/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 6-15
DATE 9/16/15
Begin Sampling Time 11:20
End Sampling Time 12:20
ERM Samplers KB, GR
EPA Oversight Tim
Weather Rain 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy NA
Location Field Modified? ~~Y~~ / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 7
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: 6-15-SS-01-091615
Sample Time: 11:30
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAYEY SILT, medium brown no odor, trace vegetation w/ fine grain sand

Bottles Filled

1 4-oz Glass (unpres)	2 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples [✓ Y] / N (circle)
Analyses ____
TB- 6-15-SS-21-091615

Signature ____ Date 9/16/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-1
DATE 9/23/15
Begin Sampling Time 12:30
End Sampling Time 13:30
ERM Samplers KB, SS
EPA Oversight Tim
Weather Clear, 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y/ [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? [✓ Y] /N (circle)
Waste Thickness 4 inches
Waste Depth 0-4 inches bgs
Waste Appearance (describe):

CLAY, reddish brown, with salt

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-1-SS-01-092315
Sample Time: 13:00
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, reddish brown, gray, wet to moist

Bottles Filled

1 4-oz Glass (unpres)
2 8-oz Glass (unpres)
3 En Core® (unpres)
En Core® Pre-Engaged? ([✓ Y] N')
1 4-oz Glass (1/3 headspace)
2 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y/ [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y [✓ N] (circle)
Analyses ____

EB=7-01-SS-31-092315@15:00

Signature ____ Date 9/23/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-02

DATE 9/24/15

Begin Sampling Time 10:00

End Sampling Time 11:00

ERM Samplers KB, TH

EPA Oversight Tim

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? [✓ Y] N (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness 1 inches

Waste Depth 0-1 inches bgs

Waste Appearance (describe):

Reddish orange silty sand

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-02-SS-01-092415

Sample Time: 10:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, black, wet

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y [✓ N] (circle)

Analyses ____

TB-7-02-SS-01-092415 @ 15:00

Signature ____ Date 9/24/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 1		Reddish orange silty sand
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________________ Date 9/24/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID 7-03

DATE 9/24/15

Begin Sampling Time 12:10

End Sampling Time 13:00

ERM Samplers KB, TH

EPA Oversight Tim

Weather Clear, 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? [✓ Y] N (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness 2 inches

Waste Depth 0-2 inches bgs

Waste Appearance (describe):

reddish orange silty clay w/ salt

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

2" of water in bottom of sample cores

5. Sample Description

Sample ID: 7-03-SS-01-092415

Sample Time: 12:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, sandy, gray & black, moist to wet

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y [✓ N] (circle)

Analyses ________

Signature ________ Date 9/24/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0-12		Reddish orange silty clay w/ salt
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________________ Date 9/24/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-04

DATE 9/29/15

Begin Sampling Time 12:00

End Sampling Time 12:45

ERM Samplers FB, TH

EPA Oversight Tim J.

Weather Clear, 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 2 inches

Waste Depth 0-2 inches bgs

Waste Appearance (describe):

Salt crust , Reddish orange, wet

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-04-SS-01-092915

Sample Time: 12:15

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, reddish orange/black/gray, wet, salt crust

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

TB-7-04-SS-21-092915 @ 14:30

Signature

Date 9/29/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		0-2-Salt Crust, reddish orange, wet 2-3-Salt crust, black, wet 3-6-CLAY, silty, gray, wet
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________ Date 9/29/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-05

DATE 9/24/15

Begin Sampling Time 11:10

End Sampling Time 11:45

ERM Samplers KB, TH

EPA Oversight Tim

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / N (circle)

Waste Thickness 2 inches

Waste Depth 0-2 inches bgs

Waste Appearance (describe):

Reddish ~~orage~~ orange, silty sand, moist

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) if waste present at bottom of sample interval

5. Sample Description

Sample ID: 7-05-SS-01-092415

Sample Time: 11:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, gray, moist

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

Signature ____ Date 9/24/15

Surface Solids Sampling Form – US Magnesium RI/FS

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – ~~6~~2		Reddish brown, ~~sand~~ silty sand
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________ Date 9/24/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID 7-06

DATE 9/28/15

Begin Sampling Time 12:00

End Sampling Time 12:45

ERM Samplers CB, TH

EPA Oversight Tim

Weather Cloudy, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) __________

UTM East (m) __________

GPS Accuracy __________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness 1 inches

Waste Depth 0-1 inches bgs

Waste Appearance (describe):

Reddish orange. silty sand w/ salt

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-06-SS-01-092815

Sample Time: 12:20

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, reddish orange to gray/black moist, salt & clay

Bottles Filled

1 4-oz Glass (unpres)

4 8-oz Glass (unpres)

3 En Core® (unpres)

En Core® Pre-Engaged? [✓ Y] N)

1 4-oz Glass (1/3 headspace)

2 16-oz Glass (unpres)

__ 40-mL VOA (Methanol)

En Core® Hand-Filled? [✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID __________

EPA Split Samples Y [✓ N] (circle)

Analyses __________

Signature __________ Date 9/28/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		0-1": SAND, silty, reddish orange, moist, w/ salt crystals 1-6": SAND, silty, black to gray, moist
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________________ Date 9/28/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 9-7
DATE 9/23/15
Begin Sampling Time 11:00
End Sampling Time 11:30
ERM Samplers KB, SS
EPA Oversight Tim
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 5
Saturated? [✓ Y] / N (circle)
Waste Potentially Present? [✓ Y] / N (circle)
Waste Thickness 1 inches
Waste Depth 0-1 inches bgs
Waste Appearance (describe):
CLAY, reddish orange, silty

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-7-SS-01-092315
Sample Time: 11:10
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, black & gray, wet

Bottles Filled

1 4-oz Glass (unpres)
1 4-oz Glass (1/3 headspace)
2 8-oz Glass (unpres)
2 16-oz Glass (unpres)
3 En Core® (unpres)
___ 40-mL VOA (Methanol)
En Core® Pre-Engaged? ([✓ Y] / N)
En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y [✓ N] (circle)
Analyses ____

Signature ____ Date 9/23/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		Reddish orange clay with salt
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ____________________ Date 9/23/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-8

DATE 9/23/15

Begin Sampling Time 10:15

End Sampling Time 10:4

ERM Samplers KB, SS

EPA Oversight Tim

Weather

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ____ inches

Waste Depth ____ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-8-SS-01-092315

Sample Time: 10:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, sandy, gray, moist,

Bottles Filled

1 4-oz Glass (unpres)	2 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

TB=7-08-SS-21-092315 @ 14:30

Signature ____ Date 9/23/15

mn

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID 7-09

DATE 9/28/15

Begin Sampling Time 10:00

End Sampling Time 11:00

ERM Samplers KB, TH

EPA Oversight Tim

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y/[✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? [✓ Y] N (circle)

Waste Thickness 1 inches

Waste Depth 0-1 inches bgs

Waste Appearance (describe):

reddish orange silty clay with salt

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-09-SS-01-092815

Sample Time: 10:35

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, reddish orange to gray, moist, salt

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

4 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] / N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y/[✓ N] (circle)

Field Dup Y /[✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y/[✓ N] (circle)

Analyses ______

Signature ______ Date 9/28/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		0-1" - CLAY, silty, reddish orange, moist w/ salt crystals 1-6" - CLAY, silty, black to gray, moist
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature __________ Date 9/28/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID 1-10

DATE 9/28/15

Begin Sampling Time 11:10

End Sampling Time 11:45

ERM Samplers KB, TH

EPA Oversight Jim

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m)

UTM East (m)

GPS Accuracy

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 6

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 1 inches

Waste Depth 0-1 inches bgs

Waste Appearance (describe):

Reddish orange silty sand w/ salt

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 1-10-SS-01-092815

Sample Time: 11:20

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, reddish orange to gray/black wet, salt

Bottles Filled

1 4-oz Glass (unpres)	4 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? [✓ Y] / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? [✓ Y] N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID

EPA Split Samples Y / [✓ N] (circle)

Analyses

Signature

Date 9/28/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		0-1" - SAND, silty, reddish orange, wet w/ salt crystals 1-6" - SAND, silty, black to gray, wet.
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ____________ Date 9/28/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-11
DATE 9/21/15
Begin Sampling Time 10:15
End Sampling Time 11:08
ERM Samplers KB, TH
EPA Oversight Tim
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________
UTM East (m) ________
GPS Accuracy ________
Location Field Modified? Y / N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 6
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-11-SS-01-092115
Sample Time: 10:30
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, brown & gray, moist

Bottles Filled

1 4-oz Glass (unpres)
2 8-oz Glass (unpres)
3 En Core® (unpres)
En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)
2 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ________
EPA Split Samples [✓ Y] / N (circle)
Analyses ________

Signature ________ Date 9/21/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-12
DATE 9/21/15
Begin Sampling Time 11:15
End Sampling Time 13:00
ERM Samplers PB, TH
EPA Oversight Tim
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________
UTM East (m) ____________
GPS Accuracy ____________
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 6
Saturated? Y [✓ N] (circle)
Waste Potentially Present? [✓ Y] / N (circle)
Waste Thickness 1 inches
Waste Depth 0-1 inches bgs
Waste Appearance (describe):

Red clay with salt

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-12-SS-01-092115
Sample Time: 12:20
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, gray, moist

Bottles Filled

2 4-oz Glass (unpres)	4 8-oz Glass (unpres)	6 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] / N)
2 4-oz Glass (1/3 headspace)	4 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup [✓ Y] N (circle)
Field Dup Sample ID 7-12-SS-11-092115@12:21

EPA Split Samples Y [✓ N] (circle)
Analyses ____________
TB=7-12-SS-21-092115@15:00

Signature ____________ Date 9/21/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 6		CLAY, reddish brown with pieces of salt
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ____________ Date 9/21/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-13

DATE 9/22/15

Begin Sampling Time 9:20

End Sampling Time 10:10

ERM Samplers KB, TH

EPA Oversight Tim

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ___

UTM East (m) ___

GPS Accuracy ___

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 0-2 inches

Waste Depth 0-2 inches bgs

Waste Appearance (describe):

CLAY, reddish brown with salt

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-13-SS-01-092215

Sample Time: 9:45

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, gray, moist to wet, with salt, ~~organic~~ anaerobic odor

Bottles Filled

___ 4-oz Glass (unpres)

8 8-oz Glass (unpres)

6 En Core® (unpres)

En Core® Pre-Engaged? [✓ Y] / N)

1 4-oz Glass (1/3 headspace)

2 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? [✓ Y] / N)

6. QC Samples

MS/MSD [✓ Y] / N (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ___

EPA Split Samples [✓ Y] / N (circle)

Analyses ___

Signature ___ Date 9/22/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – ~~6~~2		Reddish brown clay w/ salt
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature __________ Date 9/22/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-14

DATE 9/22/15

Begin Sampling Time 10:15

End Sampling Time 11:35

ERM Samplers KB, TH

EPA Oversight Tim

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 8

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? [✓ Y] / N (circle)

Waste Thickness 2 inches

Waste Depth 0-2 inches bgs

Waste Appearance (describe):

CLAY, reddish brown, salt

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-14-SS-01-092215

Sample Time: 11:15

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, black, wet, with salt, anarobic odor

Bottles Filled

2 4-oz Glass (unpres)

2 4-oz Glass (1/3 headspace)

8 8-oz Glass (unpres)

4 16-oz Glass (unpres)

6 En Core® (unpres)

___ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] N)

En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup [✓ Y] / N (circle)

Field Dup Sample ID 7-14-SS-11-092215 @ 11:16

EPA Split Samples [✓ Y] / N (circle)

Analyses ____________________

Signature ____________________ Date 9/22/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0–12		Reddish brown clay w/ salt
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ____________ Date 9/22/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-15
DATE 9/22/15
Begin Sampling Time 11:54
End Sampling Time 14:00
ERM Samplers FB, TH
EPA Oversight Tim
Weather Clear, 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA
Sample Depth Interval 0-6 inches bgs
Number of Grab Aliquots 6
Saturated? Y [✓ N] (circle)
Waste Potentially Present? [✓ Y] N (circle)
Waste Thickness 1 inches
Waste Depth 0-1 inches bgs
Waste Appearance (describe):

Reddish brown, sand

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-15-SS-01-092215
Sample Time: 12:25
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND & CLAY, reddish brown, black, moist

Bottles Filled

1 4-oz Glass (unpres)
1 4-oz Glass (1/3 headspace)
4 8-oz Glass (unpres)
2 16-oz Glass (unpres)
3 En Core® (unpres)
___ 40-mL VOA (Methanol)
En Core® Pre-Engaged? ([✓ Y] / N)
En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples [✓ Y] / N (circle)
Analyses ______
TB: 7-15-SS-21-092215 @ 14:30

Signature ______ Date 9/22/15

7. Waste Field Screening Depth Log

Depth Interval (inches bgs)	Graphic Log	Waste / Soil Description
0 – 1		Reddish brown sand.
6 – 12		
12 – 18		
18 – 24		
24 – 30		
30 – 36		
36 – 42		
42 – 48		
48 – 54		
54 – 60		

Signature ______________________ Date 9/22/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-16

DATE 9/29/15

Begin Sampling Time 10:30

End Sampling Time 11:10

ERM Samplers RB, TH

EPA Oversight Tim J.

Weather Clear, 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

South of original location on shore of canal/ditch

3. Location

UTM North (m) 4533127

UTM East (m) 355383

GPS Accuracy ±10

Location Field Modified? [✓ Y] / N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 6

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: 7-16-SS-01-092915

Sample Time: 10:50

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, sandy, brown to black to gray, wet, anaerobic odor
salt crust

Bottles Filled

1 4-oz Glass (unpres)	3 8-oz Glass (unpres)	3 En Core® (unpres)	En Core® Pre-Engaged? ([✓ Y] / N)
1 4-oz Glass (1/3 headspace)	2 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? ([✓ Y] / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______________________

EPA Split Samples Y / [✓ N] (circle)

Analyses ______________________

Signature ______________________ Date 9/29/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID 7-17

DATE 9/29/15

Begin Sampling Time 9:40

End Sampling Time 10:20

ERM Samplers KB, TH

EPA Oversight Tim J.

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Approximately 30' south of original location on edge of ditch water (out of water)

3. Location

UTM North (m) 4533142

UTM East (m) 356197

GPS Accuracy ±10'

Location Field Modified? [✓ Y] / N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method HA

Sample Depth Interval 0-6 inches bgs

Number of Grab Aliquots 9

Saturated? [✓ Y] / N (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Limited recovery due to vegetation

5. Sample Description

Sample ID: 7-17-SS-01-092915

Sample Time: 10:00

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, sandy, black, wet, anaerobic odor, vegetation

Bottles Filled

1 4-oz Glass (unpres)

1 4-oz Glass (1/3 headspace)

3 8-oz Glass (unpres)

2 16-oz Glass (unpres)

3 En Core® (unpres)

__ 40-mL VOA (Methanol)

En Core® Pre-Engaged? ([✓ Y] N)

En Core® Hand-Filled? ([✓ Y] N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ______________________

EPA Split Samples Y [✓ N] (circle)

Analyses ______________________

Signature

Date 9/29/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID BR-1

DATE 10/22/15

Begin Sampling Time 10:50

End Sampling Time 11:10

ERM Samplers DB, SS

EPA Oversight TJ

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: BR-1-SS-01-102215

Sample Time: 11:55

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, brown, moist

Bottles Filled

2 4-oz Glass (unpres)

1 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)

Analyses ______

Signature ______ Date 10/22/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID BR-2

DATE 10/22/15

Begin Sampling Time 12:10

End Sampling Time 12:20

ERM Samplers KB, SS

EPA Oversight T. Simenee

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: BR-2-SS-01-102215

Sample Time: 12:15

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, brownish gray, moist to wet

Bottles Filled

2 4-oz Glass (unpres)
1 8-oz Glass (unpres)
__ En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)
__ 16-oz Glass (unpres)
__ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y [✓ N] (circle)

Analyses ________

Signature ________ Date 10/22/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID BR3

DATE 10/22/15

Begin Sampling Time 13:00

End Sampling Time 14:05

ERM Samplers RB, SS

EPA Oversight T.J.

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) __________

UTM East (m) __________

GPS Accuracy __________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness _____ inches

Waste Depth _____ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: BR-3-SS-01-102215

Sample Time: 13:05

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, brown, moist to wet

Bottles Filled

1 4-oz Glass (unpres)

1 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID __________

EPA Split Samples Y [✓ N] (circle)

Analyses __________

Signature

Date 10/22/15

SB 13:50

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID BR-4
DATE 10/22/15
Begin Sampling Time 10:50
End Sampling Time 11:00
ERM Samplers RB, SS
EPA Oversight T. Jimenez
Weather Clear 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: BR-4-SS01-102215
Sample Time: 10:55
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, moist to dry, grayish brown.

Bottles Filled

2 4-oz Glass (unpres)
1 8-oz Glass (unpres)
___ En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)
___ 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y [✓ N] (circle)
Analyses ____

Signature ____ Date 10/22/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID BR-5
DATE 10/22/15
Begin Sampling Time 10:00
End Sampling Time 10:40
ERM Samplers KB, SJ
EPA Oversight T. Jimenez
Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: BR-5-SS-01-102215
Sample Time: 10:30
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, brown, moist

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples Y / [✓ N] (circle)
Analyses ______

Signature ______ Date 10/22/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-1

DATE 10/9/15

Begin Sampling Time 1040

End Sampling Time 1047

ERM Samplers TH., SS.

EPA Oversight A. BAIRD

Weather PARTLY CLOUDY, CALM, 65°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBB-1-SS-01-100915

Sample Time: 1044

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND,SILTY, LIGHT BROWN, DRY, TRACE ANGULAR GRAVEL

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____________________

EPA Split Samples Y / [✓ N] (circle)

Analyses ____________________

Signature ____________________ Date 10/9/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-2
DATE 10/9/15
Begin Sampling Time 1030
End Sampling Time 1037
ERM Samplers T.H., S.S.
EPA Oversight A. BAIRD
Weather PARTLY CLOUDY, CALM, 65°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBB-2-SS-01-100915
Sample Time: 1035
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, SILTY, LIGHT BROWN, DRY; SOME ANGULAR GRAVEL

Bottles Filled

2 4-oz Glass (unpres)
___ 8-oz Glass (unpres)
___ En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)
___ 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup [✓ Y] / N (circle)
Field Dup Sample ID LBB-2-SS-11-100915
EPA Split Samples Y [✓ N] (circle)
Analyses ____

Signature ____ Date 10/9/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-3
DATE 10/9/15
Begin Sampling Time 1019
End Sampling Time ____
ERM Samplers T.H., S.S.
EPA Oversight A. BAIRD
Weather PARTLY CLOUDY, CALM, 60°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBB-3-SS-01-100915
Sample Time: 1022
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, SILTY, LIGHT BROWN, DRY, TRACE SUB-ANGULAR GRAVEL, TRACE ORGANIC MATERIAL (I.E. ROOTS)

Bottles Filled

2 4-oz Glass (unpres)
1 8-oz Glass (unpres)
___ En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)
___ 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y / [✓ N] (circle)
Analyses ____

Signature ____ Date 10/9/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-4

DATE 10/9/15

Begin Sampling Time 1006

End Sampling Time 1012

ERM Samplers TH., S.S.

EPA Oversight A. BAIRD

Weather PARTLY CLOUDY, CALM, 60° F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBB-4-SS-01-100915

Sample Time: 1010

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, SILTY, LIGHT BROWN, DRY, SOME ANGULAR GRAVEL

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature

Date 10/9/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-5

DATE 10/9/15

Begin Sampling Time 0953

End Sampling Time 1000

ERM Samplers T.H., S.S.

EPA Oversight A. BAIRD

Weather PARTLY CLOUDY, CALM, 60°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBB-5-SS-01-100915

Sample Time: 0957

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND; SILTY, LIGHT BROWN, DRY, SOME ANGULAR GRAVEL

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)

Analyses ______

Signature ______ Date 10/9/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-6

DATE 10/8/15

Begin Sampling Time 11:25

End Sampling Time 11:35

ERM Samplers KB, TH

EPA Oversight Aaron B.

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: LBB-6-SS-01-100815

Sample Time: 11:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, brown, dry, some gravel

Bottles Filled

1 4-oz Glass (unpres)

___ 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y [✓ N] (circle)

Analyses ________

Signature ________ Date 10/8/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-7

DATE 10/8/15

Begin Sampling Time 10:55

End Sampling Time

ERM Samplers KB, TH

EPA Oversight Aaron. B.

Weather Clear, 70s

3. Location

UTM North (m)

UTM East (m)

GPS Accuracy

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

2. Description / Location Notes

Description (Setting, Distance from Site Features):

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBB-7-SS-01-100815

Sample Time: 11:00

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, brown, dry, with some gravel

Bottles Filled

2 4-oz Glass (unpres)

1 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID

EPA Split Samples Y / [✓ N] (circle)

Analyses

Signature

Date 10/8/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-8

DATE 10/8/15

Begin Sampling Time 10:45

End Sampling Time 10:52

ERM Samplers KB, TH

EPA Oversight Aaron B.

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) __________

UTM East (m) __________

GPS Accuracy __________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness __________ inches

Waste Depth __________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBB-8-SS-01-100815

Sample Time: 10:50

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND silty, brown, dry, some gravel

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID __________

EPA Split Samples Y [✓ N] (circle)

Analyses __________

Signature __________ Date 10/8/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-9

DATE 10/8/15

Begin Sampling Time 10:20

End Sampling Time 10:35

ERM Samplers KB, TH

EPA Oversight Aaron B.

Weather Clear, 60s

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

2. Description / Location Notes

Description (Setting, Distance from Site Features):

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBB-9-SS-01-100815

Sample Time: 10:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, grey, moist

Bottles Filled

2 4-oz Glass (unpres)

1 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] / N (circle)

Analyses ________

Signature

Date 10/8/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBB-10

DATE 10/8/15

Begin Sampling Time 10:00

End Sampling Time 10:15

ERM Samplers KB, TH

EPA Oversight Aaron B.

Weather Cloudy, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 8

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBB-10-SS-01-100815

Sample Time: 10:10

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, gray to black, moist

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____________________

EPA Split Samples [✓ Y] N (circle)

Analyses ____________________

Signature ____________________ Date 10/8/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-1

DATE 10/2/15

Begin Sampling Time 10:00

End Sampling Time 10:15

ERM Samplers KB, SS

EPA Oversight Aaron

Weather Cloudy 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBN-1-SS-01-100215

Sample Time: 10:06

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, moist

Bottles Filled

2 4-oz Glass (unpres)	__ 8-oz Glass (unpres)	__ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)	__ 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup [✓ Y] N (circle)

Field Dup Sample ID LBN-1-SS-11-100215@10:07

EPA Split Samples Y [✓ N] (circle)

Analyses ________

LBN-1-SS-31-100215 @ 1400

Signature

Date 10/2/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-2
DATE 10/2/15
Begin Sampling Time 10:18
End Sampling Time 10:25
ERM Samplers KB, SS
EPA Oversight Aaron
Weather Cloudy, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________
UTM East (m) ________
GPS Accuracy ________
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ________ inches
Waste Depth ________ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBN-2-SS-01-100215
Sample Time: 10:20
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, moist,

Bottles Filled

4 4-oz Glass (unpres)	2 8-oz Glass (unpres)	__ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)	__ 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup [✓ Y] N (circle)
Field Dup Sample ID LBN-2-SS-11-100215 @ 10:21

EPA Split Samples Y / N (circle)
Analyses ________

Signature ________ Date 10/2/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-3

DATE 10/2/15

Begin Sampling Time 10:35

End Sampling Time 10:40

ERM Samplers KB, SS

EPA Oversight Aaron

Weather Cloudy, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBN-3-SS01-100215

Sample Time: 10:38

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, moist

Bottles Filled

1 4-oz Glass (unpres)	__ 8-oz Glass (unpres)	__ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)	__ 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y [✓ N] (circle)

Analyses ________

Signature ________ Date 10/2/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-4

DATE 10/2/15

Begin Sampling Time 10:50

End Sampling Time 10:55

ERM Samplers KB, SS

EPA Oversight Aaron

Weather Cloudy, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method ____________

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBN-4-SS-01-100215

Sample Time: 10:53

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, moist

Bottles Filled

__ 4-oz Glass (unpres)	3 8-oz Glass (unpres)	__ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)	__ 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD [✓ Y] / N (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____________

EPA Split Samples Y / [✓ N] (circle)

Analyses ____________

Signature ____________ Date 10/2/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-5

DATE 10/2/15

Begin Sampling Time 11:05

End Sampling Time 11:10

ERM Samplers KB, SS

EPA Oversight Aaron

Weather Cloudy, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBN-5-SS-01-100215

Sample Time: 11:07

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, dry

Bottles Filled

1 4-oz Glass (unpres)

__ 4-oz Glass (1/3 headspace)

__ 8-oz Glass (unpres)

__ 16-oz Glass (unpres)

__ En Core® (unpres)

__ 40-mL VOA (Methanol)

En Core® Pre-Engaged? (Y / N)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature ________ Date 10/2/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-6
DATE 10/5/15
Begin Sampling Time 10:20
End Sampling Time 10:30
ERM Samplers KB, TH
EPA Oversight Tim
Weather Clear 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBN-6-SS-01-100515
Sample Time: 10:26
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, moist

Bottles Filled

2 4-oz Glass (unpres)
1 8-oz Glass (unpres)
___ En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)
___ 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples [✓ Y] N (circle)
Analyses ______

Signature ______ Date 10/5/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-7

DATE 10/5/15

Begin Sampling Time 11:10

End Sampling Time 11:20

ERM Samplers KB, TH

EPA Oversight Tim

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBN-7-SS-01-100515

Sample Time: 11:15

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, moist

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples [✓ Y] N (circle)

Analyses ______

Signature ______ Date 10/5/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-8

DATE 10/5/15

Begin Sampling Time 11:20

End Sampling Time 11:48

ERM Samplers FB, TH

EPA Oversight Tim

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBN-8-SS-01-100515

Sample Time: 11:44

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, moist

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature ________ Date 10/5/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-9

DATE 10/5/15

Begin Sampling Time 11:48

End Sampling Time 12:00

ERM Samplers KB, TH

EPA Oversight Tim

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ____ inches

Waste Depth ____ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBN-9-SS-01-100515

Sample Time: 11:51

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, moist

Bottles Filled

2 4-oz Glass (unpres)

1 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

Signature ____ Date 10/5/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBN-10
DATE 10/5/15
Begin Sampling Time 12:00
End Sampling Time 12:15
ERM Samplers KB, TH
EPA Oversight Tim
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________
UTM East (m) ________
GPS Accuracy ________
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ________ inches
Waste Depth ________ inches bgs
Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: LBN-10-SS-01-100515
Sample Time: 12:07
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, med. brown, moist

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)
Analyses ________

Signature ________ Date 10/5/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID LBSE-1

DATE 10/6/15

Begin Sampling Time 9:34

End Sampling Time 9:45

ERM Samplers Lonnie Mercer / Kris Benson

EPA Oversight Tim Jimenez

Weather

cloudy, calm, temps in 60s

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Lakebed to north of berm road east of US Mag facility. Former sandy shoal of lakebed. Very sparse grasses.

4. Field Preservation / Field Measurements

Sample Collection Method Flat bottom scoop

Sample Depth Interval 2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ____ inches

Waste Depth ____ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBSE-1-SS-01-100615

Sample Time: 934

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

Sandy SILT, gray, fine-grained sand, moist, trace angular gravel on surface.

Bottles Filled

4 4-oz Glass (unpres)

2 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup [✓ Y] / N (circle)

Field Dup Sample ID LBSE-1-SS-11-100615 @ 935

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

Signature ____ Date 10/6/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBSE-2
DATE 10/6/15
Begin Sampling Time 1000
End Sampling Time 1015
ERM Samplers Kris Benson / Lonnie Mercer
EPA Oversight Tim Jimenez
Weather Cloudy, calm, temps in 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):
Lakebed mudflats north of berm road east of US Mag facility. No vegetation. Two vehicle batteries dumped on ~~ground~~ LM ground approximately 50 feet from sample location.

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method flat bottom scoop
Sample Depth Interval 2 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBSE-2-SS-01-100615
Sample Time: 1000
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
SILTY CLAY, dark gray, high plasticity, firm, moist to wet, trace angular gravel and sand on surface.

Bottles Filled

___ 4-oz Glass (unpres)	3 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD [✓ Y] ~~N~~ (circle) LM
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y [✓ N] (circle)
Analyses ____

Signature ____ Date 10/6/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBSE-3
DATE 10/6/15
Begin Sampling Time 1040
End Sampling Time 1050
ERM Samplers Louise Mercer / Kris Benson
EPA Oversight Tim Jimenez
Weather
Mostly cloudy, calm, temps in 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):
Lakebed to north of berm road east of US Mag facility. Former sandy shoal of lakebed. Very sparse grasses.

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Flat bottom scoop
Sample Depth Interval 2 inches bgs
Number of Grab Aliquots 6
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: LBSE-3-SS-01-100615
Sample Time: 1040
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
SILTY SAND, gray, medium to very coarse sand, moist, trace angular gravel, oolitic sand.

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ______

EPA Split Samples [✓ Y] N (circle)
Analyses ______

Signature ______ Date 10/6/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBSE-4
DATE 10/6/15
Begin Sampling Time 1105
End Sampling Time 1120
ERM Samplers Kris Benson / Lonnie Mercer
EPA Oversight Tim Jimenez
Weather Mostly cloudy, calm, temps in 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features): Lakebed mud flats north of berm road east of US Mag facility. No vegetation.

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Flat bottom scoop
Sample Depth Interval 2 inches bgs
Number of Grab Aliquots 5
Saturated? [✓ Y] / ~~N~~ (circle) LM
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBSE-4-SS-01-100615
Sample Time: 1105
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
SILTY CLAY, dark gray, high plasticity, soft, wet to saturated, trace fine to medium oolitic sand on surface.

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples Y / [✓ N] (circle)
Analyses ______

Signature ______ Date 10/6/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBSE-5

DATE 10/6/15

Begin Sampling Time 1135

End Sampling Time 1150

ERM Samplers Lonnie Merrer / Kris Benson

EPA Oversight Tim Jimenez

Weather

Mostly cloudy, calm, temps in 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Mud flats of lakebed to north of berm road east of US Mag facility. No vegetation.

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method flat bottom scoop

Sample Depth Interval 2 inches bgs

Number of Grab Aliquots 5

Saturated? [✓ Y] N (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBSE-5-SS-01-100615

Sample Time: 1135

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SANDY CLAY, minor silt, dark gray, fine to medium sand, high plasticity, soft, wet to saturated.

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	__ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)	__ 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] N (circle)

Analyses ________

Signature Lonnie Merrer Date 10/6/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBSE-6

DATE 10/7/15

Begin Sampling Time 9:25

End Sampling Time 9:40

ERM Samplers KB, SS

EPA Oversight Tim

Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness _____ inches

Waste Depth _____ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: LBSE-6-SS-01-100715

Sample Time: 9:35

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, gray to black, moist

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y [✓ N] (circle)

Analyses ________

Signature ________ Date 10/7/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBSE-7

DATE 10/7/15

Begin Sampling Time 9:45

End Sampling Time 10:00

ERM Samplers KB, SS

EPA Oversight Tim

Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ____ inches

Waste Depth ____ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBSE-7-SS01-100715

Sample Time: 9:57

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, gray to black, moist

Bottles Filled

2 4-oz Glass (unpres)

1 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y / [✓ N] (circle)

Analyses ____

Signature ____ Date 10/7/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBSE-8
DATE 10/7/15
Begin Sampling Time 10:40
End Sampling Time 10:50
ERM Samplers PB, SS
EPA Oversight Tim
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m)
UTM East (m)
GPS Accuracy
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ________ inches
Waste Depth ________ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBSE-8-SS-01-100715
Sample Time: 10:45
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

CLAY, silty, gray, moist

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID
EPA Split Samples Y [✓ N] (circle)
Analyses

Signature ______________________ Date 10/7/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID LBSE-9
DATE 10/7/15
Begin Sampling Time 11:00
End Sampling Time 11:12
ERM Samplers FB, SS
EPA Oversight Tim
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________
UTM East (m) ________
GPS Accuracy ________
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ________ inches
Waste Depth ________ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: LBSE-9-SS-01-100715
Sample Time: 11:05
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SAND, silty, black, medium, moist

Bottles Filled

2 4-oz Glass (unpres)
___ 4-oz Glass (1/3 headspace)
1 8-oz Glass (unpres)
___ 16-oz Glass (unpres)
___ En Core® (unpres)
___ 40-mL VOA (Methanol)
En Core® Pre-Engaged? (Y / N)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ________
EPA Split Samples Y/ [✓ N] (circle)
Analyses ________

Signature ________ Date 10/7/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID LBSE-10

DATE 10/7/15

Begin Sampling Time 11:15

End Sampling Time 12:36

ERM Samplers FB, SS

EPA Oversight Tim

Weather Clear

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Approximately 25' N of original location due to salt pond.

3. Location

UTM North (m) 4532744.75

UTM East (m) 367094.12

GPS Accuracy ±24"

Location Field Modified? [✓ Y] / N (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: LBSE-10-SS-01-100715

Sample Time: 12:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)

Analyses ______

Signature ______ Date 10/7/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPN-1

DATE 10/14/15

Begin Sampling Time 9:39

End Sampling Time 9:50

ERM Samplers FB, AN

EPA Oversight A. Baird

Weather clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ____ inches

Waste Depth ____ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPN-1-SS-01-101415

Sample Time: 9:45

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

1 4-oz Glass (unpres)   ___ 8-oz Glass (unpres)   ___ En Core® (unpres)   En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)   ___ 16-oz Glass (unpres)   ___ 40-mL VOA (Methanol)   En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ____

EPA Split Samples Y [✓ N] (circle)

Analyses ____

Signature ____ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPN-2

DATE 10/14/15

Begin Sampling Time 10:01

End Sampling Time 10:16

ERM Samplers FB, AN

EPA Oversight A. Baird

Weather Clear 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPN-2-SS-01-101415

Sample Time: 10:10

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

4 4-oz Glass (unpres)	2 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup [✓ Y] N (circle)

Field Dup Sample ID UPN-2-SS-11-101415 @10:11

EPA Split Samples [✓ Y] / N (circle)

Analyses ______

Signature ______ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID UPN-3
DATE 10/14/15
Begin Sampling Time 10:22
End Sampling Time 10:32
ERM Samplers KB, AN
EPA Oversight A. Baird
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPN-3-SS-01-101415
Sample Time: 10:30
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

1 4-oz Glass (unpres)
__ 8-oz Glass (unpres)
__ En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)
__ 16-oz Glass (unpres)
__ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y / [✓ N] (circle)
Analyses ____

Signature ____ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPN-4

DATE 10/14/15

Begin Sampling Time 10:38

End Sampling Time 10:50

ERM Samplers KB, AN

EPA Oversight A. Baird

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method ________

Sample Depth Interval ________ inches bgs

Number of Grab Aliquots ________

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: UPN-4-SS-01-101415

Sample Time: 10:45

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

___ 4-oz Glass (unpres)

3 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD [✓ Y] / N (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature ________ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPN-5
DATE 10/14/15
Begin Sampling Time 11:00
End Sampling Time 11:05
ERM Samplers KB, AN
EPA Oversight A Baird
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPN-5-SS-01-101415
Sample Time: 11:00
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y [✓ N] (circle)
Analyses ____

Signature ____ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPN-6

DATE 10/14/15

Begin Sampling Time 11:08

End Sampling Time 11:25

ERM Samplers KB, AN

EPA Oversight A. Baird

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPN-6-SS-01-101415

Sample Time: 11:20

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

2 4-oz Glass (unpres)

1 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / N (circle)

Analyses ________

Signature ________ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPN-7

DATE 10/14/15

Begin Sampling Time 11:50

End Sampling Time 12:00

ERM Samplers FB, AN

EPA Oversight A. Baird

Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPN-7-SS-01-101415

Sample Time: 11:55

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y [✓ N] (circle)

Analyses ______

Signature ______ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPN-8
DATE 10/14/15
Begin Sampling Time 12:00
End Sampling Time 12:10
ERM Samplers KB, AN
EPA Oversight A. Baird
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPN-8-SS-01-101415
Sample Time: 12:05
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)
Analyses ______

Signature ______ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPN-9
DATE 10/14/15
Begin Sampling Time 12:10
End Sampling Time 12:22
ERM Samplers KB, AN
EPA Oversight A. Baird
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPN-9-SS-01-101415
Sample Time: 12:20
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

___ 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / N (circle)
Field Dup Y / N (circle)
Field Dup Sample ID ______

EPA Split Samples Y / N (circle)
Analyses ______

Signature ______ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPM-10

DATE 10/14/15

Begin Sampling Time 12:30

End Sampling Time 12:40

ERM Samplers KB, AM

EPA Oversight A. Baird

Weather Clear, 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPM-10-SS-01-101415

Sample Time: 12:35

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, brown, dry

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____________________

EPA Split Samples [✓ Y] / N (circle)

Analyses ____________________

Signature ____________________ Date 10/14/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPS-1

DATE 10/12/15

Begin Sampling Time 10:25

End Sampling Time 10:55

ERM Samplers KB, KL

EPA Oversight Tim J.

Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Near shotgun shells
bullet shells but none @
sample location.
Rabbit scat @ sample location

3. Location

UTM North (m) ____

UTM East (m) ____

GPS Accuracy ____

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots ____

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ____ inches

Waste Depth ____ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

100% pass thru sieve
Some organics (roots)

5. Sample Description

Sample ID: UPS-1-SS-01-101215

Sample Time: 10:40

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, bright brown, dry

Bottles Filled

4 4-oz Glass (unpres)

2 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup [✓ Y] / N (circle)

Field Dup Sample ID UPS-1-SS-01-101215 @ 10:41

EPA Split Samples [✓ Y] / N (circle)

Analyses ____

Signature ____

Date 10/12/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPS-2

DATE 10/12/15

Begin Sampling Time 11:20

End Sampling Time

ERM Samplers KB, KL

EPA Oversight Tim, Jimenez

Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m)

UTM East (m)

GPS Accuracy

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Some organics (roots)
Trace evaparite (calcite)
gravel did not pass
Sieve

5. Sample Description

Sample ID: UPS-2-SS-01-101215

Sample Time: 11:30

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, light brown, dry

Bottles Filled

___ 4-oz Glass (unpres)	3 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD [✓ Y] / N (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID

EPA Split Samples Y [✓ N] (circle)

Analyses

Signature

Date 10/12/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPS-3
DATE 10/12/15
Begin Sampling Time 11:40
End Sampling Time 11:50
ERM Samplers PB, KL
EPA Oversight T. Jimenez
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m)
UTM East (m)
GPS Accuracy
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Some organics (roots)
Trace evaporite gravel
did not pass sieve

5. Sample Description

Sample ID: UPS-3-SS-01-101215
Sample Time: 11:45
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, light brown, dry

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID
EPA Split Samples [✓ Y] / N (circle)
Analyses

Signature
Date 10/12/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPS-4
DATE 10/12/15
Begin Sampling Time 10:57
End Sampling Time 1105
ERM Samplers FB, KL
EPA Oversight T. Jimenez
Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

Shotgun shells near sampling location but none @ sample area. Rabbit scat @ sample location

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

<100% pass thru sieve
Few (Trace) evaporites present. ~~Trace~~ organics (roots)
Some KWL

5. Sample Description

Sample ID: UPS-4-SS-01-101215
Sample Time: 1105
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, light brown, dry

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____

EPA Split Samples Y / N (circle)
Analyses ____

Signature ____ Date 10/12/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPS-5

DATE 10/12/15

Begin Sampling Time 11:55

End Sampling Time 12:05

ERM Samplers KB, KL

EPA Oversight T. Jimenez

Weather Clear, 70s

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

2. Description / Location Notes

Description (Setting, Distance from Site Features):

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y [✓ N] (circle)

Waste Potentially Present? Y [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: UPS-5-SS-01-101215

Sample Time: 12:00

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

Silty, clayey, light brown, dry

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y [✓ N] (circle)

Analyses ______

Signature ______ Date 10/12/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPS-6

DATE 10/13/15

Begin Sampling Time 9:25

End Sampling Time 9:40

ERM Samplers KB, SS

EPA Oversight T. Jimenez

Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovl

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots ________

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPS-6-SS-01-101315

Sample Time: 9:35

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, light brown, dry

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples [✓ Y] / N (circle)

Analyses ________

Signature ________ Date 10/13/15

1. Site Information

LOCATION ID UPS-7
DATE 10\13\15
Begin Sampling Time 10:10
End Sampling Time 10:20
ERM Samplers FB, SS
EPA Oversight T. Jimenez
Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPS-7-SS-01-101315
Sample Time: 10:15
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, light brown, dry

Bottles Filled

1 4-oz Glass (unpres)
___ 4-oz Glass (1/3 headspace)
___ 8-oz Glass (unpres)
___ 16-oz Glass (unpres)
___ En Core® (unpres)
___ 40-mL VOA (Methanol)
En Core® Pre-Engaged? (Y / N)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples Y / [✓ N] (circle)
Analyses ____

Signature ____ Date 10/13/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPS-8

DATE 10/13/15

Begin Sampling Time 10:25

End Sampling Time 10:35

ERM Samplers KB, SS

EPA Oversight T. Jimenez

Weather Clear 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPS-8 SS01-101315

Sample Time: 10:35

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, light brown, dry

Bottles Filled

2 4-oz Glass (unpres)

~~3~~ 1 8-oz Glass (unpres)

___ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

___ 4-oz Glass (1/3 headspace)

___ 16-oz Glass (unpres)

___ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y [✓ N] (circle)

Field Dup Sample ID ____________

EPA Split Samples Y / [✓ N] (circle)

Analyses ____________

Signature ____________ Date 10/13/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPS-9
DATE 10/13/15
Begin Sampling Time 10:50
End Sampling Time 11:00
ERM Samplers FB, SS
EPA Oversight T. Jimenez
Weather Clear, 60s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________
UTM East (m) ________
GPS Accuracy ________
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method ________
Sample Depth Interval ________ inches bgs
Number of Grab Aliquots ________
Saturated? Y / N (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) if waste present at bottom of sample interval

5. Sample Description

Sample ID: UPS-9-SS-01-101315
Sample Time: 10:55
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, light brown, dry

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	__ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)	__ 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ________
EPA Split Samples Y [✓ N] (circle)
Analyses ________

Signature ________ Date 10/13/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPS-10
DATE 10/13/15
Begin Sampling Time 11:00
End Sampling Time 11:10
ERM Samplers KB, SS
EPA Oversight T Jimenez
Weather Clear, 70s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________
UTM East (m) ____________
GPS Accuracy ____________
Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method ____________
Sample Depth Interval ____________ inches bgs
Number of Grab Aliquots ____________
Saturated? Y [✓ N] (circle)
Waste Potentially Present? Y [✓ N] (circle)
Waste Thickness ________ inches
Waste Depth ________ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPS-10-SS-01-101315
Sample Time: 11:05
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, clayey, light brown, dry

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y [✓ N] (circle)
Field Dup Y [✓ N] (circle)
Field Dup Sample ID ____________

EPA Split Samples Y [✓ N] (circle)
Analyses ____________

Signature ____________ Date 10/13/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPSE-1

DATE 10/1/15

Begin Sampling Time 1305

End Sampling Time 1320

ERM Samplers TH, SS

EPA Oversight A. BAIRD

Weather

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m)

UTM East (m)

GPS Accuracy

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPSE-1-SS-01-100115

Sample Time: 1317

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SANDY SILT, GRAY, DRY, TRACE ORGANIC MATTER

Bottles Filled

4 4-oz Glass (unpres)

2 8-oz Glass (unpres)

__ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

__ 4-oz Glass (1/3 headspace)

__ 16-oz Glass (unpres)

__ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup [✓ Y] / N (circle)

Field Dup Sample ID UPSE-1-SS-11-100115

EPA Split Samples [✓ Y] / N (circle)

Analyses

Signature

Date 10/1/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID UPSE-2

DATE 10/1/15

Begin Sampling Time 1245

End Sampling Time 1257

ERM Samplers TH, SS

EPA Oversight A. BAIRD

Weather MOSTLY CLOUDY, N. WIND 0-2mph, 85°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPSE-2-SS-01-100115

Sample Time: 1253

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SANDY SILT, GRAY, DRY, TRACE ORGANIC MATTER

Bottles Filled

2 4-oz Glass (unpres)	__ 8-oz Glass (unpres)	__ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)	__ 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup [✓ Y] / N (circle)

Field Dup Sample ID UPSE-2-SS-11-100115

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature ________ Date 10/1/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPSE-3
DATE 10/1/15
Begin Sampling Time 1218
End Sampling Time 1235
ERM Samplers TH, SS
EPA Oversight A. BAIRD
Weather MOSTLY CLOUDY, N. WIND 0-2 mph, 85°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____
UTM East (m) ____
GPS Accuracy ____
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ____ inches
Waste Depth ____ inches bgs
Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPSE-3-SS-01-100115
Sample Time: 1232
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents
SANDY SILT, GRAY, DRY, TRACE ORGANIC MATTER

Bottles Filled

2 4-oz Glass (unpres)	1 8-oz Glass (unpres)	__ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)	__ 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ____
EPA Split Samples [✓ Y] N (circle)
Analyses ____

Signature ____ Date 10/1/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPSE-4

DATE 10/1/15

Begin Sampling Time 1200

End Sampling Time 1208

ERM Samplers TH, SS,

EPA Oversight A. BAIRD

Weather OVERCAST, CALM, 85°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPSE-4-SS-01-100115

Sample Time: 1205

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SANDY SILT, GRAY, DRY, SOME SUB-ANGULAR GRAVEL, TRACE ORGANIC MATTER

Bottles Filled

1 4-oz Glass (unpres)	___ 8-oz Glass (unpres)	___ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)	___ 16-oz Glass (unpres)	___ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)

Analyses ______

Signature

Date 10/1/15

Surface Solids Sampling Form – US Magnesium RI/FS

1. Site Information

LOCATION ID UPSE - 5

DATE 10/1/15

Begin Sampling Time 1105

End Sampling Time 1143

ERM Samplers TH, SS

EPA Oversight A. BAIRD

Weather OVERCAST, CALM, 80°F

2. Description / Location Notes

Description (Setting, Distance from Site Features):

GREASEWOOD FLAT W/ NON-NATIVE GRASSES. ~150' EAST OF N-S ROAD ON W. SIDE OF STANSBURY ISL.

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method FLAT BOT. SCOOP

Sample Depth Interval 0 - 2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPSE - 5 - SS - 01 - 100115

Sample Time: ~~1134~~ TH 1110

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SANDY SILT, LIGHT GRAY~~,~~ TH 10/1 - DRY, TRACE ORGANIC MATTER (ROOTS)

Bottles Filled

2 4-oz Glass (unpres)
1 8-oz Glass (unpres)
___ En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
___ 4-oz Glass (1/3 headspace)
___ 16-oz Glass (unpres)
___ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples ~~Y~~ TH / [✓ N] (circle)

Analyses /

Signature

Date 10/1/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPSE-6
DATE 9/30/15
Begin Sampling Time ______
End Sampling Time ______
ERM Samplers FB, TH
EPA Oversight Aaron
Weather Cloudy, 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______
UTM East (m) ______
GPS Accuracy ______
Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel
Sample Depth Interval 0-2 inches bgs
Number of Grab Aliquots 5
Saturated? Y / [✓ N] (circle)
Waste Potentially Present? Y / [✓ N] (circle)
Waste Thickness ______ inches
Waste Depth ______ inches bgs
Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) if waste present at bottom of sample interval

5. Sample Description

Sample ID: UPSE-6-SS-01-093015
Sample Time: 13:41
Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, sandy, brown, dry

Bottles Filled

2 4-oz Glass (unpres)
1 8-oz Glass (unpres)
__ En Core® (unpres)
En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)
__ 16-oz Glass (unpres)
__ 40-mL VOA (Methanol)
En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)
Field Dup Y / [✓ N] (circle)
Field Dup Sample ID ______
EPA Split Samples Y / [✓ N] (circle)
Analyses ______

Signature ______ Date 9/30/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPSE-7

DATE 9/30/15

Begin Sampling Time 12:25

End Sampling Time 12:35

ERM Samplers KB, TH

EPA Oversight Aaron

Weather Cloudy 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPSE-7-SS-01-093015

Sample Time: 12:33

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, sandy, brown, dry

Bottles Filled

1 4-oz Glass (unpres)	__ 8-oz Glass (unpres)	__ En Core® (unpres)	En Core® Pre-Engaged? (Y / N)
__ 4-oz Glass (1/3 headspace)	__ 16-oz Glass (unpres)	__ 40-mL VOA (Methanol)	En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y / [✓ N] (circle)

Analyses ________

Signature ________ Date 9/30/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPSE-8

DATE 9/30/15

Begin Sampling Time 13:00

End Sampling Time 13:15

ERM Samplers KB, TH

EPA Oversight Aaron

Weather Cloudy 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ______

UTM East (m) ______

GPS Accuracy ______

Location Field Modified? Y [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ______ inches

Waste Depth ______ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) if waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPSE-8-SS-01-093015

Sample Time: 13:09

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, sandy, brown, dry

Bottles Filled

2 4-oz Glass (unpres)

1 8-oz Glass (unpres)

__ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

__ 4-oz Glass (1/3 headspace)

__ 16-oz Glass (unpres)

__ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ______

EPA Split Samples Y / [✓ N] (circle)

Analyses ______

Signature ______ Date 9/30/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPSE-9

DATE 9/30/15

Begin Sampling Time 13:25

End Sampling Time 13:35

ERM Samplers KB, TH

EPA Oversight Aaron

Weather Cloudy, 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ________

UTM East (m) ________

GPS Accuracy ________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 0-2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Screen/log waste (page 2) If waste present at bottom of sample interval

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

5. Sample Description

Sample ID: UPSE-9-SS-01-093015

Sample Time: 13:32

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, sandy, brown, dry

Bottles Filled

1 4-oz Glass (unpres)

__ 8-oz Glass (unpres)

__ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

__ 4-oz Glass (1/3 headspace)

__ 16-oz Glass (unpres)

__ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ________

EPA Split Samples Y [✓ N] (circle)

Analyses ________

Signature ________ Date 9/30/15

Surface Solids Sampling Form – US Magnesium RI/FS

ERM

1. Site Information

LOCATION ID UPSE-10

DATE 9/30/15

Begin Sampling Time 12:45

End Sampling Time 12:55

ERM Samplers KB, TH

EPA Oversight Aaron

Weather
Cloudy 80s

2. Description / Location Notes

Description (Setting, Distance from Site Features):

3. Location

UTM North (m) ____________

UTM East (m) ____________

GPS Accuracy ____________

Location Field Modified? Y / [✓ N] (circle) *If Yes, explain in Notes*

4. Field Preservation / Field Measurements

Sample Collection Method Shovel

Sample Depth Interval 2 inches bgs

Number of Grab Aliquots 5

Saturated? Y / [✓ N] (circle)

Waste Potentially Present? Y / [✓ N] (circle)

Waste Thickness ________ inches

Waste Depth ________ inches bgs

Waste Appearance (describe):

Sampling Notes (Sample Recovery, Refusal, Reactivity, Other Observations)

Screen/log waste (page 2) If waste present at bottom of sample interval

5. Sample Description

Sample ID: UPSE-10-SS-01-093015

Sample Time: 12:50

Modified USCS: GRAIN SIZE, modifier, color, coarse and fine-grained descriptors, moisture content, odors/staining, minor constituents

SILT, sandy, brown, dry

Bottles Filled

2 4-oz Glass (unpres)

1 8-oz Glass (unpres)

__ En Core® (unpres)

En Core® Pre-Engaged? (Y / N)

__ 4-oz Glass (1/3 headspace)

__ 16-oz Glass (unpres)

__ 40-mL VOA (Methanol)

En Core® Hand-Filled? (Y / N)

6. QC Samples

MS/MSD Y / [✓ N] (circle)

Field Dup Y / [✓ N] (circle)

Field Dup Sample ID ____________

EPA Split Samples Y / [✓ N] (circle)

Analyses ____________

Signature ____________ Date 9/30/15

1-03

52° for 90°

11/4/15

DEPTH	TIME	SAMPLE ID	RECOVERY %	BLOW COUNT	FID/PID	USCS	LITHOLOGIC DESCRIPTION
0			100%			CL	clay, w/ trace sand (5%), gray to wht Sand is very fine, wet, low plastcty
1	11:15	0.5-1.5			0.9		@1.5'→ sand content ↑ to 10%
2	11:45	1.5-3.5	100%			3t	
3							@3'→ sand ↑ increase to 20%, some cementation (trace)
							@3.25'→ cemented oolite w/ rust staing, reddish brown, w/ silty clay, wet
4	12:20	3.5-5.5	100%			SP	@3.5 - gray sand, fine to med, wet, 10% ~~trace~~ silt
5							
6							

1-07

start 11/4/15 - 11/4/15

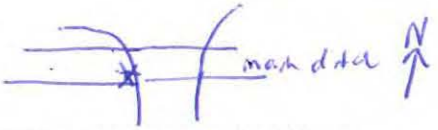
@45° angle -- ~15' / core barrel advanced

DEPTH	TIME	SAMPLE ID	RECOVERY %	BLOW COUNT	FID/PID	USCS	LITHOLOGIC DESCRIPTION
0							0.5. 0 - 0.5 - Waste (0.5) cr
0.5	13:58	0.5-1.5	85%	n/a	n/a	SP	sand (dark reddish brown to grey, fine to medium, 10% silt, wet some nodule w/ a dark reddish purple color, could be broken apart by hand.
1							
2	15:06	1.5-3	85%			CL	@ 1.5' → clay w/ trace sand (5%). greenish gray, damp
3						SP	@3' → sand seam 6", ~~brown~~ brown, fine to med
4	15:09	3-5	90%			SP-CL	3.5' - a lthz sand w/ silty clay (5) (10) (grey to white some cementation, wet.
5	15:11	5-7	95%			SP	@5' → sand w/ little silt (10) sand is fine, damp. ~~gr~~ dark grey.
7							
8			TD = 7				

1-08

11/5/15

-Drilled at 45° angle



DEPTH	TIME	SAMPLE ID	RECOVERY %	BLOW COUNT	FID/PID	USCS	LITHOLOGIC DESCRIPTION
0							
1	13:20	0.5-7	100% ** ~~soft~~ ~~compressed~~ v. soft			mL	→ silt w/ ~~little~~ trace sand. sand is fine, subrounded, wet, v. soft silt is reddish brown to dark reddish brown. some cementation. trace gravel. — compressed ~~due to sampling~~ JH
2							
3							
4							
5							
6							
7						~~7~~ — e7 —	silt w/ little sand. sand is fine to v. fine, subrounded. silt is dark reddish brown to tan, dark stains, wet, v. soft, trace cobbles + gravel some cementation
8	13:42	7-8.5	100%				
9	14:00	8.5-10	100%	native		SP — e8.5 —	oolitic sand w/ trace silty clay white to light gray. ~~damp~~ wet sand is fine, subrounded. some cementation
10						~~10.5~~ JV	
11		not sampled	fell out of core barrel	~~NR~~ ~~NR~~ 10-11	JH	— 11	
12						~~10~~.	silty sand. gray. sand is fine to v. fine, wet. ~~silt is~~
13							
14		10' to 17'	100%	~5 ft of ~~soft~~ recovery			
15							
16							
17							

TD:

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BOREHOLE LOG

Borehole Number: 1-08

Project Number: 0132320
Project Name: Phase 1A-B
Location: US Mag
Owner: US Mag
Drilling Company: Gravity
Drilling Method: Direct push tube with excavator
Driller: Peter Jenkins
Log By: Lonnie Mercer
Date Drilled: 12/2/15
Borehole Diameter: 4" Total Depth: 7' bgs

Sketch Map

Well Construction
Blank Casing Type: N/A Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
0				upper 1 foot not sampled due to sample LM material sticking in/spreading ~~across~~ within LM tube		CLAY, reddish brown, saturated, very soft, occasional white and dark gray layers
0.5						
1						
1.5				1-08-SB-01-1-3-120215 @ 1400		
2						@ 2' bgs Grades to dark gray with ~~minor~~ LM trace medium sand and angular gravel.
2.5						
3						@ 3' bgs Grades to reddish brown with trace sand and gravel.
3.5				1-08-SB-01-3-5-120215 @ 1345		
4						
4.5						CLAY with sand and gravel, reddish brown to dark gray, saturated, trace white gravel.
5						SANDY GRAVEL, black, saturated, hydrocarbon odor, subangular gravel up to 1" diameter.
5.5				1-08-SB-01-5-6-120215 @ 1340		
6						No recovery from 6'-7' bgs.
6.5						

7

TD @ 7' bgs
Refusal on gravel

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BOREHOLE LOG

Borehole Number: 1-13

Project Number: 0132320
Project Name: Phase 1A-B Drilling
Location: US Mag
Owner: US Mag
Drilling Company: Cascade Drilling
Drilling Method: Sonic
Driller: Joe Lary
Log By: Lonnie Mercer
Date Drilled: 11/10/15
Borehole Diameter: 4" | Total Depth: 17' bgs

Sketch Map

Well Construction
Blank Casing Type: N/A Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - ~~To -~~
Annular Fill Intervals
Type: bentonite chips From - 0 To - 17'
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
0						SANDY SILT, brown, medium to coarse oolitic sand, trace gravel, trace clay, moist.
0.5						
1				1-13-SB-01-0.5-4-111015 @1039	0.0	
1.5						Note: Upper 4' compressed to 2' of core or 50% recovery.
2						
2.5						
3						
3.5						
4						
4.5				1-13-SB-01-4-6-111015 @1043	0.0	
5						SANDY SILT with clay, brown, medium to coarse oolitic sand, trace gravel, saturated.
5.5						
6						
6.5				1-13-SB-01-6-8-111015 @1048	0.0	

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BOREHOLE LOG

Borehole Number: 1-13

Project Number:
Project Name:
Location: See page 1
Owner:
Drilling Company:
Drilling Method:
Driller:
Log By:
Date Drilled:
Borehole Diameter: Total Depth:

Sketch Map

Well Construction
Blank Casing Type: Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
6.5						
7						
7.5						
8				1-13-SB-01-8-9-111015 @1056	0.0	@8' bgs, minor reddish brown layers/staining.
8.5						
9				1-13-SB-01-9-11-111015 @1102	0.0	SANDY GRAVEL, dark gray to light gray, subangular to angular cemented gravel, oolitic sand, coarse to very coarse sand, sulfur odor, dark gray to light gray layering, (tufa?), saturated.
9.5						
10						@10' bgs 1" thick layer of silty clay with fine bedding, dark gray to light gray.
10.5						
11				1-13-SB-01-11-13-111015 @1108	0.0	@11' bgs minor reddish brown color, some silt and clay.
11.5						
12						
12.5						
13						

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BOREHOLE LOG

Borehole Number: 1-13

Project Number:
Project Name:
Location:
Owner: See page 1
Drilling Company:
Drilling Method:
Driller:
Log By:
Date Drilled:
Borehole Diameter:
Total Depth:

Sketch Map

Well Construction
Blank Casing Type: Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
13			↑	1-13-SB-01- 13-15-111015 @1116	0.0	CLAYEY SILT with gravel and sand, light gray to olive green, saturated, medium to coarse oolitic sand, subangular to angular cemented gravel (tufa?), sulfur odor.
13.5						
14						@14"bgs increasing density of olive green undulating layers (<1/8").
14.5						
15			↓ ↑	1-13-SB-01- 15-17-111015 @1126		SILTY SAND with clay, gray, medium to coarse oolitic sand, saturated, sulfur odor.
15.5						@15.5'bgs dark gray layer (1" thick).
16						
16.5						
17			↓			TD @ 17'bgs

-above of bentonite chips

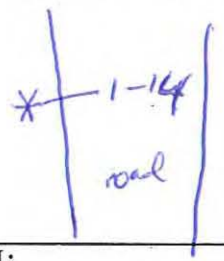
Fill could be gypsum material

BOREHOLE LOG

ERM

BOREHOLE NO: 1-14
TOTAL DEPTH:
~~TOP ELEVATION:~~ —
~~WELL ID:~~ —

Sketch Map of Borehole Location



PROJECT NAME: U.S. MES
PROJECT NUMBER:
SITE LOCATION:
LOGGED BY: J. Allen
DATE DRILLED: 11/3/15 to 11/4/15
EASTING:

DRILLING CO.: Cascade
DRILLER: Joe
RIG TYPE: mini sonic
DRILLING METHOD: sonic
HAMMER WT./DROP: —
NORTHING: —

WATER LEVEL:
FREE PRODUCT LEVEL: —
CASING DIA.: 6"
SCREEN SLOTTED SIZE: —
ADWR WELL NO.: —
PAGE 1 OF 2

DEPTH	TIME	SAMPLE ID	RECOVERY %	BLOW COUNT	FID/PID	USCS	LITHOLOGIC DESCRIPTION
0		ns					
1 2		0-2'	95%	Fill	0.3	ML	sandy silt w/ some cementation sand is fine, ~35%. silt is reddish brown, low to no plasticity. cementation are up to 4", yellow to white, damp. (Fill).
3 4		2'-4'	95%		0.2		~~Clayey~~ gravelly ~~clayey~~ sand ~~w/ trace~~ w/ trace clay sand is fine to v. fine, trace silt. clay is grey, low plasticity damp. gravel is fine subangular to angular, some cementation.
5 6		4'-6"	~~95%~~ 95%		0.8		@5-8' → ~~white cl~~ clay w/ sand (10%) white, light to low plasticity, damp sand is fine
7 ▽ 8		6-8'	95%		0.7 121		7' clay w/ trace gravel. gravel is fine, subrounded. few sand seams ~1-2" thick. clay is high plasticity, gray to greenish gray, wet. odor ~~and~~ when sonic core bag opened. black staining
9 10		8.5-10	9.5		n/a		
11		10-11			n/c		stop 11' on 11/3/15. resume on
12 12.5			0%				(visual loss of / broke core bag) - same as 7' w/ gravel and ..., gray, wet

~~bag box~~ bag broke
1 of 2

(9002)

1-14

DEPTH	TIME	SAMPLE ID	RECOVERY %	BLOW COUNT	FID/PID	USCS	LITHOLOGIC DESCRIPTION
12.5				n/a			-v. soft - no recovery -bag broke
13			0%				
14							
15	11/4/15 8:30	15-17	95%		n/a wet	SP	- oolitic sand w/ little (10%) silt. sand is white to dark gray to black, wet, silt is non-plastic, some cementation (5YR 2.5/1 to 5YR 7/1) black staining
16						SP	- sand w/ silt. gray. silt is fine to v. fine, wet, silt is non plastic 5YR 6/1
17							

TD = 17'

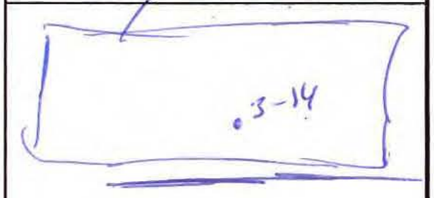
Sand. Lagoon

BOREHOLE LOG

ERM

BOREHOLE NO:
TOTAL DEPTH:
TOP ELEVATION:
WELL ID:

Sketch Map of Borehole Location



PROJECT NAME:	DRILLING CO.: Cascade	WATER LEVEL: surface
PROJECT NUMBER:	DRILLER: Joe	FREE PRODUCT LEVEL:
SITE LOCATION:	RIG TYPE: mini-Sonic	CASING DIA.:
LOGGED BY:	DRILLING METHOD:	SCREEN SLOTTED SIZE:
DATE DRILLED: 11/3/15	HAMMER WT./DROP:	ADWR WELL NO.:
EASTING:	NORTHING:	PAGE OF

DEPTH	TIME	SAMPLE ID	RECOVERY %	BLOW COUNT	FID/PID	USCS	LITHOLOGIC DESCRIPTION
0				n/a		organics	- organics w/ clayey silt, 7.5R/2.5 v. dark brown, wet. organics are plants from top 3.0' of sample
1		0.5-3.5'			0.3	~~0.3~~ slt ~~ML~~	
2			15%				
3							
4		3.5-5	75%				@3.5' → clay w/ ~~some~~ little sand (15%) mottling (brown to ~~green gray~~) greenish gray, some cementation. sand is fine to very fine @4.25-4.5' → sand seam white to v. pale brown, damp, fine to med.
5							@4.5' → ~~resume 3.5'~~ clay w/ trace silt and sand, damp to wet gray to dark grey
6							
7			not sampled below 5' per EPA/PWT - Aaron				~~@5' → JH clayey, sand silt w/ sand~~ JH ~~sand is ~10%~~ Gray. wet 5' → sand is fine to v. fine.
8							@7.5' → oolite sand ~~[illegible]~~ w/ silt. dark grey to white, some cementation
9							
10							

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BOREHOLE LOG

Borehole Number: 4-05

Project Number: 013232D
Project Name: Phase 1A-B Drilling
Location: PRI 4
Owner: US Mag
Drilling Company: Cascade Drilling
Drilling Method: Sonic
Driller: Joe Lary
Log By: Lonnie Mercer
Date Drilled: 11/9/15
Borehole Diameter: 4" Total Depth: 11' bgs

Sketch Map

Well Construction
Blank Casing Type: N/A Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: Bentonite From - 0' To - 11' bgs
Type: From - To -
Type: From - To -

Description/Soil Classification

(Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining.

Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description
0						CLAYEY SILT, reddish brown, low plasticity, trace fine sand, moist, trace fine sand layers that are gray in color and white silt layers (<1/4" thick), interbedded.
0.5						
1				4-05-SB-01-0.5-3-110915 @945	0.0	
1.5						SILTY SAND, reddish gray, medium to coarse sand, moist.
2						SILTY CLAY, reddish brown, high plasticity, wet, firm.
2.5						SANDY SILT, reddish brown, some clay, low to medium plasticity, fine sand, moist to wet.
3						
3.5				4-05-SB-01-3-5-110915 @950		
4					0.0	
4.5						
5						SILTY SAND, light reddish brown, fine to medium sand, trace clay, moist.
5.5				4-05-SB-01-5-7-110915 @1000		SANDY SILT, reddish brown, fine sand, low plasticity, moist, interbedded thin layers (<1/4") of clayey silt.
6					0.0	
6.5						

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BOREHOLE LOG

Borehole Number: 4-05

Project Number:
Project Name:
Location:
Owner:
Drilling Company:
Drilling Method:
Driller:
Log By:
Date Drilled:
Borehole Diameter:
Total Depth:

Sketch Map

Well Construction
Blank Casing Type: Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
6.5						
7						SILTY CLAY, reddish brown, high plasticity, saturated, interbedded reddish white layers (1/4"-1/2").
7.5				4-05-SB-01-7-9-110915 @1005	0.0	SILTY SAND, light gray, fine sand, oolitic sand mixed with gray sand, moist. CLAYEY SILT, brownish gray, moist, low plasticity, rootlets, trace fine sand.
8						
8.5						
9						SILTY CLAY, gray, high plasticity, stiff, moist to wet, trace brown mottling.
9.5						
10			No	Sample		
10.5						
11						
						TD @ 11' bgs

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BOREHOLE LOG

Borehole Number: 5-14SB

Project Number: 0132320
Project Name: Phase 1A-B
Location: US Mag
Owner: US Mag
Drilling Company: Gravity
Drilling Method: Direct Push
Driller: Peter Jenkins
Log By: Lonnie Mercer
Date Drilled: 12/1/15
Borehole Diameter: 4" Total Depth:

Sketch Map

Well Construction
Blank Casing Type: N/A Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
0						SILTY CLAY, reddish brown, very soft, saturated, trace gray interbedded layers,
0.5				5-14SB-SB- 01-0-2- 120115 @1340		
1						
1.5						
2						@2' bgs minor sand, medium to coarse, loose.
2.5				5-14SB-SB- 01-2-4- 120115 @1350		@2.5' bgs very trace sand.
3						
3.5						
4				~~5-14-SB-~~ LM 5-14SB-SB- 01-4-6- 120115 @1400		
4.5						
5						
5.5						
6						@5.75' bgs minor gravel, reddish brown and gray
			Little to no recovery from 6-8' bgs			
6.5						

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BOREHOLE LOG

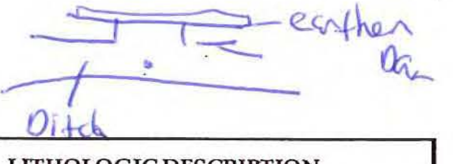
Borehole Number: 5-14SB

Project Number:	Sketch Map	Well Construction
Project Name:		Blank Casing Type: Diameter:
Location:		Interval: From - To -
Owner:		Screen
Drilling Company:		Type: Slot Size: Diameter:
Drilling Method:		Interval: From - To -
Driller:		Annular Fill Intervals
Log By:		Type: From - To -
Date Drilled:		Type: From - To -
Borehole Diameter: Total Depth:		Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
6.5						
7						
7.5						
8						GRAVELLY SAND, gray to dark gray, saturated, subangular to angular sand and gravel, sulfur odor, tufa?,
8.5				5-14SB-SB-01-8-10-120115 @ 1505		
9						
9.5						
10						TD @ 10' bgs

Page 2 of 2

S-16 11/5/15 vehicle boring



DEPTH	TIME	SAMPLE ID	RECOVERY %	BLOW COUNT	FID/PID	USCS	LITHOLOGIC DESCRIPTION
0							DTW = surface 0.5 to 6.5'
1	10:25	0.5-6.5				ML	→ silt w/ trace sand, dark ~~reddish brown~~ reddish brown to reddish brown v. soft, wet, ~~reddish brown~~
2							This interval is compressed into a small section due to drilling. See field notes
3							- black stains, along w/ ~~reddish~~ rust colored sand cementation - weakly cemented (wasted)
4			10% v. soft				
5							
6				native			@6.1' → 4" - sand seam, medium to fine, subrounded.
7	10:35	6.5-8	95%			CL	@6.5 → ~~gr~~ clay w/ multicolors (greenish gray to brown to black) layers damp inactive
8							
9	10:38	8-10	95%			SP	oolitic sand w/ trace silt white to grey to black, sand is ~~subangular~~ subrounded, damp
10							

TD = 10'

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BOREHOLE LOG

Borehole Number: 5-16

Project Number: 0132320
Project Name: Phase 1A-B
Location: US Mag
Owner: US Mag
Drilling Company: Gravity
Drilling Method: Direct push tube, with escavator
Driller: Peter Jenkins
Log By: Lonnie Mercer
Date Drilled: 12/2/15
Borehole Diameter: 4" Total Depth: 6.5' bgs

Sketch Map

Well Construction
Blank Casing Type: N/A Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
0						CLAYEY SILTY CLAY, orangish brown to reddish brown to off white, very soft, saturated.
0.5				5-16-SB-01-0.5-2-120215 @ 1015		
1						
1.5						
2				5-16-SB-01-2-4-120215 @ 1030		
2.5						
3						
3.5						
4				5-16-SB-01-4-5-120215 @ 1040		
4.5						
5				Native soil		SILTY CLAY, gray to dark gray, wet, high plasticity, stiff.
5.5						
6						GRAVELLY SAND with silt and clay, gray to dark gray, saturated
6.5						

TD @ 6.5' bgs

Page 1 of 1

pushed to 11' - top was compact

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BOREHOLE LOG

6"
core barrel

Sketch Map of Borehole Location

BOREHOLE NO: 6-16
TOTAL DEPTH:
TOP ELEVATION:
WELL ID:

PROJECT NAME:
PROJECT NUMBER:
SITE LOCATION:
LOGGED BY:
DATE DRILLED:
EASTING:

DRILLING CO.: Cascade
DRILLER: Joe
RIG TYPE: mini-sonic
DRILLING METHOD: sonic
HAMMER WT./DROP:
NORTHING:

WATER LEVEL: ~2 ft bgs
FREE PRODUCT LEVEL:
CASING DIA.:
SCREEN SLOTTED SIZE:
ADWR WELL NO.:
PAGE OF

	DEPTH	TIME	SAMPLE ID	RECOVERY %	BLOW COUNT	FID/PID	USCS	LITHOLOGIC DESCRIPTION
0	0.5							@0.5' → gypsum, dark reddish brown, wet, high plasticity (waste)
1								
2		10:04	0.5-3.5					
3				[illegible]				
4		10:09	3.5-4.5					@4' → white, ~~and~~ tan and dark gray (wasted ~~[illegible]~~. red, tan, light brown layers. up to 0.5" thick
							SP-ML	@4.5' → ~~gray sand~~ silty sand, grey sand is fine to v. fine, wet trace organics (roots), some Fe staining
5				JH			SP-CH	@5' → clayey sand, gray to dark reddish brown, sand is fine, trace roots fine to v. fine, roots, some cementation
6		10:1	4.5-6.5				CH	@6' → ~~dark gray~~ clay w/ trace sand and organics, some rust staining, sand is v. fine, high plasticity
7			not sampled below 6.5' as 2' into native	100%				
8								8' → oolitic sand w/ silt and clay. gray to white to ~~dk~~ v. dark gray. wet, some cementation
9								
10								
11								TD = 11'

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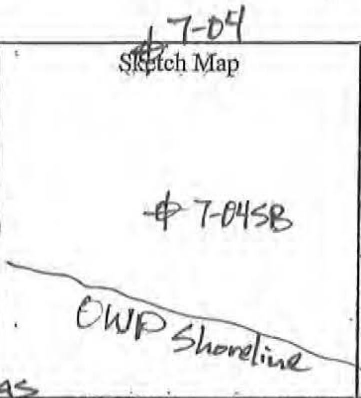
BOREHOLE LOG

Borehole Number: 7-04

Project Number: 0132320	Sketch Map	Well Construction
Project Name: Phase 1A-B Drilling		Blank Casing Type: N/A Diameter:
Location: US Mag		Interval: From - To -
Owner: US Mag		Screen
Drilling Company: Cascade Drilling		Type: Slot Size: Diameter:
Drilling Method: Sonic		Interval: From - To -
Driller: Joe Lary		Annular Fill Intervals
Log By: Lonnie Mercer		Type: bentonite From - 0 To - 12.5'
Date Drilled: 11/10/15		Type: From - To -
Borehole Diameter: 4" Total Depth: 12.5' bgs		Type: From - To -



Description/Soil Classification

(Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining.

Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description
0						No recovery due to hard crust from 0-0.5' bgs, underlain by very soft sediments from 0.5-2.5' bgs.
0.5						
1						
1.5						
2						
2.5			↑	7-04-SB-01-2.5-4.5-111015 @1420	0.0	SANDY GRAVEL w/silt and clay; gray to dark gray, ~~subangular to angular~~ cemented gravel, (up to 4" diameter), coarse to very coarse sand (some oolitic), saturated, sulfur odor, ~~trace~~ some silt and clay LM (tufa deposits?).
3						
3.5						
4						
4.5			↓ ↑	7-04-SB-01-4.5-6.5-111015 @1425	0.0	
5						
5.5						
6						
6.5			↓ ↑			

Page 1 of 2

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BOREHOLE LOG

Borehole Number: 7-04

Project Number:
Project Name:
Location: See pg
Owner:
Drilling Company:
Drilling Method:
Driller:
Log By:
Date Drilled:
Borehole Diameter: Total Depth:

Sketch Map

Well Construction
Blank Casing Type: Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
6.5				7-04-SB-01- 6.5-8.5-111015 @1432	0.0	
7						
7.5						
8						
8.5				7-04-SB-01- 8.5-9.5-111015 @1440	0.0	CLAYEY SILT with gravel and sand, olive green to light gray, saturated, low to medium plasticity, medium to coarse oolitic sand, subangular to angular cemented gravel (tufa?), sulfur odor.
9						
9.5				7-04-SB-01- 9.5-11.5-111015 @1445	0.0	SILTY CLAY, gray to light brown, saturated, sulfur odor.
10						SILTY SAND ~~&~~ with clay, gray, fine to medium oolitic sand, saturated, sulfur odor, increasing ~~clay~~ LM fines content with depth.
10.5						
11						
11.5						
12						
12.5						TD @ 12.5' bgs

Page 2 of 2

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BOREHOLE LOG

Sketch Map of Borehole Location

BOREHOLE NO: 7-04SB
TOTAL DEPTH: 2.5
TOP ELEVATION:
WELL ID: NA

PROJECT NAME: US Mag RI/FS Phase IA-B
PROJECT NUMBER: 0132320
SITE LOCATION:
LOGGED BY: K. Benson
DATE DRILLED: 12/10/15
EASTING:

DRILLING CO.:
DRILLER:
RIG TYPE:
DRILLING METHOD: Lexan tubes
HAMMER WT./DROP:
NORTHING:

WATER LEVEL: surface
FREE PRODUCT LEVEL:
CASING DIA.: 4"
SCREEN SLOTTED SIZE:
ADWR WELL NO.:
PAGE 1 **OF** 1

DEPTH	TIME	SAMPLE ID	RECOVERY %	BLOW COUNT	FID/PID	USCS	LITHOLOGIC DESCRIPTION
0							
6		SB					(0-6") waste material - SILT, orange red, wet
12		7-04-SB-01- 0.5-2.5-					(6-28") waste material, SILT, reddish orange with black, grey/white layers,
18		121015 @					wet
24		12:24					
30							(28"-30") Gravel, sandy, grey, wet.

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BOREHOLE LOG

Borehole Number: BR-3

Project Number: 0132320
Project Name: US Mag Phase IIA-B
Location: Bear River Refuge
Owner:
Drilling Company:
Drilling Method: Post Hole Digger
Driller: K. Benson
Log By: K. Benson
Date Drilled: 10/22/15
Borehole Diameter: 5"
Total Depth: 36"

Sketch Map

Well Construction

Blank Casing Type: Diameter:
Interval: From - To -

Screen
Type: Slot Size: Diameter:
Interval: From - To -

Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining.
						Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
2						
6						CLAY, silty, brown & gray, moist
12				BR-3-SB-01- 02-36-102215 @ 13:50		↓ ↓
18						
24						
30						
36						SAND, silty, brown, wet

Page 1 of ____

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BOREHOLE LOG

Borehole Number: LBB-7

Project Number:
Project Name: US Mag RIFS Phase IA-B
Location:
Owner:
Drilling Company:
Drilling Method: HAND AUGER
Driller: T. Hamada
Log By: K. Beinsen
Date Drilled: 10/8/15
Borehole Diameter: 3.25 Total Depth: 36"

Sketch Map

Well Construction
Blank Casing Type: Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (in. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
2						
6						SAND, silty, brown to gray, dry to wet, medium grain, some gravel
12				LBB-7-SB-01-02-36-100815 @ 11:10		
18	▽					
24						
30						
36						

Page 1 of ____

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BOREHOLE LOG

Borehole Number: LBN-6

Project Number: 0132320
Project Name: US Mag RI/FS Phase IA-B
Location: Lakebed North
Owner:
Drilling Company: ERM
Drilling Method: HA
Driller: ERM
Log By: ERM
Date Drilled: 10/5/15
Borehole Diameter: 3.25" Total Depth: 36"

Sketch Map

Well Construction

Blank Casing Type: Diameter:
Interval: From - To -

Screen
Type: Slot Size: Diameter:
Interval: From - To -

Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (~~ft.~~ in BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
2"						
6"						CLAY, silty, med. brown to gray, moist to wet
12"				LBN-6-SB-01-2-36-100515 @ 10:50		
18"						
24"						
30"						
36"						

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BOREHOLE LOG

Borehole Number: LBSE-7

Project Number:	
Project Name:	US Meg Phase 1A-B
Location:	
Owner:	
Drilling Company:	
Drilling Method:	HA
Driller:	
Log By:	K. Bensen
Date Drilled:	10/7/15
Borehole Diameter:	3.25
Total Depth:	36"

Sketch Map

Well Construction

Blank Casing Type: Diameter:
Interval: From - To -

Screen
Type: Slot Size: Diameter:
Interval: From - To -

Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
2						
6						CLAY, silty, gray, moist to wet
12				LBSE-7-SB- 01-02-36- 100715 @ 10:15		
18						
24						
30						
36						SAND, silty, gray, wet

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BOREHOLE LOG

Borehole Number: UPN-6

Project Number:
Project Name: US Mag Phase IIA-B
Location:
Owner:
Drilling Company:
Drilling Method: HA
Driller:
Log By: K. Bonsen
Date Drilled: 10/14/15
Borehole Diameter: 3.25
Total Depth: 36"

Sketch Map

Well Construction

Blank Casing Type: Diameter:
Interval: From - To -

Screen
Type: Slot Size: Diameter:
Interval: From - To -

Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
2						SILT, clayey, brown to reddish brown, dry,
6						CLAY, silty, brown, moist
12				UPN-6-SB-		
18				01-02-36-		
24				10/415		
30				@		
36				11:30		

Page 1 of 1

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BOREHOLE LOG

Borehole Number: UPS-6

Project Number: 0132320
Project Name: US Mag Phase 1A-B
Location:
Owner:
Drilling Company:
Drilling Method: HA
Driller:
Log By: K. Benisen
Date Drilled: 10/13/15
Borehole Diameter: 3.25
Total Depth: 36"

Sketch Map

Well Construction

Blank Casing Type: Diameter:
Interval: From - To -

Screen
Type: Slot Size: Diameter:
Interval: From - To -

Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
2						SILT, clayey, light brown, dry
6						
12				UPS-6-SB-01- 02-36-101315 @ 9:55		
18						
24						
30						
36						

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BOREHOLE LOG

Borehole Number: UPSE-5

Project Number: 0132320
Project Name: Ph 1 A-B
Location: UPSE-5
Owner: US MAG
Drilling Company: ERM
Drilling Method: HAND AUGER
Driller: T. HAMADA
Log By: T.HAMADA
Date Drilled: 10/1/15
Borehole Diameter:
Total Depth:

Sketch Map

Well Construction
Blank Casing Type: Diameter:
Interval: From - To -
Screen
Type: Slot Size: Diameter:
Interval: From - To -
Annular Fill Intervals
Type: From - To -
Type: From - To -
Type: From - To -

Depth (ft. BGS)	Graphic Log	Well Construction	Sample Interval	Lab Sample Identification	Organic Vapor (ppm)	Description/Soil Classification (Description Interval) GRAIN SIZE: lithologic descriptive modifier, color and mottling, grain size modifier, coarse and fine grained descriptors, moisture content, minor constituents, description of odors/staining. Trace <5%, Few = 5-10%, Little = 15-25% (ASTM D 2488)
2"						SANDY SILT, LIGHT BROWN, DRY TO MOIST, TRACE ORGANIC MATTER (ROOTS)
36"						SAMPLE ID: UPSE-5-SB-01-02-36-100115 TIME: 11:34
						* EPA SPLIT SAMPLE
						LEFTOVER VOLUME PUT BACK INTO VOID. OK GIVEN BY A. BAIRD (PWT). - NO BENTONITE ON SITE.

9/1/15

0800 ARRIVE ON SITE

PERSONNEL: T. HAMADA, C. RUSSELL (DPS)

0820 HOLD H+S MEETING

0835 SIGN IN @ SECURITY. TALK W/ D. GIBBY (USM) TO OPEN GATES.

0912 ARRIVE @ NW CORNER OF PRI 7. START CLEARING SAMPLE LOCS.

LOCATING EQUIPMENT:

GPR: 400 MHz ANTENNA
CAL, OF 0-10 Ft.
GSSI SIR-3000 PROGRAM

CAT: PASSIVE SWEEP RYCOM 8878

MAGNETOMETER: FISHER GEMINI 3

1018 DONE CLEARING PRI 7-07, 08, 11, 12

1032 PRI 7-~~015~~ 16 TH NOT ACCESSABLE FROM E-W ROAD ON NORTH BOUNDARY OF PRI 7. SAME W/ PRI 7-1~~6~~7 TH

1152 DONE CLEARING PRI 7-09, 10, 13, 14, 15

BREAK FOR LUNCH

1235 RESUME UTILITY LOC. IN PRI 7

1355 PRI 7-1, 3, 6 CLEARED

1531 CLEARED PRI 7-02, 04, 05 + PRI 6-09, 10.

1550 PRI 7-16 + 17 NOT ACCESSABLE. IN MIDDLE OF DITCH UNDER WATER.

1604 SIGN OUT @ SECURITY

1615 C. RUSSELL OFF SITE

1620 GIVE UPDATES TO K. LUNDMARK

1630 DOWNLOAD STAGE 3 AIR DMA DATA.

1650 CLEAN UP TRAILER. ERM OFF SITE.

TH 9/1/15

9/2/15

0800 ARRIVE ON SITE

PERSONNEL: T. HAMADA, C. RUSSELL (DPS)

0812 HOLD H&S MEETING. DISCUSS TODAY'S ACTIVITIES

0824 SIGN IN @ SECURITY. CHECK IN W/ D. GIBBY (USM).

0839 ARRIVE @ PRI5 TO BEGIN LOCATE

0845 SAMPLE LOC. PRI5-04 IS ON ROAD MARKED + CONDUCTED UTILITY LOCATE. MARKED TH ~~SEPARAT~~ ALTERNATE LOC. OFF OF ROAD ~ ~~20~~ 40' TH WEST OF GPS COORDINATES.

UTM : 4530920.03 m N

356020.25 m E

POSSIBLE PIPE RUNNING PARALLEL TO ROAD ON EAST SIDE OF ROAD.

9:19 PRI5-03,04 CLEARED

0927 PRI5-15: UTILITY IN RAISED BERM RUNNING N-S BETWEEN ROAD + TH ~~BE~~ DITCH. IF SAMPLE LOC IS MOVED ~ 5' WEST IT IS OUTSIDE CRITICAL ZONE. CLEARED UTILITIES FROM EAST EDGE OF DITCH TO EAST EDGE OF BERM.

0940 PRI6-03 ~ 30' WEST OF POSSIBLE UTILITY PARALLELING ROAD N-S.

9/2/15 CONT

0952 PRI6-02 NO VISUAL CLUES OF EXISTING UTILITIES IN AREA FROM EDGE OF WATER (~80' FROM SAMPLE LOC.)

1004 PRI6-06 CLEARED

1010 PRI6-11 VISUAL INSPECTION FROM EDGE OF WATER (~ 50' FROM SAMPLE LOC) NO CLUES FOR UTILITIES

1020 PRI6-14 CLEAR

1028 PRI6-15 SAMPLE LOC ~ 6' FROM BURIED UTILITY (BERM). MOVED LOCATION 9' WEST + CLEARED UTILITIES.

UTMs : 4532880.67 mN

354163.09 mE

1048 PRI5-05 CLEARED

1100 PRI5-19 SAMPLE COORDINATES & RATIONALE DID NOT MATCH LOCATIONS. CLEARED TOP OF ROAD N. SIDE OF DITCH. SAME LOC WHERE WATER SAMPLE WAS COLLECTED.

UTMs: 4530771.12 m N

TH 3554989.32 m E

1119 PRI5-18 @ END OF STAR POND DITCH

UTMs: 4530692.44 m N

355131.15 m E

9/2/15

1128 PRI5-17 MARKED @ SW CORNER WHERE DITCH TURNS E.
UTMs: 4530708.63 mN
355146.66 mE

1140 BREAK FOR LUNCH

1220 MOB TO PRI 5 WEST SIDE

1225 PRI5-16 CLEARED
UTMs: 4531048.77 mN
354873.54 mE

1315 PRI5-01 + 06 CLEARED

1406 CLEARED PERIMITER of PRI3

1410 PRI3-14 CLEARED ADJUSTED COORDINATES FROM SAP TO BE ON BOTTOM of LAGOON.
UTMs: 4531159.70 mN
354018.00 mE

1420 PRI1-07 CLEARED AROUND TOP of DITCH. SEE SSC FORMS

1445 PRI1-14 CLEARED FROM E. SIDE of ROAD TO ABOVE GROUND PIPING (E-W TH DIRECTION). ~ 20' N-S. POSSIBLE DITCH LOCATION DETECTED w/ GPR. SEE SSC FORM
STAKED LOC. UTMs: 4531241.35 mN
354117.66 mE

9/2/15 CONT.

1500 CLEARED PRI1-03

1520 CLEARED PRI5-20 @ SAP COORDINATES

1550 DPS off SITE

1625 ERM off SITE

TH
9/2/15

US Mag
9/21/15 Phase 1A-B SSC 0132320

740 Lonnie Mercer (ERM) arrived on site.
750 Chad Russell (DPS) arrived on site.
815 Conducted daily safety meeting and loaded equipment into Chad's truck.
825 Mobe to gypsum pile for utility locating using GPR, CAT, and magnetometer. Chad brought a UTV (Polaris Ranger) to assist mobilization across gypsum pile.
845 Troubleshooting GPS rented from Monsen Engineering.
900 GPS is working after calling Monsen for technical support for Trimble GPS unit.
1100 Completed private utility locating at nearly all PRI4 locations when UTV got stuck.
1145 Went to landfill to get pallets to help get UTV unstuck and returned to UTV.
1215 Could not get UTV out. Returned to landfill for more pallets.

US Mag
9/21/15 Phase 1A-B SSC 0132320

1300 Returned to UTV. Working ~~at~~ LM on digout of tires and placing pallets. UTV is stuck in area between PRI4-10 and PRI4-14. UTV was able to access PRI4-01 through PRI4-11 with some walking to PRI4-02, PRI4-08, PRI4-09, and LM ~~and~~ PRI4-13. ~~and PRE~~ LM PRI4-14 is inundated.
1330 Got UTV unstuck. Continue private utility locating at PRI6-16 and ditch locations along gypsum pile.
1545 Finished private utility locating at all PRI1, PRI4, PRI6 locations that are accessible by foot.
1600 Washed off UTV.
1615 ~~[illegible]~~ LM Picked up trailer at south end of gypsum pile. Returned to ERM field trailer.
1630 Unloaded equipment.
1645 Departed site.

US Mag
9/22/15 Phase IA-B SSC 0132320
720 Lonnie Mercer (ERM) arrived at site.
730 Chad Russell (DPS) arrived.
745 Conducted safety meeting. Discussed work scope.
800 Mobe to areas north of US Mag.
830 Completed private utility locate at UPN-6. Walked to location from county rd.
910 Completed private utility locate at LBN-6. Drove to location with UTV.
945 Completed private utility locate at UPS-6. Walked to location from dirt road.
1010 Completed private utility locate at LBSE-7. Walked to location from road.
1030 Completed private utility locate at LBB-7.
1110 Completed private utility locate at UPSE-5. Walked to location from road.
1200 Returned to ERM field trailer. Unloaded equipment from Chad's truck.
1210 Chad departed site.
1430 Lonnie departed site after decon of chemical boots and finishing up SSC paperwork.

11/2/15
6:50 - Arrive on site

Site Personnel - K. Benson, J. Hiller

Weather - Clear, 50s

Load sample equipment, drive drill locations and discuss with Chadwick

9:55 Cascade on site for safety orientation.
11:10 - Orientation complete

Spoke with Chadwick about sample locations. created access to 3-14
Prepped for drilling

15:40 - Off - site

11/2/15

Pg 1 of
11/3/15
J. Hilken
S. Smith

cloudy, light rain
light to strong wind

6:55 - On site
- Cascade / ERM H+S meeting
- load up sampling equipment
- Discuss daily plan

7:15 - Mob to 3-14 location. SSC clearance w/ hand auger.

7:30 -> Cascade lays down plywood and mobs rig into 3-14 location

7:50 -> Cascade is using 6" ~~head~~ ID for this boring

8:10 -> Cascade drills 5'. No vibe, just weight of ~~casin~~ casing.
8:15 -> Recovery is low
0-3.5 organics w/ silt has been compressed
3.5-5 - Gray clay w/ sand
- EPA asks to drill deeper to confirm
- Cascade take sample from 5-10' bgs @ 3-14 location

Pg 2
11/3/15
8:15 - continued
- 5 to 7.5' - clay, gray
- 7.5' to 10' - oolitic sands, some cementation

8:30 - begin processing samples
10:15 - EPA/TWI/ERM go to look at 1-OP. EPA was thinking of changing location, but after discussions, they decide to leave it in location marked by ERM

10:45 - All sample processed & put into jars. Moving to boring location 1-14.

11:27 - Hand auger refusal @ 2 locations near 1-14. Proceed to drilling.
11:35 -> 1-14-0.5-2-sample collected
11:45 -> Mix entire interval 0.5-2 then screen, then sieve, then place
12:27 - 1-14-2-4 sample coll
13:00 - 1-14-4-6 sample

pg 3

13:46 - ~~7-8.5~~ 7-8.5 bgs
- 6-7 material was previously composited in the 4-6 interval.
- EPA/PWT approve this
- EPA/PWT

13:52 - EPA would like a sample from 6-7. ERM sieving and prepp sam.
- VOCs take @ 13:52

15:15 -> ERM will sample from 8.5 - 10 and 10 - 11.5

16:15 -> Done processing
1-14 - 8.5-10 and
1-14 - 10-11.5
- mob to office to decon and prep for sampling

17:29 - offsite to lab

11/4/15

J. Hiller
S. Smith

cloudy, 10mph wind
cold 35-45

7:00 - Onsite, cover HASP
Pack up for day

7:35 -> Sign in and mob to 1-14

7:55 -> Cascade pushing casing to 15 bgs
tagged at 10.5. prior to drilling

8:10 -> Bg bag broke at surface. Cascade tags hole @ 12.5'. lost ~~a lot of~~
~1.5' of soil to be sampled

~~8:21~~ ->

8:31 -> Take sample @ 15-17' for 1-14
- no core recov for 12.5-15'

9:45 -> Cascade abandons 1-14 boring w/ bentonite chips (4 bags). Discuss drilling 1-08 from Roof w/ U.S. mg personnel. Set for 11/5/15.
Cascade deconning sampler

10:35 - Cascade mob to 1-03 location

2 of 3
11/4/15

SH
1-03
10:55 - Cascade begins drilling ~~1-08~~ @ 52° angle
11:15 → 0.5-1.5 sample collected bgs
11:45 → 1.5-3.5 - sample collected bgs
12:20 → 3.5-5.5 - sample collected bgs

12:30 → Cascade mobing back to
decon and 1-07 location.
ERM off to get decon water

~~12:4~~ SH
1-07 SH
13:10 → Cascade setting up on ~~1-08~~. Had to
stop several times due to Cl_2
dector going off
- will drill at 45° angle to
accom ditch

1-07 SH
13:58 - sample ~~1-08~~ @ 0.5-1.5 bgs
1-07 SH
15:06 - sample ~~1-08~~ @ 1.5-3 bgs
1-07 SH
15:09 - sample ~~1-08~~ @ 3-5 bgs
15:11 - sample ~~1-08~~ @ 5-7 bgs
1-07 SH

16:10 → ERM off to decon / trash and
office
16:40 - Talk w/ Kevin L. w/ ERM about
daily work summary

---

3 of 3

17:21 - offsite to lab

1 of 4
11/5/15

J. Hiller
C. Benson

ptly, cloudy, cold
45°-35°, windy

7:00 - onsite, prep for day

7:20 → Cascade onsite cover Daily H&S and plan

7:40 → Cascade off to mob rig to 1-08 location. Road is closed per U.S. Navy until we are done at that location

8:15 → Attempt to set up on 1-08 location Cl reading between 6.1 and 1.9

8:35 → after 2 attempts and discussion w/ PWT ([illegible]) and ERM ([illegible]) move to 5-16 location. Will attempt 1-08 later today

9:15 → at 5-16. Setting up to begin drilling
9:20 → SSC Hand auger clearance performed, no obstruction noted. soil v. soft at this location
10:00 → Cascade drills 10' at 5-16 location. little to no vibing w/ rig as core barrel sinks by its weight alone for 1st ~2ft.

pg 2 of 4
11/5/15

10:25 → Cascade brings over recovered from core barrel. It appears that ~~top~~ for 0.5-6.5 ft the soft sediments compacted during sampling w/ 95% or greater recovery below this to 10 ft. After discussion w/ PWT onsite, It was decided to collect 3 samples at this location
0.5-6.5 → procured ~1.5 ft ~~sample~~ JH
6.5-8 → procured
8-10 → procured - Split taken here by PWT

10:28 → 0.5'-6.5' @ 5-16 sampled
10:35 → 6.5'-8' @ 5-16 sampled
10:38 → 8'-10' @ 5-16 sampled
- DTW was @ surface during and after drilling.

10:59 → Cascade went to see if able to get onto 1-08 location, check Cl readings
11:15 → Cascade says Cl readings say they can set up and drill 1-08 location.

3 of 4
11/5/16

~~12:00~~ 12:30 → Cascade begins prepping to drill 1-08 near culvert entrance, over bridge

13:10 → Cascade runs a 12 ft ~~p~~ run ~~to see~~ JH at location 1-08

13:15 → During removal of core barrel from sample area ~1' of sample falls from the core barrel.

13:20 → Recovered core is observed by PWT and ERM. Similar to 5-16 location, soft sediments from 0.5-~~7~~ appear to have compacted during ~~drill~~ JH sampling. PWT asks for another run, since we are only 1.5' into native, not 2' as specified in WS #14. Cascade begins another run.

~~Cas~~ JH PWT and ERM decide to process ~~sample~~ the following intervals

~~0.5-7~~ - 0.5-7' → 1.5 ft of sample
- 7 to 8.5 → 1.5 ft of sample
- 8.5 - 10' → 1.5 ft of sample,

~~PWT tal~~ JH

4 of 4
11/5/16

13:20: PWT will take split from 7-8.5' sample interval. Cascade run ~~to~~ 17' ~~proven to~~ shows we are 2' into native.

13:20 → 0.5-7' @ 1-08 sampled
13:42 → 7-8.5 @ 1-08 sampled
JH ~~13:~~ 14:00 → 8.5-10 @ 1-08 sampled.

15:16 → ERM off to decon and prep sample for shipment. Cascade has moved rig towards sampling location in gypsum pile area for 11/6/15.
- PWT and ERM discuss need for field mod due to compaction of v. soft sediments. ERM calls Kevin Lundmark (ERM) to discuss.

16:20 → off site

JH ~~Note:~~

1 of 3
11/6/15

J. Hilken S. Smith
C. Benson

ptly. cloud, windy
45°-34°

7:00 → Onsite w/ Cascade. Cover HASP and daily work

7:30 → mob to Gypsum pile and 6-16 ~~6-16~~ locate boring on GPS coordinate

8:30 → Cascade setting up to drill location.

8:40 → Cascade drills at 6-16 location w/ ~~flapper bit~~ auger bit to 10'
~45' of recovery
-some fallout on the way up

8:55 → Cascade tries 2nd hole w/ flapper bit
~3' of recovery

9:15 → Cascade drills 3rd hole w/ regular bit to 10'
~10 ft of recovery

10:02 → After discussion w/ PWT Decide to sample the following intervals

---

2 of 3
11/6/15

10:02 → 0.5-3.5 @ 6-16 - some compaction / EPA s/k
3.5-4.5 @ 6-16 ~~[illegible] EPA slit~~
4.5-6.5 @ 6-16 - native @ 4.5 ft
total length / core is 9.5 ft

0.5-3.5 @ 10:04
3.5-4.5 @ 10:09
4.5-6.5 @ 10:15

11:45 → Done processing samples. ERM back to office to prep for decon sample. ERM also shows drillers last location in PPI-4 that requires drilling.

12:15 → ERM off to check if safe to PPI 7 to look at boring locations and determine if they are reachable.

13:10 → PWT/ERM/ Discuss 7-04 access. Cascade says they donot believe they can access unless ~~a~~ road is built

JH

3 of 3
11/6/15

note: Equipment blank for week of 11/6/15
was collected at 12:45
6-16-SB-31-0.5-3.5-110615

13:40 - Aron (PWT) offsite. ERM
packing sample for shipping.

14:30 → offsite to lab

Phase 1A-B
11/9/15 Drilling 0132320

730 Arrived on site.
Personnel: ERM - Lonnie Mercer, Kris Benson.
Cascade - Joe Lary, Dustin Powers, Jake
PWT - Aaron Baird
Weather: Cloudy, windy, temps in 40s

745 Conducted safety meeting.

815 Equipment loaded. Move to gypsum pile.

830 Setting up at location 4-05.

840 Bump tested PID. Fresh air = 0.3 ppm
Iso (100ppm) = 100.7ppm

1000 Drilled 4-05 to 11' bgs. Drilled 2 holes to confirm depth of native soil, which was encountered at a depth of 7' bgs. Collected samples from 2nd hole which had better recovery of native soil and gypsum waste.

1100 Finish sample collection and processing at 4-05. Drillers are deconning equipment. ERM is deconning with pressure washer.

1200 Drillers had loaded drilling rig onto trailer but semi would not start. Batteries have low voltage. Attempting to jump with truck.

Phase 1A-B

11/9/15 Drilling 0132320

1215 Lonnie called Kevin Lundmark (ERM) to provide update and discuss access to location 7-04.

1245 Lonnie got key to pond gates from David Gibby (US Mag). Mobe to location 7-04. Drillers are still trying to jump start semi.

1400 Lonnie hand augered at 7-04.

Observations: ~6" waste with hard crust.

1.5'-2' of ~~so~~ LM very soft clayey soil or sediment (may be native or waste; saturated conditions in borehole made soil observations difficult).

>1' of politic sand with cemented sands.

It appears waste/native contact is between 0.5' and 2.5' bgs.

1405 Aaron departed site. Lonnie mobe to trailer where Kris deconned equipment.

1500 Packed sample cooler and returned key to David Gibby.

1525 Departed site.

Phase 1A-B

11/10/15 Drilling 0132320

735 Arrived on site.

Personnel: ERM - Suzy Smith, Lonnie Moore

Cascade: Joe Lary, Justin Powers, Jake

PWT: Aaron Baird

Weather - Cloudy, intermittent rain, drizzly, temps in high 30s to low 40s

745 Conducted safety meeting.

830 Loaded equipment and mobilized to ponds.

900 Setting up at location 1-13.

1030 Drilled 1-13 to 17' bgs. Collecting samples and processing. ~~13~~ LM

1300 Finished 1-13 sample processing. Collected 8 samples from 1-13. Drillers finished decon and set up plywood for access to 7-04, which is approximately 100 feet from shoreline. PWT/EPA gave verbal approval for field mod to move 7-04.

1400 Drilled 7-04 to 12 feet bgs. Processing 5 samples.

1600 Finish sample processing. Mobe to trailer.

1700 Sample coolers packed.

1710 Departed site.

11/11/15

0845 ARRIVE ON SITE
PERSONNEL: T. HAMADA, S. SMITH
WEATHER: CLEAR, W. WIND 2-5 mph, 35°F
HOLD H+S TAILGATE

0855 CALIBRATE ~~HORIBA~~ TH YSI WATER PARAMETER METER.
SN: FA00572
SPECIFIC COND.: 7 mS/cm
pH: 4, 7, 10

0920 SIGN IN @ SECURITY. CHECK IN W/ R. FRANCOM.
MOB TO NW CORNER PRI-7

1230 MEET UP W/ L. MERCER

1300 S. SMITH OFF SITE

1310 PRI7-04 GPS COORDINATES
0355018 m~~N~~ TH E
4532068 m~~E~~ TH N

1315 L. MERCER DECON SS SAMPLING EQPT. T. HAMADA CONTINUE WL MEASUREMENTS.

1330 pH IN PZ-12 = 0.50. CONFIRMED SENSOR IS FUNCTIONING PROPERLY IN DI H_2O. SEEP FROM CWP TO OLD WP ADJACENT TO WELL.

11/11/15 CONT.

1520 MOB TO TRAILER TO PACK COOLERS FOR ALPHA / GEO STRATA

1600 SIGN OUT @ SECURITY
T. HAMADA + L. MERCER OFF SITE.

TH
11/11/15

TH
11/12/15

11/16/15 K Lundmark, K Benson
0745 - Depart SLC, Purchase Ice
0900 - Arrive USM
T. Jimenez (Earth Fax) on-site
1000 - Meet w/ D. Gibby to discuss
schedule
1015 - Arrive PRI 3
Cloudy windy, 30's
1020 - H&S Tailgate
1030 - Begin marking locations
@ PRI 3
1115 Finish marking PRI 3
Begin PRI SS Recon
1-04 (Head of Central)
Access OK @ W Bank
~27 m from SAP
location. Steep Banks
& Poor bottom @ SAP loc
1-05 Egress OK on E bank
but >6ft Ht. Bottom
sloped but OK
→ Central Ditch @ SL
1-07 No access by foot
@ drilling location
1-06 Head of Cl$_2$ Ditch
Poor access @ SAP Location
excavator access from W

11/16/15 Contd.

Marginal access from E about 45 ft downstream, but questionable bottom.

1-01 Bank OK @ W, though no good spot to put down pallet. Pallet could be used (if necessary) about 30 ft downstream. Depth ~6 ft.

1-02 Steep bank w/ vert drop @ bottom
OK access ~18 m N
stable bank platform
~2 feet above water,
water

1-03 Bank ~2.5 ft above H_2O @ drilling location. Could angle in a hand auger. Water is 1-2 ft deep @ side. No location to set pallet

11/16/15 Contd.

1-08 No safe access point

1-09 Can access from S bank, several embankments large area to place pallet @ MW 8A/8B

1235 - Begin sampling @ PRI3

1430 - Back to trailer to pack samples

3-02-SS-01-111615 @1250
3-03-SS-01-111615 @1330
TB = 3-03-SS-21-111615 @1331

~~1450~~ 1520 off site

1600 Drop off samples @ Fed Ex

1640 Arrive BFM-SLC

11/16/15

11/17/15
8:45 - Arrive on site

Site Personnel - K. Benson, T. Hamada
S. Smith
Weather - Clear, 30s
9:00 - H&S tailgate meeting.
- Arrive @ sanitary lagoon
9:00 - A. Baird with PWT on site
0945 Sample 3-01
1020 Sample 3-14
1058 Sample 3-04
1155 Sample 3-05
1245 Sample 3-06 with field duplicate
1300 Back to trailer for decon and
pack samples.
1530 Off site

S.S.
11/17/15

11/18/15
0845 Arrive on-site K Benson & K Lindmark
Tim Jimenez
(EarthFax) on-site
0905 KWC ~~1005~~ - Call D-Gibby re: daily
schedule - leave V mail
0923 sign in @ gate
0930 Arrive IRI 3
Cloudy, breezy, 40s
samples from
3-07 100% first grab passed
@1005
3-08 100% first grab passed
@1055
3-09 @1150 100% first grab passed
~1200 Helicopter observed
over site - NM Group
flying Lidar Survey
3-10 Trace gravel would
not pass 1/4" sieve -> all
5 grabs sieved @ 1245

1345 - Back to trailer to
decon / pack samples
1500 - Collect EB
1545 - Off site
End 11/18/15 KWC

11/19/15

0830 ARRIVE ON SITE.

PERSONNEL: K. BENSON, T. HAMADA,
S. SMITH. T. JIMINEZ (EPA)

WEATHER: OVERCAST, CALM, 35°F

0845 CALL K. LUNDMARK TO
DISCUSS LACK OF BOTTLES. MORE ON
THE WAY.

0900 T. HAMADA + K. BENSON MOB
TO PRI 3 TO SAMPLE. S. SMITH
DECON. EQPT. IN TRAILER.

0945 SAMPLE PRI 3-13 NO WASTE

1010 SAMPLE PRI3-12 NO WASTE

1035 SAMPLE PRI3-11 8" WASTE

1115 SAMPLE PRI 1-14 WASTE ~3"
BGS. DID NOT HAND AUGER TO
NATIVE MATERIAL. SEE BORING
LOG FOR WASTE DEPTH.

1150 SAMPLE PRI 1-01. NO WASTE.
COLLECTED SAMPLE @ STAKE ON BOT.
OF DITCH

1240 SAMPLE PRI 1-02 SOUTH OF
STAKE ~30', ON BOT. OF DITCH

1325 SAMPLE PRI 1-05

1130 SAMPLE PRI 1-14

1400 MOB TO TRAILER TO

11/19/15

PACK SAMPLES / DECON

1500 OFF SITE

TH
11/19/15

11/23/15

0845 ARRIVE ON SITE
PERSONNEL: T. HAMADA, L. MERCER
T. JIMINEZ (PWT)
WEATHER: CLEAR, CALM, 20°F
0930 SAMPLE PRI1-13
EPA SPLIT
1020 SIGN IN @ SECURITY
MOB TO LANDFILL AREA
1100 SAMPLE PRI1-11
EPA SPLIT
1155 SAMPLE PRI1-10
1305 SAMPLE PRI1-09
1340 RECON ACCESS @ PRI1-12
1400 SIGN OUT @ SECURITY. MOB
TO TRAILER TO PACK SAMPLES.
1530 OFF SITE

TH
11/23/15

11/24/15

0835 ARRIVE ON SITE
PERSONNEL: L. MERCER, S. SMITH,
T. HAMADA.
WEATHER: HAZY, N.E. WIND 0-2 mph
20°F
0900 A. BAIRD (PWT) ON SITE
0910 L. MERCER, T. HAMADA MOB
TO DITCHES TO SAMPLE
1000 SAMPLE PRI1-12
1130 SAMPLE PRI2-04
+ EPA DUP. & MS/MSD
1215 MOB TO TRAILER TO PACK
SAMPLES & DECON.
COLLECTED EQPT. BLANK
SAMPLE.
1340 OFF SITE

TH
11/24/15

Phase 1A-B
12/1/15 Solids Sampling
735 Arrived at site.
Personnel: ERM - Suzy Smith, Lonnie Mercer
Gravity - Peter , Chad
DPS - Dusty
Weather - Cold (temps in 10s), partly cloudy, calm
755 Discussed scope with Gravity and DPS. Then moved to Mag building for safety orientation.
845 Completed Mag safety orientation. Mobe to 5-14SB to view access.
920 Returned to trailer to load sampling equipment.
950 Mobe to 5-14SB. Dusty is waiting for excavator delivery. Aaron Baird arrived.
1015 Excavator delivered by Wheeler Machinery. Gravity is attaching equipment to excavator bucket.
Ken Wangerud (EPA) arrived at 1000.
1115 Preparing to drill.
1230 Advanced 1 direct push tube to 8'.
Core couldnt be retreaved from Lexan tube.
1300 Advanced again to 6'. No native soil so advanced again to 8' for sample, except for native soil because not enough native.

12/1/15
1340 Sample 0-2 feet
1350 Sample 2-4 feet
1400 Sample 4-6 feet
1505 Sample 8-10 feet (native soil)
1530 Mobe to trailer for sample prep.
1700 off site.

S.S.
12/1/15

12/2/15 Phase I A-B Solids Sampling

800 Arrive on site.

Personnel: ERM - Suzy Smith, Lonnie Mercer
Gravity - Peter , Chad
DPS - Dusty
Weather: Cold (temps in 10s, partly cloudy, calm

830 Completed Safety tailgate mob to 1-08.

0900 High concentrations of Cl so mobe to 5-16

1015 Sample 5-16 0.5'-2'

1030 Sample 5-16 2'-4'

1040 Sample 5-16 4'-5'

1045 mobe to 1-08

1130 Advanced to 8' direct push in incorrect location (not exactly where drilled before)

1200 Advanced to 7' direct push in location where drilled before. Not enough sample recovery (~4 ft)

1230 Advanced to 7' direct push with little recovery (~2 ft)

1315 Advanced to 7' with no liner. 6' recovery Because there was no liner, had to take bottom out first.

1340 Sample 1-08 5'-6'

1345 Sample 1-08 3'-5'

Ken on Site

12/2/15 Phase I A-B Solids Sampling

1400 Sample 1-08 1'-3'

1430 Lonnie and Peter went to check 7-04. Suzy processed samples.

1530 Suzy mobe to trailer to pack samples. Lonnie w/others check waste depth at 1-06.

1640 Lonnie mobe to trailer

1700 Off site

S.S. 12/2/15

12/3/15 Phase I A-B Sampling
0800 Arrive on site
Personnel: Suzy Smith, Kris Benson,
Garrett Rigard
Weather: cold (temps ~10-20), partly
cloudy.
0830 Safety tailgate ~~and~~
0900 Mobe to sampling location 1-03
0940 Sample 1-03 with field dup
1020 Sample 1-08 with MSDS dup+Lab
1100 Sample 1-07
1120 Sample 1-06
1200 Suzy and Garrett mobe to
trailer to prepare samples.
Kris to decon.

12/10/15
1135 ARRIVE ON SITE
PERSONNEL: K. BENSON, T. HAMADA
WEATHER: PARTLY CLOUDY, SW WIND
10-15 MPH, 50°F.
LEXAN SAMPLE TUBES DELAYED @
FEDEX. ERM STAY IN SLC TO
RECEIVE TUBES 12/10 a.m.
1155 MOB TO PRF7-04.
A. BAIRD (PWT) @ SAMPLE LOC.
1224 SAMPLE PRF7-04
SINGLE PUSH USING 4" DIA
LEXAN TUBE. SAMPLED
0.5'-2.5' BGS. PUSHED TUBE
BY HAND / HAMMER. EPA
COLLECT SPLIT.
1300 MOB TO TRAILER TO PACK
COOLERS,
COLLECT TWO EQPT. BLANKS
+ 1 SOURCE BLANK (VOC ONLY)
1445 T. HAMADA SPEAK W/ R.
FRANCOM. UTV WILL BE LEFT
BY TRAILER. USM WILL PERFORM
MAINT. + GET A COVER TO PROTECT.
1 KEY W/ R. FRANCOM, 1 IN ERM TRAILER
1525 ERM OFF SITE.
12/10/15 TH

8/10/15

0900 - Arrive w/ K. Landuale & Trent Hamada

0900 - 0920 Unload Am eqpt and load eqpt for PhIAB drilling location recon

0925 - Sign in @ guard

0930 - Check in w/ A. Gibby & L. Francom. Coordinate access Discuss options for drilling @ bridges during RI

0950 H&S Tailgate

1000 Begin recon @ Gyp pile

1025 Arrive 6-16
Gypsum is moist to wet no difficulty accessing by foot. ~250 ft to water @ PRI 6. 40 ft wide channel. Gyp surface becomes wetter/softer near water

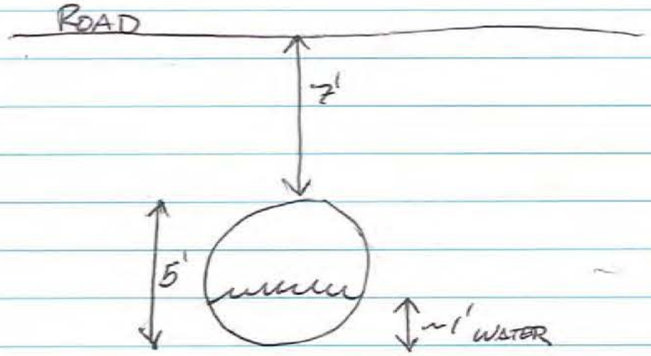
1045 Mark location 4-05 similar conditions to 6-16 some wet/slick areas between 4-05 and 6-16

8/10/15

LOCATION 1-8

ROAD 18 Ft. WIDE

CULVERT EXTENDS ~8 Ft PAST ROAD'S EDGE



SOUTHWEST of BRIDGE:
7 Ft TO BOTTOM
~7 Ft FROM CREST of TRENCH

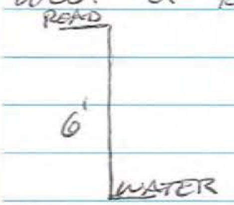
NORTHWEST of BRIDGE
1~~2~~4 Ft TO BOTTOM
6-10 Ft FROM CREST of TRENCH

NORTHEAST of BRIDGE
14' @ 45° ANGLE FROM CREST
BANK LOOKS UNSTABLE @ THIS LOC.

4/10/2015

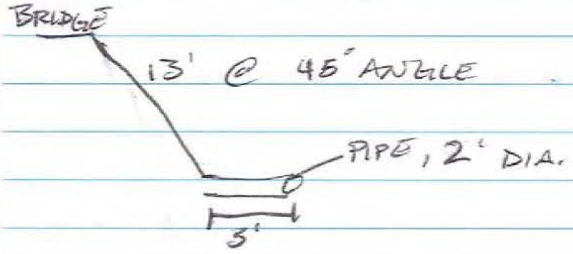
LOCATION 1-03

WEST OF BRIDGE, NORTH BANK

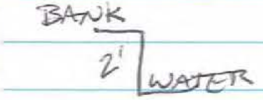


UNSTABLE SLOPE

WEST OF BRIDGE, ABOVE PIPE



WEST OF BRIDGE, SOUTH BANK
20' W. OF BRIDGE/ROAD

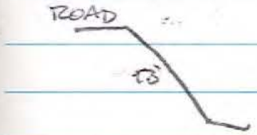


COULD NOT LOCATE PIPE ON E SIDE OF BRIDGE.

4/10/2015

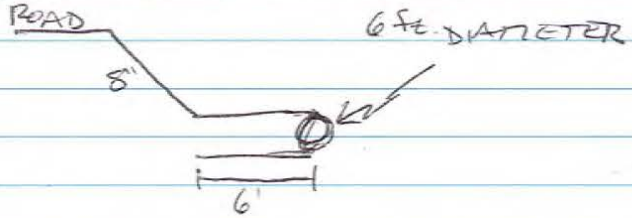
LOCATION 3-14
RISE = 5'
RUN = 12'
(SLOPE TO ENTER LAGOON.)
SEE PHOTOS

LOCATION 1-7
13 ft @ 30° ANGLE

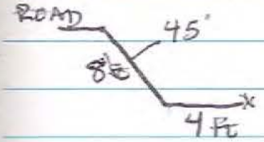


WEST BANK, SOUTH OF BRIDGE

ABOVE CULVERT



EAST BANK - WILL REQUIRE ~~A~~ SOME EARTHWORK TO CREATE A PLATFORM

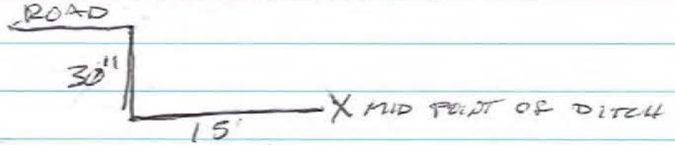


LOCATION 1-14
~6' WEST OF ROAD NEAR EQPT./SUPPLY STAGING AREA. DID NOT STAKE

8/10/2015

LOCATION 5-16

WEST SIDE, ACCROSS FROM INLET



~170 FT FROM "BRIDGE" CROSSING
DITCH TO SOUTH.

ENTRANCE TO DITCH ~~VIA~~ VIA 6 FT. RAMP,
30° SLOPE

LOCATIONS 1-13
EAST OF ROAD SEPARATING OLD/NEW
WASTE PONDS. ACCROSS FROM ISTHMUS.
NO ACCESS LIMITATIONS.

LOCATION 7-4 IN OLD WASTE POND
GROUND WET, CRUST LAYER ON SOIL
SURFACE. ~250' FROM "SHORE" TO
SAMPLE LOC.

1410 - Back to trailer, unload
eqpt. Discuss locations w/ Gibby
and request follow-up on
discharge to chlorine ditch
downstream of bridge
1430 - off site. End of 8/10/15 KWZ

8/31/15
8:00 Meet up with Kas for
cultral resource survey.
Site Personnel K. Benson
9:00 - Arrive @ SA010 and
begin survey
10:20 - Finish survey, no findings
10:46 - Arrive @ SA011 begin
observation
11:10 - Finish

12:45 Finish @ SA014 - No findings

13:17 - Arrive @ SA007

14:00 Finish @ SA007 - No findings

14:30 - off site

8/31

0700 - Sign in
0705. Contractor orientation
E of Bm 5/6
Chemical Control - Safe Work Permit for work in ditches
w/ Leonard & Roger F
0745 - Finish orientation, discuss schedule w/ Roger
0755 - ERM H&SP Review @ trailer
- Bug spray

9/16/15
830 ON SITE
840 CONDUCT TAILGATE SAFETY MEETING.
900 PREPARE SAMPLE EQUIPMENT.
1000 SIGN IN AND CALL ROGER FRANCOM
1020 LOCKED OUT OF NORTHWEST GATE.
ACCESS PRI 6 FROM EAST.
11:30 SAMPLE 6-15.
12:40 SAMPLE 6-14.
1340 RETURN TO TRAILER TO DECON, PACK SAMPLE COOLERS, AND COMPLETE DOCUMENTATION.
1540 OFF SITE

9/16/15

9/17/15

0800 ON SITE

0810 CONDUCT SAFETY TAILGATE MEETING

0835 GATHER SAMPLING SUPPLIES AND COOLERS.

0900 CHECK IN AT SECURITY GATE.

1015 SAMPLE 6-02

1030 TRIP BLANK

1055 SAMPLE 6-03

1140 SAMPLE 5-15

1220 SAMPLE 5-19

1300 INSPECT SCAT POND

1330 DECON AND PACK SAMPLES.

1500 OFF SITE.

9/18/15

0900 On site

0910 Conduct Safety Tailgate Meeting

0930 Gather sampling supplies and coolers

0940 Check in at security gate

1020 Sample 5-17

1135 Sample 5-18

1240 Sample 5-19

1310 Sample 5-20

1330 Trip Blank

1400 Decon and pack samples

1545 OFF SITE

SS
9/18/15

9/21/15

8:40 - Arrive on site

Site Personnel - K. Benson, T. Hamada

Weather - Clear, 60s

9:40 - Check in @ security

10:15 - Arrive @ 7-11 → EPA split

11:15 - Arrive @ 7-12 - collected field dup. (contained waste)

13:20 - Arrive back @ trailer for samples packing and decon

15:45 - Off site

9/21/15

9/22/15

8:40 - Arrive on site

Site Personnel - K. Benson T. Hamada

Weather - clear, 60s

9:20 - Arrive at 7-13 ⇒ MS/MSD & Lab Dup

10:15 - Arrive at 7-14 ⇒ field Dup

11:55 - Arrive at 7-15

13:20 Back at trailer

15:20 - Off site

9/22/15

9/23/15
8:40 - Arrive at site
Site Personnel - K. Benson, Suzy Smith
Weather - Clear, 70s

10:15 - Arrive @ 7-08
11:00 - Arrive @ 7-07
12:30 - Arrive @ 7-01
14:00 - Back @ trailer

- Collected equipment blank

16:30 - off site

9/23/15

9/24/15
8:50 - Arrive on site
Site Personnel - K. Benson
Weather - Clear, 90s

10:10 - Arrive @ 7-02
11:15 - Arrive @ 7-05
12:15 - Arrive @ 7-03

14:00 - Back to trailer

16:10 - Off site

9/24/15

9/25/15

0835 ARRIVE ON SITE
PERSONNEL: S. SMITH, T. HAMADA, T. JIMENES (EARTH FAX)

0903 SIGN IN @ SECURITY
MOB TO PRI 5 TO BEGIN SAMPLE COLLECTION

0935 SAMPLE PRI5-05

0950 LOOK @ LOC FOR PRI5-04.
ERM MOVED SAMPLE LOC FROM SAP UTMs DUE TO SAP LOC BEING ON ROAD. EPA PROPOSES MOVING SAMPLE LOC. ADDITIONAL 70' NE. NEED TO CONSULT W/ D. ABRANOVIC FOR SSC ~~CLEARANCE~~. TH 9/25 APPROVAL.

1017 SAMPLE PRI5-03

1035 ARRIVE @ TRAILER TO CALL D. ABRANOVIC

1058 RECIEVE APPROVAL TO MOVE SAMPLE LOC. FOR PRI5-04. T. JIMENEZ (EPA) SIGN FIELD MOD FORM TO MOVE SAMPLE LOC.

1130 SAMPLE PRI5-04 @ MODIFIED LOCATION 100' NE OF ORIGINAL SAP LOC, NEED TO COLLECT UTMs

9/25/15 CONT.

1217 ARRIVE BACK @ TRAILER.
T. JIMENEZ OFF SITE
DECON, PACK SAMPLES.

1415 SIGN OUT @ SECURITY

1430 OFF SITE

TH
9/25/15

9/28/15

9:00- Arrive @ site

Site personnel- K. Benson, T. Hamada
Weather- Pt. Cloudy, 60s

10:00-Arrive @ sample location 7-09

11:10 Arrive @ sample location 7-10

12:00-Arrive @ sample location 7-06

13:20- Arrive back @ trailer for decon and sample packaging/shipping

15:30- off site

9/28/15

9/29/15
0845 ARRIVE ON SITE
PERSONNEL: T. HAMADA, K. BENSON
T. JIMENEZ (PWT) ON SITE
0905 SIGN IN @ SECURITY
0920 ARRIVE NEAR PRI7-17
1000 SAMPLE PRI7-17 *
1050 SAMPLE PRI7-16 *
* SAMPLE LOCS MODIFIED FROM SAP LOCS DUE TO STANDING WATER + INACCESSABLE MUD FLATS. NEED UTMS FOR BOTH LOCS.
1215 SAMPLE PRI7-04
1300 MOB TO TRAILER TO PACK COOLERS / DECON EQPT.
1525 ERM off SITE

TH
9/29/15

~~0930~~ TH 9/30/15

0900 ARRIVE ON SITE
PERSONNEL: K. BENSON, T. HAMADA
MEET W/ PUBLIC UTILITY
LOCATOR.
A. BAIRD (PWT) ON SITE.
0910 MOB TO NORTHERN BACKGROUND
LOC TO MARK OUT GAS
LINE
0945 MOB TO SOUTHERN BACKGROUND
LOC TO MARK OUT GAS
LINE.
1130 ARRIVE @ TRAILER. DECON
BACKGROUND SAMPLE EQPT.
1200 MOB TO UPSE BG LOCS.
1233 SAMPLE UPSE-7
1250 SAMPLE UPSE-10
1309 SAMPLE UPSE-8
1332 SAMPLE UPSE-9
1341 SAMPLE UPSE-6
MOB TO TRAILER TO DECON
1455 DECON. COMPLETE
OFF SITE

TH
9/30/15

10/1/15

0915 ARRIVE ON SITE.
PERSONNEL: T. HAMADA, S. SMITH
A. BAIRD (PWT) ON SITE
0930 HOLD H&S MEETING &
DISCUSS TODAY'S ACTIVITIES.
1010 SPEAK W/ L. MERCER (ERM)
REGARDING SUB SURFACE
SEDIMENT SAMPLING PROCEDURE
& VOLUME. ERM PROPOSES
A FIELD MOD TO USE A HAND
AUGER TO COLLECT SUB SURFACE
SAMPLES DUE TO VOLUME REQUIREMEN
1045 ARRIVE @ UPSE LOCATION.
DISCUSS FIELD MOD W/ A.
BAIRD HE WILL APPROVE TODAYS
FIELD MOD. MAY APPROVE
SUBSEQUENT MODS FOLLOWING
EPA APPROVAL.
1054 A. BAIRD RECEIVED
APPROVAL FROM EPA TO
APPROVE HAND AUGER USE
@ ALL BG SUB-SURFACE SAMPLE
LOCATIONS
1110 SAMPLE UPSE-5 SURFACE
1134 SAMPLE UPSE-5 2"-36" BGS
+ EPA SPLIT

10/1/15 CONT.
1205 SAMPLE UPSE-4
1232 SAMPLE UPSE-3
+ EPA SPLIT (DUPLICATE SPLIT)
1253 ~~UPSE~~ TH SAMPLE UPSE-2
+ FD
1317 SAMPLE UPSE-1 + ~~FD~~
EPA SPLIT
1320 WRITE FIELD MOD TO
ABANDON BORE HOLES. EPA APPROVE.
MOB TO TRAILER.
1535 off SITE

TH
10/1/15

10/2/15
0840 Arrive on site
Personnel: K. Benson, S. Smith
A. Baird (PWT) on site.
0900 Hold H&S meeting.
1006 Sample LBN-1
1007 Sample LBN-1 Field Dup
1020 Sample LBN-2
1021 Sample LBN-2 Field Dup
1038 Sample LBN-3
1053 Sample LBN-4
1107 Sample LBN-5
1110 MOB to trailer to Decon
1400 Sample LBN-1 Field Blank
1440 OFF site.

SS
10/2/15

10/5/15
8:45 - Arrive on site

Site Personnel - K. Benson, T. Hamada

Site Weather - Clear, 60s
T. Jimenez onsite for oversight/sample splits
H&S tailgate meeting.

10:26 - Collected samples from LBN-6
10:50 - Collected sub surface sample from LBN-6
11:15 - Collected sample from LBN-7
11:44 - Sample LBN-8
11:51 - Sample LBN-9
12:07 - Sample LBN-10

12:45 - Back to trailer for sample pick-up and decon

15:30 - Off site

10/5/15

Phase 1A-B
10/6/15 BG Sampling
840 Arrive on site.
Site personnel: K. Benson, L. Mercer,
T. Jimenez onsite for oversight and split sampling.
Weather: Cloudy, rained overnight
900 Conducted H&S tailgate.
910 Loaded equipment and departed trailer to Lakebed Southeast.
934 Collected sample from LBSE-1, including field dup.
1000 Collected sample from LBSE-2.
1040 Collected sample from LBSE-3.
1105 Collected sample from LBSE-4.
1135 Collected sample from LBSE-5.
1155 Mobe to Lakebed Southeast at Badger Island to observe access.
1200 Mobe to trailer.
1215 Stopped at SCAT pond to observe conditions
1220 Mobe to trailer.
1340 Finished sample preparation, COC preparation, and equipment decon.
1350 Called Kevin Lundmark (ERM) about UTV drop off.
1445 Steadman's dropped off UTV.
1500 Departed site.

10/7/15
0840 Arrive on site
Personnel: K. Benson, S. Smith
T. Jimenez on site for split sampling and oversight.
Weather: Sunny & clear
0900 Loaded and departed trailer to Lakebed Southeast
0935 Sample LBSE-6
0945 Sample LBSE-7
1015 Sample LBSE-7 Subsurface
1045 Sample LBSE-8
1105 Sample LBSE-9
1115 LBSE-10, in salt pond. Called to do a field modification.
1230 No response so sampled approximately 25' north of original location.
1300 Back to trailer for sample pack-ups and decon.
1340 Phone call with Kevin about LBSE-10. Get GPS coordinates of where we sampled and ship sample.
1500 Leave trailer to get LBSE-10 GPS coordinates and head off-site

SS 10/7/15

10/8/15
8:40 - Arrive on site
Personnel - K. Benson, T. Hameda
A. Baird on site for split sampling
Weather - Clear, 60s

10:10 - Sample LBB-10
10:30 Sample LBB-9
10:50 Sample LBB-8
11:00 Sample LBB-7
11:10 Sample LBB-7 (subsurface)
11:30 Sample LBB-6

- Recorded GPS coordinates for samples 7-16, 7-17, 5-04

12:40 - Back to trailer for sampling labeling and decon.

15:30 - Off site

10/8/15

10/9/15
0850 ARRIVE ON SITE
PERSONNEL: T. HAMADA, S. SMITH
WEATHER: PARTLY CLOUDY, CALM, 60°F.
LOAD UP SAMPLING EQPT. +
MOB. TO BADGER ISL.
0935 ARRIVE @ BADGER ISL.
0957 SAMPLE LBB-5
1010 SAMPLE LBB-4
1022 SAMPLE LBB-3
1035 SAMPLE LBB-2 + DUP
1044 SAMPLE LBB-1
1055 A. BAIRD SIGN FIELD MOD
FORM (#3) FOR LOC. ADJUSTMENT
@ LBSE-10 ON 10/7/15
1100 MOB TO TRAILER
A. BAIRD OFF SITE
1300 COLLECT EQPT. BLANK
1332 OFF SITE

TH
10/9/15

10/12/15
0735 K. Benson, K. Lundmark depart
ERM SLC
Fuel vehicle, purchase pin flags
0845 Arrive UPS BG area
Clear, calm, 50s
Mark locations UPS-1 thru -5
w/ Trimble
0930 Travel to USM to
prep eqpt
0955 - R. Francom stops by
trailer to discuss schedule
1000 - Depart trailer,
1019 - Arrive @ UPS
T. Jimenez (EarthFax) onsite
1025 - Start sampling @ 1025
sample time = 1040
Collect FD
EPA collected split
1045 - Depart UPS-1
1050 - Arrive UPS-4
Collect UPS-4 @ 1105
1130 - Collect UPS-2
collected ~~Flave~~ Lab Dup
MS extra volume
1145 - Collect UPS-3

10/12/15 Contd.

1150 - Arrive UPS-5
Collect UPS-5 @ 1200
1210 - Return to USM
Stop by SCAT Pond
Labeling bottles, Eqpt decon
Finishing @ trailer
1355 - Depart USM
1500 - Arrive ERM SLC

KWL 10/12/15

10/13/15
0845 Arrive onsite
Personnel: K. Benson, S. Smith
Weather: clear, sunny
Load sampling equipment
0935 sample UPS-6 + subsurface
1015 sample UPS-7
1035 Sample UPS-8
1055 Sample UPS-9
1105 Sample UPS-10
1110 MOB to trailer for decon &
sample labeling.
1220 Equipment Blank
1300 Off site

SS 10/13/15

10/14/15
8:40 - Arrive on site
Site Personnel - K. Benson, A. Nagle
Weather - Clear, 60s

Load sampling equipment

9:45 - Sample UPN-1
10:10 - UPN-2 (field dup)
10:30 - UPN-3
10:45 - UPN-4 (MS/MSD)
11:00 - UPN-5
11:20 - UPN-6 surface
11:30 - UPN-6 subsurface
11:55 - UPN-7
12:05 - UPN-8
12:20 - UPN-9
12:35 - UPN-10

13:10 - Back to trailer for sample labeling & decon.

15:20 Off site

10/14/15

10/15/15
0830 Arrive on site
Personnel: S. Smith, A. Nagle
A. Baird (PMT)
Weather: Sunny, clear
0900 H& Safety Tailgate
Load equipment
1005 Sample PRI 5-01
1040 Sample " 5-16
1110 Sample " 5-06
1130 Tried to find sample 5-11, but is in water.
1300 Sample 5-10 with field dup
1330 Back to trailer for sample labeling and decon.
1545 Off-site

SS
10/15/15

10/16/15
0850 Arrive on site
Personnel: S.Smith & A. Nagle
T. Jimenez oversight
0900 H&S meeting
0920 Load and leave trailer
1030 Sample 6-04 with MS/MSD
1130 Sample 6-01 with Field Dup and
MS/MSD
1215 Sample 6-07 with Field Dup
1230 Return to trailer for decon and
prepare samples for shipment.
1500 Off-site

SS
10/16/15

10/19/15
8:50 Arrive on site
Site Personnel K. Benson, G. Rigard
Weather - Pt. Cloudy, 60's

9:00 H&S meeting

10:20 - Sample 4-01 (DUP)
11:00 - Sample 4-02

11:30 - 12:20 Decon & determine
waste total thickness.

14:30 - Off site

10/19/15

10/20/15
8:50 - Arrive on site

Site Personel - K. Benson, T. Hamada

9:30 - load and leave trailer

10:10 - Sample 4-03

10:50 - Sample 4-05

11:45 - Sample 4-06

12:30 - Sample 4-07

13:20 - Back to trailer for decon & packing samples

15:15 - Off site

10/20/15

10/21/15
8:30 - Arrive on site

Site Personnel - K. Benson, G. Rigard
Weather - Windy 50s

9:10 - load & leave trailer

9:30 - Sample 4-11

10:20 - Sample 4-10

10:40 - 13:10 - ATV gets stuck near 4-13, did not sample

13:10 - Decon ATV and sampling equipment

14:00 - Back to trailer for packing samples and colletion of equipment blank

10/22/15
0850 Arrive at BR Bird Office.
Personnel: S. Smith, K. Benson
T. Jimenez (EPA oversight)
Howard Browers & Sarah Prussings
from Bird Refuge to guide
1030 Sample BR-5
1055 Sample BR-4
1155 Sample BR-1
1215 Sample BR-2
1305 Sample BR-3
1350 Sample BR-3 Subsurface using post Hole digger. Auger head was not brought.
1410 Leave site.
1500 Leave Bird Refuge

SS 10/22/15

Phase 1A-B
10/23/15 Surface Soil Sampling
830 Arrive on site.
Personnel: Lonnie Mercer, Garrett Rigard
Tim Jimenez (EPA Oversight)
Weather: Clear, calm, temps in 50s-60s
915 H+S meeting completed. Loaded equipment and mobed to gypsum pile.
945 Collected sample 4-08-SS-01-102315
1045 Collected sample 4-04-SS-01-102315.
1145 Collected sample 4-09-SS-01-102315.
1230 Garrett mobed to field trailer to prepare samples for shipment.
1315 Lonnie deconed sampling equipment at gypsumpile and mobed back to field trailer.
1430 Finished equipment decon and sample preparation for shipment.
1435 Departed site.

Lonnie Mercer

Phase 1A-B

10/26/15 Sampling

1000 Arrive on site.

Personnel: Kris Benson
Lonnie Mercer

1130 Decomned cargo van and prepared sediment sampling equipment.

1245 Reeder Flying Service crew arrived at site.

1345 Reeder crew completed US Mag safety orientation. Mobe to ponds to view landing location for helicopter.

1445 Mobe to trailer. Reeder crew departed.

1500 Dropped off SCAT Pond sample material at Old Waste Pond.

1510 Dumped buckets and Shelby tubes at landfill. Mobe to trailer.

1530 Departed site.

Lonnie Mercer

Phase 1A-B

10/27/15 Pond Sediment Sampling

H&S Tailgate

0930 Arrive PPI 5 catch zone
Review Procedures
Ken W - Sed/waste ~1' thick during peninsula const

1020 - Helicopter liftoff for 5-02 Pond
1st grab ok @ 1027
Get 2nd grab to ensure adequate volume

5-02 SILT, Clayey w/ trace sand. Wet. Red-Brown. Trace roots @1015

5-07 CLAY, silty w/ trace roots Dark Red-Brown, Moist @ 1100

4 grabs @ 5-07. little recovery (island) 1-2" recovery OK per Ken W.

1 grab @ 5-08
Break to fuel H.copter
1145 Resume @ 5-08
2 more grabs
sample time 1130
Sand trace silt, wet, Red-grey

5-11 2 grabs 1215
Sand, trace silt, Red-gray
wet, some sheen, Roots
100% passing sieve (vis)
Too wet to 1/4
Homogenized thoroughly
w/ spoon/scoop

5-14 1 grab (& organics)
CLAY, silty w trace
1310 fine sand. Wet
Red-grey (dark) trace
organics (roots)
Mixed by hand. jars
filled w/ spoon. Too
wet to 1/4 (mix w/
flat scoop

1345
5-13 SAND, silty. wet.
Gray-Red. Trace organics
No sieve (too wet/no
coarse) Mixed w/ spoon

1415
5-12 SAND, silty w/ clay.
Brown. Moist. 100%
pass sieve

1435 - EPA depart PRIS
catch zone
1540 ERM depart PRIS catch zone.
Mobe to trailer.
1700 Departed site after preparing
coolers and unloading equipment.

Phase 1A-B

10/28/15 Pond Sediment Sampling

800 Arrive on site.
Personnel: Lonnie Mercer, Kris Benson
Garrett Rigard
Weather: Cloudy, calm, temps in 50s-60s
830 Loaded equipment into trucks and van. Mobe to ponds.
845 Conducted safety meeting with Reeder crew and Roger Francom (US Mag).
900 Setting up at PRI6 catch zone at north corner of PRI6.
920 Helicopter takeoff.
930 Collected 6-02-SS-01-102815.
950 Collected 6-05-SS-01-102815.
1020 Collected 6-08-SS-01-102815.
1040 Collected 6-09-SS-01-102815.
1120 Helicopter takeoff after break to refuel.
1130 Collected 6-10-SS-01-102815.
1150 Collected 6-11-SS-01-102815.
1220 Collected 6-12-SS-01-102815.
1230 Collected 6-13-SS-01-102815.
All PRI6 samples have been collected. Helicopter landed to disconnect long line and refuel. ERM working on equipment decon and sample prep.

Lonnie Mercer

Phase 1A-B

10/28/15 Pond Sediment Sampling

1300 Helicopter departed site to return to Twin Falls, Idaho.
1310 Aaron Baird (PWT) departed site. Suzy Smith (ERM) arrived at site around 1145. Suzy is assisting with sample preparation.
1345 Mobe to trailer to prepare sample coolers.
~~1400 Collected equipment blank~~ LM
~~1500 6-13-SS-01~~ LM
1500 Collected equipment blank 6-13-SS-34-102815 using sampling equipment from pond sediment sampling.
1530 Garrett departed site. Finishing sample cooler preparation.
All equipment herein was deconned.
1600 Suzy, Kris, and Lonnie departed site.

Lonnie Mercer

10/29/15
0900 Arrive on site.
Personnel: S. Smith, T. Hamada
T. Jimenez : EPA oversight
0930 Load and leave trailer
1102 Sample 4-12
1149 Sample 4-13
1233 Sample 4-14
Field modification to approximate
distance from water as 4-12 and 4-13.
New coordinates:
4532195.50m N
354421.79m E
1300 Decon and mob to trailer for
further decon and sample prep.
1530 Off site

10/29/15
S.S.

Appendix D
Borehole Logs

ERM
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1-03

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/4/15 **COMPLETED** 11/4/15
TOC ELEVATION
HOLE SIZE 6"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY J.Hilker **CHECKED BY** L.Mercer
AFTER DRILLING ---
NOTES Drilled at a 52 degree angle. Uncorrected depth was 7 ft bgs

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations
0			CL	▨	(CL) CLAY WITH TRACE SAND. gray to white, low plasticity, sand is very fine grained, wet.
	CC 0.3-0.9	100			
1	CC 0.9-2.2	100			@ 0.9 - sand percentage increase to 10%
					@ 1.75 - sand percentage increase to 20% with some cementation
1.85			SP	⋯	(SP) OOLTIC SAND (NATIVE SOIL). partially cemented, rust stains, reddish brown, trace silty clay, wet.
2					
2.20	CC 2.2-3.4	100	SP-SM	⋯	(SP-SM) SAND WITH LITTLE SILT. sand is fine to medium grained, silt (10%) non-plastic, grey, wet.
3					
4	CC	100			
4.31					

Bottom of borehole at 4.3 feet.

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1-07

PAGE 1 OF 1

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/4/15 **COMPLETED** 11/4/15
TOC ELEVATION
HOLE SIZE 6"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY J.Hilker **CHECKED BY** L.Mercer
AFTER DRILLING ---
NOTES Drilled at a 45 degree angle. Uncorrected depth was 14 feet bgs.

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations
0.0					WASTE
0.40	CC 0.4-2.1	85	SP-SM		(SP-SM) SAND WITH LITTLE SILT, sand is fine to medium grained, silt 10%, some weak cementation, dark reddish brown to gray, wet.
2.10	CC 2.1-4.2	85	CL		(CL) CLAY WITH TRACE SAND (NATIVE SOIL). sand (5%) is fine to very fine, gray to greenish gray, wet.
2.5					
4.20	CC 4.2-7.1	90	SP		(SP) SAND. fine to medium grained, brown.
5.0 / 5.00			SP-SC		(SP-SC) SAND WITH LITTLE CLAY. oolitic sand, gray to white, some cementation, clay (10%), silt (5%), wet.
7.10	CC 7.1-9.9	90	SP		(SP) SAND WITH LITTLE SILT. sand is fine, dark gray, silt (10%), wet
7.5					
9.90					

Bottom of borehole at 9.9 feet.

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1-08A

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/5/15 **COMPLETED** 11/5/15
TOC ELEVATION
HOLE SIZE 6"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY J.Hilker **CHECKED BY** L.Mercer
AFTER DRILLING ---
NOTES Drilled at a 45 degree angle. Uncorrected depth was 18 ft bgs.

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations
0.0	CC 0.4-5.0	10	ML		(ML) SILT (WASTE). very soft, reddish brown to dark reddish brown, trace sand, sand is fine grained, subrounded, trace fine gravel, wet.
5.0	CC 5.0-6.0	100	ML	5.00	(ML) SILT WITH LITTLE SAND (WASTE). very soft, dark reddish brown to tan, black staining, sand is fine to very fine, subrounded, some cementation, trace cobbles (up to 6" diameter) and gravel, wet.
	CC 6.0-7.0	100	SP	6.00	(SP) SAND (NATIVE SOIL). oolitic sand, subrounded, silty clay (5%), white to light gray, some cementation, wet.
7.5	CC	90	SM	7.80	(SM) SILTY SAND. sand is fine to very fine, gray, wet.
10.0				12.00	

Bottom of borehole at 12.0 feet.

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1-08B

PAGE 1 OF 1

CLIENT US Magnesium

PROJECT NAME US Magnesium

PROJECT NUMBER 0132320

PROJECT LOCATION Rowley, UT

DATE STARTED 12/2/15 **COMPLETED** 12/2/15

TOC ELEVATION **HOLE SIZE** 4"

DRILLING CONTRACTOR Gravity

GROUND WATER LEVELS:

DRILLING METHOD Direct Push

AT TIME OF DRILLING ---

LOGGED BY L.Mercer **CHECKED BY** J.Hilker

AFTER DRILLING ---

NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Depth of change	Soil Description and Observations
0.0			CL	▨		(CL) CLAY (WASTE). reddish brown, saturated, very soft, occastional gray and white layers.
	CC 1-3	100		▨		@2' - dark gray, trace medium sand and angular gravel
2.5				▨		
	CC 3-5	100		▨		@3' - reddish brown with trace sand and gravel
			CL	▨	4.50	(CL) CLAY WITH SAND (WASTE). reddish brown to dark gray, saturated, trace white gravel.
5.0	CC 5-6	100	GP	⁘	5.00	(GP) SANDY GRAVEL (WASTE). black, saturated, organic odor, subangular gravel (up to 1" diameter).
	NR	0			6.00	No recovery

Bottom of borehole at 7.0 feet.

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1-13

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/10/15 **COMPLETED** 11/10/15
TOC ELEVATION
HOLE SIZE 4"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY L.Mercer **CHECKED BY** J.Hilker
AFTER DRILLING ---
NOTES Following drilling, borehole was backfilled with hydrated bentonite chips.

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations	ENVIRONMENTAL DATA	
0			ML		(ML) SANDY SILT (FILL). brown, medium to coarse oolitic sand, trace gravel, trace clay, moist.		Hydrated Bentontie chips
	CC 0.5-4	50				PID = 0	
5	CC 4-6	100	ML	5.00	(ML) SANDY SILT WITH CLAY (FILL). brown, medium to coarse oolitic sand, trace gravel, saturated.	PID = 0	
	CC 6-8	100				PID = 0	
	CC 8-9	100			@8' - minor reddish brown layers/staining	PID = 0	
10	CC 9-11	100	GP	9.00	(GP) SANDY GRAVEL (NATIVE SOIL). dark to light gray, subangular to angular cemented gravel, oolitic sand, coarse to very coarse, sulfur odor, dark gray to light gray layering, saturated. @10' - 1" thick layer of silty clay with fine bedding, dark gray to light gray.		
	CC 11-13	100			@11' - minor reddish brown color, some silt and clay.	PID = 0	
	CC 13-15	100	ML	13.00	(ML) CLAYEY SILT WITH GRAVEL AND SAND. light gray to olive green, saturated, medium to coarse oolitic sand, subangular to angular cemented gravel, sulfur odor. @14' - increasing density of olive green undulating layers (<1/8").	PID = 0	
15	CC 15-17	100	SM	15.00	(SM) SILTY SAND WITH CLAY. gray, medium to coarse oolitic sand, saturated, sulfur odor. @15.5' - dark gray layer (1" thick).	PID = 0	
				17.00			

Bottom of borehole at 17.0 feet.

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1-14

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/3/15 **COMPLETED** 11/4/15
TOC ELEVATION
HOLE SIZE 6"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY J.Hilker **CHECKED BY** L.Mercer
AFTER DRILLING ---
NOTES Following drilling, borehole was backfilled with hydrated bentonite chips.

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations	ENVIRONMENTAL DATA
0						
	CC 0.5-2	95	ML		(ML) SANDY SILT. (FILL) reddish brown, fine sand (~35%), low to no plasticity, some cementation, cementations are up to 4" in diameter.	PID = 0.3
	CC 2-4	95				PID = 0.2
	CC 4-6	95	SP	4.00	(SP) GRAVELLY SAND WITH TRACE CLAY (FILL). sand is fine to very fine grained, gravel is fine grained and subangular, clay is gray with low plasticity, some cementation, damp.	PID = 0.8
5			CH	5.60	(CH) CLAY WITH LITTLE SAND. white, high to low plasticity, sand is fine grained, damp.	
	CC 6-8	95	CH	7.00	(CH) CLAY WITH TRACE GRAVEL (NATIVE SOIL). clay is gray to greenish gray with high plasticity, gravel is fine grained, subrounded, wet, few sand seams (1"- 2" thick), black staining, odor.	PID = 0.7
	CC 8-10	95				PID = 121
10	CC 10-11	95				
	NR	0				
15	CC 15-17	95	SP	15.00	(SP) SAND WITH LITTLE SILT. sand is oolitic, white to dark gray to black, silt (~10%) is non-plastic, some cementation, black staining, wet.	
			SP	16.50	(SP) SAND WITH LITTLE SILT. gray, sand is fine to very fine grained, silt is non-plastic, wet.	
				17.00		

Hydrated Bentonite Chips

Bottom of borehole at 17.0 feet.

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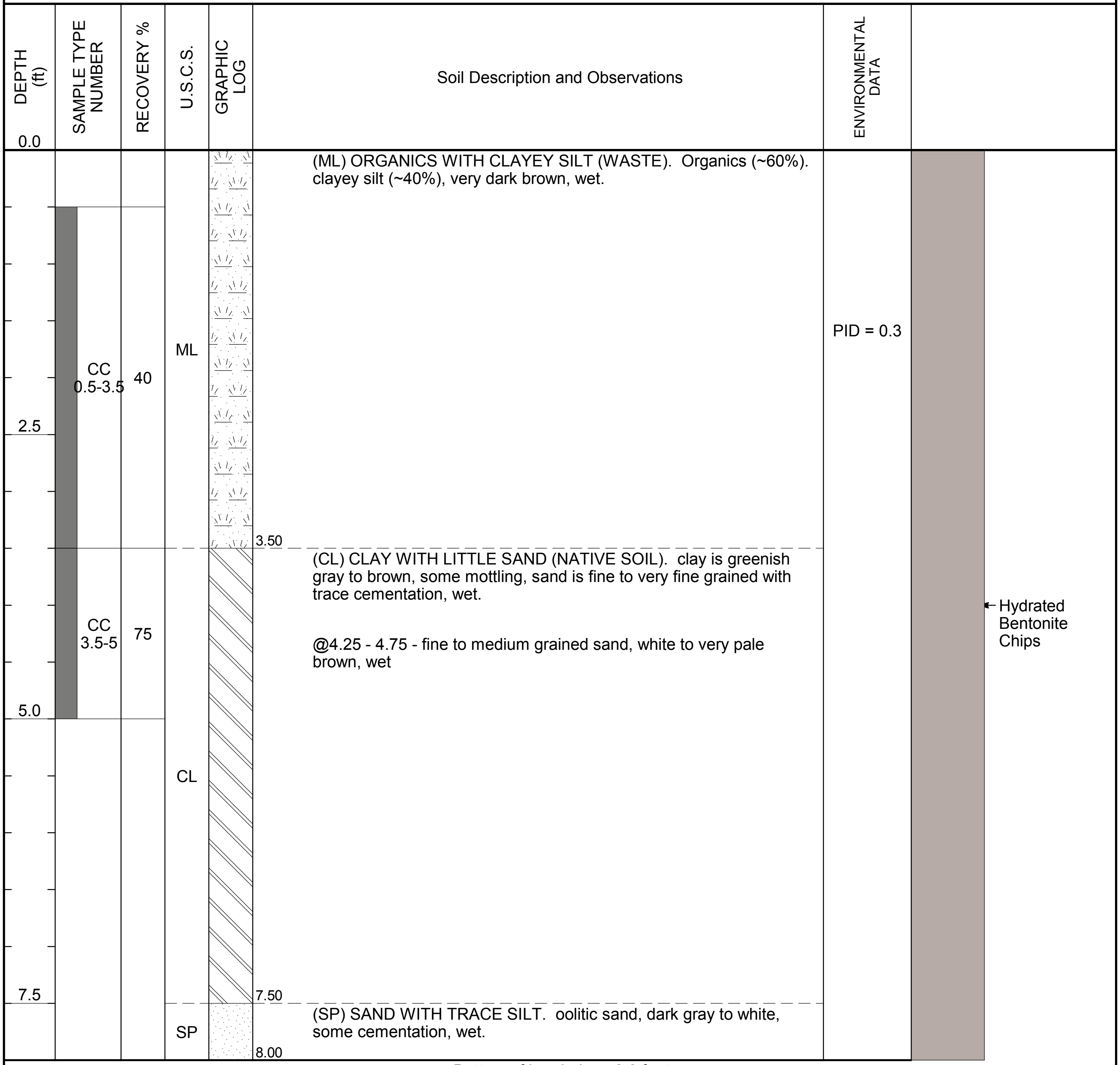
3-14

PAGE 1 OF 1

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/3/15 **COMPLETED** 11/3/15
TOC ELEVATION
HOLE SIZE 6"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY J.Hilker **CHECKED BY** L.Mercer
AFTER DRILLING ---
NOTES Following drilling, borehole was backfilled with hydrated bentonite chips.



DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations	ENVIRONMENTAL DATA	
0.0			ML		(ML) ORGANICS WITH CLAYEY SILT (WASTE). Organics (~60%). clayey silt (~40%), very dark brown, wet.	PID = 0.3	
	CC 0.5-3.5	40					
2.5							
	CC 3.5-5	75	CL	3.50	(CL) CLAY WITH LITTLE SAND (NATIVE SOIL). clay is greenish gray to brown, some mottling, sand is fine to very fine grained with trace cementation, wet. @4.25 - 4.75 - fine to medium grained sand, white to very pale brown, wet		Hydrated Bentonite Chips
5.0							
7.5			SP	7.50	(SP) SAND WITH TRACE SILT. oolitic sand, dark gray to white, some cementation, wet.		
				8.00			

Bottom of borehole at 8.0 feet.

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4-05

PAGE 1 OF 1

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/9/15 **COMPLETED** 11/9/15
TOC ELEVATION
HOLE SIZE 4"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY L.Mercer **CHECKED BY** J.Hilker
AFTER DRILLING ---
NOTES Following drilling, borehole was backfilled with hydrated bentonite chips.

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations	ENVIRONMENTAL DATA	
0.0			ML	1.50	(ML) CLAYEY SILT (WASTE). reddish brown, low plasticity, trace fine sand, moist. fine clay layers that are gray in color and white silt layers (<1/4" thick), interbedded.	PID = 0	Hydrated bentonite chips
	CC 0.5-3	50	SM	2.00	(SM) SILTY SAND. reddish gray, medium to coarse sand, moist.		
			CL-ML	2.50	(CL-ML) SILTY CLAY. reddish brown, high plasticity, wet, firm.		
2.5	CC 3-5	100	ML	5.00	(ML) SANDY SILT. reddish brown, some clay, low to medium plasticity, fine sand, moist to wet.	PID = 0	
5.0	CC 5-7	100	SM	5.50	(SM) SILTY SAND. light reddish brown, fine to medium sand, trace clay, moist.		
			ML	6.50	(ML) SANDY SILT. reddish brown, fine sand, low plasticity, moist. Interbedded thin layers (<1/4") of clayey silt.	PID = 0	
			CH	7.00	(CH) SILTY CLAY. reddish brown, high plasticity, saturated, interbedded reddish white layers (1/4" to 1/2")		
	CC 7-9	100	SM	7.50	(SM) SILTY SAND (NATIVE SOIL). light gray, fine sand, oolitic sand mixed with gray sand, moist.	PID = 0	
7.5			ML	9.00	(ML) CLAYEY SILT. brownish gray, moist, low plasticity, rootlets, trace fine sand.		
10.0			CL	11.00	(CL) SILTY CLAY. gray, high plasticity, stiff, moist to wet, trace brown mottling.		

Bottom of borehole at 11.0 feet.

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5-14SB

PAGE 1 OF 1

CLIENT US Magnesium

PROJECT NAME US Magnesium

PROJECT NUMBER 0132320

PROJECT LOCATION Rowley, UT

DATE STARTED 12/1/15 **COMPLETED** 12/1/15

TOC ELEVATION **HOLE SIZE** 4"

DRILLING CONTRACTOR Gravity

GROUND WATER LEVELS:

DRILLING METHOD Direct Push

AT TIME OF DRILLING ---

LOGGED BY L.Mercer **CHECKED BY** J.Hilker

AFTER DRILLING ---

NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations
0.0	CC 0-2	100	CL-ML	▨	(CL-ML) SILTY CLAY (WASTE). reddish brown, very soft, saturated, trace gray interbedded layers.
2.5	CC 2-4	100		▨	@2' - minor sand, medium to coarse, loose @2.5' - trace sand
5.0	CC 4-6	100		▨	@5.75' - minor gravel, reddish brown and gray
7.5	NR	0		▨	@6' - 8 ' - no recovery
10.0	CC 8-10	100	SP	░	8.00 (SP) GRAVELLY SAND (NATIVE SOIL). gray to dark gray, saturated, angular to subangular sand and gravel, sulfur odor. 10.00

Bottom of borehole at 10.0 feet.

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5-16A

PAGE 1 OF 1

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/5/15 **COMPLETED** 11/5/15
TOC ELEVATION
HOLE SIZE 6"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY J.Hilker **CHECKED BY** L.Mercer
AFTER DRILLING ---
NOTES Following drilling, borehole was backfilled with hydrated bentonite chips.

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations	
0.0			ML		(ML) SILT (WASTE). trace very fine grained sand, dark reddish brown to reddish brown, very soft, trace weak cementation, wet.	Hydrated Bentonite Chips
2.5	CC 0.5-6.5	15				
5.0					@6.1 - 4" sand seam, medium to fine grained, subrounded.	
				6.50		
7.5	CC 6.5-8	95	CL		(CL) CLAY (NATIVE SOIL). greenish gray to brown to black colored layers, mottling, damp.	
				8.00		
	CC 8-10	95	SP		(SP) SAND WITH TRACE SILT. oolitic sand, white to gray to black, sand is medium grained, subrounded, wet.	
10.0				10.00		

Bottom of borehole at 10.0 feet.

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5-16B

PAGE 1 OF 1

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 12/2/15 **COMPLETED** 12/2/15
TOC ELEVATION **HOLE SIZE** 4
DRILLING CONTRACTOR Gravity
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING ---
LOGGED BY L.Mercer **CHECKED BY** J.Hilker
AFTER DRILLING ---
NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations
0.0			CL-ML		(CL-ML) SILTY CLAY (WASTE). orangish brown to reddish brown to off white, very soft, saturated.
	CC 0.5-2	100			
2.5	CC 2-4	100			
	CC 4-5	100			
5.0				5.00	SILTY CLAY (NATIVE SOIL). gray to dark gray, wet, stiff, high plasticity.
			SP	6.00	(SP) GRAVELLY SAND WITH SILT AND CLAY. gray to dark gray, saturated.
				6.50	

Bottom of borehole at 6.5 feet.

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6-16

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/6/15 **COMPLETED** 11/6/15
TOC ELEVATION **HOLE SIZE** 6"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY J.Hilker **CHECKED BY** L.Mercer
AFTER DRILLING ---
NOTES Following drilling, borehole was backfilled with hydrated bentonite chips.

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations	
0.0					GYPSUM (WASTE). dark reddish brown, wet, high plasticity.	Hydrated Bentonite Chips
	CC 0.5-3.5	92				
2.5						
	CC 3.5-4.5	100			@4' - white, tan and dark gray layers (up to 1/2") thick	
	CC 4.5-6.5	100	SP-SM	4.50	(SP-SM) SAND WITH LITTLE SILT (NATIVE SOIL). sand is fine to very fine, trace organics, some iron staining, wet.	
5.0			SC	5.00	(SC) CLAYEY SAND. sand is fine to very fine, gray to dark reddish brown, trace roots, trace cementation, wet.	
			CH	6.00	(CH) CLAY. gray to greenish gray, high plasticity, trace sand, very fine grained, trace organics, iron staining, wet.	
7.5						
			SP-SC	8.00	(SP-SC) SAND WITH SILT AND CLAY. sand is fine grained, very dark gray to gray to white, some cementation, wet.	
10.0						
				11.00		

Bottom of borehole at 11.0 feet.

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7-04

CLIENT US Magnesium
PROJECT NAME US Magnesium
PROJECT NUMBER 0132320
PROJECT LOCATION Rowley, UT
DATE STARTED 11/10/15 **COMPLETED** 11/10/15
TOC ELEVATION
HOLE SIZE 4"
DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING METHOD Sonic
AT TIME OF DRILLING ---
LOGGED BY L.Mercer **CHECKED BY** J.Hilker
AFTER DRILLING ---
NOTES Following drilling, borehole was backfilled with hydrated bentonite chips.

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	U.S.C.S.	GRAPHIC LOG	Soil Description and Observations	ENVIRONMENTAL DATA	Casing Top Elev: 0 (ft)
0.0					WASTE. No recovery due to hard crust from 0- 0.5 bgs. Underlain by very soft sediments from 0.5 to 2.5 bgs.		Hydrated Bentonite Chips
2.5	CC 2.5-4.5	100	GP		2.50 (GP) SANDY GRAVEL WITH SILT AND CLAY (NATIVE SOIL). gray to dark gray, subangular to angular cemented gravel (up to 4" in diamater), coarse sand (some oolitic), saturated, sulfur odor.	PID = 0	
5.0	CC 4.5-6.5	100				PID = 0	
7.5	CC 6.5-8.5	100				PID = 0	
	CC 8.5-9.5	100	ML		8.50 (ML) CLAYEY SILT WITH GRAVEL AND SAND. olive green to light gray, saturated, low to medium plasticity, medium to coarse oolitic sand, subangular to angular cemented gravel, sulfur odor.	PID = 0	
			CL-ML		9.50 (CL-ML) SILTY CLAY. gray to light brown, saturated, sulfur odor.	PID = 0	
10.0	CC 9.5-11.5	100	SM		10.00 (SM) SILTY SAND WITH CLAY. gray, fine to medium ooltic sand, saturated, sulfur odor, increasing fines percentage with depth.		
12.5					12.50		

Bottom of borehole at 12.5 feet.

TARGET SHEET

EPA REGION VIII

SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOCUMENT NUMBER: 1829348

SITE NAME: US MAGNESIUM

DOCUMENT DATE: 10/01/2016

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DOCUMENT DESCRIPTION:

3 CD/DVDs - Disc 2 Appendix E Part 1, Disc 3 Appendix E Part 2 and Appendix F

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Appendix E
Laboratory Reports

(on DVD)

Appendix F
Data Validation Reports

(On CD)

Appendix G
Evaluation of Bulk versus Fines Fraction Soil Analyses for Inner PRI Areas

Technical Memorandum

Environmental
Resources
Management

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To: Ken Wangerud, USEPA

From: Natasha Hausmann, PhD, ERM
David Abranovic, ERM

Date: 20 July 2016

Subject: Phase 1A-B RI Bulk Versus Fines Analyses for Inner PRI Area Surface Solids
US Magnesium LLC, Tooele County, Utah

INTRODUCTION

This technical memorandum presents the results of the bulk versus fines analyses for Inner Preliminary Remedial Investigation (PRI) Area surface solids. This analysis has been prepared by ERM-West, Inc. (ERM) per the September 2015 ERM *Phase 1A-B Remedial Investigation Sampling and Analysis Plan for 1) Chemicals of Potential Concern in Soil, Sediment, and Solid Wastes in PRI Areas 1 and 3 through 7; 2) Preliminary Site Characterization Mapping of PRI Areas 1 and 3 through 7; and 3) Background Chemical Assessment of Biotic Reference Areas for Sitewide Ecological Risk Assessment* (hereafter referred to as the Phase 1A-B SAP).

Samples of soil commonly contain substrate that ranges in size from very fine to coarse. This variation in grain size may be important in a risk assessment for two reasons:

1. The fine-grained fraction[1] is more likely to adhere to hands and be incidentally ingested as compared to coarse-grained particles.
2. For some constituents, concentrations may be higher in the fine-grained fraction than the bulk sample (United States Environmental Protection Agency [USEPA] 2001).

Concentration in the fine-grained (fine) fraction is relevant for characterizing potential exposures from adherence to skin and subsequent incidental ingestion of soil (USEPA 2000). Evaluating bulk versus fines fractions is important for chemicals of potential concern (COPC) selection because a Type I decision error (excluding a COPC that should be

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[1] As per Phase 1A SAP Worksheet 11 (as modified by SAP Modification 14-C-2-7), "fine-grained fraction" is defined as grain size of less than 0.250 millimeters (0.0098 inches) in diameter; "coarse-grained fraction" is defined as grain size of greater or equal to 0.250 millimeters (0.0098 inches) in diameter (USEPA 2013a).

retained) could occur if concentrations of an analyte in bulk (unsieved) samples are below a level of concern but concentrations in fine-grained material are above a level of concern (USEPA 2013a).

In accordance with the Phase 1A-B SAP (ERM 2015a), an investigation was conducted to:

1. Determine which Inner PRI Areas have a low-enough fine fraction to merit analyzing bulk and fine fractions separately.
2. Evaluate the relationship between the paired results of the bulk sample and corresponding fine fractions using regression analysis.

This approach allows development of a quantitative relationship between the bulk fraction and the fine fraction. If a "meaningful difference" (Phase 1A-B SAP Section 11.2.7.5) is evident, the concentration in the fine-grained fraction may be calculated from the bulk fraction.

Unless otherwise noted, methods described in this technical memorandum are consistent with the methods performed previously for the Outer PRI areas, as presented in the *Final Phase 1A Data Report for PRI Areas 2 and 8 through 17* (ERM 2015b). Additionally, the approach is consistent with the following USEPA guidance and USEPA and state reports for evaluating the relationship between the bulk sample and fine fraction:

- USEPA's *Short Sheet: TRW Recommendations for Sampling and Analysis of Soil at Lead (Pb) Sites* (USEPA 2000);
- Montana Department of Environmental Quality (MDEQ) State Superfund Unit Guidance (MDEQ 2014); and
- USEPA's *Denver Front Range Study of Dioxins in Surface Soil* (USEPA 2002).

DATA USED IN EVALUATION

Methods used for sample preparation followed the Phase 1A-B SAP (ERM 2015a) unless otherwise noted.

Sample Preparation

The sieving and analysis strategy for Phase 1A-B Remedial Investigation (RI) included the collection of three split samples for each Phase 1A-B surface solid sample. Each split was composed of the bulk sample after homogenization. For the purpose of this study, "bulk fraction" is defined as all material passing a 0.25-inch mesh sieve and "fine fraction" is defined as material passing a 0.25-millimeter (mm) (60 US Mesh) sieve. The three split samples were processed as follows (Phase 1A-B SAP, Section 11.2.7.5):

1. Split sample 1 was analyzed as a bulk fraction sample.
2. Split sample 2 was analyzed for grain size by ASTM International Method C-136 to determine the percent fines.
3. If the result of Step 2 was greater than 75 percent, then no analysis of the fine fraction was required as the sample was considered to be dominated by fines and no bulk-fine conversions were considered necessary.
4. If the result of Step 2 was less than 75 percent, then the split sample 3 was dried, sieved through 0.25 mm mesh and the fines fraction material were analyzed.

Results from the determination of percent fines (Step 2) are summarized in Table 1.

Constituents

In accordance with the Phase 1A-B SAP (ERM 2015a), the following constituent groups were included in this evaluation:

- Semi-volatile organic compounds (SVOCs);
- Metals;
- Total polychlorinated biphenyls (PCBs);
- Polycyclic aromatic hydrocarbons (PAHs); and
- Dioxin toxicity equivalence (Calculated Toxicity Equivalency Factors [TEQs])[2].

Volatile organic compounds (VOCs), perchlorate, and cyanide were not analyzed in the fine fraction, although these constituents were analyzed in bulk samples. Sample drying and physical sieving of the bulk sample that is required to attain the fine fraction was determined to result in loss of

---

[2] Calculated TEQ is the sum of TEF_i x DLC_i, where *TEF* is the dioxin toxicity equivalency factor, *DLC* is a dioxin-like compound, and where the term *dioxin* refers to the compound in this group considered to be the most toxic—i.e., 2,3,7,8-tetrachlorodibenzo-para-dioxin (TCDD) (USEPA 2013a). Note that the calculated totals (TEQ mammalian and avian) are included with substitutions of both of zero and of one-half the method detection limit for individual non-detect congeners.

VOCs and an inaccurate characterization of concentrations for these compounds in the fine fraction.

Further, as agreed with the agencies for the Phase 1A RI, individual PCB congeners and homologs, as well as individual dioxins/furans/coplanar PCBs, were not included in this bulk sample-fine fraction evaluation for the Phase 1A-B, because these compounds are accounted for in the Total PCB and Calculated TEQ, respectively, and will not be individually screened in the Screening Level Risk Assessment (ERM 2014).

Data Validation

All data used have been validated by a third party and deemed usable, as described in Section 4.2 of the Phase 1A-B RI Data Report. Method quality objectives for precision, accuracy, representativeness, completeness, comparability, and sensitivity were generally met for the Phase 1A-B RI data. Additional detail can be found in the data validation reports and the Data Usability Assessment for Inner PRIs included as Appendices F and H, respectively, of the Phase 1A-B RI Data Report.

DATA ANALYSIS/APPROACH

Phase 1A-B SAP Worksheet 11 specifies that "the relationship between the paired results of the bulk and corresponding fine fractions will be evaluated using regression analysis." A combination of descriptive statistics, regression analysis, and plotting was used to quantitatively describe the relationship between the bulk and fine fraction.

Descriptive Statistics

To provide a sense of the dataset for each PRI Area, descriptive statistics were developed for each analyte for both the bulk sample and fine fraction and include:

- Sample size;
- Number/percent of detected concentrations;
- Minimum concentration;
- Maximum concentration;
- Median concentration;
- Mean concentration;
- Standard deviation;

- Coefficient of variation (CV); and
- Distribution type (e.g., normal, lognormal).

Descriptive statistics provided in Table 2 were calculated for each fraction and each PRI separately and for all PRIs combined.

Pooling the Data

A minimum of eight detect-detect pairs are recommended in order to perform a meaningful regression analysis (ERM 2015b, USEPA 2009, USEPA 2013b). As shown in Table 1, only two PRIs had enough samples with fines fractions less than 75 percent to run a meaningful regression analysis (PRI-7 and PRI-5 each had 10 samples). Because of the relatively small sample sizes in each PRI, all bulk-fine pairs were visually inspected to determine if they could be pooled across PRIs into a single regression analysis. Constituents with the highest variance across PRIs were total PCBs, TEQs, and hexachlorobenzne (CV[3] ranged from 100 to 260 percent). By comparison, metals were roughly half as variable as the organics. Since this range of CV values was within the range that is typically found in environmental data, the subtle differences in CV across PRIs did not seem to create a substantial barrier to pooling the data. Consistent with the approach taken in the Outer PRI bulk-fine analysis (ERM 2015b), bulk-fine pairs were pooled across PRIs to help maximize the number of detect-detect pairs for regression analysis. Detection statistics, including the number of samples, numbers of bulk sample and fine sample detections, percent detected in bulk and fine samples, and number of detect-detect pairs for the pooled dataset are provided in Table 3.

Scatterplots

Concentrations in each of the detect-detect paired bulk and fine samples were plotted against each other in a scatterplot to provide a visualization of the relationship (see Attachment B). Two plots are included for each constituent: one on log-log scale and a second with standard concentration (untransformed) scale axes. Data points are color coded by PRI. A one-to-one line was added to all plots as a visual guide to indicate equal concentrations in the fine fraction and the bulk sample. Quantitative evaluation of the fine versus bulk concentration relationships were conducted using regression analysis (see following section). The slope of the regression is plotted in the standard-scale plots.

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[3] Coefficient of variation is a measure of the standard deviation normalized by the mean and is a rough estimate of the variability across the PRIs.

Characterizing Relationship between Bulk Sample and Fine Fraction

For this evaluation, the intended use of the regression model (including the y-intercept) is to attain the 'best fit' of the data for the purposes of predicting concentrations in the fine fraction using bulk fraction data. To attain the 'best fit' for estimation purposes, the regression was not 'forced' through the origin. Furthermore, since the bulk sample includes the fines fraction, it is theoretically impossible to have a measurable concentration in the fines fraction to have a bulk concentration of zero. Y-intercepts are expected to be above zero.

Handling of Non-Detected Values

Concentrations for non-detected values are not precisely known and thus do not contribute meaningfully to a regression in which the measured concentration in the bulk sample is used to predict the concentration in the fine fraction. For that reason, a sample was included in this evaluation only if the analyte was detected in both the bulk sample and fine fraction (ERM 2015b). A detect-detect pair is a sample wherein a detected concentration (including J-qualified concentration) was reported for the analyte in both the bulk sample and the fine fraction. Non-detected values were therefore not used in regression analyses.

Selection of a Regression Approach

Regression analysis is a statistical process for estimating the relationships among variables. Regression includes many techniques for characterizing the linear relationship between a dependent variable and one or more independent variables (Zar 1999). Linear regression models test the well-known mathematical relationship of:

$$y = \beta_1 * x + \beta_0 \qquad \text{(Zar 1999)}$$

where:

y is the response variable (i.e., concentration in fine fraction),

x is the explanatory variable (i.e., concentration in bulk sample),

β_1 is the slope (also known as the regression coefficient), and

β_0 is the y-intercept.

Parametric regression (e.g., simple linear regression) makes certain assumptions about the data (e.g., residuals are normally distributed). Checking that these assumptions are met for all analytes can quickly become cumbersome. In contrast, non-parametric regressions are a rank-based technique and have less prescriptive assumptions about data distributions, skew, and outliers (USEPA 2009).

To simplify the approach, a non-parametric regression method was selected since it is applicable to all data types in this study (USEPA 2009). This allows for a single regression approach to be applied across all analytes with a minimal compromise of statistical power (USEPA 2009, Helsel and Hirsch 2002). A similar regression strategy was selected previously for bulk-fine analysis on this project (ERM 2015b).

Mann-Kendall Test and Theil-Sen's Slope Estimator

Guidance recommends the use of the nonparametric Mann-Kendall test to evaluate trends (relationship between two variables) of nonparametric data (USEPA 2009). The Mann-Kendall test is directly analogous to the parametric Person's correlation, where the test for significance of the correlation coefficient *r* is also the significance test for a simple linear regression (Helsel and Hirsch 1991). Further, the Mann-Kendall test possesses the useful property of other nonparametric tests in that it is invariant to (monotonic) power transformations and is less influenced by outliers (Helsel and Hirsch 1991). In the case of no ties in the x and y variables, Kendall's rank correlation coefficient, *tau* (τ), may be expressed as:

$\tau = S/D$

where (Kendall 1976):

$$S = \sum_{i<j} (sign(x[j] - x[i]) * sign(y[j] - y[i]))$$

and

$$D = n(n-1)/2$$

S is called the score and *D*, the denominator, is the maximum possible value of *S*. When there are ties, the formula for *D* is more complicated (Kendall 1976), but it is automatically handled by statistical software, such as R and ProUCL. The correlation coefficient, *tau*, can be squared to provide a coefficient of determination (comparable to an R^2 for parametric analyses) which indicates the proportion of the variance in the dependent variable that is predictable from the independent variable.

Unfortunately, Mann-Kendall statistic *S* does not indicate the magnitude of the slope or estimate the trend line itself even when a trend is present. To estimate the slope of the line itself, a Theil-Sens slope estimator is needed (USEPA 2009). The Theil-Sens method is nonparametric because instead of taking an arithmetic average of the pairwise slopes, the median slope value is determined. The Theil-Sens slope estimator was used for all regression analyses for which at least eight detect-detect pairs were present. The Mann-Kendall tau^2 was used to estimate strength of the correlation between the bulk and fine correlation.

Comparison of Bulk and Fine Concentrations

While a regression analysis can indicate whether the bulk-fine relationship is significantly different from zero, it does not indicate whether the slope departs meaningfully from 1:1. According to the Phase 1A-B SAP, cases in which the fines fraction has elevated concentrations relative to bulk are of greatest concern since this is the scenario in which exposure concentrations could be potentially underestimated. To assist with the interpretation of the regression results, a one-sided Wilcoxon signed-rank (WSR) test was used to test the hypotheses:

H_0: Fine concentrations ≤ Bulk concentrations

H_A: Fine concentrations > Bulk concentrations

The WSR test is a non-parametric statistical hypothesis test used to test whether two populations are the same based on differences among paired (related) observations. A consistent positive or negative difference among pairs of observations would suggest a difference between the two populations. WSR can be used as an alternative to the paired Student's t-test, when the data do not meet the assumptions of a parametric test. At least eight paired data points are recommended to perform this test (USEPA 2009). By using WSR to qualify the regression results, we can potentially avoid the problematic debate about which analytes have meaningfully elevated fines above bulks (i.e., which analytes have slopes between bulks and fines that are meaningfully above 1). Those analytes with Theil-Sens slopes above 1 and a WSR $p < 0.05$ are strong candidates to have their concentrations adjusted for the fine fraction.

Median Fine to Bulk Ratio

In the Outer PRI bulk-fine analysis (ERM 2015b), a median ratio between the fine and bulk fraction was calculated for those analytes for which there was insufficient data for a regression analysis. The same approach was used in this analysis.

Decision Framework

The regression analysis was integrated with the WSR test and median fine to bulk ratios into a decision-tree framework to determine which constituents required a correction factor for the bulk sample. The decision framework can be summarized as follows (Figure 1):

Scenario 1: If the regression analysis has a significant ($p < 0.05$) positive relationship with an R^2 value greater than 0.5 (indicating a reasonably good fit), then a WSR test is performed to determine if the fine fraction is significantly elevated above the bulk sample. If the bulk sample is greater than or equal to the fine fraction (WSR $p > 0.05$), then no correction factor is needed. If the bulk sample is significantly below the fraction (WSR $p < 0.05$), then the slope and intercept from the regression shall be used as the correction factor for the bulk sample. This scenario is indicated by the blue arrows in Figure 1.

Scenario 2: If the regression analysis has either an insignificant relationship ($p \geq 0.05$) and/or has a poor fit ($R^2 < 0.5$), then the WSR test is used to determine if the fine fraction is elevated above the bulk sample. If the bulk sample is greater than or equal to the fine fraction (WSR $p > 0.05$), then no correction factor is needed. If the bulk sample is significantly below the fraction (WSR $p < 0.05$), then the median fine to bulk ratio shall be used as the correction factor for the bulk sample. This scenario is indicated by the purple arrows in Figure 1.

Scenario 3: If there are insufficient detect-detect pairs ($N < 8$) to perform a regression analysis or the WSR test, the median fine to bulk ratio will be calculated and surrogate compounds will be examined. Best professional judgement from these two lines of evidence will be used to determine whether a correction factor is necessary and what that correction factor should be. This scenario is indicated by the orange arrows in Figure 1.

Software

All statistics and graphing were performed with the R statistical software (https://cran.r-project.org/) using the 'base,' 'car,' and 'mblm' packages.

RESULTS AND CONCLUSIONS

The following section summarizes the results of the bulk-fine analysis and makes recommendations for data handling in the Human Health Risk Assessment.

Data Summary

All surface solids samples from PRI Areas 1, 3, 4, 5, 6, and 7 were analyzed for percent fines content. All Inner PRI Areas had a relatively high fines fraction in the samples, with an average ranging from 63 percent fines in PRI-5 to 95 percent fines in PRI-4 (Table 1). A total of 60 Inner PRI surface samples had a fine fraction greater than 75 percent and were thus excluded from chemical analysis of the fine fraction, including all surface samples in PRI Area 4. The remaining 34 samples from PRI Areas 1, 3, 5, 6, and 7 had fines fractions less than 75 percent. The results of the percent fines analysis are summarized in Table 1. Table 2 provides a summary of the concentrations and detection rates found for all analytes in each soil fraction in each PRI.

Samples and Analytes Included in Bulk/Fine Analysis

Thirty-four samples were identified as having a fines fraction less than 75 percent and were advanced to the bulk-fine analysis. Of those, two in PRI-7 (7-10-SS-01-092815 and 7-17-SS-01-092915) had no chemical analysis performed because of mechanical difficulties in dry sieving the samples[4]. Because chemical analysis of the fines fraction was not possible, these samples could not be used from the bulk-fine analysis. Moving forward, 32 samples with a fines fraction less than 75 percent were included in the bulk-fine statistical analysis.

The number of detections in the fine and bulk fractions and the number of detect-detect pairs are summarized in Table 3. The analytes were then screened for regression analysis based on the number of detect-detect pairs. With the exception of hexachlorobenzene and benzo(a)pyrene, none of the SVOCs met the minimum data requirements for regression analysis of eight or more detect-detect pairs. The following analytes (four organics

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[4] Percent fines content was determined using a wet sieving method, where clays were removed by washing with water. A dry sieving method was used to obtain fines samples for chemical analysis. During dry sieving, samples 7-10-SS-01-092815 and 7-17-SS-01-092915 formed balls on the sieve which resulted in negligible fines sample mass for these samples.

and 22 metals) had sufficient (eight or more) detect-detect pairs for regression analysis:

Organics

- Calculated TEQs
- Benzo(a)pyrene
- Hexachlorobenzene
- Total PCBs

Metals

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

Characterizing the Bulk/Fine Relationship

Metals

All of the metals had enough detect-detect pairs for regression analysis. Furthermore, all of the metals had significant, regression trends with slopes between 0.6 and 1.0 (Table 4; Scatterplots in Attachment B). The *tau*^{2} for all metals regressions were above 0.5 with the exceptions of copper, mercury, thallium, and zinc, all of which had *tau*^{2} below 0.3 (Scenario 2, Figure 1). The WSR test compared bulk and fine concentrations for all metals and identified elevated fines concentrations only for copper (Table 5). Given the poor fit of the regression for copper, the median fine to bulk ratio (2.6) is proposed as a correction factor for copper (Table 6). Based on the decision-tree framework (Figure 1), no other correction factor is needed for the remaining metals since the regression slope and WSR test showed that the fine fraction has concentrations comparable to the bulk sample in all cases (Scenario 1, Figure 1).

Organics

Calculated TEQs had significant, positive regression slopes (slope = 0.8 for Avian TEQs and slope = 1.0 for Mammalian TEQs) with a high *tau*^{2} (0.75 or higher for all calculated TEQs) (Table 4). The WSR test for all Calculated TEQs showed that the fine fraction was not significantly elevated above the bulk sample (Table 5). Based on these results, no bulk-fine correction factor is necessary for TEQs (Scenario 1, Figure 1).

Total PCBs had a significant, positive slope (slope = 1.3) with a high *tau*^{2} (*tau*^{2} = 0.79) (Table 4). The WSR test was performed to determine if the slope differed "meaningfully" from 1:1 (ERM 2015b). Unlike the other organics, the WSR found that the fine fraction was significantly elevated above the bulk sample for total PCBs (Table 5). Based on this result, a bulk-fine correction is recommended based on the regression slope of the Theil-Sens (slope = 1.3, intercept = 3.5×10^{-3}; Table 4) (Scenario 1, Figure 1).

Hexachlorobenze and benzo(a)pyrene were the only SVOCs with more than eight detect-detect pairs of results. Both had significant positive slopes in the regression analysis with slopes of 0.8 and 0.9, respectively (Table 4). The model fit was excellent for hexachlorobenzene (*tau*^{2} = 0.84), but weaker for benzo(a)pyrene (*tau*^{2} = 0.56), perhaps due to the smaller sample size (n = 10). The WSR test was examined to determine if these regression slopes differed meaningfully from 1:1, and in neither case was the fine fraction significantly elevated above the bulk sample (Table 5). Based on these results, no bulk-fine correction factor is necessary for hexachlorobenzene or benzo(a)pyrene (Scenario 1, Figure 1).

The remaining SVOCs had too few detect-detect pairs for a reliable regression analysis or WSR test. Fourteen SVOCs had fewer than five detect-detect pairs with only three analytes (chrysene, pentachlorobenzene, and fluoranthene) with five or six detect-detect pairs. The median fine-to-bulk ratio for these analytes ranged from 0.04 (based on one detect-detect pair) to 2.1 (based on two detect-detect pairs) with 12 out of 17 having median ratios at or below 1. Given the unreliability of describing the fine:bulk ratio with such small sample sizes, the fine:bulk relationship for other SVOCs (namely hexachlorobenzene and benzo[a]pyrene) were examined as surrogates. The surrogate SVOCs were found to have regression slopes within the same range as the other SVOCs (0.8 and 0.9) and no correction factor was needed, we concluded that none of the SVOCs require a correction factor. The strategy for correcting SVOCs previously for the Outer PRIs (ERM 2015b) also used a surrogate approach.

Summary and Conclusions

Approximately a third of samples in the Inner PRI Areas had low enough fine fractions to merit investigating the relationship between the bulk and fine fractions.

Consistent with previous bulk-fine analyses (ERM 2015b), the median regression (Theil-Sens) and median ratio adjustment factors were used to provide a flexible, robust, and health-protective approach to adjust bulk sample concentrations based on fine fraction concentrations. When the fines-fraction concentration exceeds the bulk-fraction concentration, the exposure estimates could be biased low since the fine fraction is preferentially picked up by receptors (Phase 1A-B SAP, ERM 2015a). As such, adjustments are only recommended for those analytes in which the fine fraction was significantly and meaningfully elevated above the bulk concentrations.

The majority of analytes required no adjustment because either:

1. The regression between the bulk and fine fraction had a slope less than or equal to one;
2. WSR test confirmed that the fine fraction concentration was less than or equal to the bulk fraction; and/or

3. The regression results for similar analytes (i.e., the SVOCs) suggested that adjustments would not be necessary.

Two analytes will require an adjustment for fines in the risk assessment: total PCBs and copper.

The Theil-Sen model showed a strong relationship between bulks and fines for total PCBs ($tau^2 = 0.79$). The bulk fraction for total PCBs can thus be corrected with the following equation:

$$[F] = 1.3 \times [B] + 0.0035$$

where:

$[F]$ is the fine fraction concentration for total PCBs in mg/kg, and

$[B]$ is the bulk soil concentration for total PCBs in mg/kg.

Copper also showed elevated fine concentrations relative to bulk soil. However, the regression model was a poor fit for the data ($tau^2 = 0.09$). As such, the median fine to bulk ratio, will be used to adjust the bulk fraction concentrations. The correction factor for copper will be as follows:

$$[F] = 2.6 \times [B]$$

As a group, the SVOCs have insufficient data to evaluate the bulk-fine relationship with regression. As an alternative, hexachlorobenzene and benzo(a)pyrene were selected as a surrogate for all SVOCs. Hexachlorobenzene had a regression slope of 0.8 and 0.9, respectively, and the WSR showed that fine concentrations were less than or equal to bulk concentrations. These results were in line with those SVOCs with at least one detect-detect pair. Based on these results, no correction factor will be needed for SVOCs.

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ATTACHMENTS

Figure	
Tables	
Attachment A	Boxplots of the Bulk and Fine Fractions for Each PRI
Attachment B	Fine Fraction vs. Bulk Sample Scatterplots

Figure

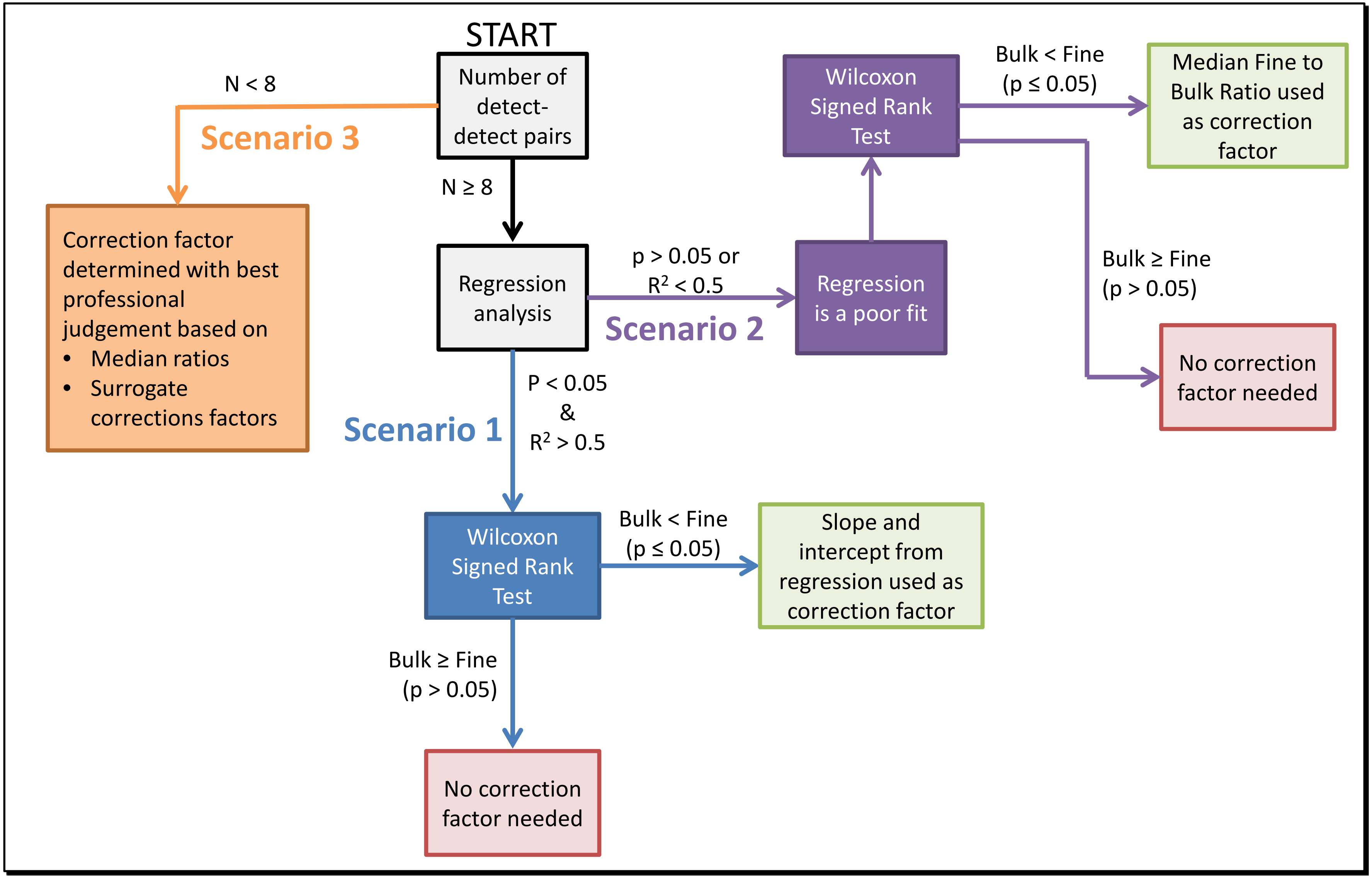


Figure 1

Decision Framework for Identifying Bulk-Fine Correction Factors
Phase 1A-B RI Bulk-Fines Analyses for Inner PRI Area Surface Solids
US Magnesium LLC
Tooele County, Utah

Tables

Table 1
Percent fines less than 0.25 mm for each Inner PRI
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	N	Min	Median	Mean	Max	Standard Deviation	Number of samples with < 75% Fines	Percent of samples with < 75% Fines
1	14	39.2	89.6	82.4	96.7	17.2	4	29%
3	14	47.8	86.5	81.2	98.1	16.0	3	21%
4	14	78	96.9	95.0	99.8	5.7	0	0%
5	20	5.7	73.85	63.3	98.1	31.0	10	50%
6	15	2.4	75.4	66.2	93.4	25.4	7	47%
7	17	41.6	72.8	72.7	96.9	17.2	10	59%

Notes:
mm = millimeter
PRI = Preliminary Remedial Investigation

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
All	Bulk	1,1'-Biphenyl	92-52-4	mg/kg	32	0	0%	0.17	210	--	1.2	7.502	--	18.57	248%	Lognormal
All	Bulk	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	32	0	0%	0.027	34	--	0.1875	1.194	--	3.003	252%	Lognormal
All	Bulk	2-Chloronaphthalene	91-58-7	mg/kg	32	0	0%	0.085	110	--	0.6	3.788	--	9.7	256%	Lognormal
All	Bulk	2-Chlorophenol	95-57-8	mg/kg	32	0	0%	0.093	110	--	0.65	3.991	--	9.739	244%	Lognormal
All	Bulk	2-Methylnaphthalene	91-57-6	mg/kg	32	5	16%	0.00041	0.083	0.0018	0.002725	0.01458	0.18	0.0366	251%	NDD
All	Bulk	2-Methylphenol	95-48-7	mg/kg	32	0	0%	0.061	76	--	0.4175	2.661	--	6.709	252%	Lognormal
All	Bulk	2-Nitroaniline	88-74-4	mg/kg	32	0	0%	0.089	110	--	0.6	3.847	--	9.71	252%	Lognormal
All	Bulk	2-Nitrophenol	88-75-5	mg/kg	32	0	0%	0.086	110	--	0.6	3.813	--	9.705	255%	Lognormal
All	Bulk	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	32	0	0%	0.083	100	--	0.55	3.566	--	8.839	248%	Lognormal
All	Bulk	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	32	0	0%	0.086	110	--	0.6	3.813	--	9.705	255%	Lognormal
All	Bulk	2,4-Dichlorophenol	120-83-2	mg/kg	32	0	0%	0.094	120	--	0.65	4.15	--	10.59	255%	Lognormal
All	Bulk	2,4-Dimethylphenol	105-67-9	mg/kg	32	0	0%	0.18	220	--	1.2	7.694	--	19.43	253%	Lognormal
All	Bulk	2,4-Dinitrophenol	51-28-5	mg/kg	32	0	0%	0.23	280	--	1.55	9.82	--	24.72	252%	Lognormal
All	Bulk	2,4-Dinitrotoluene	121-14-2	mg/kg	32	0	0%	0.094	120	--	0.65	4.15	--	10.59	255%	Lognormal
All	Bulk	2,4,5-Trichlorophenol	95-95-4	mg/kg	32	0	0%	0.088	110	--	0.6	3.84	--	9.71	253%	Lognormal
All	Bulk	2,4,6-Trichlorophenol	88-06-2	mg/kg	32	0	0%	0.0046	0.83	--	0.03025	0.1141	--	0.1433	126%	NDD
All	Bulk	2,6-Dinitrotoluene	606-20-2	mg/kg	32	0	0%	0.1	130	--	0.7	4.572	--	11.48	251%	Lognormal
All	Bulk	3-Nitroaniline	99-09-2	mg/kg	32	0	0%	0.18	220	--	1.2	7.694	--	19.43	253%	Lognormal
All	Bulk	3 & 4 Methylphenol	15831-10-4	mg/kg	32	0	0%	0.35	430	--	2.375	15.16	--	37.97	250%	NDD
All	Bulk	3,3'-Dichlorobenzidine	91-94-1	mg/kg	32	0	0%	0.099	120	--	0.675	4.29	--	10.61	247%	Lognormal
All	Bulk	4-Bromophenyl-phenylether	101-55-3	mg/kg	32	0	0%	0.09	110	--	0.6	3.873	--	9.712	251%	Lognormal
All	Bulk	4-Chloro-3-methylphenol	59-50-7	mg/kg	32	0	0%	0.097	120	--	0.65	4.201	--	10.59	252%	Lognormal
All	Bulk	4-Chloroaniline	106-47-8	mg/kg	32	0	0%	0.061	76	--	0.4175	2.661	--	6.709	252%	Lognormal
All	Bulk	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	32	0	0%	0.098	120	--	0.65	4.27	--	10.61	248%	Lognormal
All	Bulk	4-Nitroaniline	100-01-6	mg/kg	32	0	0%	0.093	110	--	0.65	3.991	--	9.739	244%	Lognormal
All	Bulk	4-Nitrophenol	100-02-7	mg/kg	32	0	0%	0.3	360	--	2.025	12.76	--	31.81	249%	Lognormal
All	Bulk	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	32	0	0%	0.085	110	--	0.6	3.788	--	9.7	256%	Lognormal
All	Bulk	Acenaphthene	83-32-9	mg/kg	32	2	6%	0.00045	0.09	0.00099	0.002975	0.005043	0.024	0.008723	173%	NDD
All	Bulk	Acenaphthylene	208-96-8	mg/kg	32	0	0%	0.00032	0.063	--	0.002075	0.003048	--	0.005614	184%	NDD
All	Bulk	Acetophenone	98-86-2	mg/kg	32	2	6%	0.032	33	0.35	0.3975	3.627	70	12.5	345%	Lognormal
All	Bulk	Anthracene	120-12-7	mg/kg	32	0	0%	0.00038	0.076	--	0.002475	0.003667	--	0.006783	185%	NDD
All	Bulk	Benzaldehyde	100-52-7	mg/kg	32	0	0%	0.17	210	--	1.2	7.502	--	18.57	248%	Lognormal
All	Bulk	Benzo(a)anthracene	56-55-3	mg/kg	32	5	16%	0.00029	0.0074	0.00073	0.001925	0.008368	0.11	0.02235	267%	NDD
All	Bulk	Benzo(a)pyrene	50-32-8	mg/kg	32	10	31%	0.00038	0.0075	0.013	0.002525	0.02753	0.4	0.07523	273%	NDD
All	Bulk	Benzo(b)fluoranthene	205-99-2	mg/kg	32	4	13%	0.00049	0.012	0.026	0.003225	0.01246	0.15	0.03093	248%	NDD
All	Bulk	Benzo(g,h,i)perylene	191-24-2	mg/kg	32	2	6%	0.00096	0.19	0.028	0.0065	0.0112	0.055	0.01898	169%	NDD
All	Bulk	Benzo(k)fluoranthene	207-08-9	mg/kg	32	1	3%	0.00073	0.15	0.0065	0.004825	0.007205	0.0065	0.01334	185%	NDD
All	Bulk	Benzylbutylphthalate	85-68-7	mg/kg	32	0	0%	0.1	120	--	0.7	4.297	--	10.61	247%	Lognormal
All	Bulk	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	32	0	0%	0.093	110	--	0.65	3.991	--	9.739	244%	Lognormal
All	Bulk	bis(2-Chloroethyl) ether	111-44-4	mg/kg	32	0	0%	0.085	110	--	0.6	3.788	--	9.7	256%	Lognormal
All	Bulk	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	32	1	3%	0.1	130	28	0.7	5.371	28	12.18	227%	Lognormal
All	Bulk	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	32	32	100%	--	--	0.64	2550	1724000	47000000	8286000	481%	Lognormal
All	Bulk	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	32	32	100%	--	--	0.3	270	7267	150000	26560	365%	Lognormal
All	Bulk	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	32	32	100%	--	--	13	2550	1724000	47000000	8286000	481%	Lognormal
All	Bulk	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	32	32	100%	--	--	0.48	270	7279	150000	26550	365%	Lognormal
All	Bulk	Carbazole	86-74-8	mg/kg	32	0	0%	0.1	120	--	0.7	4.297	--	10.61	247%	Lognormal
All	Bulk	Chrysene	218-01-9	mg/kg	32	6	19%	0.00033	0.0085	0.00046	0.0022	0.01361	0.18	0.03631	267%	NDD
All	Bulk	Di-n-butylphthalate	84-74-2	mg/kg	32	0	0%	0.1	130	--	0.7	4.499	--	11.46	255%	NDD
All	Bulk	Di-n-octylphthalate	117-84-0	mg/kg	32	0	0%	0.1	130	--	0.7	4.499	--	11.46	255%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
All	Bulk	Dibenzo(a,h)anthracene	53-70-3	mg/kg	32	0	0%	0.0012	0.23	--	0.0075	0.01104	--	0.0205	186%	NDD
All	Bulk	Dibenzofuran	132-64-9	mg/kg	32	0	0%	0.091	110	--	0.6	3.894	--	9.717	250%	NDD
All	Bulk	Diethyl phthalate	84-66-2	mg/kg	32	0	0%	0.095	120	--	0.65	4.157	--	10.58	255%	Lognormal
All	Bulk	Dimethylphthalate	131-11-3	mg/kg	32	0	0%	0.092	110	--	0.625	3.933	--	9.727	247%	Lognormal
All	Bulk	Fluoranthene	206-44-0	mg/kg	32	9	28%	0.00028	0.0064	0.00034	0.002025	0.01236	0.13	0.03169	256%	NDD
All	Bulk	Fluorene	86-73-7	mg/kg	32	2	6%	0.00047	0.094	0.0013	0.003125	0.006944	0.078	0.01542	222%	NDD
All	Bulk	Hexachlorobenzene	118-74-1	mg/kg	32	28	88%	0.0024	0.095	0.0069	0.2	172.2	4700	828.6	481%	Lognormal
All	Bulk	Hexachlorobutadiene	87-68-3	mg/kg	32	1	3%	0.0039	0.7	11	0.0255	0.4322	11	1.932	447%	NDD
All	Bulk	Hexachlorocyclopentadiene	77-47-4	mg/kg	32	0	0%	0.065	81	--	0.445	2.845	--	7.151	251%	Lognormal
All	Bulk	Hexachloroethane	67-72-1	mg/kg	32	0	0%	0.085	110	--	0.6	3.788	--	9.7	256%	Lognormal
All	Bulk	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	32	4	13%	0.00046	0.012	0.013	0.003025	0.007955	0.096	0.01838	231%	NDD
All	Bulk	Isophorone	78-59-1	mg/kg	32	0	0%	0.098	120	--	0.65	4.27	--	10.61	248%	Lognormal
All	Bulk	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	32	0	0%	0.089	110	--	0.6	3.847	--	9.71	252%	Lognormal
All	Bulk	N-Nitrosodimethylamine	62-75-9	mg/kg	32	0	0%	0.1	18	--	0.675	2.478	--	3.1	125%	NDD
All	Bulk	N-Nitrosodiphenylamine	86-30-6	mg/kg	32	0	0%	0.091	110	--	0.6	3.894	--	9.717	250%	NDD
All	Bulk	Naphthalene	91-20-3	mg/kg	32	1	3%	0.0003	0.059	0.00075	0.00195	0.003452	0.00075	0.00614	178%	NDD
All	Bulk	Nitrobenzene	98-95-3	mg/kg	32	0	0%	0.08	99	--	0.55	3.49	--	8.744	251%	Lognormal
All	Bulk	Pentachlorobenzene	608-93-5	mg/kg	32	5	16%	0.014	2.3	0.76	0.095	6.804	180	31.81	468%	NDD
All	Bulk	Pentachlorophenol	87-86-5	mg/kg	32	1	3%	0.025	4.5	6.7	0.165	0.7835	6.7	1.322	169%	NDD
All	Bulk	Phenanthrene	85-01-8	mg/kg	32	3	9%	0.00034	0.094	0.00064	0.0024	0.009014	0.13	0.0244	271%	NDD
All	Bulk	Phenol	108-95-2	mg/kg	32	2	6%	0.088	110	14	0.6	10.43	210	37.73	362%	Lognormal
All	Bulk	Pyrene	129-00-0	mg/kg	32	7	22%	0.00034	0.0085	0.00038	0.002225	0.01248	0.13	0.03041	244%	NDD
All	Bulk	Total Aluminum	7429-90-5	mg/kg	32	32	100%	--	--	1700	4800	5491	16000	3478	63%	Lognormal
All	Bulk	Total Antimony	7440-36-0	mg/kg	32	29	91%	0.1	0.1	0.11	0.345	1.652	23	4.082	247%	Lognormal
All	Bulk	Total Arsenic	7440-38-2	mg/kg	32	32	100%	--	--	2.6	8	13.84	110	19.02	137%	NDD
All	Bulk	Total Barium	7440-39-3	mg/kg	32	32	100%	--	--	100	275	349.7	940	214.2	61%	Lognormal
All	Bulk	Total Beryllium	7440-41-7	mg/kg	32	29	91%	0.084	0.1	0.095	0.215	0.2814	1.4	0.2837	101%	Lognormal
All	Bulk	Total Cadmium	7440-43-9	mg/kg	32	22	69%	0.052	0.064	0.051	0.07	0.2967	3.4	0.7704	260%	NDD
All	Bulk	Total Calcium	7440-70-2	mg/kg	32	32	100%	--	--	3600	155000	140900	310000	100100	71%	NDD
All	Bulk	Total Chromium	7440-47-3	mg/kg	32	32	100%	--	--	2	10	25.41	210	42.68	168%	Lognormal
All	Bulk	Total Cobalt	7440-48-4	mg/kg	32	32	100%	--	--	0.32	1.65	2.222	6.4	1.698	76%	Lognormal
All	Bulk	Total Copper	7440-50-8	mg/kg	32	32	100%	--	--	1.8	5.5	55.92	870	180.2	322%	NDD
All	Bulk	Total Iron	7439-89-6	mg/kg	32	32	100%	--	--	1800	5450	13500	68000	15580	115%	NDD
All	Bulk	Total Lead	7439-92-1	mg/kg	32	32	100%	--	--	2.1	5.3	15.5	130	28.21	182%	NDD
All	Bulk	Total Magnesium	7439-95-4	mg/kg	32	32	100%	--	--	3200	12000	13780	32000	7488	54%	Normal
All	Bulk	Total Manganese	7439-96-5	mg/kg	32	32	100%	--	--	13	94.5	110.5	300	77.73	70%	NDD
All	Bulk	Total Mercury	7439-97-6	mg/kg	32	25	78%	0.008	0.009	0.013	0.022	0.4525	6.9	1.653	365%	NDD
All	Bulk	Total Molybdenum	7439-98-7	mg/kg	32	32	100%	--	--	0.063	7.4	8.29	46	10.48	126%	NDD
All	Bulk	Total Nickel	7440-02-0	mg/kg	32	32	100%	--	--	1.7	4.7	10.54	63	15.76	150%	NDD
All	Bulk	Total PCBs	1336-36-3	mg/kg	32	32	100%	--	--	0.00041	0.1465	3.046	59.4	10.47	344%	Lognormal
All	Bulk	Total Potassium	7440-09-7	mg/kg	32	30	94%	820	960	450	2150	2339	7300	1400	60%	Lognormal
All	Bulk	Total Selenium	7782-49-2	mg/kg	32	24	75%	0.1	0.13	0.11	0.185	0.4077	4.2	0.8699	213%	NDD
All	Bulk	Total Silver	7440-22-4	mg/kg	32	12	38%	0.019	0.038	0.031	0.0175	1.253	22	4.829	385%	NDD
All	Bulk	Total Sodium	7440-23-5	mg/kg	32	32	100%	--	--	550	3450	5439	17000	4363	80%	Lognormal
All	Bulk	Total Thallium	7440-28-0	mg/kg	32	24	75%	0.051	0.19	0.037	0.0775	0.07736	0.18	0.04005	52%	NDD
All	Bulk	Total Vanadium	7440-62-2	mg/kg	32	32	100%	--	--	4.5	13	19.05	47	13.29	70%	Lognormal
All	Bulk	Total Zinc	7440-66-6	mg/kg	32	32	100%	--	--	4.6	19	156.6	2300	465.8	297%	NDD
All	Fine	1,1'-Biphenyl	92-52-4	mg/kg	32	0	0%	1.6	80	--	3.95	5.272	--	7.178	136%	NDD
All	Fine	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	32	0	0%	0.25	13	--	0.625	0.8372	--	1.162	139%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
All	Fine	2-Chloronaphthalene	91-58-7	mg/kg	32	0	0%	0.79	39	--	1.95	2.575	--	3.497	136%	NDD
All	Fine	2-Chlorophenol	95-57-8	mg/kg	32	0	0%	0.86	43	--	2.1	2.811	--	3.851	137%	NDD
All	Fine	2-Methylnaphthalene	91-57-6	mg/kg	32	4	13%	0.0004	0.061	0.00068	0.002125	0.00416	0.038	0.008257	198%	NDD
All	Fine	2-Methylphenol	95-48-7	mg/kg	32	0	0%	0.57	28	--	1.375	1.848	--	2.513	136%	NDD
All	Fine	2-Nitroaniline	88-74-4	mg/kg	32	0	0%	0.82	41	--	2	2.689	--	3.678	137%	NDD
All	Fine	2-Nitrophenol	88-75-5	mg/kg	32	0	0%	0.8	40	--	1.95	2.629	--	3.591	137%	NDD
All	Fine	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	32	0	0%	0.77	38	--	1.9	2.514	--	3.41	136%	NDD
All	Fine	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	32	0	0%	0.8	40	--	1.95	2.629	--	3.591	137%	NDD
All	Fine	2,4-Dichlorophenol	120-83-2	mg/kg	32	0	0%	0.87	43	--	2.125	2.833	--	3.855	136%	NDD
All	Fine	2,4-Dimethylphenol	105-67-9	mg/kg	32	0	0%	1.6	81	--	4	5.325	--	7.263	136%	NDD
All	Fine	2,4-Dinitrophenol	51-28-5	mg/kg	32	0	0%	2.1	100	--	5.175	6.739	--	8.998	134%	NDD
All	Fine	2,4-Dinitrotoluene	121-14-2	mg/kg	32	0	0%	0.87	43	--	2.125	2.833	--	3.855	136%	NDD
All	Fine	2,4,5-Trichlorophenol	95-95-4	mg/kg	32	0	0%	0.81	40	--	2	2.651	--	3.595	136%	NDD
All	Fine	2,4,6-Trichlorophenol	88-06-2	mg/kg	32	0	0%	0.043	0.56	--	0.105	0.1137	--	0.09143	80%	NDD
All	Fine	2,6-Dinitrotoluene	606-20-2	mg/kg	32	0	0%	0.97	48	--	2.375	3.17	--	4.313	136%	NDD
All	Fine	3-Nitroaniline	99-09-2	mg/kg	32	0	0%	1.6	81	--	4	5.325	--	7.263	136%	NDD
All	Fine	3 & 4 Methylphenol	15831-10-4	mg/kg	32	0	0%	3.2	160	--	8	10.52	--	14.35	136%	NDD
All	Fine	3,3'-Dichlorobenzidine	91-94-1	mg/kg	32	0	0%	0.92	45	--	2.25	2.988	--	4.042	135%	NDD
All	Fine	4-Bromophenyl-phenylether	101-55-3	mg/kg	32	0	0%	0.83	41	--	2.05	2.713	--	3.682	136%	NDD
All	Fine	4-Chloro-3-methylphenol	59-50-7	mg/kg	32	0	0%	0.9	45	--	2.2	2.948	--	4.035	137%	NDD
All	Fine	4-Chloroaniline	106-47-8	mg/kg	32	0	0%	0.57	28	--	1.375	1.848	--	2.513	136%	NDD
All	Fine	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	32	0	0%	0.91	45	--	2.225	2.969	--	4.038	136%	NDD
All	Fine	4-Nitroaniline	100-01-6	mg/kg	32	0	0%	0.86	43	--	2.1	2.811	--	3.851	137%	NDD
All	Fine	4-Nitrophenol	100-02-7	mg/kg	32	0	0%	2.7	140	--	6.75	8.984	--	12.51	139%	NDD
All	Fine	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	32	0	0%	0.79	39	--	1.95	2.575	--	3.497	136%	NDD
All	Fine	Acenaphthene	83-32-9	mg/kg	32	2	6%	0.00043	0.024	0.0063	0.0023	0.002296	0.012	0.002873	125%	NDD
All	Fine	Acenaphthylene	208-96-8	mg/kg	32	0	0%	0.0003	0.017	--	0.0016	0.001369	--	0.001538	112%	NDD
All	Fine	Acetophenone	98-86-2	mg/kg	32	10	31%	0.25	12	0.39	0.985	1.732	15	2.957	171%	NDD
All	Fine	Anthracene	120-12-7	mg/kg	32	5	16%	0.00036	0.02	0.00092	0.00195	0.002502	0.017	0.003568	143%	NDD
All	Fine	Benzaldehyde	100-52-7	mg/kg	32	0	0%	1.6	80	--	3.95	5.272	--	7.178	136%	NDD
All	Fine	Benzo(a)anthracene	56-55-3	mg/kg	32	8	25%	0.00028	0.0033	0.00033	0.0015	0.006034	0.073	0.01489	247%	NDD
All	Fine	Benzo(a)pyrene	50-32-8	mg/kg	32	17	53%	0.00037	0.0043	0.00048	0.0021	0.03083	0.46	0.08465	275%	NDD
All	Fine	Benzo(b)fluoranthene	205-99-2	mg/kg	32	8	25%	0.00046	0.0055	0.00061	0.002475	0.01003	0.13	0.02639	263%	NDD
All	Fine	Benzo(g,h,i)perylene	191-24-2	mg/kg	32	4	13%	0.00091	0.051	0.0016	0.004875	0.009044	0.098	0.0193	213%	NDD
All	Fine	Benzo(k)fluoranthene	207-08-9	mg/kg	32	3	9%	0.00069	0.039	0.0013	0.0037	0.004778	0.04	0.007843	164%	NDD
All	Fine	Benzylbutylphthalate	85-68-7	mg/kg	32	0	0%	0.93	46	--	2.275	3.026	--	4.124	136%	NDD
All	Fine	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	32	0	0%	0.86	43	--	2.1	2.811	--	3.851	137%	NDD
All	Fine	bis(2-Chloroethyl) ether	111-44-4	mg/kg	32	0	0%	0.79	39	--	1.95	2.575	--	3.497	136%	NDD
All	Fine	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	32	2	6%	0.96	47	1	3.475	4.086	30	6.325	155%	NDD
All	Fine	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	32	32	100%	--	--	3.6	2600	877300	22000000	3888000	443%	Lognormal
All	Fine	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	32	32	100%	--	--	1.8	335	6608	130000	23070	349%	Lognormal
All	Fine	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	32	32	100%	--	--	110	2600	877300	22000000	3888000	443%	NDD
All	Fine	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	32	32	100%	--	--	1.9	345	6616	130000	23070	349%	Lognormal
All	Fine	Carbazole	86-74-8	mg/kg	32	0	0%	0.93	46	--	2.275	3.026	--	4.124	136%	NDD
All	Fine	Chrysene	218-01-9	mg/kg	32	12	38%	0.00032	0.0038	0.0004	0.0017	0.01123	0.14	0.02929	261%	NDD
All	Fine	Di-n-butylphthalate	84-74-2	mg/kg	32	0	0%	0.95	47	--	2.325	3.084	--	4.208	136%	NDD
All	Fine	Di-n-octylphthalate	117-84-0	mg/kg	32	0	0%	0.95	47	--	2.325	3.084	--	4.208	136%	NDD
All	Fine	Dibenzo(a,h)anthracene	53-70-3	mg/kg	32	1	3%	0.0011	0.061	0.029	0.006	0.005706	0.029	0.006978	122%	NDD
All	Fine	Dibenzofuran	132-64-9	mg/kg	32	0	0%	0.84	42	--	2.05	2.75	--	3.765	137%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
All	Fine	Diethyl phthalate	84-66-2	mg/kg	32	0	0%	0.88	44	--	2.15	2.888	--	3.95	137%	NDD
All	Fine	Dimethylphthalate	131-11-3	mg/kg	32	0	0%	0.85	42	--	2.075	2.772	--	3.768	136%	NDD
All	Fine	Fluoranthene	206-44-0	mg/kg	32	12	38%	0.00027	0.004	0.00029	0.00145	0.01103	0.098	0.02684	243%	NDD
All	Fine	Fluorene	86-73-7	mg/kg	32	2	6%	0.00045	0.025	0.014	0.0024	0.004211	0.062	0.01098	261%	NDD
All	Fine	Hexachlorobenzene	118-74-1	mg/kg	32	26	81%	0.021	0.18	0.024	0.215	87.47	2200	388.9	445%	NDD
All	Fine	Hexachlorobutadiene	87-68-3	mg/kg	32	1	3%	0.036	0.47	0.4	0.09	0.1026	0.4	0.09285	90%	NDD
All	Fine	Hexachlorocyclopentadiene	77-47-4	mg/kg	32	0	0%	0.61	30	--	1.475	1.976	--	2.691	136%	NDD
All	Fine	Hexachloroethane	67-72-1	mg/kg	32	0	0%	0.79	39	--	1.95	2.575	--	3.497	136%	NDD
All	Fine	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	32	7	22%	0.00044	0.0052	0.0017	0.00235	0.006455	0.07	0.01429	221%	NDD
All	Fine	Isophorone	78-59-1	mg/kg	32	0	0%	0.91	45	--	2.225	2.969	--	4.038	136%	NDD
All	Fine	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	32	0	0%	0.82	41	--	2	2.689	--	3.678	137%	NDD
All	Fine	N-Nitrosodimethylamine	62-75-9	mg/kg	32	0	0%	0.94	12	--	2.3	2.472	--	1.983	80%	NDD
All	Fine	N-Nitrosodiphenylamine	86-30-6	mg/kg	32	0	0%	0.84	42	--	2.05	2.75	--	3.765	137%	NDD
All	Fine	Naphthalene	91-20-3	mg/kg	32	4	13%	0.00029	0.023	0.00031	0.0015	0.001693	0.0043	0.002094	124%	NDD
All	Fine	Nitrobenzene	98-95-3	mg/kg	32	0	0%	0.74	37	--	1.8	2.426	--	3.318	137%	NDD
All	Fine	Pentachlorobenzene	608-93-5	mg/kg	32	5	16%	0.13	1.7	0.53	0.4975	3.424	79	14.11	412%	NDD
All	Fine	Pentachlorophenol	87-86-5	mg/kg	32	2	6%	0.23	3.1	0.24	0.575	0.7391	4.8	0.8874	120%	NDD
All	Fine	Phenanthrene	85-01-8	mg/kg	32	6	19%	0.00036	0.068	0.0006	0.00175	0.00964	0.15	0.02728	283%	NDD
All	Fine	Phenol	108-95-2	mg/kg	32	2	6%	0.81	40	0.92	2	3.507	31	6.161	176%	NDD
All	Fine	Pyrene	129-00-0	mg/kg	32	11	34%	0.00032	0.0038	0.0005	0.0017	0.01185	0.12	0.02895	244%	NDD
All	Fine	Total Aluminum	7429-90-5	mg/kg	32	32	100%	--	--	1200	4200	4569	12000	2883	63%	Lognormal
All	Fine	Total Antimony	7440-36-0	mg/kg	32	26	81%	0.095	0.1	0.1	0.225	1.209	18	3.199	265%	NDD
All	Fine	Total Arsenic	7440-38-2	mg/kg	32	32	100%	--	--	1.8	7.45	11.52	96	16.47	143%	NDD
All	Fine	Total Barium	7440-39-3	mg/kg	32	32	100%	--	--	89	260	324.7	980	225.2	69%	Lognormal
All	Fine	Total Beryllium	7440-41-7	mg/kg	32	31	97%	0.086	0.086	0.035	0.17	0.2258	1	0.2141	95%	Lognormal
All	Fine	Total Cadmium	7440-43-9	mg/kg	32	23	72%	0.048	0.052	0.049	0.0635	0.2445	2.8	0.6482	265%	NDD
All	Fine	Total Calcium	7440-70-2	mg/kg	32	32	100%	--	--	1900	140000	143200	310000	111500	78%	NDD
All	Fine	Total Chromium	7440-47-3	mg/kg	32	32	100%	--	--	1.6	9.75	20.79	160	33	159%	Lognormal
All	Fine	Total Cobalt	7440-48-4	mg/kg	32	32	100%	--	--	0.25	1.45	1.818	4.8	1.281	70%	Lognormal
All	Fine	Total Copper	7440-50-8	mg/kg	32	32	100%	--	--	2.6	36.5	81.96	670	137.5	168%	Lognormal
All	Fine	Total Iron	7439-89-6	mg/kg	32	32	100%	--	--	1500	4800	13080	90000	18040	138%	NDD
All	Fine	Total Lead	7439-92-1	mg/kg	32	32	100%	--	--	2.4	6.05	13.58	98	21.99	162%	NDD
All	Fine	Total Magnesium	7439-95-4	mg/kg	32	32	100%	--	--	1600	11000	11810	30000	6656	56%	Normal
All	Fine	Total Manganese	7439-96-5	mg/kg	32	32	100%	--	--	15	75	92.56	320	67.97	73%	Lognormal
All	Fine	Total Mercury	7439-97-6	mg/kg	32	28	88%	0.0075	0.0091	0.0091	0.039	0.4033	6.4	1.402	348%	NDD
All	Fine	Total Molybdenum	7439-98-7	mg/kg	32	32	100%	--	--	0.048	5.75	6.257	44	8.066	129%	NDD
All	Fine	Total Nickel	7440-02-0	mg/kg	32	32	100%	--	--	1.6	4.45	8.309	50	11.24	135%	NDD
All	Fine	Total PCBs	1336-36-3	mg/kg	32	32	100%	--	--	0.001	0.33	3.632	66.1	11.67	321%	Lognormal
All	Fine	Total Potassium	7440-09-7	mg/kg	32	31	97%	590	590	520	1650	1815	5900	1162	64%	Lognormal
All	Fine	Total Selenium	7782-49-2	mg/kg	32	23	72%	0.095	0.1	0.1	0.175	0.326	3.2	0.6342	195%	NDD
All	Fine	Total Silver	7440-22-4	mg/kg	32	15	47%	0.029	0.032	0.029	0.01575	0.9385	16	3.578	381%	NDD
All	Fine	Total Sodium	7440-23-5	mg/kg	32	32	100%	--	--	380	3500	4540	15000	3546	78%	Lognormal
All	Fine	Total Thallium	7440-28-0	mg/kg	32	20	63%	0.048	0.053	0.049	0.0615	0.06234	0.14	0.0352	56%	NDD
All	Fine	Total Vanadium	7440-62-2	mg/kg	32	32	100%	--	--	3.5	12	16.29	51	12.08	74%	Lognormal
All	Fine	Total Zinc	7440-66-6	mg/kg	32	32	100%	--	--	6.1	23.5	111	1600	331.8	299%	NDD
PRI-6	Bulk	1,1'-Biphenyl	92-52-4	mg/kg	7	0	0%	0.17	31	--	13	10.1	--	6.9	68%	NDD
PRI-6	Bulk	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	7	0	0%	0.027	4.9	--	2.1	1.597	--	1.09	68%	NDD
PRI-6	Bulk	2-Chloronaphthalene	91-58-7	mg/kg	7	0	0%	0.085	15	--	6.5	4.941	--	3.363	68%	NDD
PRI-6	Bulk	2-Chlorophenol	95-57-8	mg/kg	7	0	0%	0.093	17	--	7	5.442	--	3.724	68%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-6	Bulk	2-Methylnaphthalene	91-57-6	mg/kg	7	0	0%	0.00043	0.0094	--	0.0041	0.003069	--	0.001969	64%	NDD
PRI-6	Bulk	2-Methylphenol	95-48-7	mg/kg	7	0	0%	0.061	11	--	4.65	3.523	--	2.405	68%	NDD
PRI-6	Bulk	2-Nitroaniline	88-74-4	mg/kg	7	0	0%	0.089	16	--	6.5	5.084	--	3.484	69%	NDD
PRI-6	Bulk	2-Nitrophenol	88-75-5	mg/kg	7	0	0%	0.086	15	--	6.5	5.012	--	3.419	68%	NDD
PRI-6	Bulk	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	7	0	0%	0.083	15	--	6.5	4.798	--	3.282	68%	NDD
PRI-6	Bulk	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	7	0	0%	0.086	15	--	6.5	5.012	--	3.419	68%	NDD
PRI-6	Bulk	2,4-Dichlorophenol	120-83-2	mg/kg	7	0	0%	0.094	17	--	7	5.442	--	3.724	68%	NDD
PRI-6	Bulk	2,4-Dimethylphenol	105-67-9	mg/kg	7	0	0%	0.18	32	--	13.5	10.24	--	7.003	68%	NDD
PRI-6	Bulk	2,4-Dinitrophenol	51-28-5	mg/kg	7	0	0%	0.23	40	--	17	13.03	--	8.889	68%	NDD
PRI-6	Bulk	2,4-Dinitrotoluene	121-14-2	mg/kg	7	0	0%	0.094	17	--	7	5.442	--	3.724	68%	NDD
PRI-6	Bulk	2,4,5-Trichlorophenol	95-95-4	mg/kg	7	0	0%	0.088	16	--	6.5	5.084	--	3.484	69%	NDD
PRI-6	Bulk	2,4,6-Trichlorophenol	88-06-2	mg/kg	7	0	0%	0.0046	0.83	--	0.355	0.2692	--	0.1838	68%	NDD
PRI-6	Bulk	2,6-Dinitrotoluene	606-20-2	mg/kg	7	0	0%	0.1	19	--	8	6.158	--	4.205	68%	NDD
PRI-6	Bulk	3-Nitroaniline	99-09-2	mg/kg	7	0	0%	0.18	32	--	13.5	10.24	--	7.003	68%	NDD
PRI-6	Bulk	3 & 4 Methylphenol	15831-10-4	mg/kg	7	0	0%	0.35	62	--	26.5	20.19	--	13.78	68%	NDD
PRI-6	Bulk	3,3'-Dichlorobenzidine	91-94-1	mg/kg	7	0	0%	0.099	18	--	7.5	5.8	--	3.964	68%	NDD
PRI-6	Bulk	4-Bromophenyl-phenylether	101-55-3	mg/kg	7	0	0%	0.09	16	--	7	5.156	--	3.522	68%	NDD
PRI-6	Bulk	4-Chloro-3-methylphenol	59-50-7	mg/kg	7	0	0%	0.097	17	--	7.5	5.585	--	3.811	68%	NDD
PRI-6	Bulk	4-Chloroaniline	106-47-8	mg/kg	7	0	0%	0.061	11	--	4.65	3.523	--	2.405	68%	NDD
PRI-6	Bulk	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	7	0	0%	0.098	18	--	7.5	5.8	--	3.964	68%	NDD
PRI-6	Bulk	4-Nitroaniline	100-01-6	mg/kg	7	0	0%	0.093	17	--	7	5.442	--	3.724	68%	NDD
PRI-6	Bulk	4-Nitrophenol	100-02-7	mg/kg	7	0	0%	0.3	53	--	22.5	17.11	--	11.69	68%	NDD
PRI-6	Bulk	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	7	0	0%	0.085	15	--	6.5	4.941	--	3.363	68%	NDD
PRI-6	Bulk	Acenaphthene	83-32-9	mg/kg	7	0	0%	0.00047	0.01	--	0.0045	0.003339	--	0.002136	64%	NDD
PRI-6	Bulk	Acenaphthylene	208-96-8	mg/kg	7	0	0%	0.00033	0.0072	--	0.00315	0.002354	--	0.001512	64%	NDD
PRI-6	Bulk	Acetophenone	98-86-2	mg/kg	7	0	0%	0.041	12	--	3.35	2.849	--	2.226	78%	Normal
PRI-6	Bulk	Anthracene	120-12-7	mg/kg	7	0	0%	0.0004	0.0087	--	0.00375	0.002821	--	0.001811	64%	NDD
PRI-6	Bulk	Benzaldehyde	100-52-7	mg/kg	7	0	0%	0.17	31	--	13	10.1	--	6.9	68%	NDD
PRI-6	Bulk	Benzo(a)anthracene	56-55-3	mg/kg	7	0	0%	0.00031	0.0066	--	0.0029	0.002173	--	0.001392	64%	NDD
PRI-6	Bulk	Benzo(a)pyrene	50-32-8	mg/kg	7	5	71%	0.0004	0.0004	0.013	0.016	0.0222	0.076	0.02606	117%	Normal
PRI-6	Bulk	Benzo(b)fluoranthene	205-99-2	mg/kg	7	0	0%	0.00051	0.011	--	0.0048	0.003587	--	0.002299	64%	NDD
PRI-6	Bulk	Benzo(g,h,i)perylene	191-24-2	mg/kg	7	0	0%	0.001	0.022	--	0.0095	0.007071	--	0.00455	64%	NDD
PRI-6	Bulk	Benzo(k)fluoranthene	207-08-9	mg/kg	7	0	0%	0.00077	0.017	--	0.007	0.005396	--	0.003476	64%	NDD
PRI-6	Bulk	Benzylbutylphthalate	85-68-7	mg/kg	7	0	0%	0.1	18	--	7.5	5.8	--	3.964	68%	NDD
PRI-6	Bulk	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	7	0	0%	0.093	17	--	7	5.442	--	3.724	68%	NDD
PRI-6	Bulk	bis(2-Chloroethyl) ether	111-44-4	mg/kg	7	0	0%	0.085	15	--	6.5	4.941	--	3.363	68%	NDD
PRI-6	Bulk	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	7	0	0%	0.1	18	--	8	6.015	--	4.108	68%	NDD
PRI-6	Bulk	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	7	7	100%	--	--	0.64	370000	584300	2200000	751600	129%	NDD
PRI-6	Bulk	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	7	7	100%	--	--	0.3	3000	3373	10000	3382	100%	Normal
PRI-6	Bulk	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	7	7	100%	--	--	13	370000	584300	2200000	751600	129%	NDD
PRI-6	Bulk	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	7	7	100%	--	--	0.48	3000	3387	10000	3387	100%	Normal
PRI-6	Bulk	Carbazole	86-74-8	mg/kg	7	0	0%	0.1	18	--	7.5	5.8	--	3.964	68%	NDD
PRI-6	Bulk	Chrysene	218-01-9	mg/kg	7	0	0%	0.00035	0.0076	--	0.0033	0.002471	--	0.001587	64%	NDD
PRI-6	Bulk	Di-n-butylphthalate	84-74-2	mg/kg	7	0	0%	0.1	18	--	8	5.871	--	4.004	68%	NDD
PRI-6	Bulk	Di-n-octylphthalate	117-84-0	mg/kg	7	0	0%	0.1	18	--	8	5.871	--	4.004	68%	NDD
PRI-6	Bulk	Dibenzo(a,h)anthracene	53-70-3	mg/kg	7	0	0%	0.0012	0.026	--	0.0115	0.008529	--	0.005467	64%	NDD
PRI-6	Bulk	Dibenzofuran	132-64-9	mg/kg	7	0	0%	0.091	16	--	7	5.227	--	3.558	68%	NDD
PRI-6	Bulk	Diethyl phthalate	84-66-2	mg/kg	7	0	0%	0.095	17	--	7	5.442	--	3.723	68%	NDD
PRI-6	Bulk	Dimethylphthalate	131-11-3	mg/kg	7	0	0%	0.092	16	--	7	5.37	--	3.66	68%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-6	Bulk	Fluoranthene	206-44-0	mg/kg	7	0	0%	0.0003	0.0064	--	0.0028	0.0021	--	0.001347	64%	NDD
PRI-6	Bulk	Fluorene	86-73-7	mg/kg	7	0	0%	0.00049	0.011	--	0.00465	0.003521	--	0.002268	64%	NDD
PRI-6	Bulk	Hexachlorobenzene	118-74-1	mg/kg	7	6	86%	0.0024	0.0024	0.028	37	58.15	220	75.21	129%	NDD
PRI-6	Bulk	Hexachlorobutadiene	87-68-3	mg/kg	7	0	0%	0.0039	0.7	--	0.295	0.2256	--	0.1541	68%	NDD
PRI-6	Bulk	Hexachlorocyclopentadiene	77-47-4	mg/kg	7	0	0%	0.065	12	--	4.95	3.774	--	2.585	68%	NDD
PRI-6	Bulk	Hexachloroethane	67-72-1	mg/kg	7	0	0%	0.085	15	--	6.5	4.941	--	3.363	68%	NDD
PRI-6	Bulk	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	7	0	0%	0.00048	0.011	--	0.00455	0.003455	--	0.002232	65%	NDD
PRI-6	Bulk	Isophorone	78-59-1	mg/kg	7	0	0%	0.098	18	--	7.5	5.8	--	3.964	68%	NDD
PRI-6	Bulk	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7	0	0%	0.089	16	--	6.5	5.084	--	3.484	69%	NDD
PRI-6	Bulk	N-Nitrosodimethylamine	62-75-9	mg/kg	7	0	0%	0.1	18	--	7.5	5.8	--	3.964	68%	NDD
PRI-6	Bulk	N-Nitrosodiphenylamine	86-30-6	mg/kg	7	0	0%	0.091	16	--	7	5.227	--	3.558	68%	NDD
PRI-6	Bulk	Naphthalene	91-20-3	mg/kg	7	0	0%	0.00035	0.0067	--	0.00295	0.0022	--	0.001382	63%	NDD
PRI-6	Bulk	Nitrobenzene	98-95-3	mg/kg	7	0	0%	0.08	14	--	6	4.654	--	3.178	68%	NDD
PRI-6	Bulk	Pentachlorobenzene	608-93-5	mg/kg	7	1	14%	0.014	2.3	3.5	1.05	1.116	3.5	1.166	104%	NDD
PRI-6	Bulk	Pentachlorophenol	87-86-5	mg/kg	7	0	0%	0.025	4.5	--	1.95	1.468	--	1.001	68%	NDD
PRI-6	Bulk	Phenanthrene	85-01-8	mg/kg	7	0	0%	0.00035	0.0077	--	0.00335	0.002507	--	0.001611	64%	NDD
PRI-6	Bulk	Phenol	108-95-2	mg/kg	7	1	14%	0.088	16	14	7	6.156	14	4.87	79%	Normal
PRI-6	Bulk	Pyrene	129-00-0	mg/kg	7	0	0%	0.00035	0.0077	--	0.00335	0.002507	--	0.001611	64%	NDD
PRI-6	Bulk	Total Aluminum	7429-90-5	mg/kg	7	7	100%	--	--	1800	6900	6043	8500	2282	38%	Normal
PRI-6	Bulk	Total Antimony	7440-36-0	mg/kg	7	7	100%	--	--	0.11	1.7	1.477	2.5	0.9653	65%	Normal
PRI-6	Bulk	Total Arsenic	7440-38-2	mg/kg	7	7	100%	--	--	4.2	5.8	6.057	9.1	1.752	29%	Normal
PRI-6	Bulk	Total Barium	7440-39-3	mg/kg	7	7	100%	--	--	360	630	578.6	840	191.1	33%	Normal
PRI-6	Bulk	Total Beryllium	7440-41-7	mg/kg	7	6	86%	0.1	0.1	0.16	0.21	0.1914	0.25	0.06866	36%	NDD
PRI-6	Bulk	Total Cadmium	7440-43-9	mg/kg	7	1	14%	0.052	0.063	0.16	0.029	0.04721	0.16	0.04977	105%	NDD
PRI-6	Bulk	Total Calcium	7440-70-2	mg/kg	7	7	100%	--	--	4400	11000	86400	300000	132800	154%	NDD
PRI-6	Bulk	Total Chromium	7440-47-3	mg/kg	7	7	100%	--	--	2.3	9.4	8.329	12	3.39	41%	Normal
PRI-6	Bulk	Total Cobalt	7440-48-4	mg/kg	7	7	100%	--	--	0.45	0.68	0.8643	1.9	0.5184	60%	Lognormal
PRI-6	Bulk	Total Copper	7440-50-8	mg/kg	7	7	100%	--	--	2	2.4	2.957	6.1	1.429	48%	NDD
PRI-6	Bulk	Total Iron	7439-89-6	mg/kg	7	7	100%	--	--	2400	4100	4014	5600	1078	27%	Normal
PRI-6	Bulk	Total Lead	7439-92-1	mg/kg	7	7	100%	--	--	2.1	3	3.971	8.6	2.218	56%	Lognormal
PRI-6	Bulk	Total Magnesium	7439-95-4	mg/kg	7	7	100%	--	--	3900	5000	6814	13000	3645	53%	Lognormal
PRI-6	Bulk	Total Manganese	7439-96-5	mg/kg	7	7	100%	--	--	17	20	57.43	220	75.91	132%	NDD
PRI-6	Bulk	Total Mercury	7439-97-6	mg/kg	7	5	71%	0.0082	0.0089	0.016	0.019	0.01836	0.032	0.01115	61%	Normal
PRI-6	Bulk	Total Molybdenum	7439-98-7	mg/kg	7	7	100%	--	--	0.063	10	8.523	16	5.633	66%	Normal
PRI-6	Bulk	Total Nickel	7440-02-0	mg/kg	7	7	100%	--	--	1.8	2.4	2.643	4.4	0.9126	35%	Normal
PRI-6	Bulk	Total PCBs	1336-36-3	mg/kg	7	7	100%	--	--	0.00041	2.35	2.672	7.47	2.53	95%	Normal
PRI-6	Bulk	Total Potassium	7440-09-7	mg/kg	7	6	86%	960	960	1500	3300	2740	4100	1299	47%	Normal
PRI-6	Bulk	Total Selenium	7782-49-2	mg/kg	7	5	71%	0.11	0.12	0.11	0.14	0.1393	0.24	0.06955	50%	Normal
PRI-6	Bulk	Total Silver	7440-22-4	mg/kg	7	1	14%	0.031	0.038	0.031	0.0175	0.01907	0.031	0.005396	28%	NDD
PRI-6	Bulk	Total Sodium	7440-23-5	mg/kg	7	7	100%	--	--	2100	2700	2729	3700	512.2	19%	Normal
PRI-6	Bulk	Total Thallium	7440-28-0	mg/kg	7	6	86%	0.055	0.055	0.07	0.082	0.07579	0.1	0.02398	32%	Normal
PRI-6	Bulk	Total Vanadium	7440-62-2	mg/kg	7	7	100%	--	--	5.4	12	11.57	15	3.367	29%	Normal
PRI-6	Bulk	Total Zinc	7440-66-6	mg/kg	7	7	100%	--	--	4.6	8.1	8.814	17	3.941	45%	Normal
PRI-5	Bulk	1,1'-Biphenyl	92-52-4	mg/kg	10	0	0%	0.17	26	--	0.425	2.554	--	4.775	187%	NDD
PRI-5	Bulk	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	10	0	0%	0.027	4	--	0.065	0.3946	--	0.7363	187%	NDD
PRI-5	Bulk	2-Chloronaphthalene	91-58-7	mg/kg	10	0	0%	0.086	13	--	0.21	1.26	--	2.363	188%	NDD
PRI-5	Bulk	2-Chlorophenol	95-57-8	mg/kg	10	0	0%	0.093	14	--	0.225	1.385	--	2.592	187%	NDD
PRI-5	Bulk	2-Methylnaphthalene	91-57-6	mg/kg	10	0	0%	0.00041	0.0081	--	0.0002375	0.001182	--	0.001424	120%	NDD
PRI-5	Bulk	2-Methylphenol	95-48-7	mg/kg	10	0	0%	0.061	9	--	0.15	0.8893	--	1.659	187%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-5	Bulk	2-Nitroaniline	88-74-4	mg/kg	10	0	0%	0.089	13	--	0.215	1.279	--	2.386	187%	NDD
PRI-5	Bulk	2-Nitrophenol	88-75-5	mg/kg	10	0	0%	0.087	13	--	0.21	1.266	--	2.371	187%	NDD
PRI-5	Bulk	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	10	0	0%	0.084	12	--	0.205	1.197	--	2.225	186%	NDD
PRI-5	Bulk	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	10	0	0%	0.087	13	--	0.21	1.266	--	2.371	187%	NDD
PRI-5	Bulk	2,4-Dichlorophenol	120-83-2	mg/kg	10	0	0%	0.094	14	--	0.23	1.387	--	2.591	187%	NDD
PRI-5	Bulk	2,4-Dimethylphenol	105-67-9	mg/kg	10	0	0%	0.18	26	--	0.43	2.556	--	4.773	187%	NDD
PRI-5	Bulk	2,4-Dinitrophenol	51-28-5	mg/kg	10	0	0%	0.23	33	--	0.55	3.276	--	6.112	187%	NDD
PRI-5	Bulk	2,4-Dinitrotoluene	121-14-2	mg/kg	10	0	0%	0.094	14	--	0.23	1.387	--	2.591	187%	NDD
PRI-5	Bulk	2,4,5-Trichlorophenol	95-95-4	mg/kg	10	0	0%	0.088	13	--	0.215	1.278	--	2.387	187%	NDD
PRI-5	Bulk	2,4,6-Trichlorophenol	88-06-2	mg/kg	10	0	0%	0.0047	0.68	--	0.0115	0.06734	--	0.1254	186%	NDD
PRI-5	Bulk	2,6-Dinitrotoluene	606-20-2	mg/kg	10	0	0%	0.1	15	--	0.255	1.504	--	2.792	186%	NDD
PRI-5	Bulk	3-Nitroaniline	99-09-2	mg/kg	10	0	0%	0.18	26	--	0.43	2.556	--	4.773	187%	NDD
PRI-5	Bulk	3 & 4 Methylphenol	15831-10-4	mg/kg	10	0	0%	0.35	51	--	0.85	5.06	--	9.427	186%	NDD
PRI-5	Bulk	3,3'-Dichlorobenzidine	91-94-1	mg/kg	10	0	0%	0.099	15	--	0.245	1.444	--	2.71	188%	NDD
PRI-5	Bulk	4-Bromophenyl-phenylether	101-55-3	mg/kg	10	0	0%	0.09	13	--	0.22	1.281	--	2.386	186%	NDD
PRI-5	Bulk	4-Chloro-3-methylphenol	59-50-7	mg/kg	10	0	0%	0.097	14	--	0.24	1.392	--	2.589	186%	NDD
PRI-5	Bulk	4-Chloroaniline	106-47-8	mg/kg	10	0	0%	0.061	9	--	0.15	0.8893	--	1.659	187%	NDD
PRI-5	Bulk	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	10	0	0%	0.098	14	--	0.24	1.393	--	2.588	186%	NDD
PRI-5	Bulk	4-Nitroaniline	100-01-6	mg/kg	10	0	0%	0.093	14	--	0.225	1.385	--	2.592	187%	NDD
PRI-5	Bulk	4-Nitrophenol	100-02-7	mg/kg	10	0	0%	0.3	43	--	0.7	4.275	--	7.975	187%	NDD
PRI-5	Bulk	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	10	0	0%	0.086	13	--	0.21	1.26	--	2.363	188%	NDD
PRI-5	Bulk	Acenaphthene	83-32-9	mg/kg	10	0	0%	0.00045	0.0088	--	0.00026	0.001285	--	0.001545	120%	NDD
PRI-5	Bulk	Acenaphthylene	208-96-8	mg/kg	10	0	0%	0.00032	0.0062	--	0.0001825	0.000907	--	0.00109	120%	NDD
PRI-5	Bulk	Acetophenone	98-86-2	mg/kg	10	2	20%	0.032	3	0.35	0.11	7.26	70	22.05	304%	Lognormal
PRI-5	Bulk	Anthracene	120-12-7	mg/kg	10	0	0%	0.00038	0.0074	--	0.0002175	0.001086	--	0.001302	120%	NDD
PRI-5	Bulk	Benzaldehyde	100-52-7	mg/kg	10	0	0%	0.17	26	--	0.425	2.554	--	4.775	187%	NDD
PRI-5	Bulk	Benzo(a)anthracene	56-55-3	mg/kg	10	0	0%	0.00029	0.0057	--	0.0001675	0.0008335	--	0.001	120%	NDD
PRI-5	Bulk	Benzo(a)pyrene	50-32-8	mg/kg	10	0	0%	0.00038	0.0075	--	0.0002225	0.001098	--	0.001317	120%	NDD
PRI-5	Bulk	Benzo(b)fluoranthene	205-99-2	mg/kg	10	0	0%	0.00049	0.0095	--	0.00028	0.001392	--	0.001672	120%	NDD
PRI-5	Bulk	Benzo(g,h,i)perylene	191-24-2	mg/kg	10	0	0%	0.00096	0.019	--	0.00055	0.002766	--	0.003338	121%	NDD
PRI-5	Bulk	Benzo(k)fluoranthene	207-08-9	mg/kg	10	0	0%	0.00073	0.014	--	0.0004225	0.00207	--	0.002474	120%	NDD
PRI-5	Bulk	Benzylbutylphthalate	85-68-7	mg/kg	10	0	0%	0.1	15	--	0.245	1.444	--	2.71	188%	NDD
PRI-5	Bulk	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	10	0	0%	0.093	14	--	0.225	1.385	--	2.592	187%	NDD
PRI-5	Bulk	bis(2-Chloroethyl) ether	111-44-4	mg/kg	10	0	0%	0.086	13	--	0.21	1.26	--	2.363	188%	NDD
PRI-5	Bulk	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	10	0	0%	0.1	15	--	0.255	1.503	--	2.792	186%	NDD
PRI-5	Bulk	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	10	10	100%	--	--	2.8	225	14390	110000	35050	244%	Lognormal
PRI-5	Bulk	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	10	10	100%	--	--	1.1	4.3	159.9	830	305.4	191%	NDD
PRI-5	Bulk	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	10	10	100%	--	--	63	225	14410	110000	35040	243%	NDD
PRI-5	Bulk	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	10	10	100%	--	--	1.2	4.45	164	850	313.6	191%	NDD
PRI-5	Bulk	Carbazole	86-74-8	mg/kg	10	0	0%	0.1	15	--	0.245	1.444	--	2.71	188%	NDD
PRI-5	Bulk	Chrysene	218-01-9	mg/kg	10	1	10%	0.00033	0.0065	0.00046	0.0003275	0.000981	0.00046	0.001124	115%	NDD
PRI-5	Bulk	Di-n-butylphthalate	84-74-2	mg/kg	10	0	0%	0.1	15	--	0.25	1.501	--	2.793	186%	NDD
PRI-5	Bulk	Di-n-octylphthalate	117-84-0	mg/kg	10	0	0%	0.1	15	--	0.25	1.501	--	2.793	186%	NDD
PRI-5	Bulk	Dibenzo(a,h)anthracene	53-70-3	mg/kg	10	0	0%	0.0012	0.022	--	0.000675	0.003235	--	0.003852	119%	NDD
PRI-5	Bulk	Dibenzofuran	132-64-9	mg/kg	10	0	0%	0.091	13	--	0.22	1.282	--	2.385	186%	NDD
PRI-5	Bulk	Diethyl phthalate	84-66-2	mg/kg	10	0	0%	0.095	14	--	0.23	1.388	--	2.59	187%	NDD
PRI-5	Bulk	Dimethylphthalate	131-11-3	mg/kg	10	0	0%	0.092	13	--	0.225	1.284	--	2.384	186%	NDD
PRI-5	Bulk	Fluoranthene	206-44-0	mg/kg	10	3	30%	0.00028	0.0055	0.00034	0.000585	0.000911	0.00064	0.0009051	99%	Lognormal
PRI-5	Bulk	Fluorene	86-73-7	mg/kg	10	0	0%	0.00047	0.0092	--	0.0002725	0.001346	--	0.001619	120%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-5	Bulk	Hexachlorobenzene	118-74-1	mg/kg	10	8	80%	0.012	0.024	0.0069	0.0225	1.428	11	3.499	245%	NDD
PRI-5	Bulk	Hexachlorobutadiene	87-68-3	mg/kg	10	0	0%	0.0039	0.57	--	0.0095	0.05619	--	0.1047	186%	NDD
PRI-5	Bulk	Hexachlorocyclopentadiene	77-47-4	mg/kg	10	0	0%	0.066	9.6	--	0.16	0.9453	--	1.763	187%	NDD
PRI-5	Bulk	Hexachloroethane	67-72-1	mg/kg	10	0	0%	0.086	13	--	0.21	1.26	--	2.363	188%	NDD
PRI-5	Bulk	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	10	0	0%	0.00046	0.009	--	0.000265	0.001318	--	0.001582	120%	NDD
PRI-5	Bulk	Isophorone	78-59-1	mg/kg	10	0	0%	0.098	14	--	0.24	1.393	--	2.588	186%	NDD
PRI-5	Bulk	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	10	0	0%	0.089	13	--	0.215	1.279	--	2.386	187%	NDD
PRI-5	Bulk	N-Nitrosodimethylamine	62-75-9	mg/kg	10	0	0%	0.1	15	--	0.25	1.496	--	2.796	187%	NDD
PRI-5	Bulk	N-Nitrosodiphenylamine	86-30-6	mg/kg	10	0	0%	0.091	13	--	0.22	1.282	--	2.385	186%	NDD
PRI-5	Bulk	Naphthalene	91-20-3	mg/kg	10	0	0%	0.0003	0.0057	--	0.0002275	0.000853	--	0.0009952	117%	NDD
PRI-5	Bulk	Nitrobenzene	98-95-3	mg/kg	10	0	0%	0.08	12	--	0.195	1.172	--	2.192	187%	NDD
PRI-5	Bulk	Pentachlorobenzene	608-93-5	mg/kg	10	0	0%	0.014	2	--	0.0335	0.2	--	0.3725	186%	NDD
PRI-5	Bulk	Pentachlorophenol	87-86-5	mg/kg	10	0	0%	0.025	3.7	--	0.06	0.3666	--	0.6839	187%	NDD
PRI-5	Bulk	Phenanthrene	85-01-8	mg/kg	10	1	10%	0.00034	0.0066	0.00064	0.000465	0.001019	0.00064	0.001126	111%	Lognormal
PRI-5	Bulk	Phenol	108-95-2	mg/kg	10	1	10%	0.088	10	210	0.215	21.63	210	66.2	306%	NDD
PRI-5	Bulk	Pyrene	129-00-0	mg/kg	10	2	20%	0.00034	0.0066	0.00038	0.00042	0.00101	0.00046	0.001128	112%	Lognormal
PRI-5	Bulk	Total Aluminum	7429-90-5	mg/kg	10	10	100%	--	--	1700	3150	4020	8700	2214	55%	Normal
PRI-5	Bulk	Total Antimony	7440-36-0	mg/kg	10	7	70%	0.1	0.1	0.11	0.16	0.246	0.99	0.2854	116%	Lognormal
PRI-5	Bulk	Total Arsenic	7440-38-2	mg/kg	10	10	100%	--	--	2.6	5.25	6.87	15	4.035	59%	Lognormal
PRI-5	Bulk	Total Barium	7440-39-3	mg/kg	10	10	100%	--	--	180	260	291	500	95.74	33%	Normal
PRI-5	Bulk	Total Beryllium	7440-41-7	mg/kg	10	8	80%	0.084	0.096	0.1	0.145	0.168	0.38	0.1085	65%	Normal
PRI-5	Bulk	Total Cadmium	7440-43-9	mg/kg	10	7	70%	0.052	0.064	0.051	0.0635	0.0683	0.14	0.03858	56%	Normal
PRI-5	Bulk	Total Calcium	7440-70-2	mg/kg	10	10	100%	--	--	3600	200000	199400	310000	93260	47%	Normal
PRI-5	Bulk	Total Chromium	7440-47-3	mg/kg	10	10	100%	--	--	2	4.2	6.18	15	4.219	68%	Normal
PRI-5	Bulk	Total Cobalt	7440-48-4	mg/kg	10	10	100%	--	--	0.32	1.3	1.456	2.8	0.7131	49%	Normal
PRI-5	Bulk	Total Copper	7440-50-8	mg/kg	10	10	100%	--	--	1.8	3.3	4.66	10	3.074	66%	Lognormal
PRI-5	Bulk	Total Iron	7439-89-6	mg/kg	10	10	100%	--	--	1800	3050	5900	19000	5683	96%	Lognormal
PRI-5	Bulk	Total Lead	7439-92-1	mg/kg	10	10	100%	--	--	2.7	5.3	6.68	12	3.179	48%	Normal
PRI-5	Bulk	Total Magnesium	7439-95-4	mg/kg	10	10	100%	--	--	3200	10950	10800	18000	3894	36%	Normal
PRI-5	Bulk	Total Manganese	7439-96-5	mg/kg	10	10	100%	--	--	13	79	83.5	170	46.04	55%	Normal
PRI-5	Bulk	Total Mercury	7439-97-6	mg/kg	10	5	50%	0.008	0.009	0.015	0.00975	0.01679	0.078	0.02249	134%	NDD
PRI-5	Bulk	Total Molybdenum	7439-98-7	mg/kg	10	10	100%	--	--	0.078	0.31	2.718	9.2	3.672	135%	NDD
PRI-5	Bulk	Total Nickel	7440-02-0	mg/kg	10	10	100%	--	--	1.7	3.2	3.62	7.6	1.851	51%	Normal
PRI-5	Bulk	Total PCBs	1336-36-3	mg/kg	10	10	100%	--	--	0.00086	0.0106	0.1333	0.997	0.3108	233%	Lognormal
PRI-5	Bulk	Total Potassium	7440-09-7	mg/kg	10	9	90%	820	820	1100	1250	1581	3600	901.4	57%	Normal
PRI-5	Bulk	Total Selenium	7782-49-2	mg/kg	10	5	50%	0.1	0.13	0.12	0.0925	0.1115	0.22	0.06832	61%	NDD
PRI-5	Bulk	Total Silver	7440-22-4	mg/kg	10	0	0%	0.027	0.038	--	0.0155	0.01595	--	0.001517	10%	Normal
PRI-5	Bulk	Total Sodium	7440-23-5	mg/kg	10	10	100%	--	--	2100	3800	3960	6800	1489	38%	Normal
PRI-5	Bulk	Total Thallium	7440-28-0	mg/kg	10	5	50%	0.051	0.064	0.045	0.0385	0.05215	0.1	0.03083	59%	NDD
PRI-5	Bulk	Total Vanadium	7440-62-2	mg/kg	10	10	100%	--	--	4.5	7.85	13.27	41	11.82	89%	Lognormal
PRI-5	Bulk	Total Zinc	7440-66-6	mg/kg	10	10	100%	--	--	5	15.5	64.5	420	127.6	198%	Lognormal
PRI-7	Bulk	1,1'-Biphenyl	92-52-4	mg/kg	8	0	0%	2	12	--	1.225	2.519	--	2.041	81%	NDD
PRI-7	Bulk	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	8	0	0%	0.31	1.9	--	0.19	0.3956	--	0.3259	82%	NDD
PRI-7	Bulk	2-Chloronaphthalene	91-58-7	mg/kg	8	0	0%	0.96	6	--	0.6	1.241	--	1.017	82%	NDD
PRI-7	Bulk	2-Chlorophenol	95-57-8	mg/kg	8	0	0%	1	6.6	--	0.65	1.356	--	1.123	83%	NDD
PRI-7	Bulk	2-Methylnaphthalene	91-57-6	mg/kg	8	2	25%	0.0054	0.0068	0.0018	0.002925	0.009706	0.058	0.01952	201%	NDD
PRI-7	Bulk	2-Methylphenol	95-48-7	mg/kg	8	0	0%	0.69	4.3	--	0.425	0.8856	--	0.7297	82%	NDD
PRI-7	Bulk	2-Nitroaniline	88-74-4	mg/kg	8	0	0%	1	6.3	--	0.625	1.288	--	1.068	83%	NDD
PRI-7	Bulk	2-Nitrophenol	88-75-5	mg/kg	8	0	0%	0.98	6.1	--	0.6	1.255	--	1.037	83%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-7	Bulk	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	8	0	0%	0.94	5.9	--	0.575	1.208	--	1.004	83%	NDD
PRI-7	Bulk	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	8	0	0%	0.98	6.1	--	0.6	1.255	--	1.037	83%	NDD
PRI-7	Bulk	2,4-Dichlorophenol	120-83-2	mg/kg	8	0	0%	1.1	6.6	--	0.65	1.362	--	1.118	82%	NDD
PRI-7	Bulk	2,4-Dimethylphenol	105-67-9	mg/kg	8	0	0%	2	12	--	1.225	2.525	--	2.045	81%	NDD
PRI-7	Bulk	2,4-Dinitrophenol	51-28-5	mg/kg	8	0	0%	2.5	16	--	1.575	3.288	--	2.718	83%	NDD
PRI-7	Bulk	2,4-Dinitrotoluene	121-14-2	mg/kg	8	0	0%	1.1	6.6	--	0.65	1.362	--	1.118	82%	NDD
PRI-7	Bulk	2,4,5-Trichlorophenol	95-95-4	mg/kg	8	0	0%	0.99	6.2	--	0.6	1.274	--	1.061	83%	NDD
PRI-7	Bulk	2,4,6-Trichlorophenol	88-06-2	mg/kg	8	0	0%	0.052	0.33	--	0.03225	0.06775	--	0.0562	83%	NDD
PRI-7	Bulk	2,6-Dinitrotoluene	606-20-2	mg/kg	8	0	0%	1.2	7.4	--	0.725	1.519	--	1.257	83%	NDD
PRI-7	Bulk	3-Nitroaniline	99-09-2	mg/kg	8	0	0%	2	12	--	1.225	2.525	--	2.045	81%	NDD
PRI-7	Bulk	3 & 4 Methylphenol	15831-10-4	mg/kg	8	0	0%	3.9	25	--	2.4	5.056	--	4.224	84%	NDD
PRI-7	Bulk	3,3'-Dichlorobenzidine	91-94-1	mg/kg	8	0	0%	1.1	7	--	0.675	1.438	--	1.194	83%	NDD
PRI-7	Bulk	4-Bromophenyl-phenylether	101-55-3	mg/kg	8	0	0%	1	6.3	--	0.625	1.306	--	1.075	82%	NDD
PRI-7	Bulk	4-Chloro-3-methylphenol	59-50-7	mg/kg	8	0	0%	1.1	6.9	--	0.675	1.412	--	1.175	83%	NDD
PRI-7	Bulk	4-Chloroaniline	106-47-8	mg/kg	8	0	0%	0.69	4.3	--	0.425	0.8856	--	0.7297	82%	NDD
PRI-7	Bulk	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	8	0	0%	1.1	6.9	--	0.675	1.425	--	1.178	83%	NDD
PRI-7	Bulk	4-Nitroaniline	100-01-6	mg/kg	8	0	0%	1	6.6	--	0.65	1.356	--	1.123	83%	NDD
PRI-7	Bulk	4-Nitrophenol	100-02-7	mg/kg	8	0	0%	3.3	21	--	2.05	4.294	--	3.558	83%	NDD
PRI-7	Bulk	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	8	0	0%	0.96	6	--	0.6	1.241	--	1.017	82%	NDD
PRI-7	Bulk	Acenaphthene	83-32-9	mg/kg	8	1	13%	0.0058	0.0084	0.00099	0.003175	0.00308	0.00099	0.0009574	31%	Normal
PRI-7	Bulk	Acenaphthylene	208-96-8	mg/kg	8	0	0%	0.0007	0.0059	--	0.00225	0.002119	--	0.0007792	37%	NDD
PRI-7	Bulk	Acetophenone	98-86-2	mg/kg	8	0	0%	0.4	1.9	--	0.515	0.5312	--	0.2705	51%	Normal
PRI-7	Bulk	Anthracene	120-12-7	mg/kg	8	0	0%	0.00083	0.0071	--	0.002675	0.002539	--	0.0009404	37%	NDD
PRI-7	Bulk	Benzaldehyde	100-52-7	mg/kg	8	0	0%	2	12	--	1.225	2.519	--	2.041	81%	NDD
PRI-7	Bulk	Benzo(a)anthracene	56-55-3	mg/kg	8	1	13%	0.0038	0.0054	0.00073	0.00205	0.001998	0.00073	0.000585	29%	Normal
PRI-7	Bulk	Benzo(a)pyrene	50-32-8	mg/kg	8	0	0%	0.00084	0.0071	--	0.0027	0.002565	--	0.0009432	37%	NDD
PRI-7	Bulk	Benzo(b)fluoranthene	205-99-2	mg/kg	8	0	0%	0.0011	0.009	--	0.003425	0.00325	--	0.001189	37%	NDD
PRI-7	Bulk	Benzo(g,h,i)perylene	191-24-2	mg/kg	8	0	0%	0.0021	0.018	--	0.007	0.006506	--	0.002404	37%	NDD
PRI-7	Bulk	Benzo(k)fluoranthene	207-08-9	mg/kg	8	0	0%	0.0016	0.014	--	0.00515	0.004887	--	0.001821	37%	NDD
PRI-7	Bulk	Benzylbutylphthalate	85-68-7	mg/kg	8	0	0%	1.1	7.1	--	0.7	1.456	--	1.21	83%	NDD
PRI-7	Bulk	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	8	0	0%	1	6.6	--	0.65	1.356	--	1.123	83%	NDD
PRI-7	Bulk	bis(2-Chloroethyl) ether	111-44-4	mg/kg	8	0	0%	0.96	6	--	0.6	1.241	--	1.017	82%	NDD
PRI-7	Bulk	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	8	0	0%	1.2	7.3	--	0.725	1.506	--	1.241	82%	NDD
PRI-7	Bulk	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	8	8	100%	--	--	150	2550	122600	900000	315000	257%	Lognormal
PRI-7	Bulk	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	8	8	100%	--	--	41	315	2847	19000	6577	231%	Lognormal
PRI-7	Bulk	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	8	8	100%	--	--	630	2550	122700	900000	315000	257%	NDD
PRI-7	Bulk	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	8	8	100%	--	--	42	315	2852	19000	6574	231%	Lognormal
PRI-7	Bulk	Carbazole	86-74-8	mg/kg	8	0	0%	1.1	7.1	--	0.7	1.456	--	1.21	83%	NDD
PRI-7	Bulk	Chrysene	218-01-9	mg/kg	8	1	13%	0.0043	0.0062	0.0009	0.00235	0.002294	0.0009	0.0006533	28%	Normal
PRI-7	Bulk	Di-n-butylphthalate	84-74-2	mg/kg	8	0	0%	1.2	7.2	--	0.725	1.494	--	1.22	82%	NDD
PRI-7	Bulk	Di-n-octylphthalate	117-84-0	mg/kg	8	0	0%	1.2	7.2	--	0.725	1.494	--	1.22	82%	NDD
PRI-7	Bulk	Dibenzo(a,h)anthracene	53-70-3	mg/kg	8	0	0%	0.0025	0.021	--	0.008	0.007656	--	0.002806	37%	NDD
PRI-7	Bulk	Dibenzofuran	132-64-9	mg/kg	8	0	0%	1	6.4	--	0.625	1.319	--	1.096	83%	NDD
PRI-7	Bulk	Diethyl phthalate	84-66-2	mg/kg	8	0	0%	1.1	6.7	--	0.65	1.381	--	1.142	83%	NDD
PRI-7	Bulk	Dimethylphthalate	131-11-3	mg/kg	8	0	0%	1	6.5	--	0.625	1.331	--	1.112	84%	NDD
PRI-7	Bulk	Fluoranthene	206-44-0	mg/kg	8	1	13%	0.0036	0.0052	0.0028	0.002175	0.002194	0.0028	0.0003659	17%	Normal
PRI-7	Bulk	Fluorene	86-73-7	mg/kg	8	1	13%	0.0061	0.0088	0.0013	0.003325	0.00325	0.0013	0.0009181	28%	Normal
PRI-7	Bulk	Hexachlorobenzene	118-74-1	mg/kg	8	7	88%	0.095	0.095	0.093	0.2	11.81	87	30.46	258%	NDD
PRI-7	Bulk	Hexachlorobutadiene	87-68-3	mg/kg	8	0	0%	0.044	0.28	--	0.027	0.05731	--	0.04784	83%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-7	Bulk	Hexachlorocyclopentadiene	77-47-4	mg/kg	8	0	0%	0.74	4.6	--	0.4525	0.9519	--	0.7868	83%	NDD
PRI-7	Bulk	Hexachloroethane	67-72-1	mg/kg	8	0	0%	0.96	6	--	0.6	1.241	--	1.017	82%	NDD
PRI-7	Bulk	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	8	0	0%	0.001	0.0086	--	0.00325	0.003088	--	0.001142	37%	NDD
PRI-7	Bulk	Isophorone	78-59-1	mg/kg	8	0	0%	1.1	6.9	--	0.675	1.425	--	1.178	83%	NDD
PRI-7	Bulk	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	8	0	0%	1	6.3	--	0.625	1.288	--	1.068	83%	NDD
PRI-7	Bulk	N-Nitrosodimethylamine	62-75-9	mg/kg	8	0	0%	1.1	7.2	--	0.7	1.481	--	1.23	83%	NDD
PRI-7	Bulk	N-Nitrosodiphenylamine	86-30-6	mg/kg	8	0	0%	1	6.4	--	0.625	1.319	--	1.096	83%	NDD
PRI-7	Bulk	Naphthalene	91-20-3	mg/kg	8	1	13%	0.0038	0.0055	0.00075	0.0021	0.002031	0.00075	0.000597	29%	Normal
PRI-7	Bulk	Nitrobenzene	98-95-3	mg/kg	8	0	0%	0.91	5.7	--	0.55	1.166	--	0.9672	83%	NDD
PRI-7	Bulk	Pentachlorobenzene	608-93-5	mg/kg	8	1	13%	0.15	0.79	5.6	0.095	0.8381	5.6	1.928	230%	NDD
PRI-7	Bulk	Pentachlorophenol	87-86-5	mg/kg	8	0	0%	0.29	1.8	--	0.175	0.3694	--	0.3074	83%	NDD
PRI-7	Bulk	Phenanthrene	85-01-8	mg/kg	8	1	13%	0.0044	0.011	0.0051	0.002575	0.003138	0.0051	0.001355	43%	NDD
PRI-7	Bulk	Phenol	108-95-2	mg/kg	8	0	0%	0.99	6.2	--	0.6	1.274	--	1.061	83%	NDD
PRI-7	Bulk	Pyrene	129-00-0	mg/kg	8	1	13%	0.0044	0.0063	0.002	0.002375	0.002456	0.002	0.0003784	15%	Normal
PRI-7	Bulk	Total Aluminum	7429-90-5	mg/kg	8	8	100%	--	--	1700	4750	5312	13000	3631	68%	Normal
PRI-7	Bulk	Total Antimony	7440-36-0	mg/kg	8	8	100%	--	--	0.18	0.35	0.5387	1.2	0.3918	73%	Normal
PRI-7	Bulk	Total Arsenic	7440-38-2	mg/kg	8	8	100%	--	--	8.3	17.5	18.35	29	8.622	47%	Normal
PRI-7	Bulk	Total Barium	7440-39-3	mg/kg	8	8	100%	--	--	130	205	205	270	48.11	23%	Normal
PRI-7	Bulk	Total Beryllium	7440-41-7	mg/kg	8	8	100%	--	--	0.095	0.23	0.2419	0.57	0.1598	66%	Normal
PRI-7	Bulk	Total Cadmium	7440-43-9	mg/kg	8	7	88%	0.053	0.053	0.056	0.16	0.1243	0.18	0.06454	52%	NDD
PRI-7	Bulk	Total Calcium	7440-70-2	mg/kg	8	8	100%	--	--	96000	170000	172000	230000	39180	23%	Normal
PRI-7	Bulk	Total Chromium	7440-47-3	mg/kg	8	8	100%	--	--	5.8	26.5	31.35	64	24.5	78%	Normal
PRI-7	Bulk	Total Cobalt	7440-48-4	mg/kg	8	8	100%	--	--	1.4	2.5	2.675	5.1	1.258	47%	Normal
PRI-7	Bulk	Total Copper	7440-50-8	mg/kg	8	8	100%	--	--	3.9	11	10.19	14	3.928	39%	Normal
PRI-7	Bulk	Total Iron	7439-89-6	mg/kg	8	8	100%	--	--	4500	13000	17710	39000	13350	75%	Normal
PRI-7	Bulk	Total Lead	7439-92-1	mg/kg	8	8	100%	--	--	3.5	10	9.362	14	3.775	40%	Normal
PRI-7	Bulk	Total Magnesium	7439-95-4	mg/kg	8	8	100%	--	--	17000	22500	23380	32000	5780	25%	Normal
PRI-7	Bulk	Total Manganese	7439-96-5	mg/kg	8	8	100%	--	--	71	185	167	300	79.51	48%	Normal
PRI-7	Bulk	Total Mercury	7439-97-6	mg/kg	8	8	100%	--	--	0.019	0.036	0.05062	0.11	0.03295	65%	Normal
PRI-7	Bulk	Total Molybdenum	7439-98-7	mg/kg	8	8	100%	--	--	2.2	7.7	7.362	12	3.075	42%	Normal
PRI-7	Bulk	Total Nickel	7440-02-0	mg/kg	8	8	100%	--	--	4.7	8.45	8.5	15	3.526	41%	Normal
PRI-7	Bulk	Total PCBs	1336-36-3	mg/kg	8	8	100%	--	--	0.0263	0.209	0.398	1.86	0.6155	155%	Lognormal
PRI-7	Bulk	Total Potassium	7440-09-7	mg/kg	8	8	100%	--	--	1700	2850	3150	7300	1785	57%	Lognormal
PRI-7	Bulk	Total Selenium	7782-49-2	mg/kg	8	8	100%	--	--	0.16	0.33	0.295	0.41	0.1	34%	Normal
PRI-7	Bulk	Total Silver	7440-22-4	mg/kg	8	5	63%	0.019	0.032	0.036	0.0395	0.03244	0.056	0.01775	55%	Normal
PRI-7	Bulk	Total Sodium	7440-23-5	mg/kg	8	8	100%	--	--	6900	12500	12090	17000	3363	28%	Normal
PRI-7	Bulk	Total Thallium	7440-28-0	mg/kg	8	7	88%	0.053	0.053	0.037	0.1035	0.09194	0.17	0.05097	55%	Normal
PRI-7	Bulk	Total Vanadium	7440-62-2	mg/kg	8	8	100%	--	--	11	21	22.75	39	11.15	49%	Normal
PRI-7	Bulk	Total Zinc	7440-66-6	mg/kg	8	8	100%	--	--	13	32.5	29.12	44	11.73	40%	Normal
PRI-1	Bulk	1,1'-Biphenyl	92-52-4	mg/kg	4	0	0%	1.8	210	--	5.35	29.15	--	50.72	174%	Lognormal
PRI-1	Bulk	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	4	0	0%	0.28	34	--	0.845	4.708	--	8.219	175%	Lognormal
PRI-1	Bulk	2-Chloronaphthalene	91-58-7	mg/kg	4	0	0%	0.88	110	--	2.6	15.16	--	26.63	176%	Lognormal
PRI-1	Bulk	2-Chlorophenol	95-57-8	mg/kg	4	0	0%	0.95	110	--	2.825	15.28	--	26.56	174%	Lognormal
PRI-1	Bulk	2-Methylnaphthalene	91-57-6	mg/kg	4	3	75%	0.0023	0.0023	0.025	0.0625	0.07654	0.18	0.08082	106%	Normal
PRI-1	Bulk	2-Methylphenol	95-48-7	mg/kg	4	0	0%	0.63	76	--	1.86	10.51	--	18.38	175%	Lognormal
PRI-1	Bulk	2-Nitroaniline	88-74-4	mg/kg	4	0	0%	0.91	110	--	2.7	15.21	--	26.6	175%	Lognormal
PRI-1	Bulk	2-Nitrophenol	88-75-5	mg/kg	4	0	0%	0.89	110	--	2.625	15.17	--	26.62	175%	Lognormal
PRI-1	Bulk	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	4	0	0%	0.86	100	--	2.525	13.87	--	24.16	174%	Lognormal
PRI-1	Bulk	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	4	0	0%	0.89	110	--	2.625	15.17	--	26.62	175%	Lognormal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-1	Bulk	2,4-Dichlorophenol	120-83-2	mg/kg	4	0	0%	0.96	120	--	2.825	16.53	--	29.05	176%	Lognormal
PRI-1	Bulk	2,4-Dimethylphenol	105-67-9	mg/kg	4	0	0%	1.8	220	--	5.35	30.4	--	53.22	175%	Lognormal
PRI-1	Bulk	2,4-Dinitrophenol	51-28-5	mg/kg	4	0	0%	2.3	280	--	6.775	38.67	--	67.74	175%	Lognormal
PRI-1	Bulk	2,4-Dinitrotoluene	121-14-2	mg/kg	4	0	0%	0.96	120	--	2.825	16.53	--	29.05	176%	Lognormal
PRI-1	Bulk	2,4,5-Trichlorophenol	95-95-4	mg/kg	4	0	0%	0.9	110	--	2.65	15.19	--	26.61	175%	Lognormal
PRI-1	Bulk	2,4,6-Trichlorophenol	88-06-2	mg/kg	4	0	0%	0.048	0.57	--	0.0285	0.0915	--	0.129	141%	NDD
PRI-1	Bulk	2,6-Dinitrotoluene	606-20-2	mg/kg	4	0	0%	1.1	130	--	3.1	17.94	--	31.46	175%	Lognormal
PRI-1	Bulk	3-Nitroaniline	99-09-2	mg/kg	4	0	0%	1.8	220	--	5.35	30.4	--	53.22	175%	Lognormal
PRI-1	Bulk	3 & 4 Methylphenol	15831-10-4	mg/kg	4	0	0%	3.6	430	--	10.7	59.55	--	103.9	174%	Lognormal
PRI-1	Bulk	3,3'-Dichlorobenzidine	91-94-1	mg/kg	4	0	0%	1	120	--	3.1	16.68	--	28.98	174%	Lognormal
PRI-1	Bulk	4-Bromophenyl-phenylether	101-55-3	mg/kg	4	0	0%	0.92	110	--	2.725	15.23	--	26.59	175%	Lognormal
PRI-1	Bulk	4-Chloro-3-methylphenol	59-50-7	mg/kg	4	0	0%	1	120	--	2.825	16.54	--	29.05	176%	Lognormal
PRI-1	Bulk	4-Chloroaniline	106-47-8	mg/kg	4	0	0%	0.63	76	--	1.86	10.51	--	18.38	175%	Lognormal
PRI-1	Bulk	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	4	0	0%	1	120	--	3.075	16.66	--	28.98	174%	Lognormal
PRI-1	Bulk	4-Nitroaniline	100-01-6	mg/kg	4	0	0%	0.95	110	--	2.825	15.28	--	26.56	174%	Lognormal
PRI-1	Bulk	4-Nitrophenol	100-02-7	mg/kg	4	0	0%	3	360	--	9.025	49.89	--	87	174%	Lognormal
PRI-1	Bulk	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4	0	0%	0.88	110	--	2.6	15.16	--	26.63	176%	Lognormal
PRI-1	Bulk	Acenaphthene	83-32-9	mg/kg	4	1	25%	0.0026	0.032	0.024	0.01075	0.0117	0.024	0.01027	88%	Normal
PRI-1	Bulk	Acenaphthylene	208-96-8	mg/kg	4	0	0%	0.0018	0.022	--	0.00265	0.0043	--	0.004674	109%	Normal
PRI-1	Bulk	Acetophenone	98-86-2	mg/kg	4	0	0%	0.27	33	--	0.79	4.554	--	7.986	175%	Lognormal
PRI-1	Bulk	Anthracene	120-12-7	mg/kg	4	0	0%	0.0021	0.027	--	0.003175	0.005225	--	0.005762	110%	Normal
PRI-1	Bulk	Benzaldehyde	100-52-7	mg/kg	4	0	0%	1.8	210	--	5.35	29.15	--	50.72	174%	Lognormal
PRI-1	Bulk	Benzo(a)anthracene	56-55-3	mg/kg	4	2	50%	0.0016	0.0074	0.014	0.00885	0.02062	0.064	0.02947	143%	Normal
PRI-1	Bulk	Benzo(a)pyrene	50-32-8	mg/kg	4	3	75%	0.0022	0.0022	0.013	0.0505	0.1255	0.4	0.187	149%	Normal
PRI-1	Bulk	Benzo(b)fluoranthene	205-99-2	mg/kg	4	2	50%	0.0027	0.012	0.026	0.016	0.02809	0.079	0.03559	127%	Normal
PRI-1	Bulk	Benzo(g,h,i)perylene	191-24-2	mg/kg	4	1	25%	0.0054	0.068	0.028	0.02	0.01918	0.028	0.01438	75%	Normal
PRI-1	Bulk	Benzo(k)fluoranthene	207-08-9	mg/kg	4	1	25%	0.0041	0.052	0.0065	0.008	0.01101	0.0065	0.01045	95%	Normal
PRI-1	Bulk	Benzylbutylphthalate	85-68-7	mg/kg	4	0	0%	1	120	--	3.1	16.68	--	28.98	174%	Lognormal
PRI-1	Bulk	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	4	0	0%	0.95	110	--	2.825	15.28	--	26.56	174%	Lognormal
PRI-1	Bulk	bis(2-Chloroethyl) ether	111-44-4	mg/kg	4	0	0%	0.88	110	--	2.6	15.16	--	26.63	176%	Lognormal
PRI-1	Bulk	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	4	0	0%	1.1	130	--	3.1	17.94	--	31.46	175%	Lognormal
PRI-1	Bulk	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	4	4	100%	--	--	630	1412000	12460000	47000000	23070000	185%	Lognormal
PRI-1	Bulk	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	4	4	100%	--	--	32	10620	42820	150000	72130	168%	Lognormal
PRI-1	Bulk	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	4	4	100%	--	--	630	1412000	12460000	47000000	23070000	185%	Lognormal
PRI-1	Bulk	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	4	4	100%	--	--	33	10620	42820	150000	72130	168%	Lognormal
PRI-1	Bulk	Carbazole	86-74-8	mg/kg	4	0	0%	1	120	--	3.1	16.68	--	28.98	174%	Lognormal
PRI-1	Bulk	Chrysene	218-01-9	mg/kg	4	2	50%	0.0019	0.0085	0.071	0.03762	0.03905	0.08	0.04227	108%	Normal
PRI-1	Bulk	Di-n-butylphthalate	84-74-2	mg/kg	4	0	0%	1.1	130	--	3.1	17.94	--	31.46	175%	Lognormal
PRI-1	Bulk	Di-n-octylphthalate	117-84-0	mg/kg	4	0	0%	1.1	130	--	3.1	17.94	--	31.46	175%	Lognormal
PRI-1	Bulk	Dibenzo(a,h)anthracene	53-70-3	mg/kg	4	0	0%	0.0065	0.081	--	0.009575	0.01572	--	0.01726	110%	Normal
PRI-1	Bulk	Dibenzofuran	132-64-9	mg/kg	4	0	0%	0.93	110	--	2.75	15.24	--	26.59	174%	Lognormal
PRI-1	Bulk	Diethyl phthalate	84-66-2	mg/kg	4	0	0%	0.98	120	--	2.825	16.54	--	29.05	176%	Lognormal
PRI-1	Bulk	Dimethylphthalate	131-11-3	mg/kg	4	0	0%	0.94	110	--	2.8	15.27	--	26.57	174%	Lognormal
PRI-1	Bulk	Fluoranthene	206-44-0	mg/kg	4	3	75%	0.0016	0.0016	0.0077	0.03035	0.04788	0.13	0.05944	124%	Normal
PRI-1	Bulk	Fluorene	86-73-7	mg/kg	4	1	25%	0.0027	0.033	0.078	0.01125	0.02546	0.078	0.03559	140%	Normal
PRI-1	Bulk	Hexachlorobenzene	118-74-1	mg/kg	4	4	100%	--	--	0.058	141.2	1246	4700	2307	185%	Lognormal
PRI-1	Bulk	Hexachlorobutadiene	87-68-3	mg/kg	4	1	25%	0.04	0.054	11	0.024	2.767	11	5.489	198%	NDD
PRI-1	Bulk	Hexachlorocyclopentadiene	77-47-4	mg/kg	4	0	0%	0.67	81	--	2	11.21	--	19.58	175%	Lognormal
PRI-1	Bulk	Hexachloroethane	67-72-1	mg/kg	4	0	0%	0.88	110	--	2.6	15.16	--	26.63	176%	Lognormal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-1	Bulk	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	4	2	50%	0.0026	0.012	0.013	0.0095	0.01358	0.034	0.01444	106%	Normal
PRI-1	Bulk	Isophorone	78-59-1	mg/kg	4	0	0%	1	120	--	3.075	16.66	--	28.98	174%	Lognormal
PRI-1	Bulk	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	4	0	0%	0.91	110	--	2.7	15.21	--	26.6	175%	Lognormal
PRI-1	Bulk	N-Nitrosodimethylamine	62-75-9	mg/kg	4	0	0%	1	12	--	0.625	1.938	--	2.71	140%	NDD
PRI-1	Bulk	N-Nitrosodiphenylamine	86-30-6	mg/kg	4	0	0%	0.93	110	--	2.75	15.24	--	26.59	174%	Lognormal
PRI-1	Bulk	Naphthalene	91-20-3	mg/kg	4	0	0%	0.0017	0.043	--	0.006375	0.008775	--	0.009129	104%	Normal
PRI-1	Bulk	Nitrobenzene	98-95-3	mg/kg	4	0	0%	0.82	99	--	2.425	13.69	--	23.94	175%	Lognormal
PRI-1	Bulk	Pentachlorobenzene	608-93-5	mg/kg	4	2	50%	0.14	0.19	20	10.05	50.04	180	87.15	174%	Lognormal
PRI-1	Bulk	Pentachlorophenol	87-86-5	mg/kg	4	1	25%	0.26	0.35	6.7	0.155	1.785	6.7	3.277	184%	NDD
PRI-1	Bulk	Phenanthrene	85-01-8	mg/kg	4	1	25%	0.0019	0.094	0.13	0.02562	0.04555	0.13	0.06008	132%	Normal
PRI-1	Bulk	Phenol	108-95-2	mg/kg	4	0	0%	0.9	110	--	2.65	15.19	--	26.61	175%	Lognormal
PRI-1	Bulk	Pyrene	129-00-0	mg/kg	4	2	50%	0.0019	0.0085	0.072	0.03812	0.04305	0.095	0.04766	111%	Normal
PRI-1	Bulk	Total Aluminum	7429-90-5	mg/kg	4	4	100%	--	--	1900	4800	4425	6200	1810	41%	Normal
PRI-1	Bulk	Total Antimony	7440-36-0	mg/kg	4	4	100%	--	--	0.12	2.1	6.83	23	10.86	159%	Lognormal
PRI-1	Bulk	Total Arsenic	7440-38-2	mg/kg	4	4	100%	--	--	5	17.5	37.5	110	48.73	130%	Lognormal
PRI-1	Bulk	Total Barium	7440-39-3	mg/kg	4	4	100%	--	--	140	245	392.5	940	374.8	95%	Normal
PRI-1	Bulk	Total Beryllium	7440-41-7	mg/kg	4	4	100%	--	--	0.24	0.345	0.3425	0.44	0.1127	33%	NDD
PRI-1	Bulk	Total Cadmium	7440-43-9	mg/kg	4	4	100%	--	--	0.056	0.13	0.224	0.58	0.2404	107%	Normal
PRI-1	Bulk	Total Calcium	7440-70-2	mg/kg	4	4	100%	--	--	16000	84000	86000	160000	62550	73%	Normal
PRI-1	Bulk	Total Chromium	7440-47-3	mg/kg	4	4	100%	--	--	6.2	26.5	24.3	38	13.97	57%	Normal
PRI-1	Bulk	Total Cobalt	7440-48-4	mg/kg	4	4	100%	--	--	2.1	4.25	4.25	6.4	2.263	53%	Normal
PRI-1	Bulk	Total Copper	7440-50-8	mg/kg	4	4	100%	--	--	4.4	18.5	47.85	150	68.45	143%	Lognormal
PRI-1	Bulk	Total Iron	7439-89-6	mg/kg	4	4	100%	--	--	5300	24500	30580	68000	26570	87%	Normal
PRI-1	Bulk	Total Lead	7439-92-1	mg/kg	4	4	100%	--	--	4.4	15.5	23.1	57	24.73	107%	Normal
PRI-1	Bulk	Total Magnesium	7439-95-4	mg/kg	4	4	100%	--	--	8100	16000	15520	22000	5759	37%	Normal
PRI-1	Bulk	Total Manganese	7439-96-5	mg/kg	4	4	100%	--	--	52	120	145.5	290	101.5	70%	Normal
PRI-1	Bulk	Total Mercury	7439-97-6	mg/kg	4	4	100%	--	--	0.013	0.0465	0.0615	0.14	0.05741	93%	Normal
PRI-1	Bulk	Total Molybdenum	7439-98-7	mg/kg	4	4	100%	--	--	0.6	24.7	24	46	23.32	97%	Normal
PRI-1	Bulk	Total Nickel	7440-02-0	mg/kg	4	4	100%	--	--	4.7	18.9	22.12	46	18.8	85%	Normal
PRI-1	Bulk	Total PCBs	1336-36-3	mg/kg	4	4	100%	--	--	0.014	3.14	16.42	59.4	28.78	175%	Lognormal
PRI-1	Bulk	Total Potassium	7440-09-7	mg/kg	4	4	100%	--	--	450	1700	1688	2900	1052	62%	Normal
PRI-1	Bulk	Total Selenium	7782-49-2	mg/kg	4	3	75%	0.11	0.11	0.28	0.295	0.2788	0.47	0.1709	61%	Normal
PRI-1	Bulk	Total Silver	7440-22-4	mg/kg	4	3	75%	0.034	0.034	0.044	0.059	0.08375	0.2	0.08092	97%	Normal
PRI-1	Bulk	Total Sodium	7440-23-5	mg/kg	4	4	100%	--	--	550	2500	2362	3900	1561	66%	Normal
PRI-1	Bulk	Total Thallium	7440-28-0	mg/kg	4	4	100%	--	--	0.071	0.077	0.079	0.091	0.008524	11%	Normal
PRI-1	Bulk	Total Vanadium	7440-62-2	mg/kg	4	4	100%	--	--	12	29.5	29.25	46	16.76	57%	Normal
PRI-1	Bulk	Total Zinc	7440-66-6	mg/kg	4	4	100%	--	--	18	47	88	240	103.8	118%	Normal
PRI-3	Bulk	1,1'-Biphenyl	92-52-4	mg/kg	3	0	0%	1.9	6.5	--	2.9	2.367	--	1.239	52%	Normal
PRI-3	Bulk	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	3	0	0%	0.3	1	--	0.455	0.3683	--	0.1904	52%	Normal
PRI-3	Bulk	2-Chloronaphthalene	91-58-7	mg/kg	3	0	0%	0.93	3.2	--	1.4	1.155	--	0.6059	52%	Normal
PRI-3	Bulk	2-Chlorophenol	95-57-8	mg/kg	3	0	0%	1	3.5	--	1.55	1.267	--	0.6714	53%	Normal
PRI-3	Bulk	2-Methylnaphthalene	91-57-6	mg/kg	3	0	0%	0.0022	0.083	--	0.007	0.01653	--	0.02182	132%	Normal
PRI-3	Bulk	2-Methylphenol	95-48-7	mg/kg	3	0	0%	0.67	2.3	--	1	0.8283	--	0.4338	52%	Normal
PRI-3	Bulk	2-Nitroaniline	88-74-4	mg/kg	3	0	0%	0.97	3.3	--	1.45	1.195	--	0.623	52%	Normal
PRI-3	Bulk	2-Nitrophenol	88-75-5	mg/kg	3	0	0%	0.95	3.2	--	1.45	1.175	--	0.6108	52%	Normal
PRI-3	Bulk	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	3	0	0%	0.91	3.1	--	1.4	1.135	--	0.5937	52%	Normal
PRI-3	Bulk	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	3	0	0%	0.95	3.2	--	1.45	1.175	--	0.6108	52%	Normal
PRI-3	Bulk	2,4-Dichlorophenol	120-83-2	mg/kg	3	0	0%	1	3.5	--	1.55	1.267	--	0.6714	53%	Normal
PRI-3	Bulk	2,4-Dimethylphenol	105-67-9	mg/kg	3	0	0%	1.9	6.6	--	2.9	2.383	--	1.257	53%	Normal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-3	Bulk	2,4-Dinitrophenol	51-28-5	mg/kg	3	0	0%	2.5	8.5	--	3.75	3.083	--	1.607	52%	Normal
PRI-3	Bulk	2,4-Dinitrotoluene	121-14-2	mg/kg	3	0	0%	1	3.5	--	1.55	1.267	--	0.6714	53%	Normal
PRI-3	Bulk	2,4,5-Trichlorophenol	95-95-4	mg/kg	3	0	0%	0.96	3.3	--	1.45	1.193	--	0.6258	52%	Normal
PRI-3	Bulk	2,4,6-Trichlorophenol	88-06-2	mg/kg	3	0	0%	0.051	0.17	--	0.075	0.06183	--	0.03186	52%	Normal
PRI-3	Bulk	2,6-Dinitrotoluene	606-20-2	mg/kg	3	0	0%	1.1	3.9	--	1.75	1.417	--	0.7572	53%	Normal
PRI-3	Bulk	3-Nitroaniline	99-09-2	mg/kg	3	0	0%	1.9	6.6	--	2.9	2.383	--	1.257	53%	Normal
PRI-3	Bulk	3 & 4 Methylphenol	15831-10-4	mg/kg	3	0	0%	3.8	13	--	6	4.8	--	2.524	53%	Normal
PRI-3	Bulk	3,3'-Dichlorobenzidine	91-94-1	mg/kg	3	0	0%	1.1	3.7	--	1.65	1.35	--	0.7	52%	Normal
PRI-3	Bulk	4-Bromophenyl-phenylether	101-55-3	mg/kg	3	0	0%	0.98	3.4	--	1.5	1.23	--	0.6486	53%	Normal
PRI-3	Bulk	4-Chloro-3-methylphenol	59-50-7	mg/kg	3	0	0%	1.1	3.6	--	1.6	1.317	--	0.6714	51%	Normal
PRI-3	Bulk	4-Chloroaniline	106-47-8	mg/kg	3	0	0%	0.67	2.3	--	1	0.8283	--	0.4338	52%	Normal
PRI-3	Bulk	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	3	0	0%	1.1	3.7	--	1.65	1.35	--	0.7	52%	Normal
PRI-3	Bulk	4-Nitroaniline	100-01-6	mg/kg	3	0	0%	1	3.5	--	1.55	1.267	--	0.6714	53%	Normal
PRI-3	Bulk	4-Nitrophenol	100-02-7	mg/kg	3	0	0%	3.2	11	--	4.9	4	--	2.1	53%	Normal
PRI-3	Bulk	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	3	0	0%	0.93	3.2	--	1.4	1.155	--	0.6059	52%	Normal
PRI-3	Bulk	Acenaphthene	83-32-9	mg/kg	3	0	0%	0.0024	0.09	--	0.0075	0.0179	--	0.02368	132%	Normal
PRI-3	Bulk	Acenaphthylene	208-96-8	mg/kg	3	0	0%	0.0017	0.063	--	0.0055	0.01262	--	0.01652	131%	Normal
PRI-3	Bulk	Acetophenone	98-86-2	mg/kg	3	0	0%	0.29	0.99	--	0.435	0.3583	--	0.1872	52%	Normal
PRI-3	Bulk	Anthracene	120-12-7	mg/kg	3	0	0%	0.002	0.076	--	0.0065	0.01517	--	0.01996	132%	Normal
PRI-3	Bulk	Benzaldehyde	100-52-7	mg/kg	3	0	0%	1.9	6.5	--	2.9	2.367	--	1.239	52%	Normal
PRI-3	Bulk	Benzo(a)anthracene	56-55-3	mg/kg	3	2	67%	0.0015	0.0015	0.035	0.035	0.04858	0.11	0.05588	115%	Normal
PRI-3	Bulk	Benzo(a)pyrene	50-32-8	mg/kg	3	2	67%	0.002	0.002	0.041	0.041	0.064	0.15	0.07712	121%	Normal
PRI-3	Bulk	Benzo(b)fluoranthene	205-99-2	mg/kg	3	2	67%	0.0026	0.0026	0.07	0.07	0.07377	0.15	0.07442	101%	Normal
PRI-3	Bulk	Benzo(g,h,i)perylene	191-24-2	mg/kg	3	1	33%	0.0051	0.19	0.055	0.055	0.05085	0.055	0.04636	91%	Normal
PRI-3	Bulk	Benzo(k)fluoranthene	207-08-9	mg/kg	3	0	0%	0.0039	0.15	--	0.012	0.02965	--	0.03959	134%	Normal
PRI-3	Bulk	Benzylbutylphthalate	85-68-7	mg/kg	3	0	0%	1.1	3.8	--	1.65	1.367	--	0.7182	53%	Normal
PRI-3	Bulk	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	3	0	0%	1	3.5	--	1.55	1.267	--	0.6714	53%	Normal
PRI-3	Bulk	bis(2-Chloroethyl) ether	111-44-4	mg/kg	3	0	0%	0.93	3.2	--	1.4	1.155	--	0.6059	52%	Normal
PRI-3	Bulk	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	3	1	33%	1.1	4.8	28	2.4	10.32	28	15.34	149%	Normal
PRI-3	Bulk	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	3	3	100%	--	--	1600	31000	47530	110000	56060	118%	Normal
PRI-3	Bulk	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	3	3	100%	--	--	81	4800	4427	8400	4172	94%	Normal
PRI-3	Bulk	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	3	3	100%	--	--	1600	31000	47530	110000	56060	118%	Normal
PRI-3	Bulk	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	3	3	100%	--	--	82	4900	4494	8500	4224	94%	Normal
PRI-3	Bulk	Carbazole	86-74-8	mg/kg	3	0	0%	1.1	3.8	--	1.65	1.367	--	0.7182	53%	Normal
PRI-3	Bulk	Chrysene	218-01-9	mg/kg	3	2	67%	0.0018	0.0018	0.053	0.053	0.07797	0.18	0.09212	118%	Normal
PRI-3	Bulk	Di-n-butylphthalate	84-74-2	mg/kg	3	0	0%	1.1	3.8	--	1.7	1.383	--	0.7286	53%	Normal
PRI-3	Bulk	Di-n-octylphthalate	117-84-0	mg/kg	3	0	0%	1.1	3.8	--	1.7	1.383	--	0.7286	53%	Normal
PRI-3	Bulk	Dibenzo(a,h)anthracene	53-70-3	mg/kg	3	0	0%	0.0061	0.23	--	0.019	0.04568	--	0.06056	133%	Normal
PRI-3	Bulk	Dibenzofuran	132-64-9	mg/kg	3	0	0%	0.99	3.4	--	1.5	1.232	--	0.6458	52%	Normal
PRI-3	Bulk	Diethyl phthalate	84-66-2	mg/kg	3	0	0%	1	3.6	--	1.55	1.283	--	0.6898	54%	Normal
PRI-3	Bulk	Dimethylphthalate	131-11-3	mg/kg	3	0	0%	1	3.4	--	1.5	1.233	--	0.6429	52%	Normal
PRI-3	Bulk	Fluoranthene	206-44-0	mg/kg	3	2	67%	0.0015	0.0015	0.042	0.042	0.05425	0.12	0.06056	112%	Normal
PRI-3	Bulk	Fluorene	86-73-7	mg/kg	3	0	0%	0.0025	0.094	--	0.008	0.01875	--	0.0247	132%	Normal
PRI-3	Bulk	Hexachlorobenzene	118-74-1	mg/kg	3	3	100%	--	--	0.15	2.4	4.117	9.8	5.049	123%	Normal
PRI-3	Bulk	Hexachlorobutadiene	87-68-3	mg/kg	3	0	0%	0.043	0.15	--	0.065	0.05383	--	0.02844	53%	Normal
PRI-3	Bulk	Hexachlorocyclopentadiene	77-47-4	mg/kg	3	0	0%	0.72	2.5	--	1.1	0.9033	--	0.4765	53%	Normal
PRI-3	Bulk	Hexachloroethane	67-72-1	mg/kg	3	0	0%	0.93	3.2	--	1.4	1.155	--	0.6059	52%	Normal
PRI-3	Bulk	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	3	2	67%	0.0024	0.0024	0.041	0.041	0.04607	0.096	0.0476	103%	Normal
PRI-3	Bulk	Isophorone	78-59-1	mg/kg	3	0	0%	1.1	3.7	--	1.65	1.35	--	0.7	52%	Normal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-3	Bulk	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	3	0	0%	0.97	3.3	--	1.45	1.195	--	0.623	52%	Normal
PRI-3	Bulk	N-Nitrosodimethylamine	62-75-9	mg/kg	3	0	0%	1.1	3.8	--	1.7	1.383	--	0.7286	53%	Normal
PRI-3	Bulk	N-Nitrosodiphenylamine	86-30-6	mg/kg	3	0	0%	0.99	3.4	--	1.5	1.232	--	0.6458	52%	Normal
PRI-3	Bulk	Naphthalene	91-20-3	mg/kg	3	0	0%	0.0016	0.059	--	0.0049	0.01173	--	0.01552	132%	Normal
PRI-3	Bulk	Nitrobenzene	98-95-3	mg/kg	3	0	0%	0.88	3	--	1.35	1.097	--	0.5736	52%	Normal
PRI-3	Bulk	Pentachlorobenzene	608-93-5	mg/kg	3	1	33%	0.15	0.45	0.76	0.225	0.3533	0.76	0.3601	102%	Normal
PRI-3	Bulk	Pentachlorophenol	87-86-5	mg/kg	3	0	0%	0.28	0.95	--	0.42	0.345	--	0.1797	52%	Normal
PRI-3	Bulk	Phenanthrene	85-01-8	mg/kg	3	0	0%	0.0018	0.08	--	0.0125	0.0178	--	0.02008	113%	Normal
PRI-3	Bulk	Phenol	108-95-2	mg/kg	3	0	0%	0.96	3.3	--	1.45	1.193	--	0.6258	52%	Normal
PRI-3	Bulk	Pyrene	129-00-0	mg/kg	3	2	67%	0.0018	0.0018	0.049	0.049	0.05997	0.13	0.06524	109%	Normal
PRI-3	Bulk	Total Aluminum	7429-90-5	mg/kg	3	3	100%	--	--	4000	13000	11000	16000	6245	57%	Normal
PRI-3	Bulk	Total Antimony	7440-36-0	mg/kg	3	3	100%	--	--	0.14	2.8	2.813	5.5	2.68	95%	Normal
PRI-3	Bulk	Total Arsenic	7440-38-2	mg/kg	3	3	100%	--	--	5.1	13	11.7	17	6.056	52%	Normal
PRI-3	Bulk	Total Barium	7440-39-3	mg/kg	3	3	100%	--	--	100	360	340	560	230.7	68%	Normal
PRI-3	Bulk	Total Beryllium	7440-41-7	mg/kg	3	3	100%	--	--	0.18	1.1	0.8933	1.4	0.6357	71%	Normal
PRI-3	Bulk	Total Cadmium	7440-43-9	mg/kg	3	3	100%	--	--	0.19	3	2.197	3.4	1.749	80%	Normal
PRI-3	Bulk	Total Calcium	7440-70-2	mg/kg	3	3	100%	--	--	17000	22000	63000	150000	75390	120%	Normal
PRI-3	Bulk	Total Chromium	7440-47-3	mg/kg	3	3	100%	--	--	5.1	130	115	210	103.3	90%	Normal
PRI-3	Bulk	Total Cobalt	7440-48-4	mg/kg	3	3	100%	--	--	1.6	4.5	4.033	6	2.237	55%	Normal
PRI-3	Bulk	Total Copper	7440-50-8	mg/kg	3	3	100%	--	--	9.2	570	483.1	870	436.9	90%	Normal
PRI-3	Bulk	Total Iron	7439-89-6	mg/kg	3	3	100%	--	--	3800	38000	26930	39000	20040	74%	NDD
PRI-3	Bulk	Total Lead	7439-92-1	mg/kg	3	3	100%	--	--	4.1	100	78.03	130	65.76	84%	Normal
PRI-3	Bulk	Total Magnesium	7439-95-4	mg/kg	3	3	100%	--	--	11000	12000	12000	13000	1000	8%	Normal
PRI-3	Bulk	Total Manganese	7439-96-5	mg/kg	3	3	100%	--	--	120	120	126.7	140	11.55	9%	NDD
PRI-3	Bulk	Total Mercury	7439-97-6	mg/kg	3	3	100%	--	--	0.031	6.6	4.51	6.9	3.882	86%	Normal
PRI-3	Bulk	Total Molybdenum	7439-98-7	mg/kg	3	3	100%	--	--	0.55	9	7.85	14	6.798	87%	Normal
PRI-3	Bulk	Total Nickel	7440-02-0	mg/kg	3	3	100%	--	--	5.1	58	42.03	63	32.08	76%	Normal
PRI-3	Bulk	Total PCBs	1336-36-3	mg/kg	3	3	100%	--	--	0.072	4	2.857	4.5	2.425	85%	Normal
PRI-3	Bulk	Total Potassium	7440-09-7	mg/kg	3	3	100%	--	--	1300	2600	2633	4000	1350	51%	Normal
PRI-3	Bulk	Total Selenium	7782-49-2	mg/kg	3	3	100%	--	--	0.18	3.1	2.493	4.2	2.078	83%	Normal
PRI-3	Bulk	Total Silver	7440-22-4	mg/kg	3	3	100%	--	--	0.21	17	13.07	22	11.41	87%	Normal
PRI-3	Bulk	Total Sodium	7440-23-5	mg/kg	3	3	100%	--	--	2600	3300	3067	3300	404.1	13%	NDD
PRI-3	Bulk	Total Thallium	7440-28-0	mg/kg	3	2	67%	0.19	0.19	0.097	0.097	0.124	0.18	0.04851	39%	Lognormal
PRI-3	Bulk	Total Vanadium	7440-62-2	mg/kg	3	3	100%	--	--	12	38	32.33	47	18.18	56%	Normal
PRI-3	Bulk	Total Zinc	7440-66-6	mg/kg	3	3	100%	--	--	20	1400	1240	2300	1148	93%	Normal
PRI-6	Fine	1,1'-Biphenyl	92-52-4	mg/kg	7	0	0%	1.7	16	--	8	5.886	--	3.445	59%	NDD
PRI-6	Fine	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	7	0	0%	0.26	2.6	--	1.2	0.9164	--	0.5375	59%	NDD
PRI-6	Fine	2-Chloronaphthalene	91-58-7	mg/kg	7	0	0%	0.82	8.1	--	3.8	2.861	--	1.678	59%	NDD
PRI-6	Fine	2-Chlorophenol	95-57-8	mg/kg	7	0	0%	0.89	8.8	--	4.15	3.114	--	1.827	59%	NDD
PRI-6	Fine	2-Methylnaphthalene	91-57-6	mg/kg	7	0	0%	0.0004	0.0074	--	0.0021	0.001869	--	0.00126	67%	Normal
PRI-6	Fine	2-Methylphenol	95-48-7	mg/kg	7	0	0%	0.59	5.8	--	2.75	2.056	--	1.207	59%	NDD
PRI-6	Fine	2-Nitroaniline	88-74-4	mg/kg	7	0	0%	0.85	8.4	--	3.95	2.973	--	1.743	59%	NDD
PRI-6	Fine	2-Nitrophenol	88-75-5	mg/kg	7	0	0%	0.83	8.2	--	3.85	2.899	--	1.699	59%	NDD
PRI-6	Fine	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	7	0	0%	0.8	7.9	--	3.7	2.794	--	1.639	59%	NDD
PRI-6	Fine	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	7	0	0%	0.83	8.2	--	3.85	2.899	--	1.699	59%	NDD
PRI-6	Fine	2,4-Dichlorophenol	120-83-2	mg/kg	7	0	0%	0.9	8.9	--	4.2	3.151	--	1.848	59%	NDD
PRI-6	Fine	2,4-Dimethylphenol	105-67-9	mg/kg	7	0	0%	1.7	17	--	8	5.957	--	3.501	59%	NDD
PRI-6	Fine	2,4-Dinitrophenol	51-28-5	mg/kg	7	0	0%	2.2	21	--	10	7.529	--	4.405	59%	NDD
PRI-6	Fine	2,4-Dinitrotoluene	121-14-2	mg/kg	7	0	0%	0.9	8.9	--	4.2	3.151	--	1.848	59%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-6	Fine	2,4,5-Trichlorophenol	95-95-4	mg/kg	7	0	0%	0.84	8.3	--	3.9	2.936	--	1.721	59%	NDD
PRI-6	Fine	2,4,6-Trichlorophenol	88-06-2	mg/kg	7	0	0%	0.045	0.44	--	0.205	0.1557	--	0.09134	59%	NDD
PRI-6	Fine	2,6-Dinitrotoluene	606-20-2	mg/kg	7	0	0%	1	9.9	--	4.65	3.5	--	2.057	59%	NDD
PRI-6	Fine	3-Nitroaniline	99-09-2	mg/kg	7	0	0%	1.7	17	--	8	5.957	--	3.501	59%	NDD
PRI-6	Fine	3 & 4 Methylphenol	15831-10-4	mg/kg	7	0	0%	3.3	33	--	15.5	11.62	--	6.822	59%	NDD
PRI-6	Fine	3,3'-Dichlorobenzidine	91-94-1	mg/kg	7	0	0%	0.95	9.4	--	4.4	3.323	--	1.95	59%	NDD
PRI-6	Fine	4-Bromophenyl-phenylether	101-55-3	mg/kg	7	0	0%	0.86	8.5	--	4	3.003	--	1.761	59%	NDD
PRI-6	Fine	4-Chloro-3-methylphenol	59-50-7	mg/kg	7	0	0%	0.93	9.2	--	4.35	3.263	--	1.914	59%	NDD
PRI-6	Fine	4-Chloroaniline	106-47-8	mg/kg	7	0	0%	0.59	5.8	--	2.75	2.056	--	1.207	59%	NDD
PRI-6	Fine	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	7	0	0%	0.94	9.3	--	4.35	3.293	--	1.931	59%	NDD
PRI-6	Fine	4-Nitroaniline	100-01-6	mg/kg	7	0	0%	0.89	8.8	--	4.15	3.114	--	1.827	59%	NDD
PRI-6	Fine	4-Nitrophenol	100-02-7	mg/kg	7	0	0%	2.8	28	--	13	9.836	--	5.764	59%	NDD
PRI-6	Fine	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	7	0	0%	0.82	8.1	--	3.8	2.861	--	1.678	59%	NDD
PRI-6	Fine	Acenaphthene	83-32-9	mg/kg	7	0	0%	0.00044	0.0046	--	0.0023	0.001711	--	0.001006	59%	NDD
PRI-6	Fine	Acenaphthylene	208-96-8	mg/kg	7	0	0%	0.00031	0.0033	--	0.0016	0.001198	--	0.0007041	59%	NDD
PRI-6	Fine	Acetophenone	98-86-2	mg/kg	7	2	29%	0.25	2.5	2.4	1.2	1.572	4.7	1.582	101%	Normal
PRI-6	Fine	Anthracene	120-12-7	mg/kg	7	1	14%	0.00037	0.0039	0.0053	0.00195	0.001921	0.0053	0.0017	88%	NDD
PRI-6	Fine	Benzaldehyde	100-52-7	mg/kg	7	0	0%	1.7	16	--	8	5.886	--	3.445	59%	NDD
PRI-6	Fine	Benzo(a)anthracene	56-55-3	mg/kg	7	2	29%	0.00028	0.003	0.0035	0.0015	0.001986	0.0056	0.001949	98%	Normal
PRI-6	Fine	Benzo(a)pyrene	50-32-8	mg/kg	7	5	71%	0.00037	0.00043	0.013	0.016	0.01977	0.067	0.02259	114%	NDD
PRI-6	Fine	Benzo(b)fluoranthene	205-99-2	mg/kg	7	1	14%	0.00047	0.005	0.00081	0.00245	0.001914	0.00081	0.0009649	50%	NDD
PRI-6	Fine	Benzo(g,h,i)perylene	191-24-2	mg/kg	7	0	0%	0.00094	0.0099	--	0.00485	0.003639	--	0.002138	59%	NDD
PRI-6	Fine	Benzo(k)fluoranthene	207-08-9	mg/kg	7	0	0%	0.00071	0.0075	--	0.0037	0.002766	--	0.001629	59%	NDD
PRI-6	Fine	Benzylbutylphthalate	85-68-7	mg/kg	7	0	0%	0.96	9.5	--	4.45	3.36	--	1.971	59%	NDD
PRI-6	Fine	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	7	0	0%	0.89	8.8	--	4.15	3.114	--	1.827	59%	NDD
PRI-6	Fine	bis(2-Chloroethyl) ether	111-44-4	mg/kg	7	0	0%	0.82	8.1	--	3.8	2.861	--	1.678	59%	NDD
PRI-6	Fine	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	7	0	0%	0.99	9.8	--	4.6	3.464	--	2.034	59%	NDD
PRI-6	Fine	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	7	7	100%	--	--	280	200000	375800	1800000	636800	169%	NDD
PRI-6	Fine	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	7	7	100%	--	--	3	3600	4061	15000	5104	126%	NDD
PRI-6	Fine	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	7	7	100%	--	--	280	200000	375800	1800000	636800	169%	NDD
PRI-6	Fine	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	7	7	100%	--	--	3.2	3600	4075	15000	5104	125%	NDD
PRI-6	Fine	Carbazole	86-74-8	mg/kg	7	0	0%	0.96	9.5	--	4.45	3.36	--	1.971	59%	NDD
PRI-6	Fine	Chrysene	218-01-9	mg/kg	7	2	29%	0.00032	0.0034	0.0011	0.0017	0.001737	0.0041	0.001189	68%	Normal
PRI-6	Fine	Di-n-butylphthalate	84-74-2	mg/kg	7	0	0%	0.98	9.7	--	4.55	3.434	--	2.015	59%	NDD
PRI-6	Fine	Di-n-octylphthalate	117-84-0	mg/kg	7	0	0%	0.98	9.7	--	4.55	3.434	--	2.015	59%	NDD
PRI-6	Fine	Dibenzo(a,h)anthracene	53-70-3	mg/kg	7	0	0%	0.0011	0.012	--	0.006	0.004457	--	0.002635	59%	NDD
PRI-6	Fine	Dibenzofuran	132-64-9	mg/kg	7	0	0%	0.87	8.6	--	4.05	3.04	--	1.783	59%	NDD
PRI-6	Fine	Diethyl phthalate	84-66-2	mg/kg	7	0	0%	0.91	9	--	4.25	3.189	--	1.87	59%	NDD
PRI-6	Fine	Dimethylphthalate	131-11-3	mg/kg	7	0	0%	0.88	8.7	--	4.1	3.077	--	1.805	59%	NDD
PRI-6	Fine	Fluoranthene	206-44-0	mg/kg	7	1	14%	0.00027	0.004	0.00068	0.00145	0.001231	0.00068	0.0006175	50%	Normal
PRI-6	Fine	Fluorene	86-73-7	mg/kg	7	0	0%	0.00046	0.0058	--	0.0024	0.001856	--	0.001114	60%	NDD
PRI-6	Fine	Hexachlorobenzene	118-74-1	mg/kg	7	7	100%	--	--	0.027	19	37.15	180	63.8	172%	NDD
PRI-6	Fine	Hexachlorobutadiene	87-68-3	mg/kg	7	0	0%	0.037	0.37	--	0.175	0.1311	--	0.07697	59%	NDD
PRI-6	Fine	Hexachlorocyclopentadiene	77-47-4	mg/kg	7	0	0%	0.63	6.2	--	2.9	2.191	--	1.285	59%	NDD
PRI-6	Fine	Hexachloroethane	67-72-1	mg/kg	7	0	0%	0.82	8.1	--	3.8	2.861	--	1.678	59%	NDD
PRI-6	Fine	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	7	1	14%	0.00045	0.0047	0.0054	0.00235	0.002184	0.0054	0.001732	79%	Normal
PRI-6	Fine	Isophorone	78-59-1	mg/kg	7	0	0%	0.94	9.3	--	4.35	3.293	--	1.931	59%	NDD
PRI-6	Fine	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7	0	0%	0.85	8.4	--	3.95	2.973	--	1.743	59%	NDD
PRI-6	Fine	N-Nitrosodimethylamine	62-75-9	mg/kg	7	0	0%	0.97	9.6	--	4.5	3.397	--	1.993	59%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-6	Fine	N-Nitrosodiphenylamine	86-30-6	mg/kg	7	0	0%	0.87	8.6	--	4.05	3.04	--	1.783	59%	NDD
PRI-6	Fine	Naphthalene	91-20-3	mg/kg	7	0	0%	0.00039	0.0046	--	0.0015	0.001245	--	0.0007666	62%	Normal
PRI-6	Fine	Nitrobenzene	98-95-3	mg/kg	7	0	0%	0.77	7.6	--	3.55	2.682	--	1.574	59%	NDD
PRI-6	Fine	Pentachlorobenzene	608-93-5	mg/kg	7	1	14%	0.13	1.3	1.4	0.6	0.5757	1.4	0.4497	78%	Normal
PRI-6	Fine	Pentachlorophenol	87-86-5	mg/kg	7	0	0%	0.24	2.4	--	1.15	0.8493	--	0.4985	59%	NDD
PRI-6	Fine	Phenanthrene	85-01-8	mg/kg	7	0	0%	0.0005	0.0066	--	0.0017	0.00157	--	0.001025	65%	Normal
PRI-6	Fine	Phenol	108-95-2	mg/kg	7	0	0%	0.84	8.3	--	3.9	2.936	--	1.721	59%	NDD
PRI-6	Fine	Pyrene	129-00-0	mg/kg	7	2	29%	0.00033	0.0035	0.00078	0.0017	0.001742	0.0044	0.001322	76%	Normal
PRI-6	Fine	Total Aluminum	7429-90-5	mg/kg	7	7	100%	--	--	1400	6100	5000	7300	2346	47%	Normal
PRI-6	Fine	Total Antimony	7440-36-0	mg/kg	7	6	86%	0.1	0.1	0.1	1.3	1.307	2.3	0.9392	72%	Normal
PRI-6	Fine	Total Arsenic	7440-38-2	mg/kg	7	7	100%	--	--	4.2	5	5.9	9.3	1.966	33%	Normal
PRI-6	Fine	Total Barium	7440-39-3	mg/kg	7	7	100%	--	--	330	550	565.7	800	203.5	36%	Normal
PRI-6	Fine	Total Beryllium	7440-41-7	mg/kg	7	7	100%	--	--	0.064	0.17	0.1463	0.2	0.04983	34%	Normal
PRI-6	Fine	Total Cadmium	7440-43-9	mg/kg	7	3	43%	0.049	0.052	0.051	0.026	0.04357	0.099	0.02746	63%	NDD
PRI-6	Fine	Total Calcium	7440-70-2	mg/kg	7	7	100%	--	--	3200	15000	94090	310000	144200	153%	Lognormal
PRI-6	Fine	Total Chromium	7440-47-3	mg/kg	7	7	100%	--	--	1.7	10	8.529	14	4.684	55%	Normal
PRI-6	Fine	Total Cobalt	7440-48-4	mg/kg	7	7	100%	--	--	0.44	0.62	0.7014	1.2	0.2787	40%	Normal
PRI-6	Fine	Total Copper	7440-50-8	mg/kg	7	7	100%	--	--	3.5	58	60.5	200	69.21	114%	Normal
PRI-6	Fine	Total Iron	7439-89-6	mg/kg	7	7	100%	--	--	1600	3000	3171	5000	1150	36%	Normal
PRI-6	Fine	Total Lead	7439-92-1	mg/kg	7	7	100%	--	--	2.4	3.6	3.743	6.2	1.293	35%	Normal
PRI-6	Fine	Total Magnesium	7439-95-4	mg/kg	7	7	100%	--	--	2500	4100	5057	10000	2990	59%	Lognormal
PRI-6	Fine	Total Manganese	7439-96-5	mg/kg	7	7	100%	--	--	17	22	40.71	120	38.63	95%	NDD
PRI-6	Fine	Total Mercury	7439-97-6	mg/kg	7	6	86%	0.0091	0.0091	0.0095	0.011	0.04352	0.22	0.07864	181%	Lognormal
PRI-6	Fine	Total Molybdenum	7439-98-7	mg/kg	7	7	100%	--	--	0.11	10	8.086	15	5.497	68%	Normal
PRI-6	Fine	Total Nickel	7440-02-0	mg/kg	7	7	100%	--	--	1.9	2.7	3.029	4.6	0.9621	32%	Normal
PRI-6	Fine	Total PCBs	1336-36-3	mg/kg	7	7	100%	--	--	0.0024	2.9	2.634	7.2	2.434	92%	Normal
PRI-6	Fine	Total Potassium	7440-09-7	mg/kg	7	7	100%	--	--	520	2300	1907	2800	901.8	47%	Normal
PRI-6	Fine	Total Selenium	7782-49-2	mg/kg	7	3	43%	0.097	0.1	0.14	0.05	0.09971	0.19	0.06429	64%	NDD
PRI-6	Fine	Total Silver	7440-22-4	mg/kg	7	3	43%	0.029	0.031	0.029	0.0155	0.02186	0.034	0.008692	40%	NDD
PRI-6	Fine	Total Sodium	7440-23-5	mg/kg	7	7	100%	--	--	1500	1800	2300	3600	901.8	39%	Normal
PRI-6	Fine	Total Thallium	7440-28-0	mg/kg	7	5	71%	0.05	0.052	0.06	0.078	0.06243	0.084	0.02649	42%	NDD
PRI-6	Fine	Total Vanadium	7440-62-2	mg/kg	7	7	100%	--	--	4.2	12	9.886	13	3.754	38%	NDD
PRI-6	Fine	Total Zinc	7440-66-6	mg/kg	7	7	100%	--	--	6.5	15	15.43	33	8.624	56%	Normal
PRI-5	Fine	1,1'-Biphenyl	92-52-4	mg/kg	10	0	0%	1.6	16	--	0.85	2.11	--	2.732	129%	NDD
PRI-5	Fine	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	10	0	0%	0.25	2.6	--	0.13	0.3385	--	0.4448	131%	NDD
PRI-5	Fine	2-Chloronaphthalene	91-58-7	mg/kg	10	0	0%	0.79	8	--	0.41	1.048	--	1.369	131%	NDD
PRI-5	Fine	2-Chlorophenol	95-57-8	mg/kg	10	0	0%	0.86	8.7	--	0.445	1.136	--	1.483	131%	NDD
PRI-5	Fine	2-Methylnaphthalene	91-57-6	mg/kg	10	3	30%	0.00041	0.0045	0.00068	0.000695	0.0008435	0.00072	0.0007634	91%	Lognormal
PRI-5	Fine	2-Methylphenol	95-48-7	mg/kg	10	0	0%	0.57	5.7	--	0.295	0.747	--	0.9721	130%	NDD
PRI-5	Fine	2-Nitroaniline	88-74-4	mg/kg	10	0	0%	0.82	8.3	--	0.425	1.086	--	1.417	130%	NDD
PRI-5	Fine	2-Nitrophenol	88-75-5	mg/kg	10	0	0%	0.8	8.1	--	0.415	1.057	--	1.379	130%	NDD
PRI-5	Fine	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	10	0	0%	0.77	7.8	--	0.4	1.02	--	1.332	131%	NDD
PRI-5	Fine	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	10	0	0%	0.8	8.1	--	0.415	1.057	--	1.379	130%	NDD
PRI-5	Fine	2,4-Dichlorophenol	120-83-2	mg/kg	10	0	0%	0.87	8.8	--	0.45	1.15	--	1.502	131%	NDD
PRI-5	Fine	2,4-Dimethylphenol	105-67-9	mg/kg	10	0	0%	1.6	16	--	0.85	2.115	--	2.729	129%	NDD
PRI-5	Fine	2,4-Dinitrophenol	51-28-5	mg/kg	10	0	0%	2.1	21	--	1.1	2.76	--	3.584	130%	NDD
PRI-5	Fine	2,4-Dinitrotoluene	121-14-2	mg/kg	10	0	0%	0.87	8.8	--	0.45	1.15	--	1.502	131%	NDD
PRI-5	Fine	2,4,5-Trichlorophenol	95-95-4	mg/kg	10	0	0%	0.81	8.2	--	0.42	1.072	--	1.398	130%	NDD
PRI-5	Fine	2,4,6-Trichlorophenol	88-06-2	mg/kg	10	0	0%	0.043	0.43	--	0.0225	0.05665	--	0.07353	130%	NDD

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-5	Fine	2,6-Dinitrotoluene	606-20-2	mg/kg	10	0	0%	0.97	9.7	--	0.5	1.274	--	1.661	130%	NDD
PRI-5	Fine	3-Nitroaniline	99-09-2	mg/kg	10	0	0%	1.6	16	--	0.85	2.115	--	2.729	129%	NDD
PRI-5	Fine	3 & 4 Methylphenol	15831-10-4	mg/kg	10	0	0%	3.2	32	--	1.65	4.215	--	5.467	130%	NDD
PRI-5	Fine	3,3'-Dichlorobenzidine	91-94-1	mg/kg	10	0	0%	0.92	9.2	--	0.475	1.21	--	1.575	130%	NDD
PRI-5	Fine	4-Bromophenyl-phenylether	101-55-3	mg/kg	10	0	0%	0.83	8.4	--	0.43	1.1	--	1.436	131%	NDD
PRI-5	Fine	4-Chloro-3-methylphenol	59-50-7	mg/kg	10	0	0%	0.9	9	--	0.465	1.182	--	1.538	130%	NDD
PRI-5	Fine	4-Chloroaniline	106-47-8	mg/kg	10	0	0%	0.57	5.7	--	0.295	0.747	--	0.9721	130%	NDD
PRI-5	Fine	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	10	0	0%	0.91	9.1	--	0.47	1.196	--	1.556	130%	NDD
PRI-5	Fine	4-Nitroaniline	100-01-6	mg/kg	10	0	0%	0.86	8.7	--	0.445	1.136	--	1.483	131%	NDD
PRI-5	Fine	4-Nitrophenol	100-02-7	mg/kg	10	0	0%	2.7	28	--	1.4	3.615	--	4.736	131%	NDD
PRI-5	Fine	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	10	0	0%	0.79	8	--	0.41	1.048	--	1.369	131%	NDD
PRI-5	Fine	Acenaphthene	83-32-9	mg/kg	10	0	0%	0.00043	0.0049	--	0.0002375	0.0006615	--	0.0009039	137%	NDD
PRI-5	Fine	Acenaphthylene	208-96-8	mg/kg	10	0	0%	0.0003	0.0034	--	0.0001675	0.000461	--	0.0006272	136%	NDD
PRI-5	Fine	Acetophenone	98-86-2	mg/kg	10	7	70%	0.25	2	0.39	0.67	2.088	15	4.555	218%	Lognormal
PRI-5	Fine	Anthracene	120-12-7	mg/kg	10	1	10%	0.00037	0.0041	0.00092	0.000205	0.000631	0.00092	0.0007562	120%	NDD
PRI-5	Fine	Benzaldehyde	100-52-7	mg/kg	10	0	0%	1.6	16	--	0.85	2.11	--	2.732	129%	NDD
PRI-5	Fine	Benzo(a)anthracene	56-55-3	mg/kg	10	1	10%	0.00028	0.0032	0.00033	0.0001575	0.000449	0.00033	0.0005835	130%	NDD
PRI-5	Fine	Benzo(a)pyrene	50-32-8	mg/kg	10	4	40%	0.00039	0.0042	0.00048	0.0003475	0.001603	0.0069	0.002346	146%	NDD
PRI-5	Fine	Benzo(b)fluoranthene	205-99-2	mg/kg	10	3	30%	0.00046	0.0053	0.00061	0.0004425	0.001176	0.0041	0.001388	118%	NDD
PRI-5	Fine	Benzo(g,h,i)perylene	191-24-2	mg/kg	10	1	10%	0.00091	0.01	0.0016	0.000525	0.001502	0.0016	0.00185	123%	NDD
PRI-5	Fine	Benzo(k)fluoranthene	207-08-9	mg/kg	10	1	10%	0.00069	0.0079	0.0013	0.000395	0.001165	0.0013	0.001445	124%	NDD
PRI-5	Fine	Benzylbutylphthalate	85-68-7	mg/kg	10	0	0%	0.93	9.3	--	0.48	1.224	--	1.594	130%	NDD
PRI-5	Fine	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	10	0	0%	0.86	8.7	--	0.445	1.136	--	1.483	131%	NDD
PRI-5	Fine	bis(2-Chloroethyl) ether	111-44-4	mg/kg	10	0	0%	0.79	8	--	0.41	1.048	--	1.369	131%	NDD
PRI-5	Fine	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	10	0	0%	0.96	9.6	--	0.495	1.261	--	1.642	130%	NDD
PRI-5	Fine	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	10	10	100%	--	--	3.6	340	9565	71000	22640	237%	Lognormal
PRI-5	Fine	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	10	10	100%	--	--	1.8	13	193.2	870	332.9	172%	Lognormal
PRI-5	Fine	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	10	10	100%	--	--	110	475	9688	71000	22580	233%	NDD
PRI-5	Fine	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	10	10	100%	--	--	1.9	13.5	195.3	870	336.6	172%	Lognormal
PRI-5	Fine	Carbazole	86-74-8	mg/kg	10	0	0%	0.93	9.3	--	0.48	1.224	--	1.594	130%	NDD
PRI-5	Fine	Chrysene	218-01-9	mg/kg	10	4	40%	0.00032	0.0036	0.0004	0.000435	0.0008905	0.0033	0.001048	118%	Lognormal
PRI-5	Fine	Di-n-butylphthalate	84-74-2	mg/kg	10	0	0%	0.95	9.5	--	0.49	1.247	--	1.623	130%	NDD
PRI-5	Fine	Di-n-octylphthalate	117-84-0	mg/kg	10	0	0%	0.95	9.5	--	0.49	1.247	--	1.623	130%	NDD
PRI-5	Fine	Dibenzo(a,h)anthracene	53-70-3	mg/kg	10	0	0%	0.0011	0.012	--	0.0006	0.001675	--	0.00228	136%	NDD
PRI-5	Fine	Dibenzofuran	132-64-9	mg/kg	10	0	0%	0.84	8.5	--	0.435	1.114	--	1.455	131%	NDD
PRI-5	Fine	Diethyl phthalate	84-66-2	mg/kg	10	0	0%	0.88	8.9	--	0.455	1.164	--	1.521	131%	NDD
PRI-5	Fine	Dimethylphthalate	131-11-3	mg/kg	10	0	0%	0.85	8.6	--	0.44	1.122	--	1.464	130%	NDD
PRI-5	Fine	Fluoranthene	206-44-0	mg/kg	10	3	30%	0.00028	0.003	0.00046	0.00031	0.000696	0.0017	0.000661	95%	NDD
PRI-5	Fine	Fluorene	86-73-7	mg/kg	10	0	0%	0.00046	0.0051	--	0.000255	0.000699	--	0.0009371	134%	NDD
PRI-5	Fine	Hexachlorobenzene	118-74-1	mg/kg	10	6	60%	0.021	0.18	0.024	0.038	0.9433	7	2.225	236%	NDD
PRI-5	Fine	Hexachlorobutadiene	87-68-3	mg/kg	10	0	0%	0.036	0.36	--	0.01875	0.0478	--	0.06217	130%	NDD
PRI-5	Fine	Hexachlorocyclopentadiene	77-47-4	mg/kg	10	0	0%	0.61	6.1	--	0.315	0.798	--	1.038	130%	NDD
PRI-5	Fine	Hexachloroethane	67-72-1	mg/kg	10	0	0%	0.79	8	--	0.41	1.048	--	1.369	131%	NDD
PRI-5	Fine	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	10	1	10%	0.00044	0.005	0.0017	0.00025	0.000823	0.0017	0.00096	117%	NDD
PRI-5	Fine	Isophorone	78-59-1	mg/kg	10	0	0%	0.91	9.1	--	0.47	1.196	--	1.556	130%	NDD
PRI-5	Fine	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	10	0	0%	0.82	8.3	--	0.425	1.086	--	1.417	130%	NDD
PRI-5	Fine	N-Nitrosodimethylamine	62-75-9	mg/kg	10	0	0%	0.94	9.4	--	0.485	1.238	--	1.613	130%	NDD
PRI-5	Fine	N-Nitrosodiphenylamine	86-30-6	mg/kg	10	0	0%	0.84	8.5	--	0.435	1.114	--	1.455	131%	NDD
PRI-5	Fine	Naphthalene	91-20-3	mg/kg	10	3	30%	0.00029	0.0032	0.00031	0.0003	0.000636	0.0011	0.0005685	89%	Lognormal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-5	Fine	Nitrobenzene	98-95-3	mg/kg	10	0	0%	0.74	7.5	--	0.385	0.9835	--	1.284	131%	NDD
PRI-5	Fine	Pentachlorobenzene	608-93-5	mg/kg	10	0	0%	0.13	1.3	--	0.065	0.167	--	0.2179	130%	NDD
PRI-5	Fine	Pentachlorophenol	87-86-5	mg/kg	10	0	0%	0.23	2.4	--	0.12	0.3105	--	0.4072	131%	NDD
PRI-5	Fine	Phenanthrene	85-01-8	mg/kg	10	3	30%	0.00036	0.0036	0.0006	0.0004925	0.001042	0.0043	0.00129	124%	Lognormal
PRI-5	Fine	Phenol	108-95-2	mg/kg	10	1	10%	0.81	6.6	31	0.42	3.762	31	9.614	256%	NDD
PRI-5	Fine	Pyrene	129-00-0	mg/kg	10	3	30%	0.00034	0.0036	0.0005	0.000345	0.00077	0.0017	0.0007237	94%	NDD
PRI-5	Fine	Total Aluminum	7429-90-5	mg/kg	10	10	100%	--	--	1200	2200	3100	6600	2017	65%	Lognormal
PRI-5	Fine	Total Antimony	7440-36-0	mg/kg	10	5	50%	0.095	0.1	0.11	0.08	0.1564	0.63	0.1818	116%	NDD
PRI-5	Fine	Total Arsenic	7440-38-2	mg/kg	10	10	100%	--	--	1.8	4.75	5.7	12	3.034	53%	Normal
PRI-5	Fine	Total Barium	7440-39-3	mg/kg	10	10	100%	--	--	170	260	272	450	79.55	29%	Normal
PRI-5	Fine	Total Beryllium	7440-41-7	mg/kg	10	9	90%	0.086	0.086	0.035	0.1045	0.1271	0.27	0.08885	70%	Normal
PRI-5	Fine	Total Cadmium	7440-43-9	mg/kg	10	6	60%	0.048	0.051	0.049	0.056	0.05065	0.088	0.02467	49%	Normal
PRI-5	Fine	Total Calcium	7440-70-2	mg/kg	10	10	100%	--	--	1900	285000	228200	310000	106100	46%	NDD
PRI-5	Fine	Total Chromium	7440-47-3	mg/kg	10	10	100%	--	--	1.6	3.45	4.76	11	3.375	71%	Normal
PRI-5	Fine	Total Cobalt	7440-48-4	mg/kg	10	10	100%	--	--	0.25	1.15	1.168	2.3	0.5395	46%	Normal
PRI-5	Fine	Total Copper	7440-50-8	mg/kg	10	10	100%	--	--	2.6	6.25	46.42	230	84.52	182%	NDD
PRI-5	Fine	Total Iron	7439-89-6	mg/kg	10	10	100%	--	--	1500	2350	5190	18000	6075	117%	NDD
PRI-5	Fine	Total Lead	7439-92-1	mg/kg	10	10	100%	--	--	2.4	5.55	7.27	16	4.225	58%	Normal
PRI-5	Fine	Total Magnesium	7439-95-4	mg/kg	10	10	100%	--	--	1600	9250	9350	18000	3977	43%	NDD
PRI-5	Fine	Total Manganese	7439-96-5	mg/kg	10	10	100%	--	--	15	66.5	63.3	110	27.36	43%	Normal
PRI-5	Fine	Total Mercury	7439-97-6	mg/kg	10	9	90%	0.0077	0.0077	0.0091	0.0345	0.0388	0.082	0.02943	76%	Normal
PRI-5	Fine	Total Molybdenum	7439-98-7	mg/kg	10	10	100%	--	--	0.048	0.245	1.94	8.4	2.939	151%	Lognormal
PRI-5	Fine	Total Nickel	7440-02-0	mg/kg	10	10	100%	--	--	1.6	2.65	3	5.9	1.326	44%	Normal
PRI-5	Fine	Total PCBs	1336-36-3	mg/kg	10	10	100%	--	--	0.001	0.01695	0.1727	1	0.3312	192%	Lognormal
PRI-5	Fine	Total Potassium	7440-09-7	mg/kg	10	9	90%	590	590	570	860	1148	3700	971.3	85%	Lognormal
PRI-5	Fine	Total Selenium	7782-49-2	mg/kg	10	5	50%	0.095	0.1	0.1	0.075	0.1094	0.25	0.07693	70%	NDD
PRI-5	Fine	Total Silver	7440-22-4	mg/kg	10	1	10%	0.029	0.032	0.034	0.015	0.01685	0.034	0.006046	36%	NDD
PRI-5	Fine	Total Sodium	7440-23-5	mg/kg	10	10	100%	--	--	1100	3750	3880	7100	1479	38%	Normal
PRI-5	Fine	Total Thallium	7440-28-0	mg/kg	10	4	40%	0.048	0.053	0.049	0.026	0.0387	0.07	0.01839	48%	NDD
PRI-5	Fine	Total Vanadium	7440-62-2	mg/kg	10	10	100%	--	--	3.5	6.15	9.92	27	8.638	87%	Lognormal
PRI-5	Fine	Total Zinc	7440-66-6	mg/kg	10	10	100%	--	--	6.1	16	22.56	84	22.81	101%	Lognormal
PRI-7	Fine	1,1'-Biphenyl	92-52-4	mg/kg	8	0	0%	1.7	21	--	6.5	6.794	--	2.822	42%	Normal
PRI-7	Fine	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	8	0	0%	0.27	3.3	--	1.05	1.073	--	0.4404	41%	Normal
PRI-7	Fine	2-Chloronaphthalene	91-58-7	mg/kg	8	0	0%	0.83	10	--	3.275	3.308	--	1.345	41%	Normal
PRI-7	Fine	2-Chlorophenol	95-57-8	mg/kg	8	0	0%	0.9	11	--	3.55	3.606	--	1.478	41%	Normal
PRI-7	Fine	2-Methylnaphthalene	91-57-6	mg/kg	8	1	13%	0.004	0.0047	0.038	0.00225	0.006688	0.038	0.01265	189%	NDD
PRI-7	Fine	2-Methylphenol	95-48-7	mg/kg	8	0	0%	0.6	7.4	--	2.325	2.381	--	0.9888	42%	Normal
PRI-7	Fine	2-Nitroaniline	88-74-4	mg/kg	8	0	0%	0.86	11	--	3.375	3.472	--	1.46	42%	Normal
PRI-7	Fine	2-Nitrophenol	88-75-5	mg/kg	8	0	0%	0.84	11	--	3.325	3.409	--	1.446	42%	Normal
PRI-7	Fine	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	8	0	0%	0.81	10	--	3.175	3.238	--	1.336	41%	Normal
PRI-7	Fine	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	8	0	0%	0.84	11	--	3.325	3.409	--	1.446	42%	Normal
PRI-7	Fine	2,4-Dichlorophenol	120-83-2	mg/kg	8	0	0%	0.91	11	--	3.575	3.638	--	1.483	41%	Normal
PRI-7	Fine	2,4-Dimethylphenol	105-67-9	mg/kg	8	0	0%	1.7	21	--	6.75	6.856	--	2.82	41%	Normal
PRI-7	Fine	2,4-Dinitrophenol	51-28-5	mg/kg	8	0	0%	2.2	27	--	8.5	8.7	--	3.604	41%	Normal
PRI-7	Fine	2,4-Dinitrotoluene	121-14-2	mg/kg	8	0	0%	0.91	11	--	3.575	3.638	--	1.483	41%	Normal
PRI-7	Fine	2,4,5-Trichlorophenol	95-95-4	mg/kg	8	0	0%	0.85	11	--	3.325	3.434	--	1.456	42%	Normal
PRI-7	Fine	2,4,6-Trichlorophenol	88-06-2	mg/kg	8	0	0%	0.045	0.56	--	0.1775	0.1809	--	0.07452	41%	Normal
PRI-7	Fine	2,6-Dinitrotoluene	606-20-2	mg/kg	8	0	0%	1	13	--	3.975	4.119	--	1.742	42%	Normal
PRI-7	Fine	3-Nitroaniline	99-09-2	mg/kg	8	0	0%	1.7	21	--	6.75	6.856	--	2.82	41%	Normal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-7	Fine	3 & 4 Methylphenol	15831-10-4	mg/kg	8	0	0%	3.4	42	--	13.25	13.59	--	5.65	42%	Normal
PRI-7	Fine	3,3'-Dichlorobenzidine	91-94-1	mg/kg	8	0	0%	0.96	12	--	3.775	3.86	--	1.595	41%	Normal
PRI-7	Fine	4-Bromophenyl-phenylether	101-55-3	mg/kg	8	0	0%	0.87	11	--	3.425	3.511	--	1.463	42%	Normal
PRI-7	Fine	4-Chloro-3-methylphenol	59-50-7	mg/kg	8	0	0%	0.94	12	--	3.725	3.802	--	1.592	42%	Normal
PRI-7	Fine	4-Chloroaniline	106-47-8	mg/kg	8	0	0%	0.6	7.4	--	2.325	2.381	--	0.9888	42%	Normal
PRI-7	Fine	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	8	0	0%	0.95	12	--	3.75	3.834	--	1.596	42%	Normal
PRI-7	Fine	4-Nitroaniline	100-01-6	mg/kg	8	0	0%	0.9	11	--	3.55	3.606	--	1.478	41%	Normal
PRI-7	Fine	4-Nitrophenol	100-02-7	mg/kg	8	0	0%	2.9	36	--	11.25	11.49	--	4.796	42%	Normal
PRI-7	Fine	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	8	0	0%	0.83	10	--	3.275	3.308	--	1.345	41%	Normal
PRI-7	Fine	Acenaphthene	83-32-9	mg/kg	8	0	0%	0.0044	0.0051	--	0.002425	0.0024	--	0.0001282	5%	Normal
PRI-7	Fine	Acenaphthylene	208-96-8	mg/kg	8	0	0%	0.0031	0.0036	--	0.0017	0.001694	--	0.00009039	5%	Normal
PRI-7	Fine	Acetophenone	98-86-2	mg/kg	8	1	13%	1.9	3.2	7.6	1.1	1.962	7.6	2.289	117%	NDD
PRI-7	Fine	Anthracene	120-12-7	mg/kg	8	0	0%	0.0037	0.0043	--	0.00205	0.002031	--	0.00011	5%	Normal
PRI-7	Fine	Benzaldehyde	100-52-7	mg/kg	8	0	0%	1.7	21	--	6.5	6.794	--	2.822	42%	Normal
PRI-7	Fine	Benzo(a)anthracene	56-55-3	mg/kg	8	0	0%	0.0028	0.0033	--	0.001575	0.00155	--	0.00009258	6%	Normal
PRI-7	Fine	Benzo(a)pyrene	50-32-8	mg/kg	8	2	25%	0.0037	0.0043	0.0072	0.0021	0.004556	0.017	0.005343	117%	NDD
PRI-7	Fine	Benzo(b)fluoranthene	205-99-2	mg/kg	8	0	0%	0.0047	0.0055	--	0.002625	0.002588	--	0.000133	5%	Normal
PRI-7	Fine	Benzo(g,h,i)perylene	191-24-2	mg/kg	8	0	0%	0.0093	0.011	--	0.005	0.005125	--	0.0003317	6%	Normal
PRI-7	Fine	Benzo(k)fluoranthene	207-08-9	mg/kg	8	0	0%	0.0071	0.0083	--	0.003925	0.003894	--	0.0002026	5%	Normal
PRI-7	Fine	Benzylbutylphthalate	85-68-7	mg/kg	8	0	0%	0.97	12	--	3.825	3.892	--	1.594	41%	Normal
PRI-7	Fine	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	8	0	0%	0.9	11	--	3.55	3.606	--	1.478	41%	Normal
PRI-7	Fine	bis(2-Chloroethyl) ether	111-44-4	mg/kg	8	0	0%	0.83	10	--	3.275	3.308	--	1.345	41%	Normal
PRI-7	Fine	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	8	0	0%	1	13	--	3.95	4.094	--	1.742	43%	Normal
PRI-7	Fine	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	8	8	100%	--	--	120	2600	107900	780000	272700	253%	Lognormal
PRI-7	Fine	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	8	8	100%	--	--	73	375	2868	19000	6563	229%	Lognormal
PRI-7	Fine	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	8	8	100%	--	--	240	2600	108000	780000	272600	252%	Lognormal
PRI-7	Fine	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	8	8	100%	--	--	74	380	2884	19000	6560	227%	Lognormal
PRI-7	Fine	Carbazole	86-74-8	mg/kg	8	0	0%	0.97	12	--	3.825	3.892	--	1.594	41%	Normal
PRI-7	Fine	Chrysene	218-01-9	mg/kg	8	0	0%	0.0032	0.0038	--	0.0018	0.001781	--	0.00009613	5%	Normal
PRI-7	Fine	Di-n-butylphthalate	84-74-2	mg/kg	8	0	0%	1	12	--	3.925	3.944	--	1.593	40%	Normal
PRI-7	Fine	Di-n-octylphthalate	117-84-0	mg/kg	8	0	0%	1	12	--	3.925	3.944	--	1.593	40%	Normal
PRI-7	Fine	Dibenzo(a,h)anthracene	53-70-3	mg/kg	8	0	0%	0.011	0.013	--	0.00625	0.006188	--	0.000372	6%	NDD
PRI-7	Fine	Dibenzofuran	132-64-9	mg/kg	8	0	0%	0.88	11	--	3.475	3.542	--	1.468	41%	Normal
PRI-7	Fine	Diethyl phthalate	84-66-2	mg/kg	8	0	0%	0.92	12	--	3.625	3.739	--	1.583	42%	Normal
PRI-7	Fine	Dimethylphthalate	131-11-3	mg/kg	8	0	0%	0.89	11	--	3.525	3.574	--	1.473	41%	Normal
PRI-7	Fine	Fluoranthene	206-44-0	mg/kg	8	1	13%	0.0027	0.0032	0.004	0.001525	0.001806	0.004	0.000891	49%	NDD
PRI-7	Fine	Fluorene	86-73-7	mg/kg	8	1	13%	0.0046	0.0053	0.014	0.002575	0.003962	0.014	0.004057	102%	NDD
PRI-7	Fine	Hexachlorobenzene	118-74-1	mg/kg	8	6	75%	0.023	0.18	0.19	0.215	10.34	75	26.23	254%	Lognormal
PRI-7	Fine	Hexachlorobutadiene	87-68-3	mg/kg	8	0	0%	0.038	0.47	--	0.15	0.1518	--	0.06281	41%	Normal
PRI-7	Fine	Hexachlorocyclopentadiene	77-47-4	mg/kg	8	0	0%	0.64	7.9	--	2.5	2.546	--	1.055	41%	Normal
PRI-7	Fine	Hexachloroethane	67-72-1	mg/kg	8	0	0%	0.83	10	--	3.275	3.308	--	1.345	41%	Normal
PRI-7	Fine	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	8	0	0%	0.0045	0.0052	--	0.002475	0.00245	--	0.0001282	5%	Normal
PRI-7	Fine	Isophorone	78-59-1	mg/kg	8	0	0%	0.95	12	--	3.75	3.834	--	1.596	42%	Normal
PRI-7	Fine	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	8	0	0%	0.86	11	--	3.375	3.472	--	1.46	42%	Normal
PRI-7	Fine	N-Nitrosodimethylamine	62-75-9	mg/kg	8	0	0%	0.98	12	--	3.875	3.911	--	1.595	41%	Normal
PRI-7	Fine	N-Nitrosodiphenylamine	86-30-6	mg/kg	8	0	0%	0.88	11	--	3.475	3.542	--	1.468	41%	Normal
PRI-7	Fine	Naphthalene	91-20-3	mg/kg	8	1	13%	0.0029	0.0033	0.0043	0.0016	0.001925	0.0043	0.0009618	50%	NDD
PRI-7	Fine	Nitrobenzene	98-95-3	mg/kg	8	0	0%	0.78	9.7	--	3.075	3.13	--	1.296	41%	Normal
PRI-7	Fine	Pentachlorobenzene	608-93-5	mg/kg	8	1	13%	0.13	1.7	3.3	0.525	0.8575	3.3	1.01	118%	Lognormal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-7	Fine	Pentachlorophenol	87-86-5	mg/kg	8	0	0%	0.25	3.1	--	0.975	0.9906	--	0.4132	42%	Normal
PRI-7	Fine	Phenanthrene	85-01-8	mg/kg	8	2	25%	0.0033	0.0042	0.0088	0.001875	0.006356	0.031	0.01025	161%	NDD
PRI-7	Fine	Phenol	108-95-2	mg/kg	8	1	13%	6.3	11	0.92	3.325	3.496	0.92	1.314	38%	Normal
PRI-7	Fine	Pyrene	129-00-0	mg/kg	8	0	0%	0.0033	0.0038	--	0.0018	0.001794	--	0.00009039	5%	Normal
PRI-7	Fine	Total Aluminum	7429-90-5	mg/kg	8	8	100%	--	--	1300	3950	4350	11000	3126	72%	Normal
PRI-7	Fine	Total Antimony	7440-36-0	mg/kg	8	8	100%	--	--	0.12	0.215	0.27	0.59	0.1811	67%	Lognormal
PRI-7	Fine	Total Arsenic	7440-38-2	mg/kg	8	8	100%	--	--	7.2	12.5	14.8	27	7.498	51%	Normal
PRI-7	Fine	Total Barium	7440-39-3	mg/kg	8	8	100%	--	--	110	145	156.2	230	39.98	26%	Normal
PRI-7	Fine	Total Beryllium	7440-41-7	mg/kg	8	8	100%	--	--	0.073	0.195	0.2111	0.53	0.1505	71%	Normal
PRI-7	Fine	Total Cadmium	7440-43-9	mg/kg	8	7	88%	0.051	0.051	0.052	0.125	0.1114	0.2	0.06179	55%	Normal
PRI-7	Fine	Total Calcium	7440-70-2	mg/kg	8	8	100%	--	--	79000	145000	148600	200000	36700	25%	Normal
PRI-7	Fine	Total Chromium	7440-47-3	mg/kg	8	8	100%	--	--	5.4	16.45	26.24	78	25.29	96%	Lognormal
PRI-7	Fine	Total Cobalt	7440-48-4	mg/kg	8	8	100%	--	--	1.3	2.25	2.338	4.4	0.9768	42%	Normal
PRI-7	Fine	Total Copper	7440-50-8	mg/kg	8	8	100%	--	--	18	51	56.12	100	28.88	51%	Normal
PRI-7	Fine	Total Iron	7439-89-6	mg/kg	8	8	100%	--	--	3600	10850	14340	27000	9603	67%	Normal
PRI-7	Fine	Total Lead	7439-92-1	mg/kg	8	8	100%	--	--	4.4	10.5	9.488	13	3.094	33%	Normal
PRI-7	Fine	Total Magnesium	7439-95-4	mg/kg	8	8	100%	--	--	11000	18000	18620	30000	6301	34%	Normal
PRI-7	Fine	Total Manganese	7439-96-5	mg/kg	8	8	100%	--	--	60	145	151	320	88.24	58%	Normal
PRI-7	Fine	Total Mercury	7439-97-6	mg/kg	8	8	100%	--	--	0.039	0.056	0.07788	0.15	0.04534	58%	Normal
PRI-7	Fine	Total Molybdenum	7439-98-7	mg/kg	8	8	100%	--	--	2.1	6.1	5.9	8.8	2.273	39%	Normal
PRI-7	Fine	Total Nickel	7440-02-0	mg/kg	8	8	100%	--	--	4.3	7.55	7.337	12	2.617	36%	Normal
PRI-7	Fine	Total PCBs	1336-36-3	mg/kg	8	8	100%	--	--	0.038	0.33	0.9991	4.6	1.602	160%	Lognormal
PRI-7	Fine	Total Potassium	7440-09-7	mg/kg	8	8	100%	--	--	1300	2300	2525	5900	1493	59%	Lognormal
PRI-7	Fine	Total Selenium	7782-49-2	mg/kg	8	8	100%	--	--	0.15	0.275	0.2675	0.39	0.08172	31%	Normal
PRI-7	Fine	Total Silver	7440-22-4	mg/kg	8	5	63%	0.029	0.031	0.029	0.032	0.02869	0.046	0.01244	43%	Normal
PRI-7	Fine	Total Sodium	7440-23-5	mg/kg	8	8	100%	--	--	5400	8950	9475	15000	3410	36%	Normal
PRI-7	Fine	Total Thallium	7440-28-0	mg/kg	8	5	63%	0.048	0.051	0.063	0.0705	0.06781	0.12	0.03995	59%	Normal
PRI-7	Fine	Total Vanadium	7440-62-2	mg/kg	8	8	100%	--	--	9.2	15.5	18.74	32	9.142	49%	Normal
PRI-7	Fine	Total Zinc	7440-66-6	mg/kg	8	8	100%	--	--	17	40.5	40.38	65	14.24	35%	Normal
PRI-1	Fine	1,1'-Biphenyl	92-52-4	mg/kg	4	0	0%	1.7	80	--	2.5	11.46	--	19.09	167%	Lognormal
PRI-1	Fine	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	4	0	0%	0.26	13	--	0.39	1.852	--	3.108	168%	Lognormal
PRI-1	Fine	2-Chloronaphthalene	91-58-7	mg/kg	4	0	0%	0.82	39	--	1.23	5.592	--	9.304	166%	Lognormal
PRI-1	Fine	2-Chlorophenol	95-57-8	mg/kg	4	0	0%	0.89	43	--	1.322	6.148	--	10.27	167%	Lognormal
PRI-1	Fine	2-Methylnaphthalene	91-57-6	mg/kg	4	0	0%	0.00043	0.061	--	0.00825	0.0118	--	0.01322	112%	Normal
PRI-1	Fine	2-Methylphenol	95-48-7	mg/kg	4	0	0%	0.59	28	--	0.8725	4.01	--	6.682	167%	Lognormal
PRI-1	Fine	2-Nitroaniline	88-74-4	mg/kg	4	0	0%	0.85	41	--	1.262	5.862	--	9.79	167%	Lognormal
PRI-1	Fine	2-Nitrophenol	88-75-5	mg/kg	4	0	0%	0.83	40	--	1.232	5.72	--	9.551	167%	Lognormal
PRI-1	Fine	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	4	0	0%	0.8	38	--	1.2	5.45	--	9.065	166%	Lognormal
PRI-1	Fine	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	4	0	0%	0.83	40	--	1.232	5.72	--	9.551	167%	Lognormal
PRI-1	Fine	2,4-Dichlorophenol	120-83-2	mg/kg	4	0	0%	0.9	43	--	1.35	6.162	--	10.26	167%	Lognormal
PRI-1	Fine	2,4-Dimethylphenol	105-67-9	mg/kg	4	0	0%	1.7	81	--	2.525	11.6	--	19.33	167%	Lognormal
PRI-1	Fine	2,4-Dinitrophenol	51-28-5	mg/kg	4	0	0%	2.2	100	--	3.3	14.42	--	23.81	165%	Lognormal
PRI-1	Fine	2,4-Dinitrotoluene	121-14-2	mg/kg	4	0	0%	0.9	43	--	1.35	6.162	--	10.26	167%	Lognormal
PRI-1	Fine	2,4,5-Trichlorophenol	95-95-4	mg/kg	4	0	0%	0.84	40	--	1.26	5.735	--	9.543	166%	Lognormal
PRI-1	Fine	2,4,6-Trichlorophenol	88-06-2	mg/kg	4	0	0%	0.044	0.43	--	0.06625	0.09238	--	0.09162	99%	Normal
PRI-1	Fine	2,6-Dinitrotoluene	606-20-2	mg/kg	4	0	0%	1	48	--	1.5	6.875	--	11.46	167%	Lognormal
PRI-1	Fine	3-Nitroaniline	99-09-2	mg/kg	4	0	0%	1.7	81	--	2.525	11.6	--	19.33	167%	Lognormal
PRI-1	Fine	3 & 4 Methylphenol	15831-10-4	mg/kg	4	0	0%	3.3	160	--	5.1	22.96	--	38.16	166%	Lognormal
PRI-1	Fine	3,3'-Dichlorobenzidine	91-94-1	mg/kg	4	0	0%	0.95	45	--	1.415	6.451	--	10.74	166%	Lognormal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-1	Fine	4-Bromophenyl-phenylether	101-55-3	mg/kg	4	0	0%	0.86	41	--	1.29	5.878	--	9.782	166%	Lognormal
PRI-1	Fine	4-Chloro-3-methylphenol	59-50-7	mg/kg	4	0	0%	0.93	45	--	1.382	6.432	--	10.75	167%	Lognormal
PRI-1	Fine	4-Chloroaniline	106-47-8	mg/kg	4	0	0%	0.59	28	--	0.8725	4.01	--	6.682	167%	Lognormal
PRI-1	Fine	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	4	0	0%	0.94	45	--	1.412	6.449	--	10.74	167%	Lognormal
PRI-1	Fine	4-Nitroaniline	100-01-6	mg/kg	4	0	0%	0.89	43	--	1.322	6.148	--	10.27	167%	Lognormal
PRI-1	Fine	4-Nitrophenol	100-02-7	mg/kg	4	0	0%	2.8	140	--	4.2	19.95	--	33.47	168%	Lognormal
PRI-1	Fine	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4	0	0%	0.82	39	--	1.23	5.592	--	9.304	166%	Lognormal
PRI-1	Fine	Acenaphthene	83-32-9	mg/kg	4	1	25%	0.00043	0.024	0.012	0.007225	0.006666	0.012	0.006226	93%	Normal
PRI-1	Fine	Acenaphthylene	208-96-8	mg/kg	4	0	0%	0.0003	0.017	--	0.00245	0.003388	--	0.003622	107%	Normal
PRI-1	Fine	Acetophenone	98-86-2	mg/kg	4	0	0%	0.25	12	--	0.3875	1.725	--	2.861	166%	Lognormal
PRI-1	Fine	Anthracene	120-12-7	mg/kg	4	1	25%	0.00036	0.02	0.017	0.00605	0.00732	0.017	0.007727	106%	Normal
PRI-1	Fine	Benzaldehyde	100-52-7	mg/kg	4	0	0%	1.7	80	--	2.5	11.46	--	19.09	167%	Lognormal
PRI-1	Fine	Benzo(a)anthracene	56-55-3	mg/kg	4	2	50%	0.00028	0.0032	0.021	0.0113	0.01344	0.031	0.01508	112%	Normal
PRI-1	Fine	Benzo(a)pyrene	50-32-8	mg/kg	4	3	75%	0.00037	0.00037	0.021	0.0705	0.1503	0.46	0.213	142%	Normal
PRI-1	Fine	Benzo(b)fluoranthene	205-99-2	mg/kg	4	2	50%	0.00046	0.0053	0.033	0.01782	0.01772	0.035	0.01884	106%	Normal
PRI-1	Fine	Benzo(g,h,i)perylene	191-24-2	mg/kg	4	1	25%	0.00091	0.051	0.024	0.01475	0.01386	0.024	0.01275	92%	Normal
PRI-1	Fine	Benzo(k)fluoranthene	207-08-9	mg/kg	4	0	0%	0.0007	0.039	--	0.00575	0.007838	--	0.008305	106%	Normal
PRI-1	Fine	Benzylbutylphthalate	85-68-7	mg/kg	4	0	0%	0.96	46	--	1.442	6.591	--	10.98	167%	Lognormal
PRI-1	Fine	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	4	0	0%	0.89	43	--	1.322	6.148	--	10.27	167%	Lognormal
PRI-1	Fine	bis(2-Chloroethyl) ether	111-44-4	mg/kg	4	0	0%	0.82	39	--	1.23	5.592	--	9.304	166%	Lognormal
PRI-1	Fine	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	4	1	25%	1	47	1	1.725	6.862	1	11.12	162%	Lognormal
PRI-1	Fine	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	4	4	100%	--	--	630	1164000	6082000	22000000	10670000	175%	Lognormal
PRI-1	Fine	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	4	4	100%	--	--	37	8665	36840	130000	62610	170%	Lognormal
PRI-1	Fine	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	4	4	100%	--	--	630	1164000	6082000	22000000	10670000	175%	Lognormal
PRI-1	Fine	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	4	4	100%	--	--	37	8670	36840	130000	62610	170%	Lognormal
PRI-1	Fine	Carbazole	86-74-8	mg/kg	4	0	0%	0.96	46	--	1.442	6.591	--	10.98	167%	Lognormal
PRI-1	Fine	Chrysene	218-01-9	mg/kg	4	3	75%	0.00032	0.00032	0.0085	0.02225	0.02991	0.075	0.03373	113%	Normal
PRI-1	Fine	Di-n-butylphthalate	84-74-2	mg/kg	4	0	0%	0.98	47	--	1.473	6.734	--	11.22	167%	Lognormal
PRI-1	Fine	Di-n-octylphthalate	117-84-0	mg/kg	4	0	0%	0.98	47	--	1.473	6.734	--	11.22	167%	Lognormal
PRI-1	Fine	Dibenzo(a,h)anthracene	53-70-3	mg/kg	4	0	0%	0.0011	0.061	--	0.009	0.01226	--	0.01296	106%	Normal
PRI-1	Fine	Dibenzofuran	132-64-9	mg/kg	4	0	0%	0.87	42	--	1.292	6.005	--	10.03	167%	Lognormal
PRI-1	Fine	Diethyl phthalate	84-66-2	mg/kg	4	0	0%	0.91	44	--	1.352	6.29	--	10.51	167%	Lognormal
PRI-1	Fine	Dimethylphthalate	131-11-3	mg/kg	4	0	0%	0.88	42	--	1.32	6.02	--	10.02	166%	Lognormal
PRI-1	Fine	Fluoranthene	206-44-0	mg/kg	4	4	100%	--	--	0.00029	0.0395	0.04407	0.097	0.04655	106%	Normal
PRI-1	Fine	Fluorene	86-73-7	mg/kg	4	1	25%	0.00045	0.025	0.062	0.00755	0.01933	0.062	0.02894	150%	Normal
PRI-1	Fine	Hexachlorobenzene	118-74-1	mg/kg	4	4	100%	--	--	0.057	116.4	608.2	2200	1067	175%	Lognormal
PRI-1	Fine	Hexachlorobutadiene	87-68-3	mg/kg	4	1	25%	0.037	0.19	0.4	0.057	0.1331	0.4	0.1815	136%	Normal
PRI-1	Fine	Hexachlorocyclopentadiene	77-47-4	mg/kg	4	0	0%	0.63	30	--	0.9325	4.295	--	7.16	167%	Lognormal
PRI-1	Fine	Hexachloroethane	67-72-1	mg/kg	4	0	0%	0.82	39	--	1.23	5.592	--	9.304	166%	Lognormal
PRI-1	Fine	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	4	3	75%	0.00044	0.00044	0.012	0.0135	0.0133	0.026	0.0106	80%	Normal
PRI-1	Fine	Isophorone	78-59-1	mg/kg	4	0	0%	0.94	45	--	1.412	6.449	--	10.74	167%	Lognormal
PRI-1	Fine	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	4	0	0%	0.85	41	--	1.262	5.862	--	9.79	167%	Lognormal
PRI-1	Fine	N-Nitrosodimethylamine	62-75-9	mg/kg	4	0	0%	0.97	9.3	--	1.445	2.006	--	1.98	99%	Normal
PRI-1	Fine	N-Nitrosodiphenylamine	86-30-6	mg/kg	4	0	0%	0.87	42	--	1.292	6.005	--	10.03	167%	Lognormal
PRI-1	Fine	Naphthalene	91-20-3	mg/kg	4	0	0%	0.00034	0.023	--	0.002575	0.004205	--	0.005003	119%	Normal
PRI-1	Fine	Nitrobenzene	98-95-3	mg/kg	4	0	0%	0.77	37	--	1.142	5.292	--	8.834	167%	Lognormal
PRI-1	Fine	Pentachlorobenzene	608-93-5	mg/kg	4	2	50%	0.13	0.13	17	8.532	24.03	79	37.5	156%	Normal
PRI-1	Fine	Pentachlorophenol	87-86-5	mg/kg	4	2	50%	0.24	1.2	0.24	0.42	1.44	4.8	2.249	156%	Lognormal
PRI-1	Fine	Phenanthrene	85-01-8	mg/kg	4	1	25%	0.00073	0.065	0.15	0.01838	0.04678	0.15	0.07029	150%	Normal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-1	Fine	Phenol	108-95-2	mg/kg	4	0	0%	0.84	40	--	1.26	5.735	--	9.543	166%	Lognormal
PRI-1	Fine	Pyrene	129-00-0	mg/kg	4	3	75%	0.00032	0.00032	0.01	0.035	0.04054	0.092	0.04317	106%	Normal
PRI-1	Fine	Total Aluminum	7429-90-5	mg/kg	4	4	100%	--	--	2200	5250	4925	7000	2241	46%	Normal
PRI-1	Fine	Total Antimony	7440-36-0	mg/kg	4	4	100%	--	--	0.13	0.86	4.962	18	8.701	175%	Lognormal
PRI-1	Fine	Total Arsenic	7440-38-2	mg/kg	4	4	100%	--	--	3.9	11.4	30.68	96	43.71	142%	Lognormal
PRI-1	Fine	Total Barium	7440-39-3	mg/kg	4	4	100%	--	--	90	240	387.5	980	406.6	105%	Normal
PRI-1	Fine	Total Beryllium	7440-41-7	mg/kg	4	4	100%	--	--	0.17	0.32	0.3175	0.46	0.1352	43%	Normal
PRI-1	Fine	Total Cadmium	7440-43-9	mg/kg	4	4	100%	--	--	0.053	0.0835	0.1425	0.35	0.1397	98%	Lognormal
PRI-1	Fine	Total Calcium	7440-70-2	mg/kg	4	4	100%	--	--	12000	62500	74250	160000	61960	83%	Normal
PRI-1	Fine	Total Chromium	7440-47-3	mg/kg	4	4	100%	--	--	7.5	25.5	22.38	31	10.89	49%	Normal
PRI-1	Fine	Total Cobalt	7440-48-4	mg/kg	4	4	100%	--	--	1.9	3.05	3.175	4.7	1.389	44%	Normal
PRI-1	Fine	Total Copper	7440-50-8	mg/kg	4	4	100%	--	--	22	36.5	47.75	96	32.89	69%	Normal
PRI-1	Fine	Total Iron	7439-89-6	mg/kg	4	4	100%	--	--	5000	25500	36500	90000	37010	101%	Normal
PRI-1	Fine	Total Lead	7439-92-1	mg/kg	4	4	100%	--	--	4.1	9.45	19.25	54	23.48	122%	Lognormal
PRI-1	Fine	Total Magnesium	7439-95-4	mg/kg	4	4	100%	--	--	11000	14500	15750	23000	5252	33%	Normal
PRI-1	Fine	Total Manganese	7439-96-5	mg/kg	4	4	100%	--	--	43	111.5	116.5	200	66.1	57%	Normal
PRI-1	Fine	Total Mercury	7439-97-6	mg/kg	4	3	75%	0.0087	0.0087	0.024	0.0315	0.04684	0.12	0.0508	108%	Normal
PRI-1	Fine	Total Molybdenum	7439-98-7	mg/kg	4	4	100%	--	--	0.59	7.65	14.97	44	19.68	131%	Normal
PRI-1	Fine	Total Nickel	7440-02-0	mg/kg	4	4	100%	--	--	4.6	13.8	14.8	27	10.15	69%	Normal
PRI-1	Fine	Total PCBs	1336-36-3	mg/kg	4	4	100%	--	--	0.018	5.198	19.13	66.1	31.61	165%	Lognormal
PRI-1	Fine	Total Potassium	7440-09-7	mg/kg	4	4	100%	--	--	530	1800	1582	2200	731.1	46%	Normal
PRI-1	Fine	Total Selenium	7782-49-2	mg/kg	4	4	100%	--	--	0.14	0.24	0.2575	0.41	0.1124	44%	Normal
PRI-1	Fine	Total Silver	7440-22-4	mg/kg	4	3	75%	0.031	0.031	0.062	0.0625	0.06012	0.1	0.03461	58%	Normal
PRI-1	Fine	Total Sodium	7440-23-5	mg/kg	4	4	100%	--	--	380	1500	1720	3500	1322	77%	Normal
PRI-1	Fine	Total Thallium	7440-28-0	mg/kg	4	3	75%	0.049	0.049	0.072	0.0755	0.06788	0.096	0.03062	45%	Normal
PRI-1	Fine	Total Vanadium	7440-62-2	mg/kg	4	4	100%	--	--	12	29.5	30.5	51	17.41	57%	Normal
PRI-1	Fine	Total Zinc	7440-66-6	mg/kg	4	4	100%	--	--	20	31	44	94	34.22	78%	Normal
PRI-3	Fine	1,1'-Biphenyl	92-52-4	mg/kg	3	0	0%	1.6	7.5	--	1.65	2.067	--	1.518	73%	Normal
PRI-3	Fine	1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	3	0	0%	0.26	1.2	--	0.265	0.3317	--	0.242	73%	Normal
PRI-3	Fine	2-Chloronaphthalene	91-58-7	mg/kg	3	0	0%	0.8	3.7	--	0.8	1.017	--	0.7489	74%	Normal
PRI-3	Fine	2-Chlorophenol	95-57-8	mg/kg	3	0	0%	0.87	4	--	0.9	1.112	--	0.8037	72%	Normal
PRI-3	Fine	2-Methylnaphthalene	91-57-6	mg/kg	3	0	0%	0.00095	0.014	--	0.0034	0.003625	--	0.003268	90%	Normal
PRI-3	Fine	2-Methylphenol	95-48-7	mg/kg	3	0	0%	0.57	2.6	--	0.6	0.7283	--	0.5195	71%	Normal
PRI-3	Fine	2-Nitroaniline	88-74-4	mg/kg	3	0	0%	0.83	3.8	--	0.85	1.055	--	0.7634	72%	Normal
PRI-3	Fine	2-Nitrophenol	88-75-5	mg/kg	3	0	0%	0.81	3.7	--	0.85	1.035	--	0.7401	72%	Normal
PRI-3	Fine	2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	3	0	0%	0.78	3.6	--	0.8	0.9967	--	0.7253	73%	Normal
PRI-3	Fine	2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	3	0	0%	0.81	3.7	--	0.85	1.035	--	0.7401	72%	Normal
PRI-3	Fine	2,4-Dichlorophenol	120-83-2	mg/kg	3	0	0%	0.88	4	--	0.9	1.113	--	0.8016	72%	Normal
PRI-3	Fine	2,4-Dimethylphenol	105-67-9	mg/kg	3	0	0%	1.6	7.6	--	1.7	2.1	--	1.539	73%	Normal
PRI-3	Fine	2,4-Dinitrophenol	51-28-5	mg/kg	3	0	0%	2.1	9.7	--	2.15	2.683	--	1.955	73%	Normal
PRI-3	Fine	2,4-Dinitrotoluene	121-14-2	mg/kg	3	0	0%	0.88	4	--	0.9	1.113	--	0.8016	72%	Normal
PRI-3	Fine	2,4,5-Trichlorophenol	95-95-4	mg/kg	3	0	0%	0.82	3.8	--	0.85	1.053	--	0.7655	73%	Normal
PRI-3	Fine	2,4,6-Trichlorophenol	88-06-2	mg/kg	3	0	0%	0.043	0.2	--	0.0445	0.05533	--	0.04036	73%	Normal
PRI-3	Fine	2,6-Dinitrotoluene	606-20-2	mg/kg	3	0	0%	0.98	4.5	--	1	1.247	--	0.9056	73%	Normal
PRI-3	Fine	3-Nitroaniline	99-09-2	mg/kg	3	0	0%	1.6	7.6	--	1.7	2.1	--	1.539	73%	Normal
PRI-3	Fine	3 & 4 Methylphenol	15831-10-4	mg/kg	3	0	0%	3.3	15	--	3.35	4.167	--	3.009	72%	Normal
PRI-3	Fine	3,3'-Dichlorobenzidine	91-94-1	mg/kg	3	0	0%	0.93	4.3	--	0.95	1.188	--	0.8674	73%	Normal
PRI-3	Fine	4-Bromophenyl-phenylether	101-55-3	mg/kg	3	0	0%	0.84	3.9	--	0.85	1.073	--	0.7891	74%	Normal
PRI-3	Fine	4-Chloro-3-methylphenol	59-50-7	mg/kg	3	0	0%	0.91	4.2	--	0.95	1.168	--	0.844	72%	Normal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-3	Fine	4-Chloroaniline	106-47-8	mg/kg	3	0	0%	0.57	2.6	--	0.6	0.7283	--	0.5195	71%	Normal
PRI-3	Fine	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	3	0	0%	0.92	4.2	--	0.95	1.17	--	0.8418	72%	Normal
PRI-3	Fine	4-Nitroaniline	100-01-6	mg/kg	3	0	0%	0.87	4	--	0.9	1.112	--	0.8037	72%	Normal
PRI-3	Fine	4-Nitrophenol	100-02-7	mg/kg	3	0	0%	2.8	13	--	2.85	3.583	--	2.628	73%	Normal
PRI-3	Fine	4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	3	0	0%	0.8	3.7	--	0.8	1.017	--	0.7489	74%	Normal
PRI-3	Fine	Acenaphthene	83-32-9	mg/kg	3	1	33%	0.00045	0.005	0.0063	0.0025	0.003008	0.0063	0.003069	102%	Normal
PRI-3	Fine	Acenaphthylene	208-96-8	mg/kg	3	0	0%	0.00032	0.0036	--	0.00175	0.001237	--	0.0009328	75%	Normal
PRI-3	Fine	Acetophenone	98-86-2	mg/kg	3	0	0%	0.25	1.1	--	0.255	0.31	--	0.2178	70%	Normal
PRI-3	Fine	Anthracene	120-12-7	mg/kg	3	2	67%	0.00038	0.00038	0.0051	0.0051	0.00493	0.0095	0.004657	94%	Normal
PRI-3	Fine	Benzaldehyde	100-52-7	mg/kg	3	0	0%	1.6	7.5	--	1.65	2.067	--	1.518	73%	Normal
PRI-3	Fine	Benzo(a)anthracene	56-55-3	mg/kg	3	3	100%	--	--	0.00056	0.035	0.03619	0.073	0.03623	100%	Normal
PRI-3	Fine	Benzo(a)pyrene	50-32-8	mg/kg	3	3	100%	--	--	0.00057	0.074	0.06486	0.12	0.06024	93%	Normal
PRI-3	Fine	Benzo(b)fluoranthene	205-99-2	mg/kg	3	2	67%	0.00048	0.00048	0.074	0.074	0.06808	0.13	0.06508	96%	Normal
PRI-3	Fine	Benzo(g,h,i)perylene	191-24-2	mg/kg	3	2	67%	0.00096	0.00096	0.054	0.054	0.05083	0.098	0.04884	96%	Normal
PRI-3	Fine	Benzo(k)fluoranthene	207-08-9	mg/kg	3	2	67%	0.00073	0.00073	0.019	0.019	0.01979	0.04	0.01983	100%	Normal
PRI-3	Fine	Benzylbutylphthalate	85-68-7	mg/kg	3	0	0%	0.94	4.3	--	0.95	1.19	--	0.8653	73%	Normal
PRI-3	Fine	Bis(2-chloroethoxy)methane	111-91-1	mg/kg	3	0	0%	0.87	4	--	0.9	1.112	--	0.8037	72%	Normal
PRI-3	Fine	bis(2-Chloroethyl) ether	111-44-4	mg/kg	3	0	0%	0.8	3.7	--	0.8	1.017	--	0.7489	74%	Normal
PRI-3	Fine	Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	3	1	33%	0.97	6.4	30	3.2	11.23	30	16.31	145%	Normal
PRI-3	Fine	Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	3	3	100%	--	--	1600	43000	51530	110000	54700	106%	Normal
PRI-3	Fine	Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	3	3	100%	--	--	74	3500	3591	7200	3564	99%	Normal
PRI-3	Fine	Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	3	3	100%	--	--	1600	43000	51530	110000	54700	106%	Normal
PRI-3	Fine	Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	3	3	100%	--	--	75	3500	3592	7200	3563	99%	Normal
PRI-3	Fine	Carbazole	86-74-8	mg/kg	3	0	0%	0.94	4.3	--	0.95	1.19	--	0.8653	73%	Normal
PRI-3	Fine	Chrysene	218-01-9	mg/kg	3	3	100%	--	--	0.0013	0.063	0.0681	0.14	0.06949	102%	Normal
PRI-3	Fine	Di-n-butylphthalate	84-74-2	mg/kg	3	0	0%	0.96	4.4	--	1	1.227	--	0.8821	72%	Normal
PRI-3	Fine	Di-n-octylphthalate	117-84-0	mg/kg	3	0	0%	0.96	4.4	--	1	1.227	--	0.8821	72%	Normal
PRI-3	Fine	Dibenzo(a,h)anthracene	53-70-3	mg/kg	3	1	33%	0.0012	0.013	0.029	0.0065	0.01203	0.029	0.01499	125%	Normal
PRI-3	Fine	Dibenzofuran	132-64-9	mg/kg	3	0	0%	0.85	3.9	--	0.85	1.075	--	0.787	73%	Normal
PRI-3	Fine	Diethyl phthalate	84-66-2	mg/kg	3	0	0%	0.89	4.1	--	0.9	1.132	--	0.8272	73%	Normal
PRI-3	Fine	Dimethylphthalate	131-11-3	mg/kg	3	0	0%	0.86	3.9	--	0.9	1.093	--	0.7782	71%	Normal
PRI-3	Fine	Fluoranthene	206-44-0	mg/kg	3	3	100%	--	--	0.00062	0.048	0.04887	0.098	0.0487	100%	Normal
PRI-3	Fine	Fluorene	86-73-7	mg/kg	3	0	0%	0.00047	0.0058	--	0.0026	0.001912	--	0.00146	76%	Normal
PRI-3	Fine	Hexachlorobenzene	118-74-1	mg/kg	3	3	100%	--	--	0.15	3.8	4.65	10	4.98	107%	Normal
PRI-3	Fine	Hexachlorobutadiene	87-68-3	mg/kg	3	0	0%	0.036	0.17	--	0.0375	0.04683	--	0.03446	74%	Normal
PRI-3	Fine	Hexachlorocyclopentadiene	77-47-4	mg/kg	3	0	0%	0.61	2.8	--	0.65	0.785	--	0.5598	71%	Normal
PRI-3	Fine	Hexachloroethane	67-72-1	mg/kg	3	0	0%	0.8	3.7	--	0.8	1.017	--	0.7489	74%	Normal
PRI-3	Fine	Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	3	2	67%	0.00046	0.00046	0.04	0.04	0.03674	0.07	0.035	95%	Normal
PRI-3	Fine	Isophorone	78-59-1	mg/kg	3	0	0%	0.92	4.2	--	0.95	1.17	--	0.8418	72%	Normal
PRI-3	Fine	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	3	0	0%	0.83	3.8	--	0.85	1.055	--	0.7634	72%	Normal
PRI-3	Fine	N-Nitrosodimethylamine	62-75-9	mg/kg	3	0	0%	0.95	4.4	--	0.95	1.208	--	0.891	74%	Normal
PRI-3	Fine	N-Nitrosodiphenylamine	86-30-6	mg/kg	3	0	0%	0.85	3.9	--	0.85	1.075	--	0.787	73%	Normal
PRI-3	Fine	Naphthalene	91-20-3	mg/kg	3	0	0%	0.00074	0.009	--	0.002	0.00229	--	0.00208	91%	Normal
PRI-3	Fine	Nitrobenzene	98-95-3	mg/kg	3	0	0%	0.75	3.4	--	0.75	0.9417	--	0.683	73%	Normal
PRI-3	Fine	Pentachlorobenzene	608-93-5	mg/kg	3	1	33%	0.13	0.59	0.53	0.295	0.2967	0.53	0.2325	78%	Normal
PRI-3	Fine	Pentachlorophenol	87-86-5	mg/kg	3	0	0%	0.24	1.1	--	0.245	0.305	--	0.2212	73%	Normal
PRI-3	Fine	Phenanthrene	85-01-8	mg/kg	3	0	0%	0.0012	0.068	--	0.0145	0.01637	--	0.01678	103%	Normal
PRI-3	Fine	Phenol	108-95-2	mg/kg	3	0	0%	0.82	3.8	--	0.85	1.053	--	0.7655	73%	Normal
PRI-3	Fine	Pyrene	129-00-0	mg/kg	3	3	100%	--	--	0.00067	0.062	0.06089	0.12	0.05967	98%	Normal

Table 2
Descriptive statistics for all analytes in all Inner PRIs, bulk and fines soil fractions
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

PRI	Fraction	Analyte	CAS	Unit	N	Number Detects	Percent Detects	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
PRI-3	Fine	Total Aluminum	7429-90-5	mg/kg	3	3	100%	--	--	4100	9600	8567	12000	4050	47%	Normal
PRI-3	Fine	Total Antimony	7440-36-0	mg/kg	3	3	100%	--	--	0.15	1.7	1.983	4.1	1.99	100%	Normal
PRI-3	Fine	Total Arsenic	7440-38-2	mg/kg	3	3	100%	--	--	4.4	10	9.8	15	5.303	54%	Normal
PRI-3	Fine	Total Barium	7440-39-3	mg/kg	3	3	100%	--	--	89	330	303	490	201.9	67%	Normal
PRI-3	Fine	Total Beryllium	7440-41-7	mg/kg	3	3	100%	--	--	0.16	0.81	0.6567	1	0.4405	67%	Normal
PRI-3	Fine	Total Cadmium	7440-43-9	mg/kg	3	3	100%	--	--	0.15	2.6	1.85	2.8	1.476	80%	Normal
PRI-3	Fine	Total Calcium	7440-70-2	mg/kg	3	3	100%	--	--	18000	29000	52330	110000	50240	96%	Normal
PRI-3	Fine	Total Chromium	7440-47-3	mg/kg	3	3	100%	--	--	5.7	93	86.23	160	77.37	90%	Normal
PRI-3	Fine	Total Cobalt	7440-48-4	mg/kg	3	3	100%	--	--	1.6	3.8	3.4	4.8	1.637	48%	Normal
PRI-3	Fine	Total Copper	7440-50-8	mg/kg	3	3	100%	--	--	15	410	365	670	329.8	90%	Normal
PRI-3	Fine	Total Iron	7439-89-6	mg/kg	3	3	100%	--	--	4600	38000	27870	41000	20210	73%	Normal
PRI-3	Fine	Total Lead	7439-92-1	mg/kg	3	3	100%	--	--	3.9	81	60.97	98	50.15	82%	Normal
PRI-3	Fine	Total Magnesium	7439-95-4	mg/kg	3	3	100%	--	--	11000	13000	12330	13000	1155	9%	NDD
PRI-3	Fine	Total Manganese	7439-96-5	mg/kg	3	3	100%	--	--	120	120	123.3	130	5.774	5%	NDD
PRI-3	Fine	Total Mercury	7439-97-6	mg/kg	3	2	67%	0.0075	0.0075	5	5	3.801	6.4	3.362	88%	Normal
PRI-3	Fine	Total Molybdenum	7439-98-7	mg/kg	3	3	100%	--	--	0.64	6.5	5.713	10	4.729	83%	Normal
PRI-3	Fine	Total Nickel	7440-02-0	mg/kg	3	3	100%	--	--	4.8	42	32.27	50	24.12	75%	Normal
PRI-3	Fine	Total PCBs	1336-36-3	mg/kg	3	3	100%	--	--	0.062	4.9	3.854	6.6	3.392	88%	Normal
PRI-3	Fine	Total Potassium	7440-09-7	mg/kg	3	3	100%	--	--	1300	2100	2233	3300	1007	45%	Normal
PRI-3	Fine	Total Selenium	7782-49-2	mg/kg	3	3	100%	--	--	0.17	2.1	1.823	3.2	1.534	84%	Normal
PRI-3	Fine	Total Silver	7440-22-4	mg/kg	3	3	100%	--	--	0.24	13	9.747	16	8.369	86%	Normal
PRI-3	Fine	Total Sodium	7440-23-5	mg/kg	3	3	100%	--	--	1800	2900	2567	3000	665.8	26%	Normal
PRI-3	Fine	Total Thallium	7440-28-0	mg/kg	3	3	100%	--	--	0.087	0.13	0.119	0.14	0.02816	24%	Normal
PRI-3	Fine	Total Vanadium	7440-62-2	mg/kg	3	3	100%	--	--	12	30	27	39	13.75	51%	Normal
PRI-3	Fine	Total Zinc	7440-66-6	mg/kg	3	3	100%	--	--	21	1100	907	1600	807	89%	Normal

Notes:

CV = Coefficient of variation
DL = Detection Limit
mg/kg = milligrams per kilogram
ND = Not Detected
NDD = No discernable distribution
PCBs = Polychlorinated biphenyls
pg/g = picograms per gram
PRI = Preliminary Remedial Investigation
TEQ = Toxicity equivalence

Table 3
Detection rates for each soil fraction and number of detect-detect pairs for each analyte
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

Analyte	CAS	Unit	Number of Bulk: Fine Pairs	Number of Bulk Detects	Number of Fine Detects	Percent Bulk Detect	Percent Fine Detect	Number of Detect-Detect Pairs	Trend analysis possible?
1,1'-Biphenyl	92-52-4	mg/kg	32	0	0	0%	0%	0	No
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	32	0	0	0%	0%	0	No
2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	32	0	0	0%	0%	0	No
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	32	0	0	0%	0%	0	No
2,4,5-Trichlorophenol	95-95-4	mg/kg	32	0	0	0%	0%	0	No
2,4,6-Trichlorophenol	88-06-2	mg/kg	32	0	0	0%	0%	0	No
2,4-Dichlorophenol	120-83-2	mg/kg	32	0	0	0%	0%	0	No
2,4-Dimethylphenol	105-67-9	mg/kg	32	0	0	0%	0%	0	No
2,4-Dinitrophenol	51-28-5	mg/kg	32	0	0	0%	0%	0	No
2,4-Dinitrotoluene	121-14-2	mg/kg	32	0	0	0%	0%	0	No
2,6-Dinitrotoluene	606-20-2	mg/kg	32	0	0	0%	0%	0	No
2-Chloronaphthalene	91-58-7	mg/kg	32	0	0	0%	0%	0	No
2-Chlorophenol	95-57-8	mg/kg	32	0	0	0%	0%	0	No
2-Methylnaphthalene	91-57-6	mg/kg	32	5	4	16%	13%	1	No
2-Methylphenol	95-48-7	mg/kg	32	0	0	0%	0%	0	No
2-Nitroaniline	88-74-4	mg/kg	32	0	0	0%	0%	0	No
2-Nitrophenol	88-75-5	mg/kg	32	0	0	0%	0%	0	No
3 & 4 Methylphenol	15831-10-4	mg/kg	32	0	0	0%	0%	0	No
3,3'-Dichlorobenzidine	91-94-1	mg/kg	32	0	0	0%	0%	0	No
3-Nitroaniline	99-09-2	mg/kg	32	0	0	0%	0%	0	No
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	32	0	0	0%	0%	0	No
4-Bromophenyl-phenylether	101-55-3	mg/kg	32	0	0	0%	0%	0	No
4-Chloro-3-methylphenol	59-50-7	mg/kg	32	0	0	0%	0%	0	No
4-Chloroaniline	106-47-8	mg/kg	32	0	0	0%	0%	0	No
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	32	0	0	0%	0%	0	No
4-Nitroaniline	100-01-6	mg/kg	32	0	0	0%	0%	0	No
4-Nitrophenol	100-02-7	mg/kg	32	0	0	0%	0%	0	No
Acenaphthene	83-32-9	mg/kg	32	2	2	6%	6%	1	No
Acenaphthylene	208-96-8	mg/kg	32	0	0	0%	0%	0	No
Acetophenone	98-86-2	mg/kg	32	2	10	6%	31%	2	No
Anthracene	120-12-7	mg/kg	32	0	5	0%	16%	0	No
Benzaldehyde	100-52-7	mg/kg	32	0	0	0%	0%	0	No
Benzo(a)anthracene	56-55-3	mg/kg	32	5	8	16%	25%	4	No
Benzo(a)pyrene	50-32-8	mg/kg	32	10	17	31%	53%	10	Yes
Benzo(b)fluoranthene	205-99-2	mg/kg	32	4	8	13%	25%	4	No
Benzo(g,h,i)perylene	191-24-2	mg/kg	32	2	4	6%	13%	2	No
Benzo(k)fluoranthene	207-08-9	mg/kg	32	1	3	3%	9%	0	No

Table 3
Detection rates for each soil fraction and number of detect-detect pairs for each analyte
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

Analyte	CAS	Unit	Number of Bulk: Fine Pairs	Number of Bulk Detects	Number of Fine Detects	Percent Bulk Detect	Percent Fine Detect	Number of Detect-Detect Pairs	Trend analysis possible?
Benzylbutylphthalate	85-68-7	mg/kg	32	0	0	0%	0%	0	No
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	32	0	0	0%	0%	0	No
bis(2-Chloroethyl) ether	111-44-4	mg/kg	32	0	0	0%	0%	0	No
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	32	1	2	3%	6%	1	No
Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	32	32	32	100%	100%	32	Yes
Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	32	32	32	100%	100%	32	Yes
Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	32	32	32	100%	100%	32	Yes
Calculated TEQ (ND=1/2 DL), Mammalian	CALC_DX_2	pg/g	32	32	32	100%	100%	32	Yes
Carbazole	86-74-8	mg/kg	32	0	0	0%	0%	0	No
Chrysene	218-01-9	mg/kg	32	6	12	19%	38%	5	No
Dibenzo(a,h)anthracene	53-70-3	mg/kg	32	0	1	0%	3%	0	No
Dibenzofuran	132-64-9	mg/kg	32	0	0	0%	0%	0	No
Diethyl phthalate	84-66-2	mg/kg	32	0	0	0%	0%	0	No
Dimethylphthalate	131-11-3	mg/kg	32	0	0	0%	0%	0	No
Di-n-butylphthalate	84-74-2	mg/kg	32	0	0	0%	0%	0	No
Di-n-octylphthalate	117-84-0	mg/kg	32	0	0	0%	0%	0	No
Fluoranthene	206-44-0	mg/kg	32	9	12	28%	38%	6	No
Fluorene	86-73-7	mg/kg	32	2	2	6%	6%	1	No
Hexachlorobenzene	118-74-1	mg/kg	32	28	26	88%	81%	25	Yes
Hexachlorobutadiene	87-68-3	mg/kg	32	1	1	3%	3%	1	No
Hexachlorocyclopentadiene	77-47-4	mg/kg	32	0	0	0%	0%	0	No
Hexachloroethane	67-72-1	mg/kg	32	0	0	0%	0%	0	No
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	32	4	7	13%	22%	4	No
Isophorone	78-59-1	mg/kg	32	0	0	0%	0%	0	No
Naphthalene	91-20-3	mg/kg	32	1	4	3%	13%	0	No
Nitrobenzene	98-95-3	mg/kg	32	0	0	0%	0%	0	No
N-Nitrosodimethylamine	62-75-9	mg/kg	32	0	0	0%	0%	0	No
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	32	0	0	0%	0%	0	No
N-Nitrosodiphenylamine	86-30-6	mg/kg	32	0	0	0%	0%	0	No
Pentachlorobenzene	608-93-5	mg/kg	32	5	5	16%	16%	5	No
Pentachlorophenol	87-86-5	mg/kg	32	1	2	3%	6%	1	No
Phenanthrene	85-01-8	mg/kg	32	3	6	9%	19%	2	No
Phenol	108-95-2	mg/kg	32	2	2	6%	6%	1	No
Pyrene	129-00-0	mg/kg	32	7	11	22%	34%	4	No
Total Aluminum	7429-90-5	mg/kg	32	32	32	100%	100%	32	Yes
Total Antimony	7440-36-0	mg/kg	32	29	26	91%	81%	25	Yes
Total Arsenic	7440-38-2	mg/kg	32	32	32	100%	100%	32	Yes

Table 3
Detection rates for each soil fraction and number of detect-detect pairs for each analyte
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

Analyte	CAS	Unit	Number of Bulk: Fine Pairs	Number of Bulk Detects	Number of Fine Detects	Percent Bulk Detect	Percent Fine Detect	Number of Detect-Detect Pairs	Trend analysis possible?
Total Barium	7440-39-3	mg/kg	32	32	32	100%	100%	32	Yes
Total Beryllium	7440-41-7	mg/kg	32	29	31	91%	97%	28	Yes
Total Cadmium	7440-43-9	mg/kg	32	22	23	69%	72%	21	Yes
Total Calcium	7440-70-2	mg/kg	32	32	32	100%	100%	32	Yes
Total Chromium	7440-47-3	mg/kg	32	32	32	100%	100%	32	Yes
Total Cobalt	7440-48-4	mg/kg	32	32	32	100%	100%	32	Yes
Total Copper	7440-50-8	mg/kg	32	32	32	100%	100%	32	Yes
Total Iron	7439-89-6	mg/kg	32	32	32	100%	100%	32	Yes
Total Lead	7439-92-1	mg/kg	32	32	32	100%	100%	32	Yes
Total Magnesium	7439-95-4	mg/kg	32	32	32	100%	100%	32	Yes
Total Manganese	7439-96-5	mg/kg	32	32	32	100%	100%	32	Yes
Total Mercury	7439-97-6	mg/kg	32	25	28	78%	88%	21	Yes
Total Molybdenum	7439-98-7	mg/kg	32	32	32	100%	100%	32	Yes
Total Nickel	7440-02-0	mg/kg	32	32	32	100%	100%	32	Yes
Total PCBs	1336-36-3	mg/kg	32	32	32	100%	100%	32	Yes
Total Potassium	7440-09-7	mg/kg	32	30	31	94%	97%	29	Yes
Total Selenium	7782-49-2	mg/kg	32	24	23	75%	72%	22	Yes
Total Silver	7440-22-4	mg/kg	32	12	15	38%	47%	11	Yes
Total Sodium	7440-23-5	mg/kg	32	32	32	100%	100%	32	Yes
Total Thallium	7440-28-0	mg/kg	32	24	20	75%	63%	19	Yes
Total Vanadium	7440-62-2	mg/kg	32	32	32	100%	100%	32	Yes
Total Zinc	7440-66-6	mg/kg	32	32	32	100%	100%	32	Yes

Notes:

DL = Detection Limit
mg/kg = milligrams per kilogram
ND = Not Detected
PCBs = Polychlorinated biphenyls
pg/g = picograms per gram
TEQ = Toxicity equivalence

Table 4

Theil-Sens test for trends for analytes with at least eight detect-detect pairs

Phase 1A-B Bulk:Fine Analysis

US Magnesium, LLC

Tooele County, Utah

		Mann-Kendall				Theil-Sens					
Analyte	**Number of Detected Pairs**	**Z statistic**	***tau***	***tau*** ^{2}	**p-value**	**Intercept**	**Intercept p-value**	**Slope**	**MAD**	**V value**	**Slope p-value**
Benzo(a)pyrene	10	2.98	0.75	0.56	2.9E-03	1.6E-03	3.8E-01	0.9	0.187	55	2.0E-03
Calculated TEQ (ND=0), Avian	32	6.94	0.87	0.75	3.8E-12	1.7E+02	5.2E-05	0.8	0.217	528	8.3E-07
Calculated TEQ (ND=0), Mammalian	32	7.36	0.92	0.84	1.8E-13	9.0E+00	1.5E-05	1.0	0.212	528	8.3E-07
Calculated TEQ (ND=1/2 DL), Avian	32	7.03	0.88	0.77	2.1E-12	2.4E+02	3.1E-06	0.8	0.205	528	8.3E-07
Calculated TEQ (ND=1/2 DL), Mammalian	32	7.38	0.92	0.84	1.6E-13	8.8E+00	6.3E-06	1.0	0.209	528	8.3E-07
Hexachlorobenzene	25	6.38	0.92	0.84	1.8E-10	4.5E-02	6.0E-08	0.8	0.0628	325	6.0E-08
Total Aluminum	32	6.23	0.78	0.61	4.6E-10	-1.7E+02	7.7E-02	0.9	0.129	528	8.3E-07
Total Antimony	25	4.98	0.72	0.51	6.3E-07	-4.7E-02	2.5E-01	0.6	0.137	325	6.0E-08
Total Arsenic	32	6.68	0.84	0.71	2.4E-11	3.8E-01	3.1E-04	0.8	0.085	528	4.7E-10
Total Barium	32	6.66	0.84	0.70	2.7E-11	-1.8E+01	5.7E-03	1.0	0.0921	528	8.2E-07
Total Beryllium	28	6.21	0.85	0.72	5.4E-10	-9.2E-03	7.4E-02	0.9	0.208	406	7.5E-09
Total Cadmium	21	5.33	0.85	0.72	9.9E-08	4.0E-03	3.7E-01	0.7	0.181	231	9.5E-07
Total Calcium	32	7.02	0.89	0.79	2.2E-12	-1.2E+03	2.2E-02	1.0	0.0334	528	8.2E-07
Total Chromium	32	6.69	0.84	0.70	2.2E-11	3.5E-01	2.0E-01	0.9	0.181	528	8.3E-07
Total Cobalt	32	6.99	0.88	0.77	2.8E-12	7.7E-02	6.7E-05	0.8	0.0598	528	8.3E-07
Total Copper	32	2.39	0.30	0.09	1.7E-02	1.2E+01	3.6E-07	0.7	0.716	388	1.9E-02
Total Iron	32	7.16	0.90	0.80	8.0E-13	-7.6E+02	9.0E-05	1.0	0.0777	528	8.3E-07
Total Lead	32	6.63	0.84	0.70	3.3E-11	6.5E-01	7.1E-04	0.9	0.19	528	8.3E-07
Total Magnesium	32	6.4	0.82	0.66	1.5E-10	1.6E+01	8.5E-01	0.8	0.142	528	8.3E-07
Total Manganese	32	6.69	0.85	0.72	2.3E-11	5.0E+00	1.6E-03	0.8	0.0825	528	8.3E-07
Total Mercury	21	2.73	0.44	0.19	6.4E-03	8.7E-03	8.0E-03	0.8	0.231	205	1.0E-03
Total Molybdenum	32	7.19	0.90	0.81	6.4E-13	-1.7E-02	4.3E-02	0.8	0.123	528	8.3E-07
Total Nickel	32	6.21	0.78	0.61	5.4E-10	8.9E-01	3.2E-05	0.7	0.11	528	4.7E-10
Total PCBs	32	7.14	0.89	0.79	9.4E-13	3.5E-03	8.3E-06	1.3	0.293	528	8.3E-07
Total Potassium	29	6.19	0.83	0.68	6.0E-10	-1.4E+02	1.3E-01	0.8	0.127	435	3.7E-09
Total Selenium	22	5.26	0.82	0.67	1.5E-07	2.9E-02	2.6E-04	0.8	0.167	253	4.8E-07
Total Silver	11	3.37	0.80	0.63	7.6E-04	8.4E-03	5.4E-02	0.7	0.0481	66	9.8E-04
Total Sodium	32	6.66	0.84	0.70	2.7E-11	-1.5E+01	9.6E-01	0.9	0.0956	528	8.3E-07

Table 4
Theil-Sens test for trends for analytes with at least eight detect-detect pairs
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

		Mann-Kendall				Theil-Sens					
Analyte	**Number of Detected Pairs**	**Z statistic**	***tau***	***tau*** ^{2}	**p-value**	**Intercept**	**Intercept p-value**	**Slope**	**MAD**	**V value**	**Slope p-value**
Total Thallium	19	3.2	0.54	0.29	1.4E-03	3.2E-02	9.5E-05	0.5	0.27	187	1.9E-05
Total Vanadium	32	6.9	0.87	0.76	5.3E-12	-6.4E-01	6.0E-02	1.0	0.122	528	8.3E-07
Total Zinc	32	3.83	0.48	0.23	1.3E-04	1.0E+01	8.3E-07	0.6	0.326	522	1.5E-06

Notes:

DL = Detection Limit

MAD = Median absolute deviation

ND = Not Detected

PCBs = Polychlorinated biphenyls

TEQ = Toxicity equivalence

Table 5

Wilcoxon Signed Rank Sum Test Comparing Bulk and Fine Concentrations

Phase 1A-B Bulk: Fine Analysis

US Magnesium, LLC

Tooele County, Utah

		Wilcoxon Signed Rank Test		
Analyte	**Number of Detect-Detect pairs**	**V statistic**	**p-value**	**Conclusion**
2-Methylnaphthalene	1	--	--	Insufficient Data
Acenaphthene	1	--	--	Insufficient Data
Acetophenone	2	--	--	Insufficient Data
Benzo(a)anthracene	4	--	--	Insufficient Data
Benzo(a)pyrene	10	34.5	0.254	Fines ≤ Bulk
Benzo(b)fluoranthene	4	--	--	Insufficient Data
Benzo(g,h,i)perylene	2	--	--	Insufficient Data
Bis(2-ethylhexyl)phthalate	1	--	--	Insufficient Data
Calculated TEQ (ND=0), Avian	32	145	0.943	Fines ≤ Bulk
Calculated TEQ (ND=0), Mammalian	32	252	0.469	Fines ≤ Bulk
Calculated TEQ (ND=1/2 DL), Avian	32	151	0.926	Fines ≤ Bulk
Calculated TEQ (ND=1/2 DL), Mammaliaı	32	247	0.387	Fines ≤ Bulk
Chrysene	5	--	--	Insufficient Data
Fluoranthene	6	--	--	Insufficient Data
Fluorene	1	--	--	Insufficient Data
Hexachlorobenzene	25	80	0.962	Fines ≤ Bulk
Hexachlorobutadiene	1	--	--	Insufficient Data
Indeno(1,2,3-cd)pyrene	4	--	--	Insufficient Data
Pentachlorobenzene	5	--	--	Insufficient Data
Pentachlorophenol	1	--	--	Insufficient Data
Phenanthrene	2	--	--	Insufficient Data
Phenol	1	--	--	Insufficient Data
Pyrene	4	--	--	Insufficient Data
Total Aluminum	32	58	1	Fines ≤ Bulk
Total Antimony	25	11	1	Fines ≤ Bulk
Total Arsenic	32	16	1	Fines ≤ Bulk
Total Barium	32	122	0.994	Fines ≤ Bulk
Total Beryllium	28	13	1	Fines ≤ Bulk
Total Cadmium	21	14.5	1	Fines ≤ Bulk
Total Calcium	32	190	0.5	Fines ≤ Bulk
Total Chromium	32	88	0.998	Fines ≤ Bulk
Total Cobalt	32	24.5	1	Fines ≤ Bulk
Total Copper	32	441	0.000483	Fines > Bulk
Total Iron	32	118	0.991	Fines ≤ Bulk
Total Lead	32	232	0.731	Fines ≤ Bulk
Total Magnesium	32	31.5	1	Fines ≤ Bulk
Total Manganese	32	77	0.999	Fines ≤ Bulk
Total Mercury	21	128	0.345	Fines ≤ Bulk
Total Molybdenum	32	14.5	1	Fines ≤ Bulk
Total Nickel	32	112	0.998	Fines ≤ Bulk

Table 5
Wilcoxon Signed Rank Sum Test Comparing Bulk and Fine Concentrations
Phase 1A-B Bulk: Fine Analysis
US Magnesium, LLC
Tooele County, Utah

Analyte	Number of Detect-Detect pairs	Wilcoxon Signed Rank Test V statistic	p-value	Conclusion
Total PCBs	32	402	0.00131	Fines > Bulk
Total Potassium	29	11.5	1	Fines ≤ Bulk
Total Selenium	22	30.5	0.997	Fines ≤ Bulk
Total Silver	11	17	0.926	Fines ≤ Bulk
Total Sodium	32	61	1	Fines ≤ Bulk
Total Thallium	19	5	1	Fines ≤ Bulk
Total Vanadium	32	36.5	1	Fines ≤ Bulk
Total Zinc	32	236	0.601	Fines ≤ Bulk

Notes:
DL = Detection Limit
Ho = Bulks are greater than or equal to fines
Ha = Fines are greater than Bulks
ND = Not Detected
PCBs = Polychlorinated biphenyls
TEQ = Toxicity equivalence
WRS test was only performed for analytes with at least 8 detect-detect pairs.

Table 6
Median Fine-to-Bulk Ratio and Theil-Sens Slope
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

Analyte	CAS	Detected Pairs	Median Fine:Bulk Ratio
1,1'-Biphenyl	92-52-4	0	--
1,2,4,5-Tetrachlorobenzene	95-94-3	0	--
2,2-Oxybis(1-chloropropane)	108-60-1	0	--
2,3,4,6-Tetrachlorophenol	58-90-2	0	--
2,4,5-Trichlorophenol	95-95-4	0	--
2,4,6-Trichlorophenol	88-06-2	0	--
2,4-Dichlorophenol	120-83-2	0	--
2,4-Dimethylphenol	105-67-9	0	--
2,4-Dinitrophenol	51-28-5	0	--
2,4-Dinitrotoluene	121-14-2	0	--
2,6-Dinitrotoluene	606-20-2	0	--
2-Chloronaphthalene	91-58-7	0	--
2-Chlorophenol	95-57-8	0	--
2-Methylnaphthalene	91-57-6	1	0.7
2-Methylphenol	95-48-7	0	--
2-Nitroaniline	88-74-4	0	--
2-Nitrophenol	88-75-5	0	--
3 & 4 Methylphenol	15831-10-4	0	--
3,3'-Dichlorobenzidine	91-94-1	0	--
3-Nitroaniline	99-09-2	0	--
4,6-Dinitro-2-methylphenol	534-52-1	0	--
4-Bromophenyl-phenylether	101-55-3	0	--
4-Chloro-3-methylphenol	59-50-7	0	--
4-Chloroaniline	106-47-8	0	--
4-Chlorophenyl-phenylether	7005-72-3	0	--
4-Nitroaniline	100-01-6	0	--
4-Nitrophenol	100-02-7	0	--
Acenaphthene	83-32-9	1	0.5
Acenaphthylene	208-96-8	0	--
Acetophenone	98-86-2	2	2.1
Anthracene	120-12-7	0	--
Benzaldehyde	100-52-7	0	--
Benzo(a)anthracene	56-55-3	4	0.8
Benzo(a)pyrene	50-32-8	10	1.2
Benzo(b)fluoranthene	205-99-2	4	1.0

Table 6
Median Fine-to-Bulk Ratio and Theil-Sens Slope
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

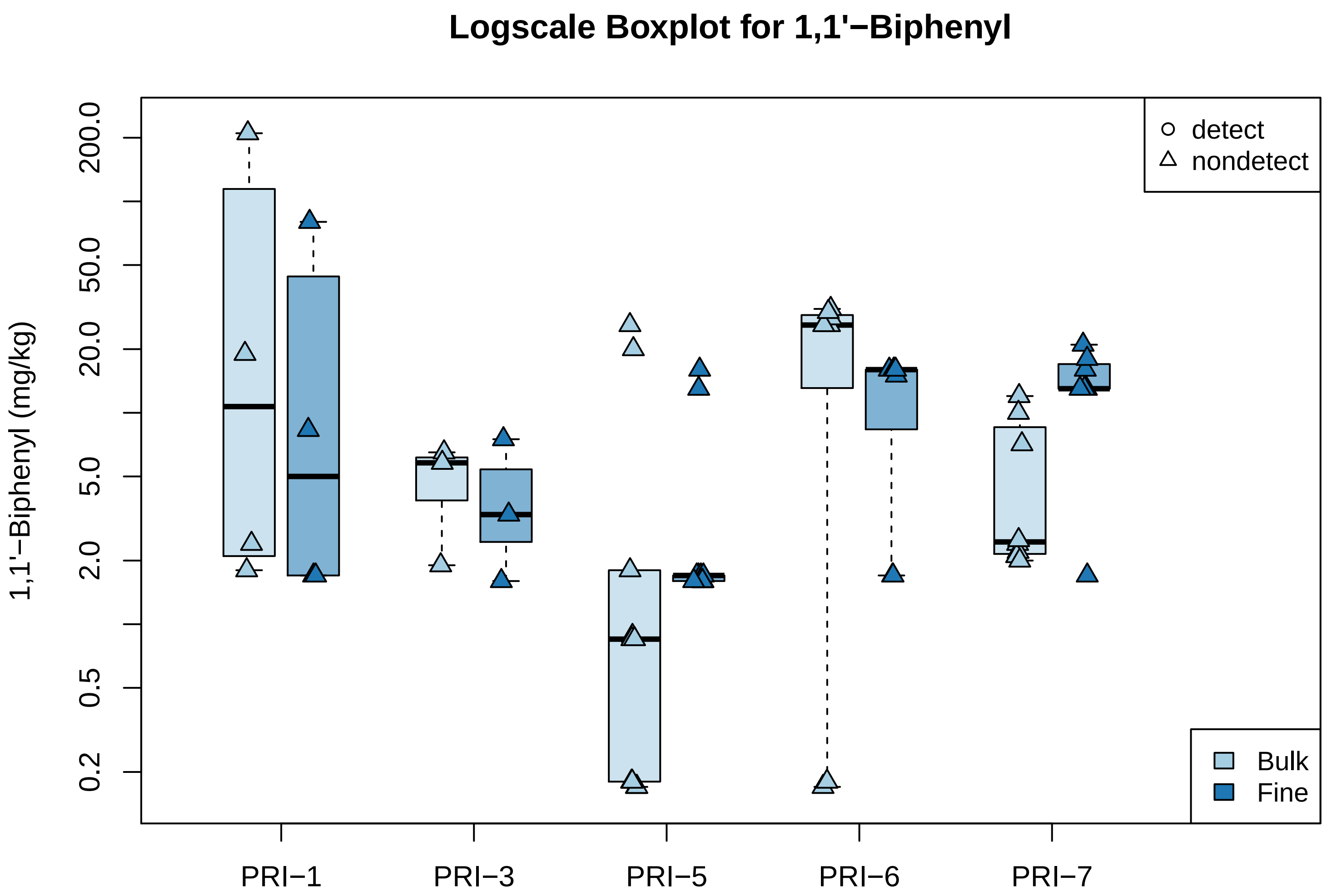
Analyte	CAS	Detected Pairs	Median Fine:Bulk Ratio
Benzo(g,h,i)perylene	191-24-2	2	0.9
Benzo(k)fluoranthene	207-08-9	0	--
Benzylbutylphthalate	85-68-7	0	--
Bis(2-chloroethoxy)methane	111-91-1	0	--
bis(2-Chloroethyl) ether	111-44-4	0	--
Bis(2-ethylhexyl)phthalate	117-81-7	1	1.1
Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	32	1.0
Calculated TEQ (ND=0), Mammalian	CALC_DX_0	32	1.4
Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	32	1.0
Calculated TEQ (ND=1/2 DL), Mammalia	CALC_DX_2	32	1.4
Carbazole	86-74-8	0	--
Chrysene	218-01-9	5	0.9
Dibenzo(a,h)anthracene	53-70-3	0	--
Dibenzofuran	132-64-9	0	--
Diethyl phthalate	84-66-2	0	--
Dimethylphthalate	131-11-3	0	--
Di-n-butylphthalate	84-74-2	0	--
Di-n-octylphthalate	117-84-0	0	--
Fluoranthene	206-44-0	6	1.2
Fluorene	86-73-7	1	0.8
Hexachlorobenzene	118-74-1	25	1.0
Hexachlorobutadiene	87-68-3	1	0.0
Hexachlorocyclopentadiene	77-47-4	0	--
Hexachloroethane	67-72-1	0	--
Indeno(1,2,3-cd)pyrene	193-39-5	4	0.9
Isophorone	78-59-1	0	--
Naphthalene	91-20-3	0	--
Nitrobenzene	98-95-3	0	--
N-Nitrosodimethylamine	62-75-9	0	--
N-Nitroso-di-n-propylamine	621-64-7	0	--
N-Nitrosodiphenylamine	86-30-6	0	--
Pentachlorobenzene	608-93-5	5	0.6
Pentachlorophenol	87-86-5	1	0.7
Phenanthrene	85-01-8	2	1.4
Phenol	108-95-2	1	0.1

Table 6
Median Fine-to-Bulk Ratio and Theil-Sens Slope
Phase 1A-B Bulk:Fine Analysis
US Magnesium, LLC
Tooele County, Utah

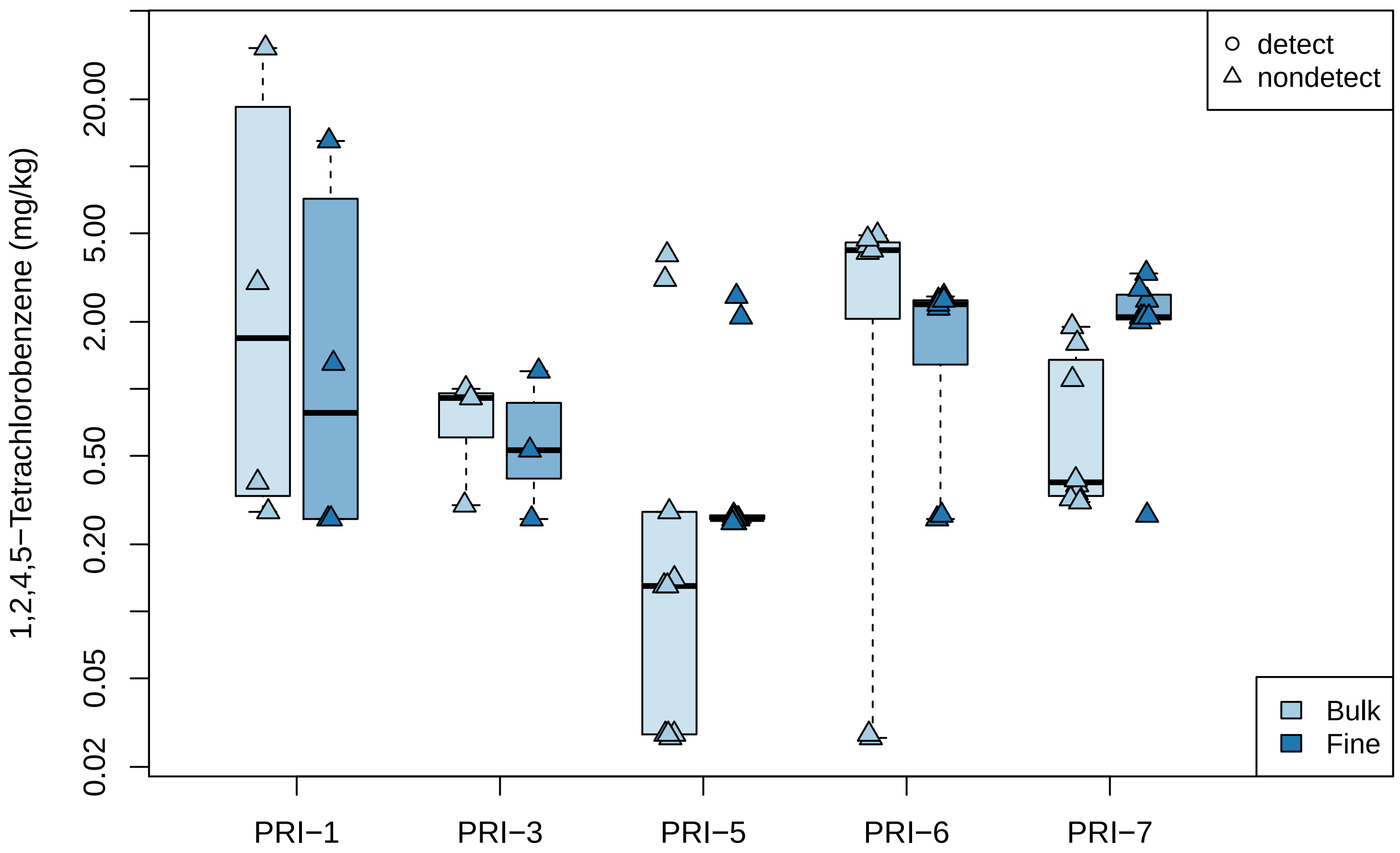
Analyte	**CAS**	**Detected Pairs**	**Median Fine:Bulk Ratio**
Pyrene	129-00-0	4	1.1
Total Aluminum	7429-90-5	32	0.8
Total Antimony	7440-36-0	25	0.7
Total Arsenic	7440-38-2	32	0.9
Total Barium	7440-39-3	32	0.9
Total Beryllium	7440-41-7	28	0.8
Total Cadmium	7440-43-9	21	0.8
Total Calcium	7440-70-2	32	1.0
Total Chromium	7440-47-3	32	0.9
Total Cobalt	7440-48-4	32	0.9
Total Copper	7440-50-8	32	2.6
Total Iron	7439-89-6	32	0.9
Total Lead	7439-92-1	32	0.9
Total Magnesium	7439-95-4	32	0.8
Total Manganese	7439-96-5	32	0.9
Total Mercury	7439-97-6	21	1.1
Total Molybdenum	7439-98-7	32	0.8
Total Nickel	7440-02-0	32	0.9
Total PCBs	1336-36-3	32	1.4
Total Potassium	7440-09-7	29	0.8
Total Selenium	7782-49-2	22	0.9
Total Silver	7440-22-4	11	0.8
Total Sodium	7440-23-5	32	0.9
Total Thallium	7440-28-0	19	0.8
Total Vanadium	7440-62-2	32	0.9
Total Zinc	7440-66-6	32	1.0

Notes:
DL = Detection Limit
PCBs = Polychlorinated biphenyls
ND = Not Detected
TEQ = Toxicity equivalence

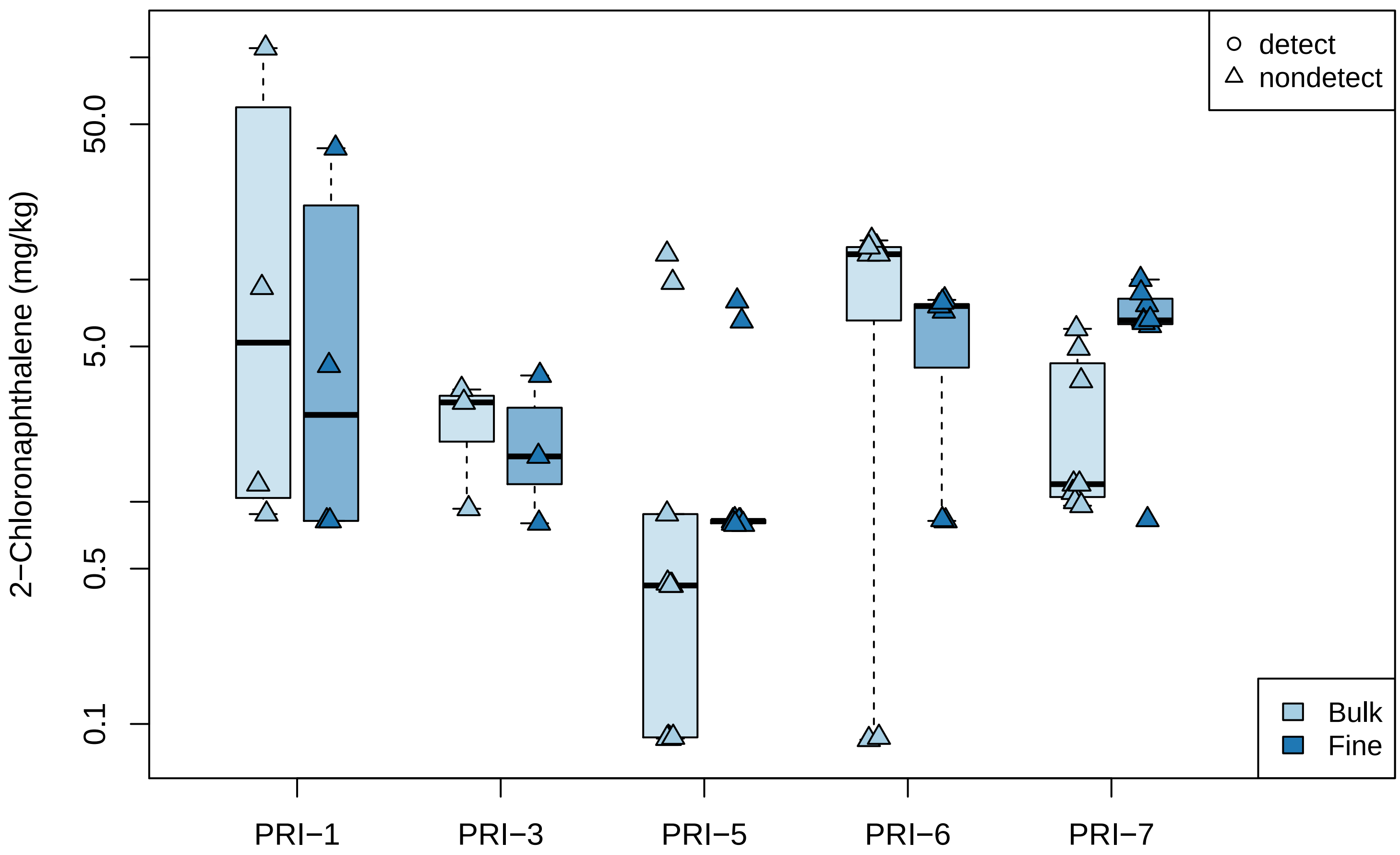
Attachment A
Boxplots of the Bulk and Fine Fractions for Each PRI


Logscale Boxplot for 1,1'−Biphenyl
1,1'−Biphenyl (mg/kg)
200.0
50.0
20.0
5.0
2.0
0.5
0.2
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

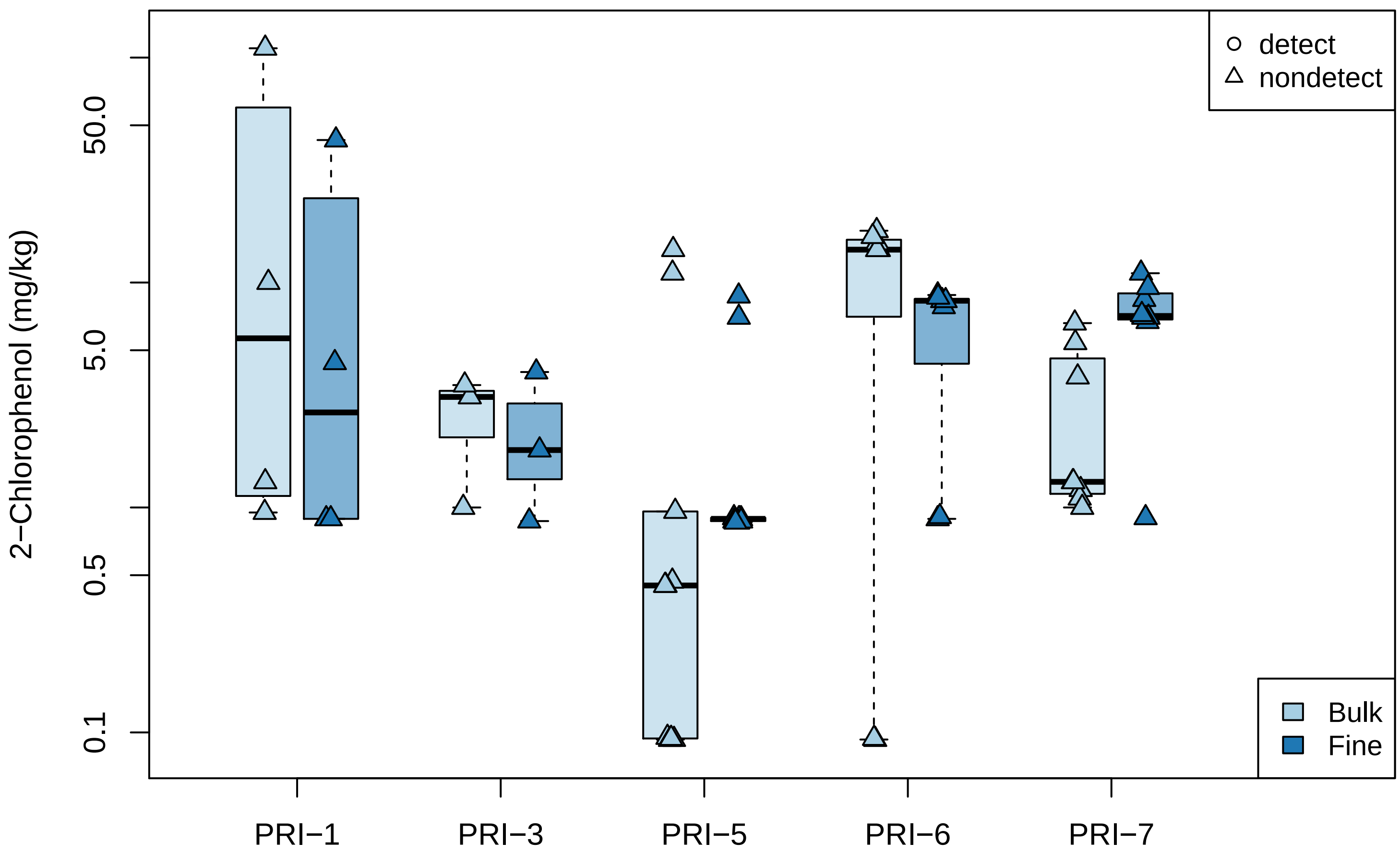
Logscale Boxplot for 1,2,4,5−Tetrachlorobenzene

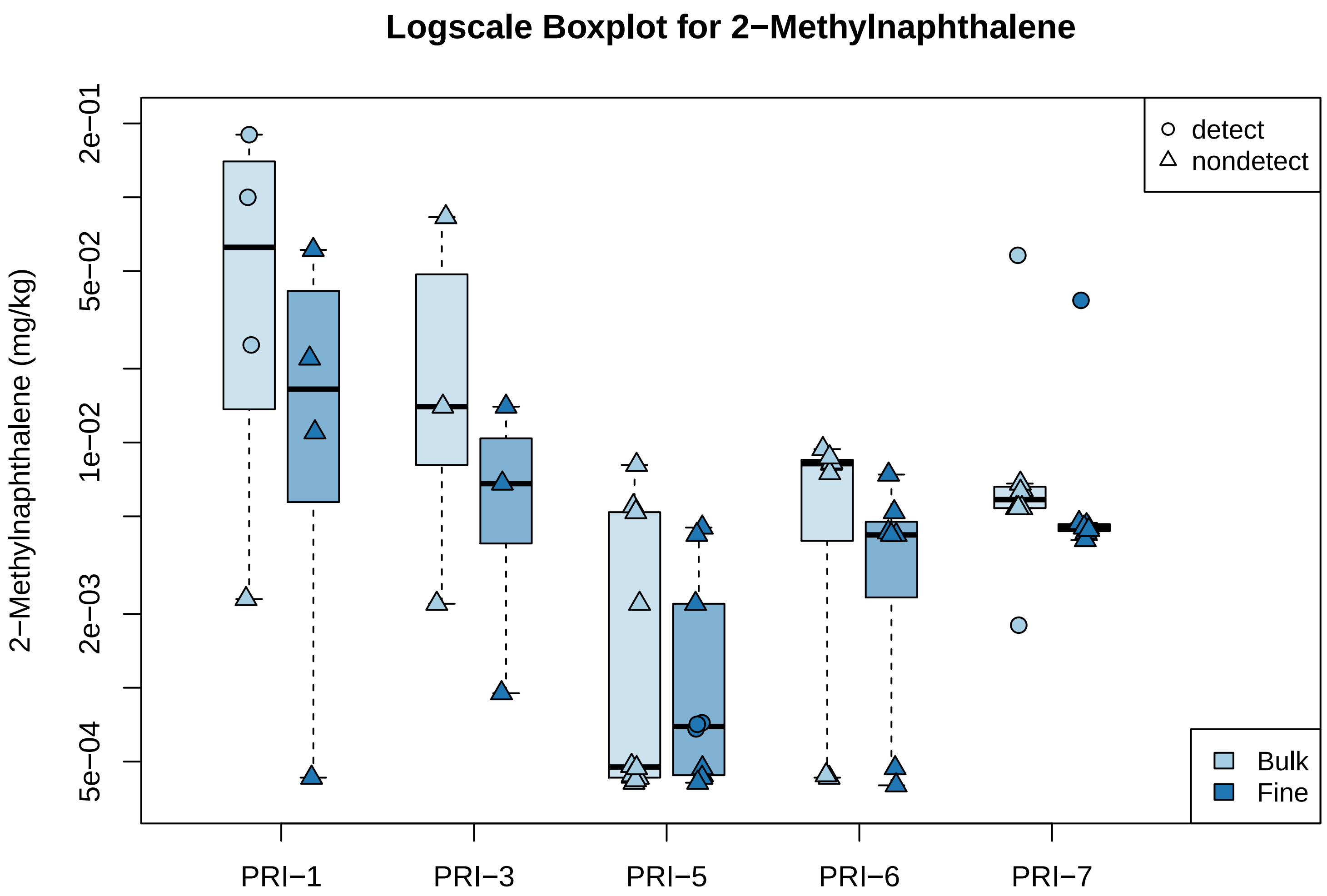


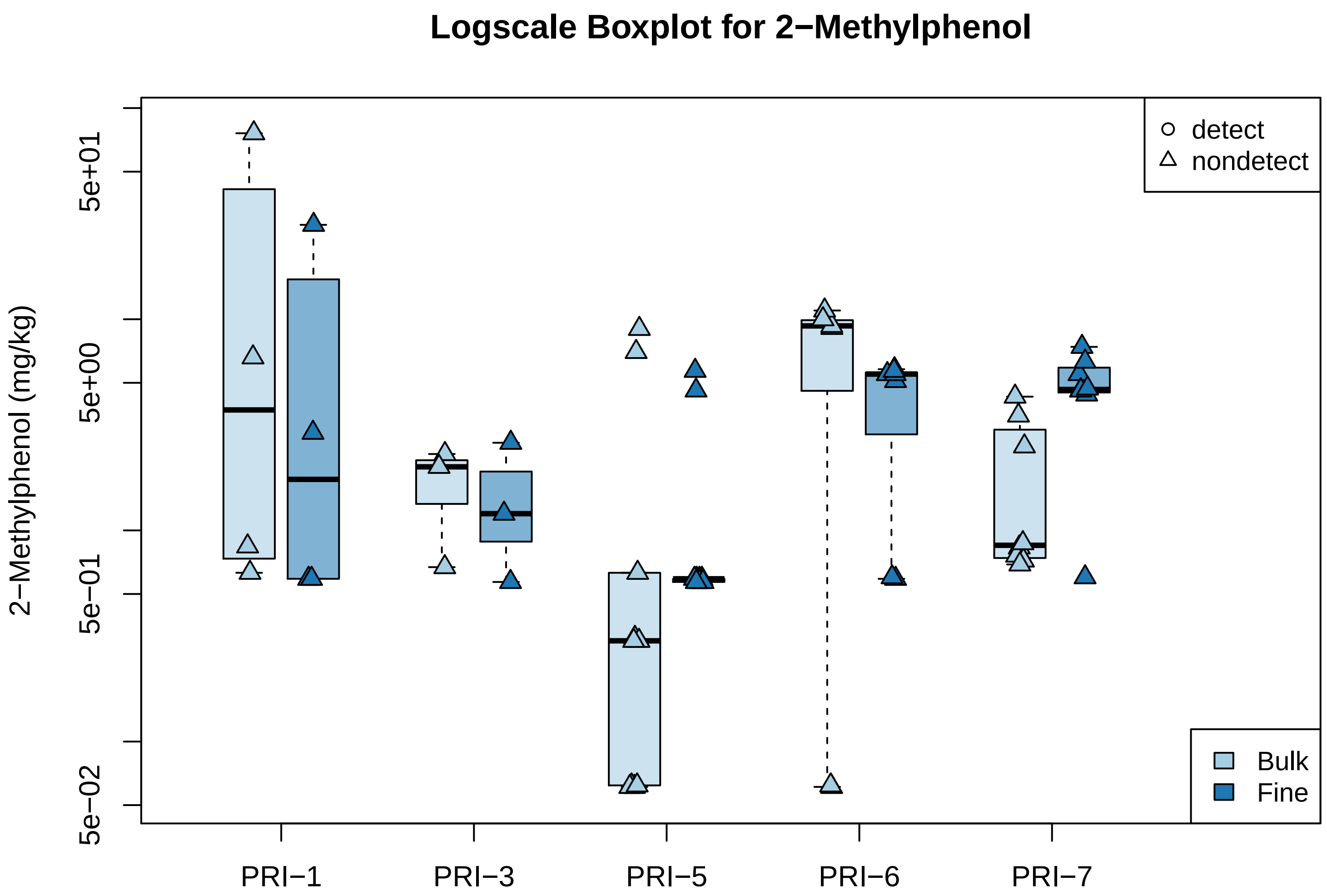
Logscale Boxplot for 2−Chloronaphthalene

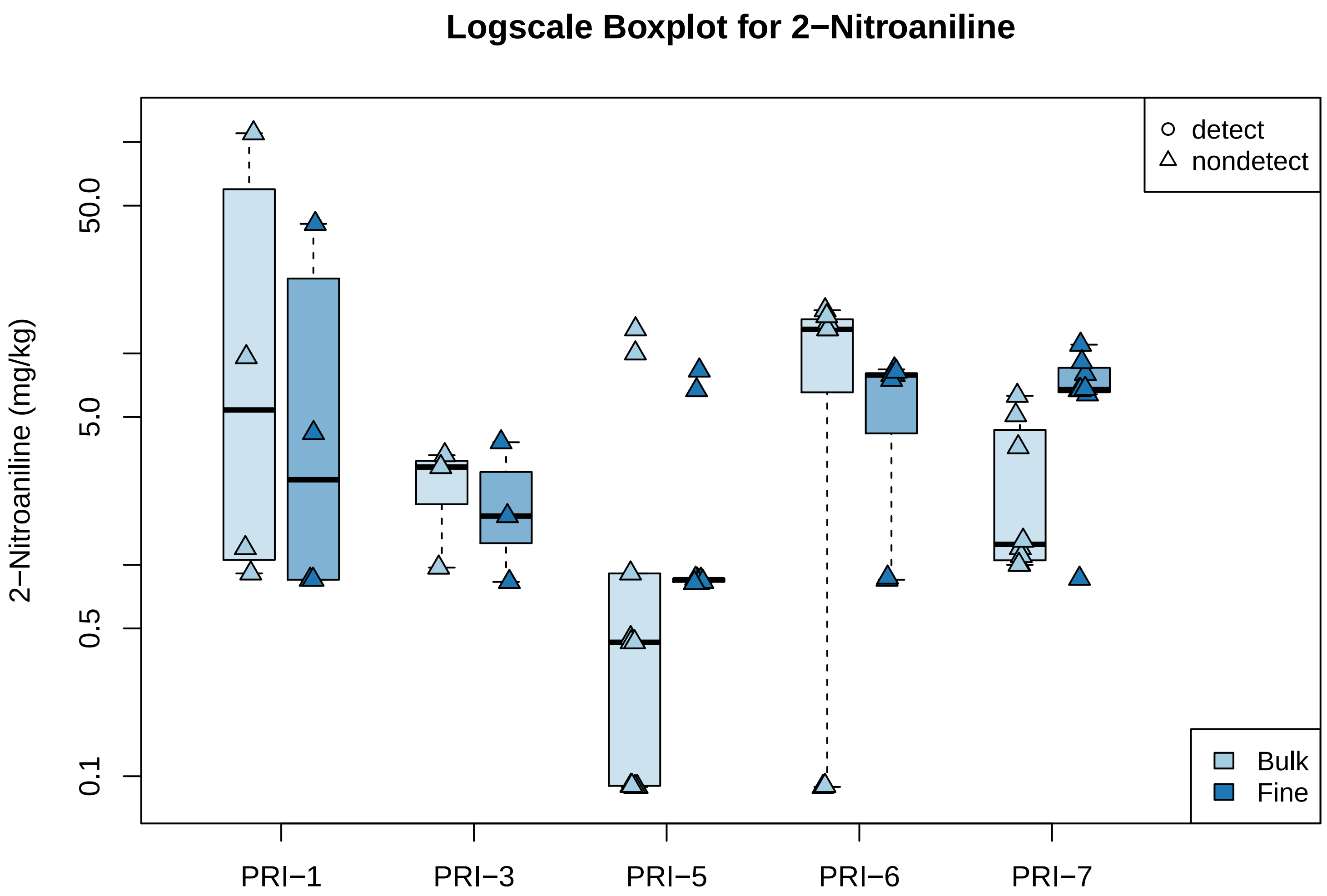


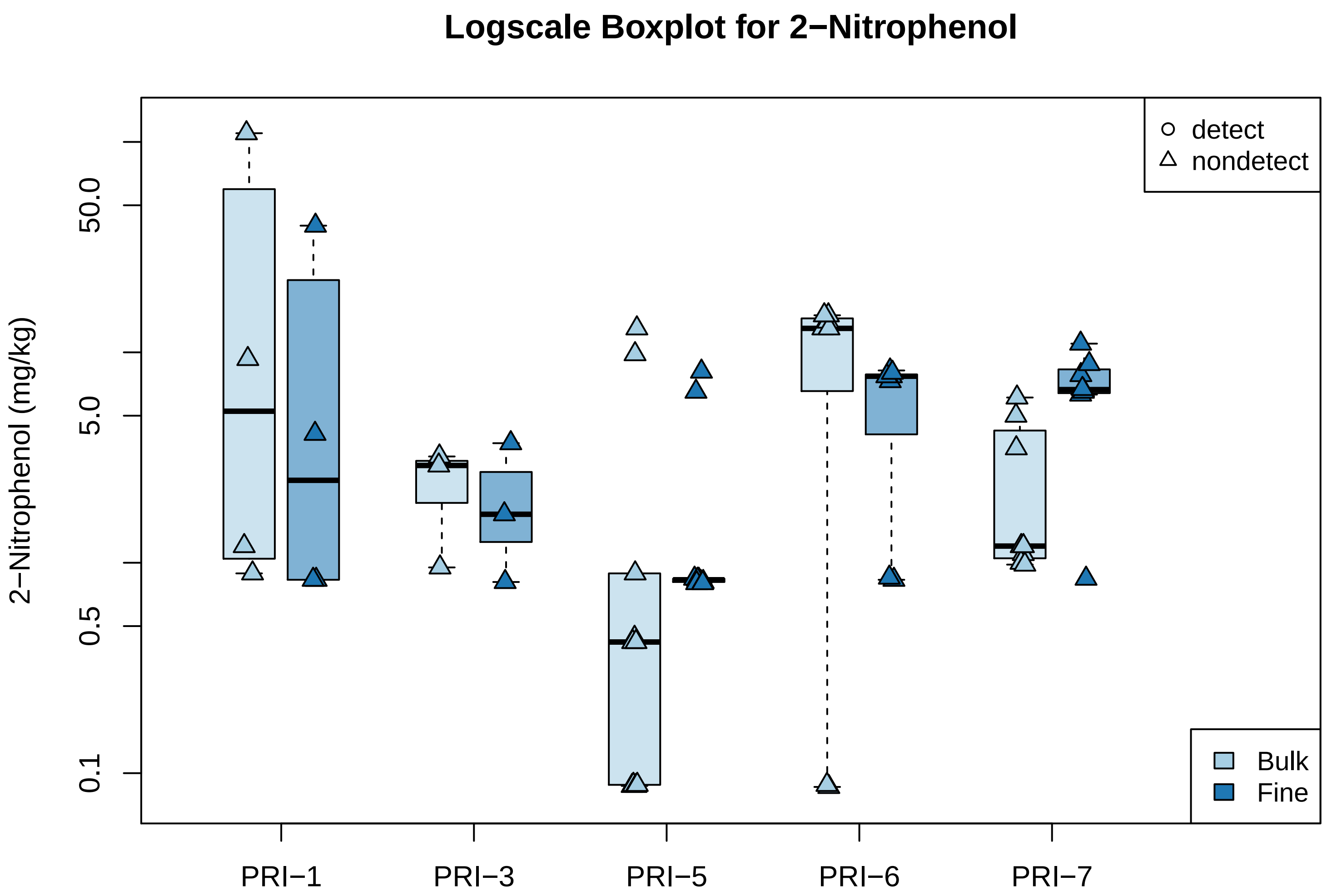
Logscale Boxplot for 2−Chlorophenol

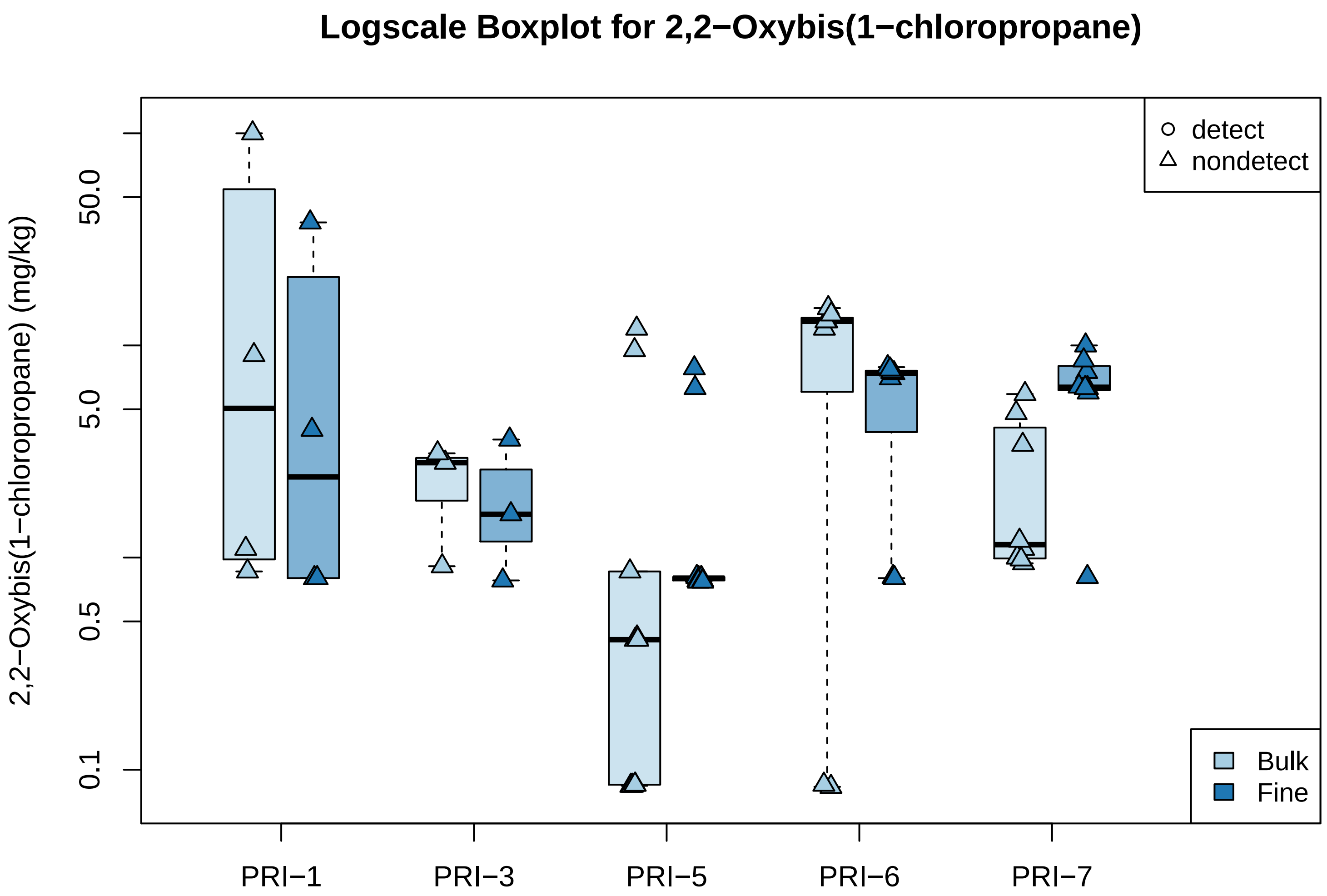



Logscale Boxplot for 2−Methylnaphthalene
2−Methylnaphthalene (mg/kg)
2e−01
5e−02
1e−02
2e−03
5e−04
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

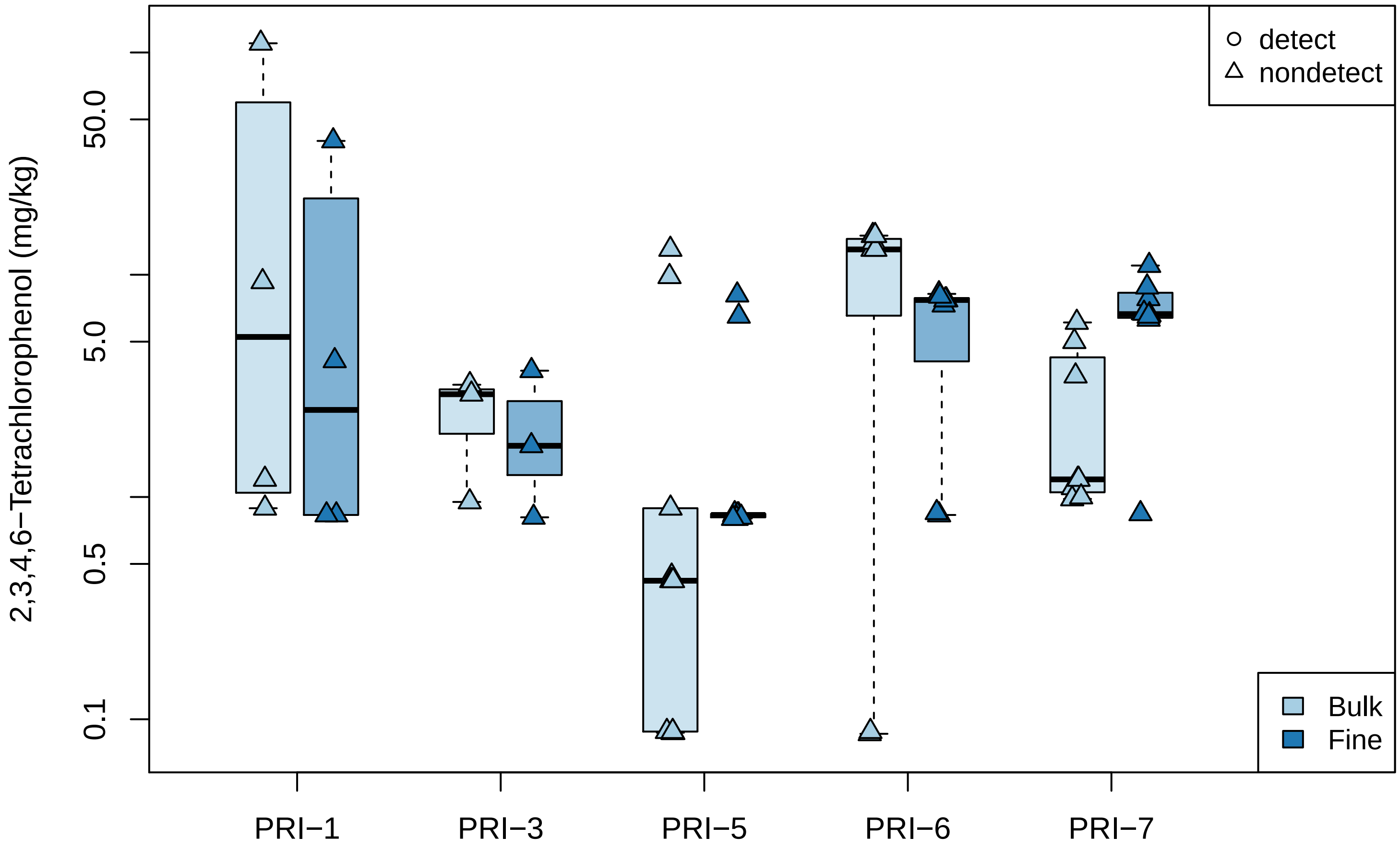

Logscale Boxplot for 2−Methylphenol
2−Methylphenol (mg/kg)
5e+01
5e+00
5e−01
5e−02
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

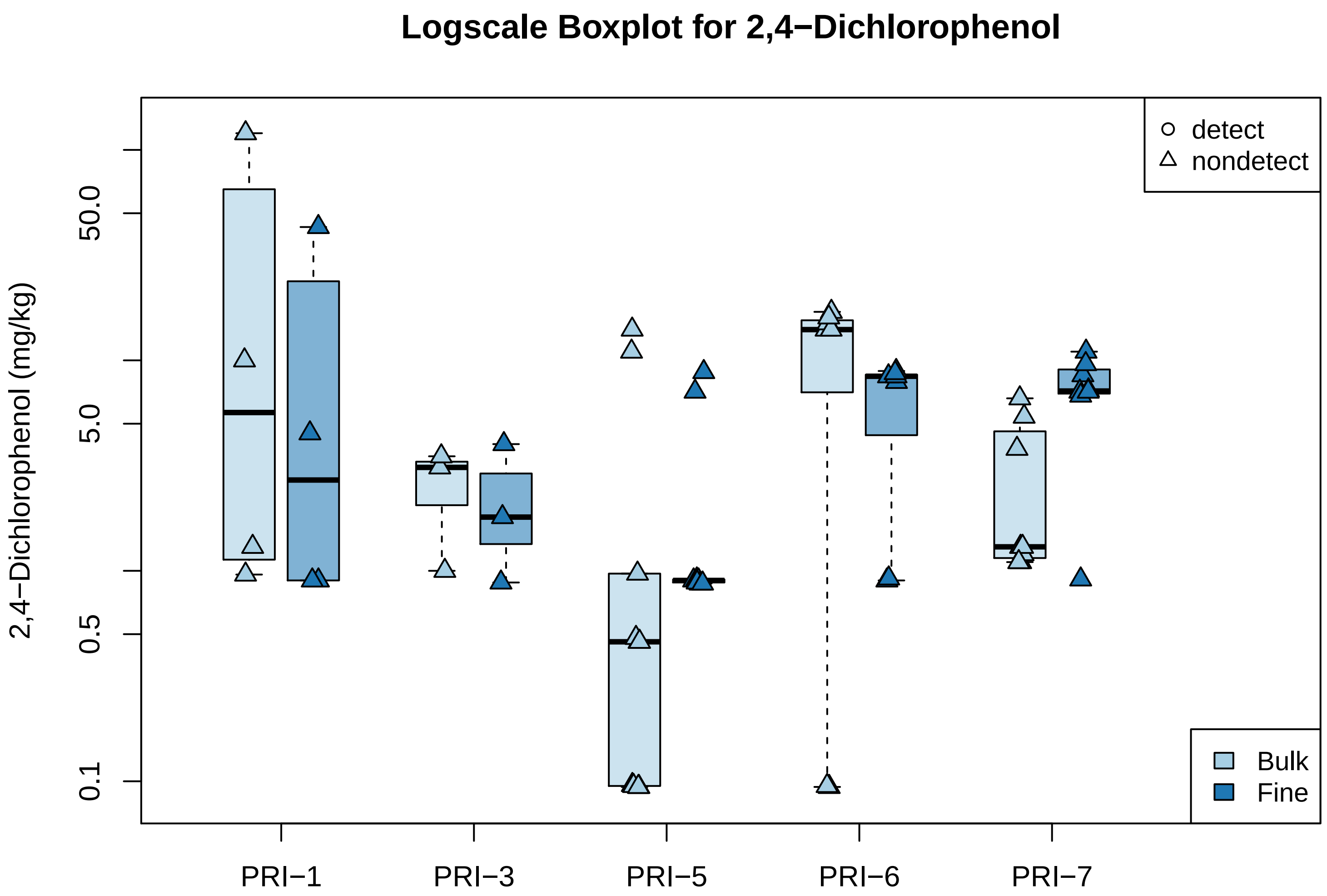

Logscale Boxplot for 2−Nitroaniline
2−Nitroaniline (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine


Logscale Boxplot for 2−Nitrophenol
2−Nitrophenol (mg/kg)
0.1
0.5
5.0
50.0
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

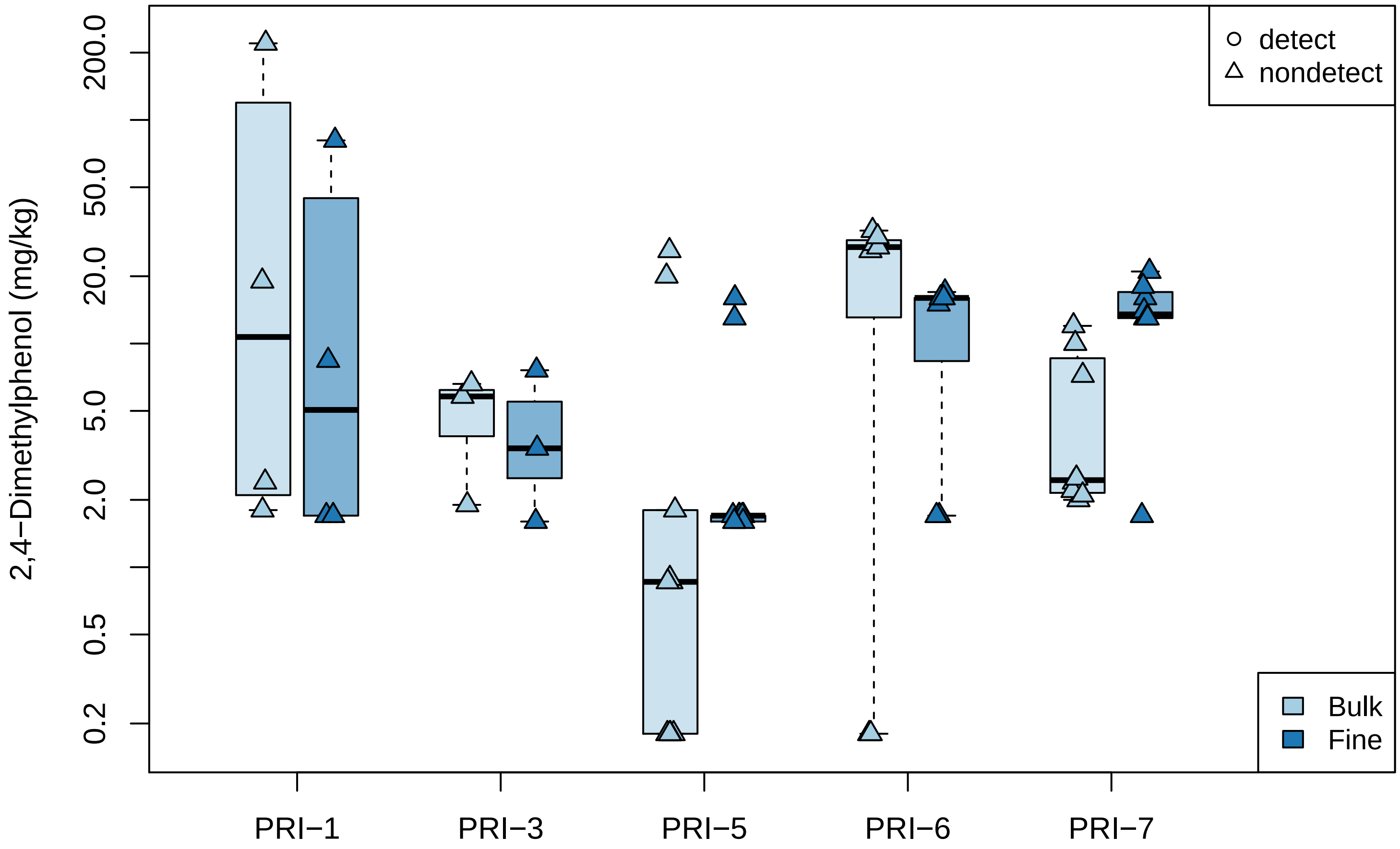

Logscale Boxplot for 2,2−Oxybis(1−chloropropane)
2,2−Oxybis(1−chloropropane) (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

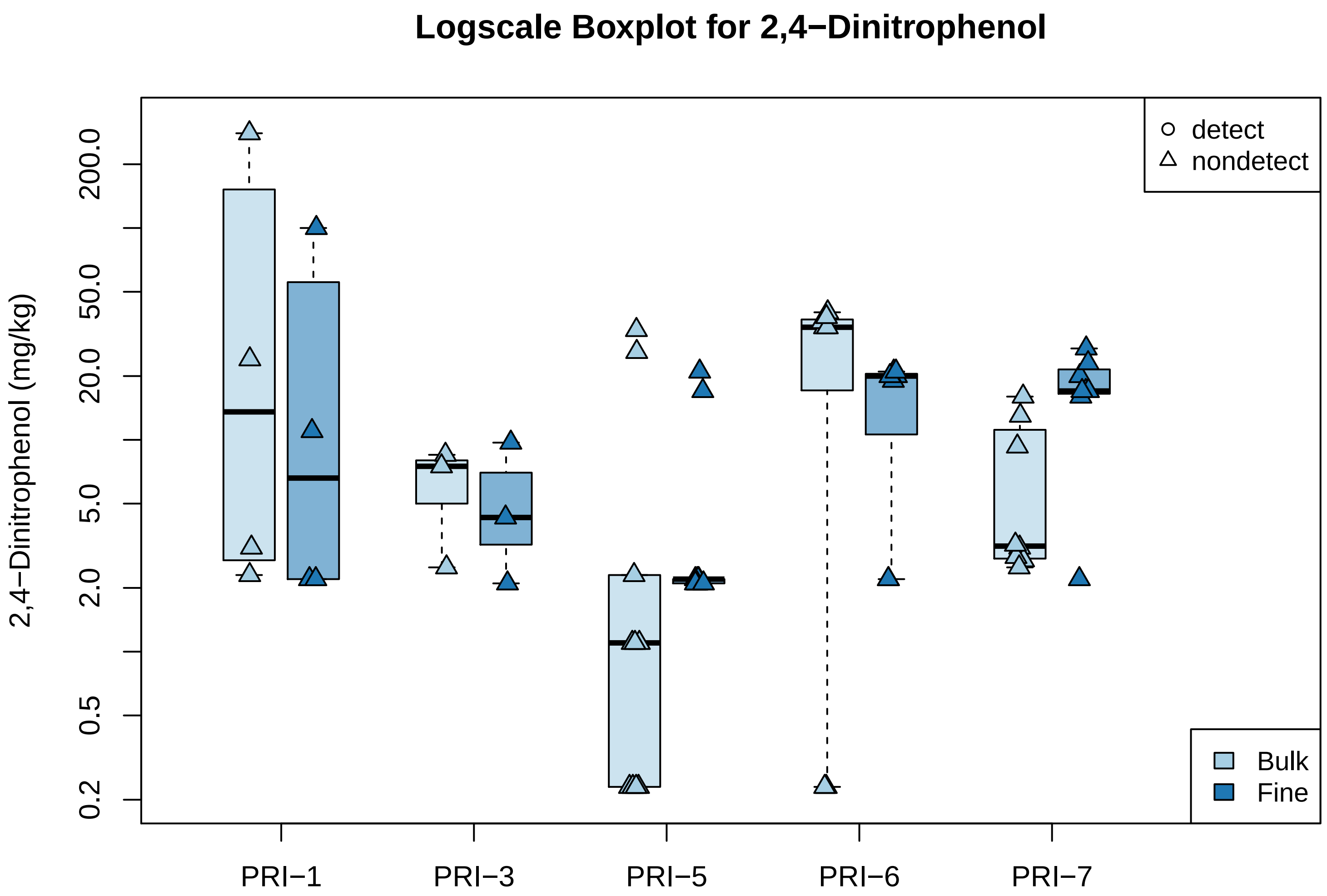
Logscale Boxplot for 2,3,4,6−Tetrachlorophenol



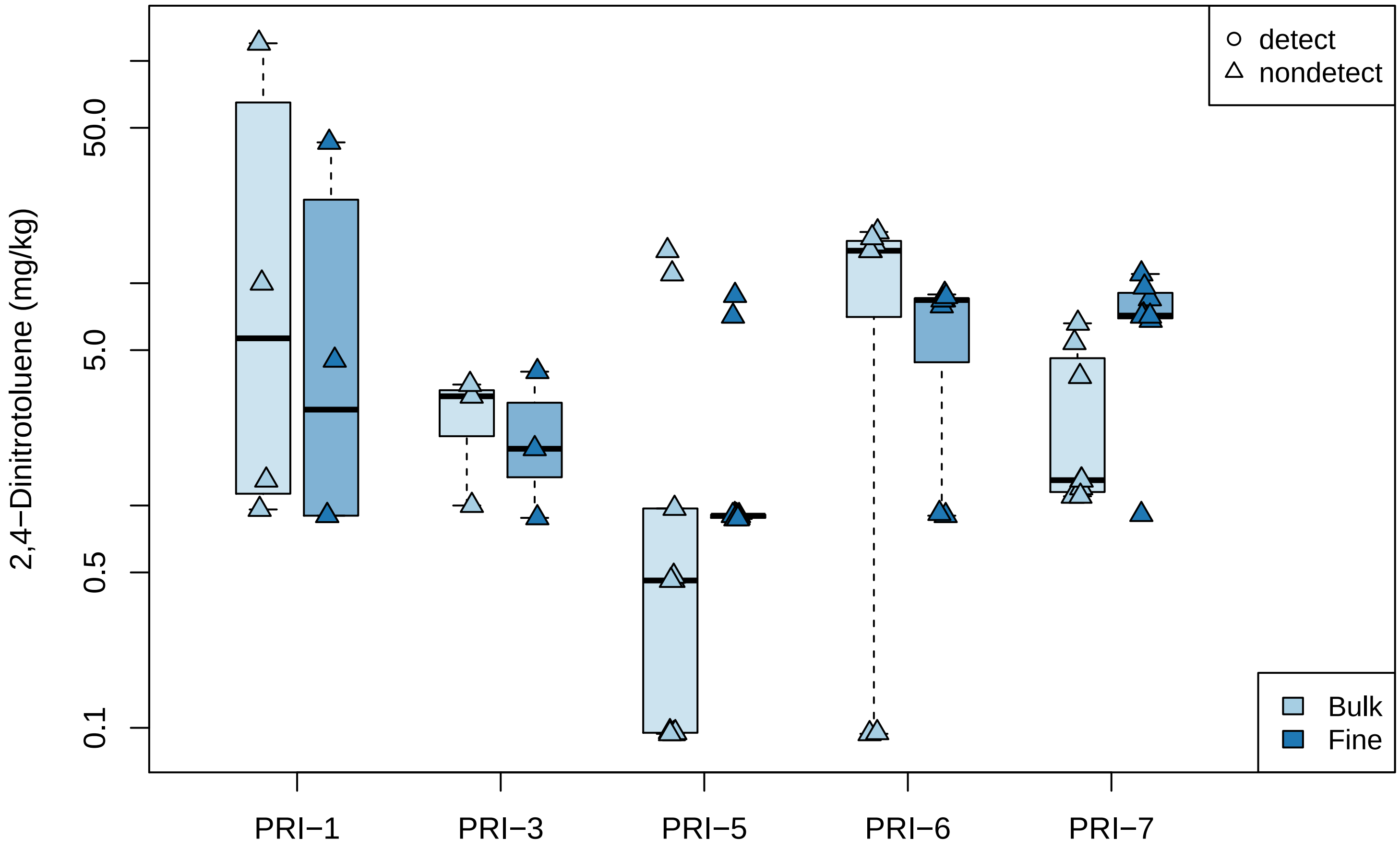

Logscale Boxplot for 2,4−Dichlorophenol
2,4−Dichlorophenol (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

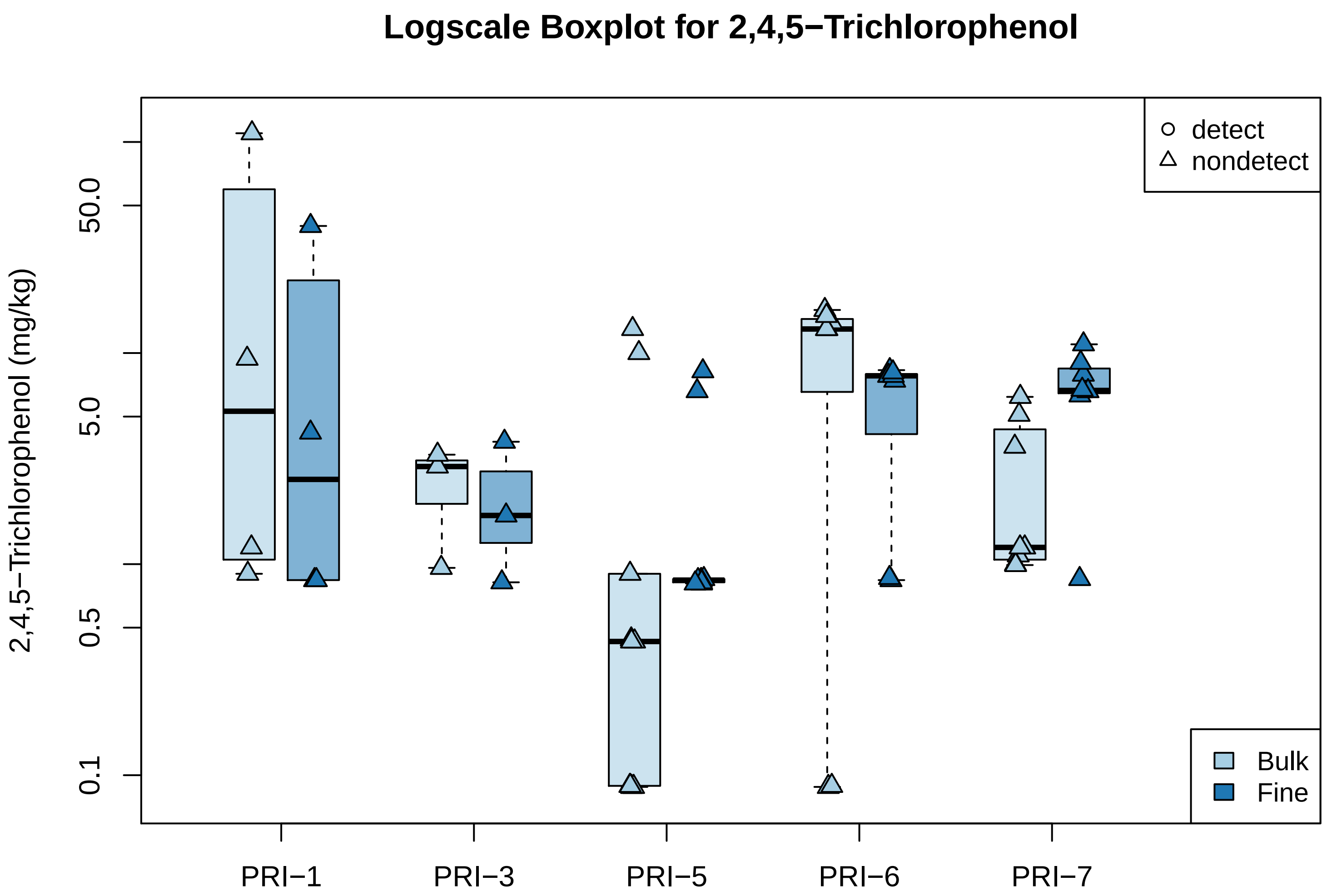
Logscale Boxplot for 2,4−Dimethylphenol

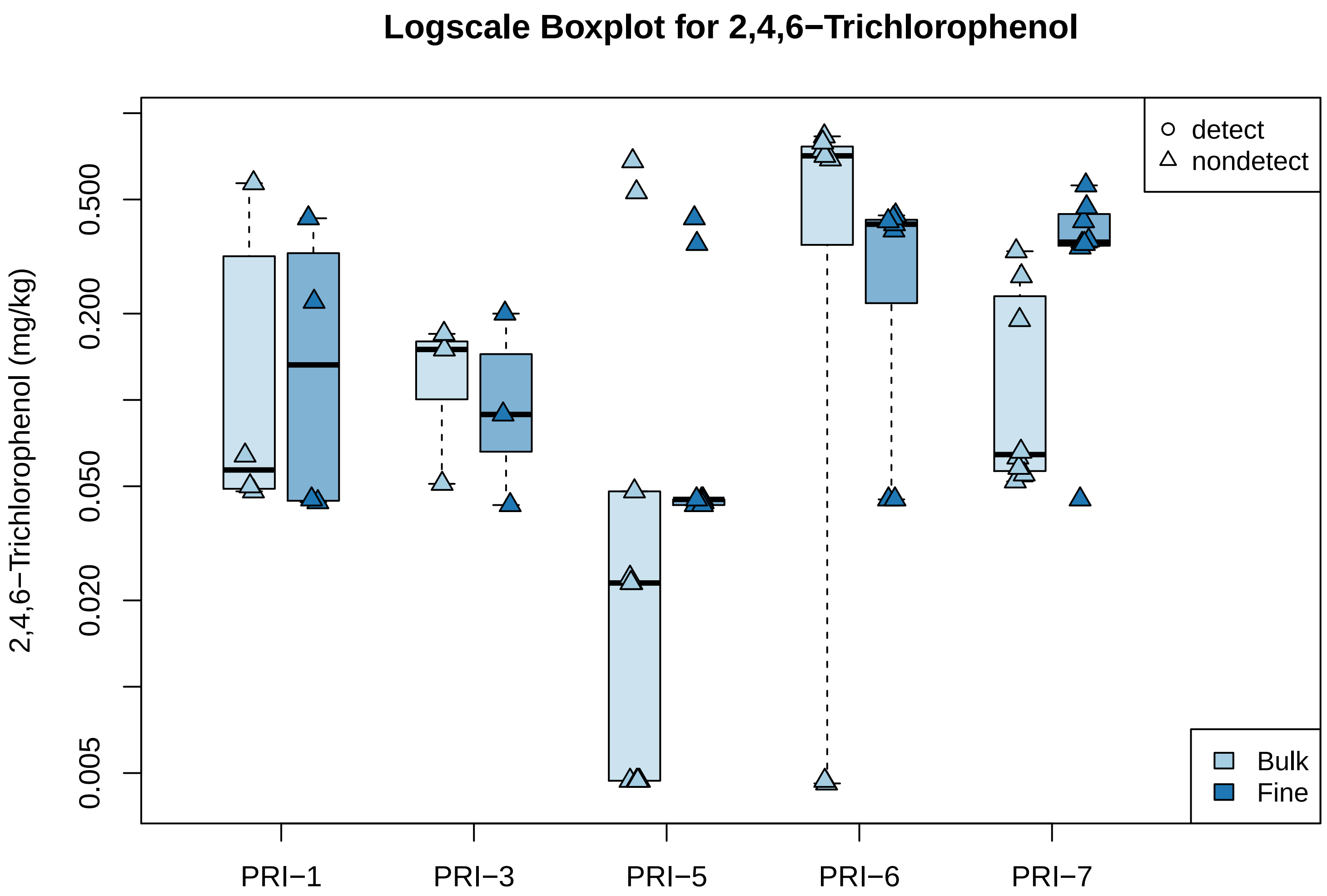


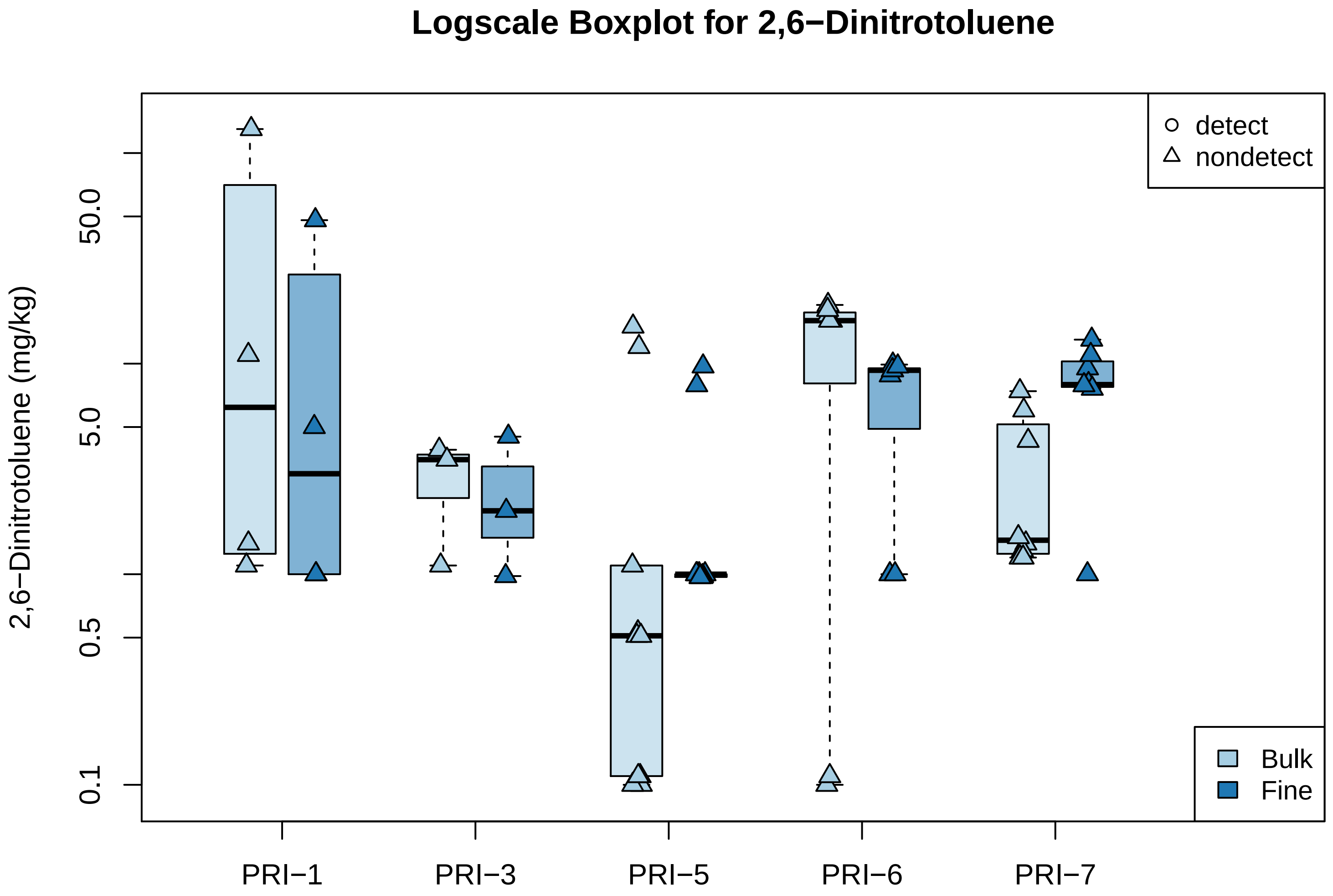

Logscale Boxplot for 2,4−Dinitrophenol
2,4−Dinitrophenol (mg/kg)
200.0
50.0
20.0
5.0
2.0
0.5
0.2
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

Logscale Boxplot for 2,4−Dinitrotoluene

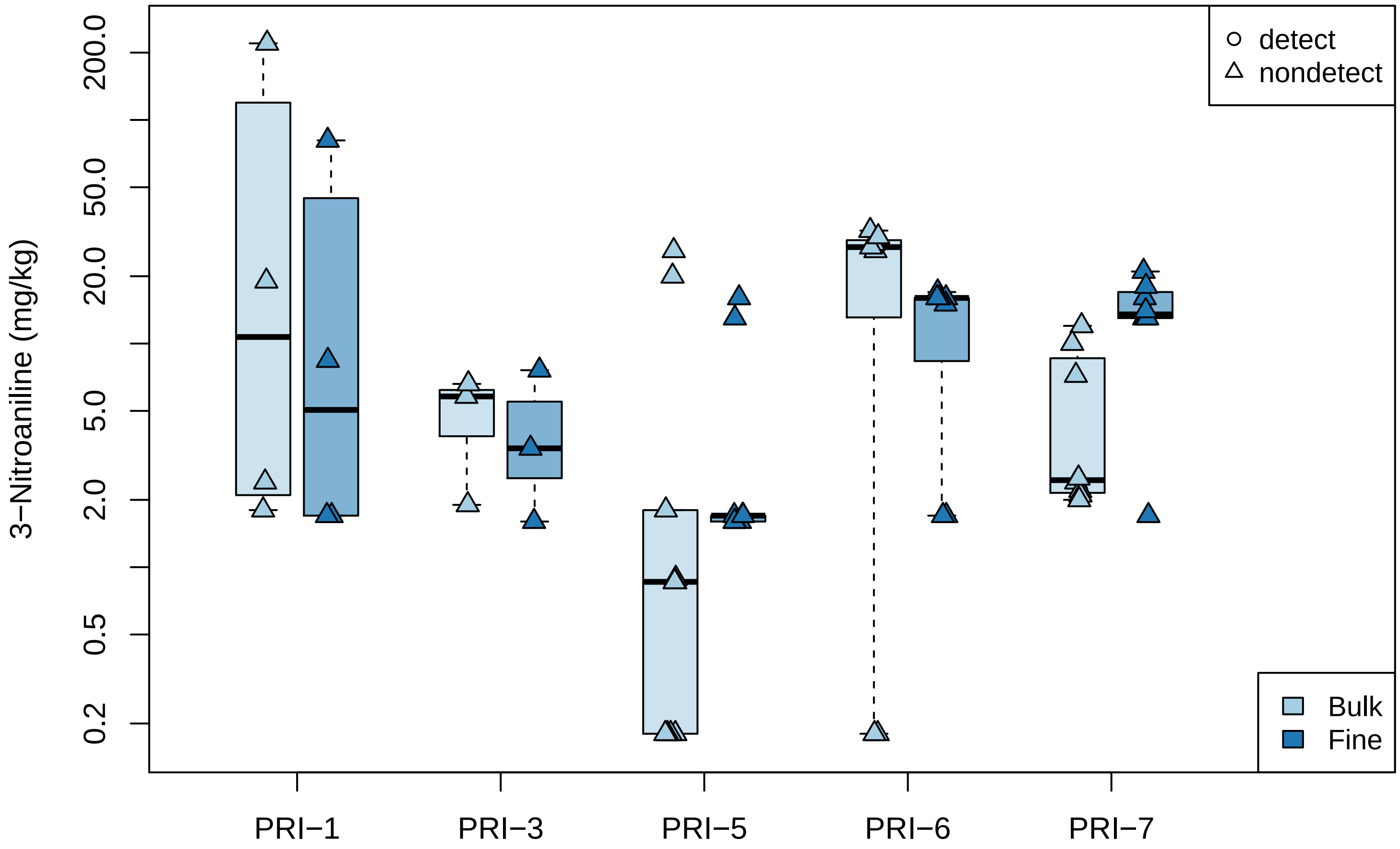



Logscale Boxplot for 2,4,5−Trichlorophenol
2,4,5−Trichlorophenol (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

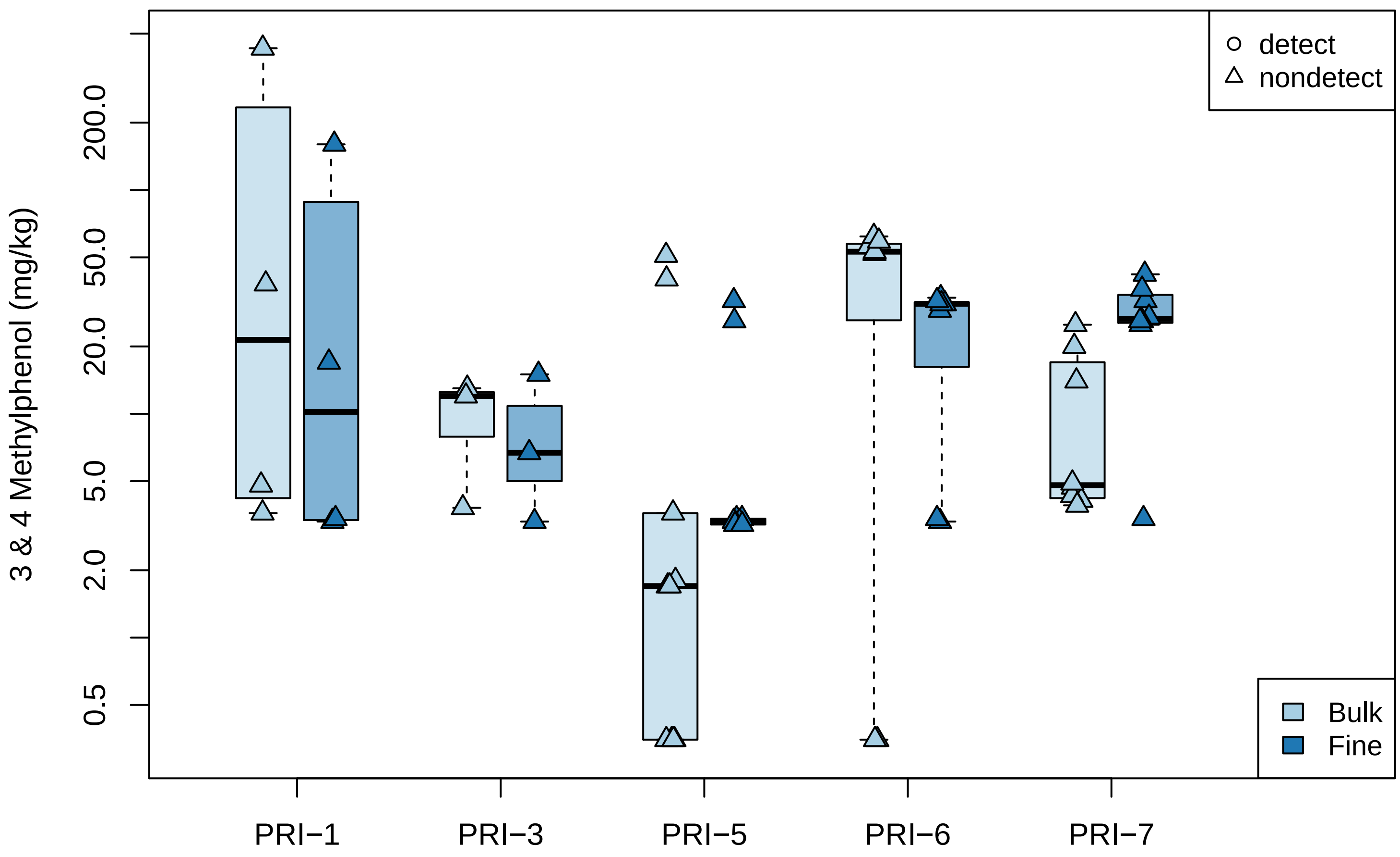

Logscale Boxplot for 2,4,6−Trichlorophenol
2,4,6−Trichlorophenol (mg/kg)
0.005
0.020
0.050
0.200
0.500
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

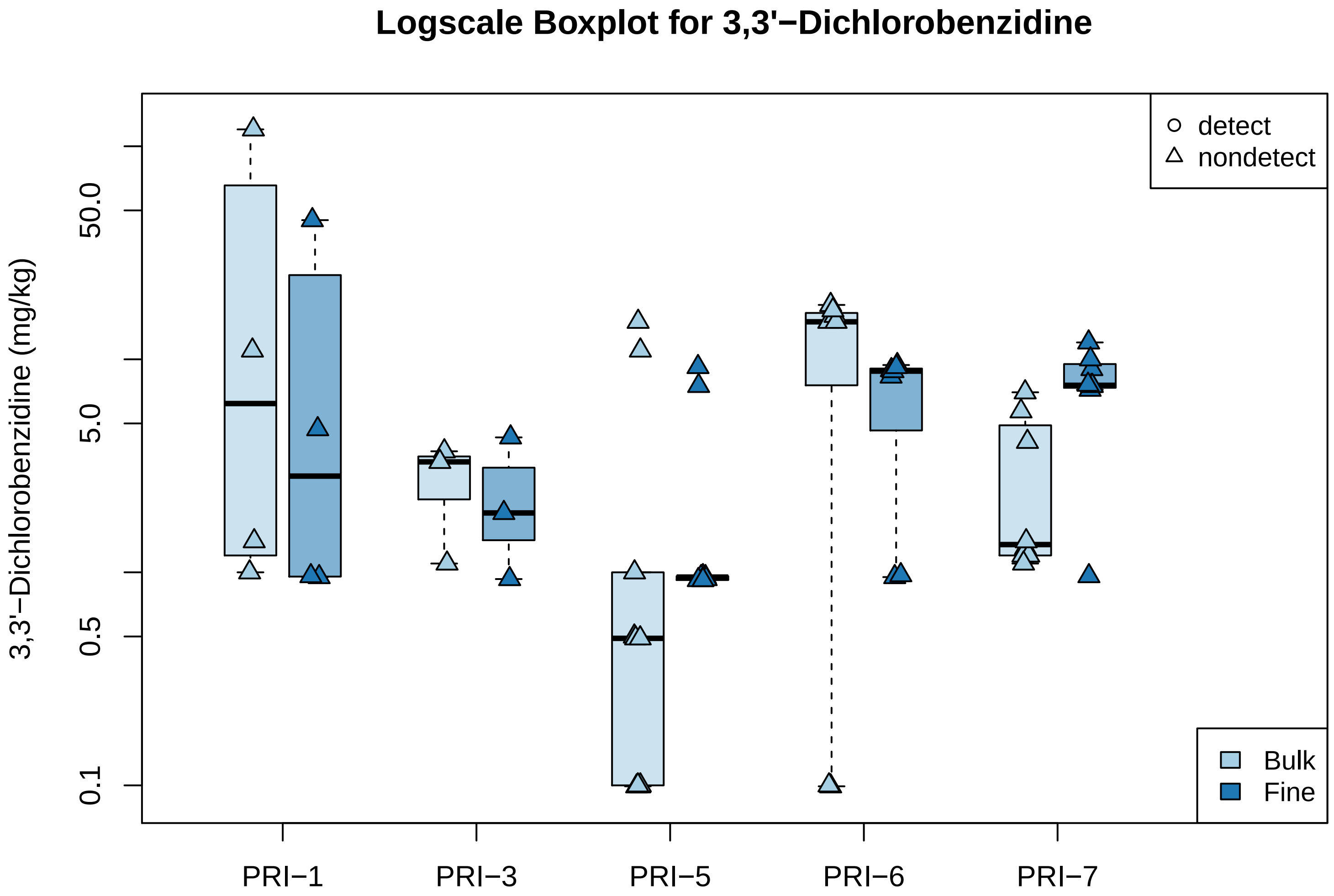

Logscale Boxplot for 2,6−Dinitrotoluene
2,6−Dinitrotoluene (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

Logscale Boxplot for 3−Nitroaniline

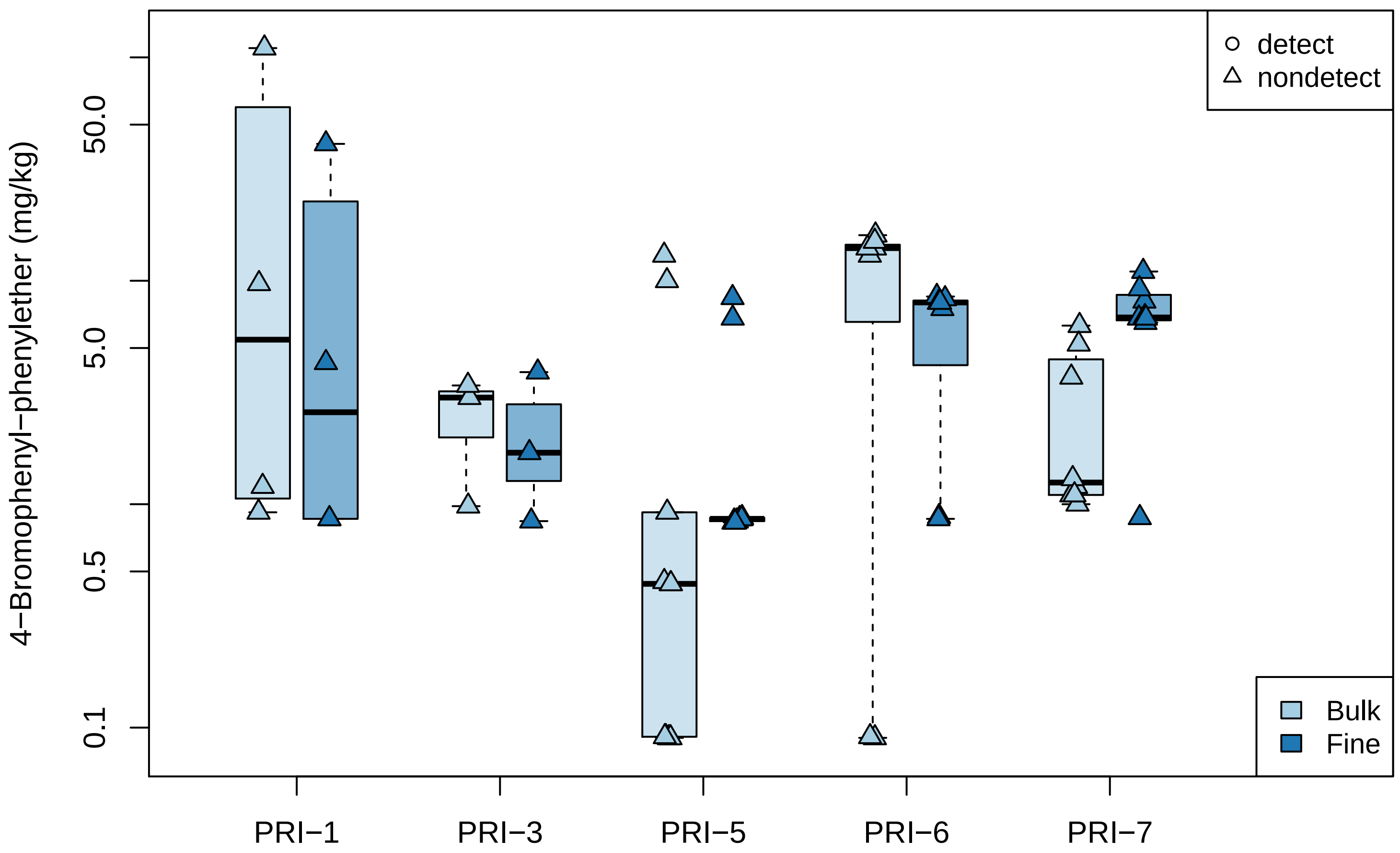


Logscale Boxplot for 3 & 4 Methylphenol

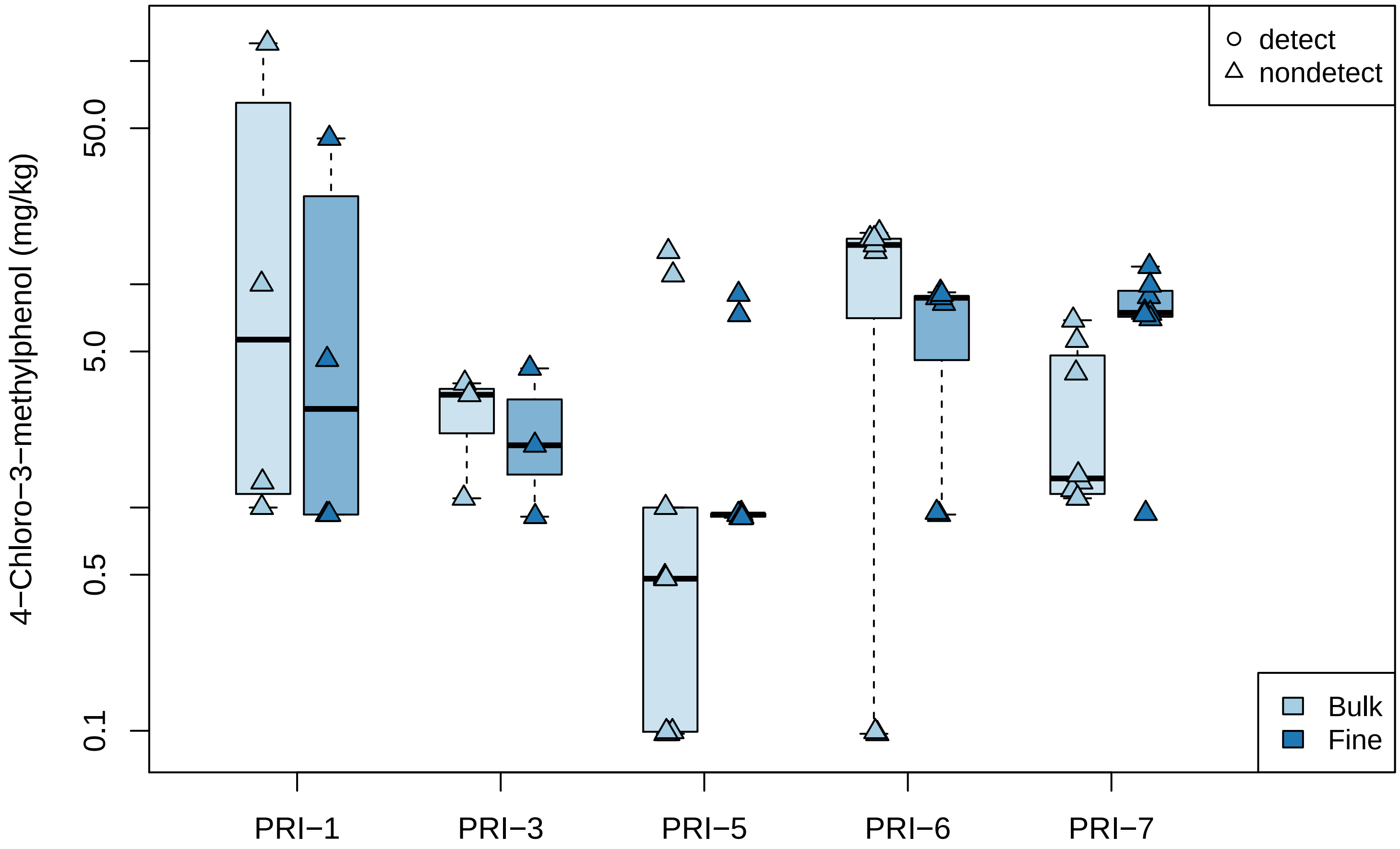


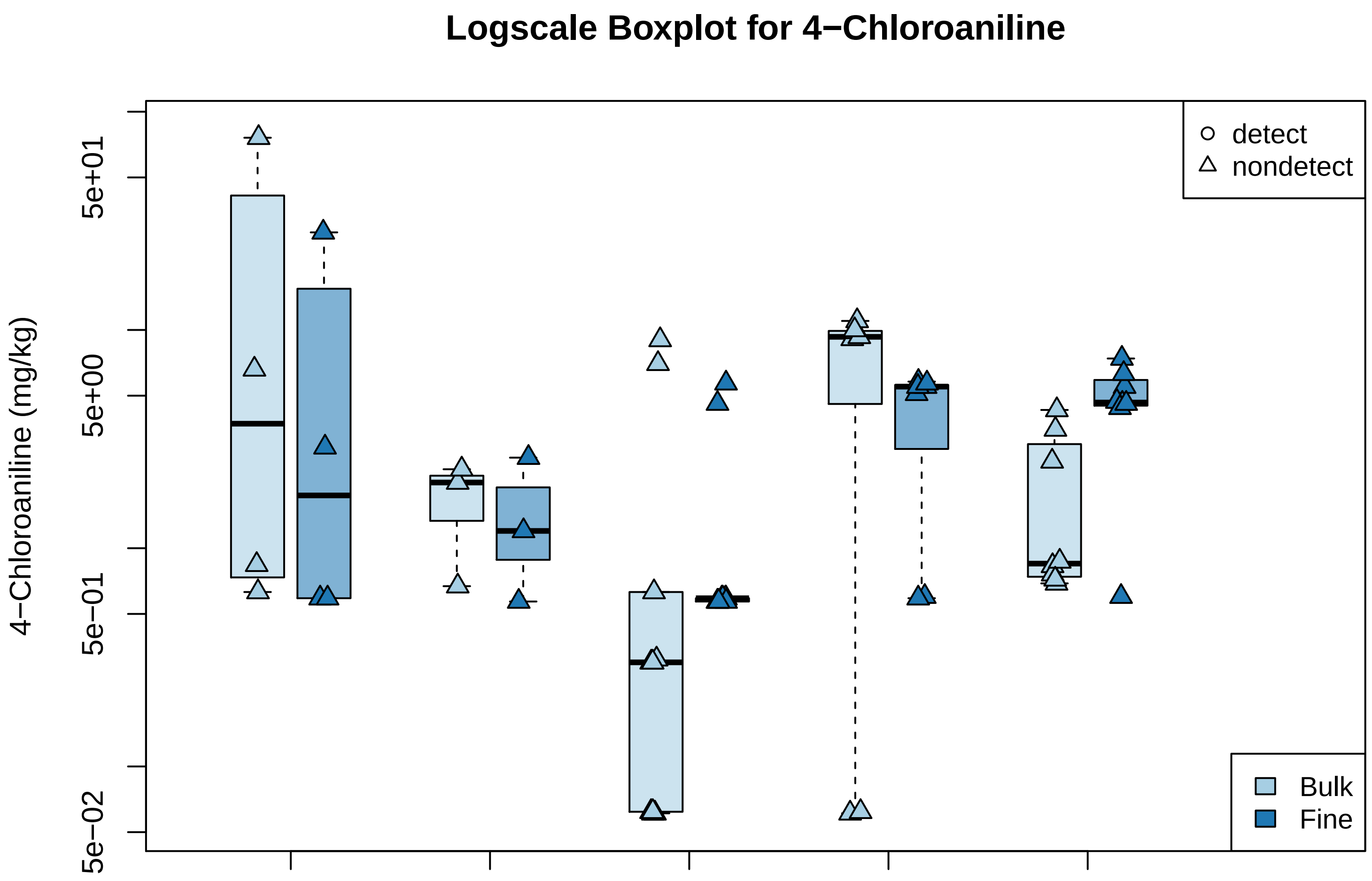

Logscale Boxplot for 3,3'−Dichlorobenzidine
3,3'−Dichlorobenzidine (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

Logscale Boxplot for 4−Bromophenyl−phenylether

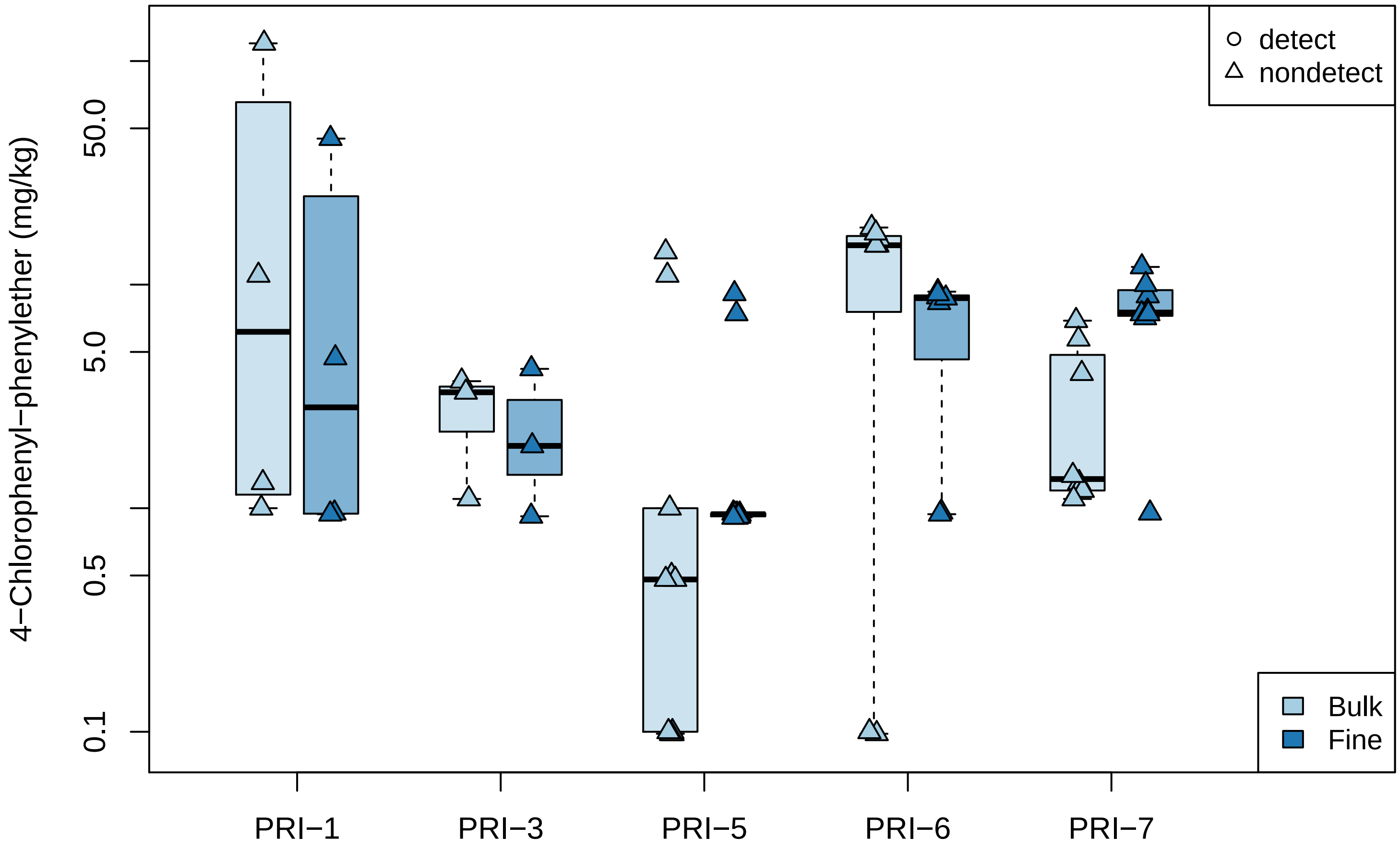


Logscale Boxplot for 4−Chloro−3−methylphenol

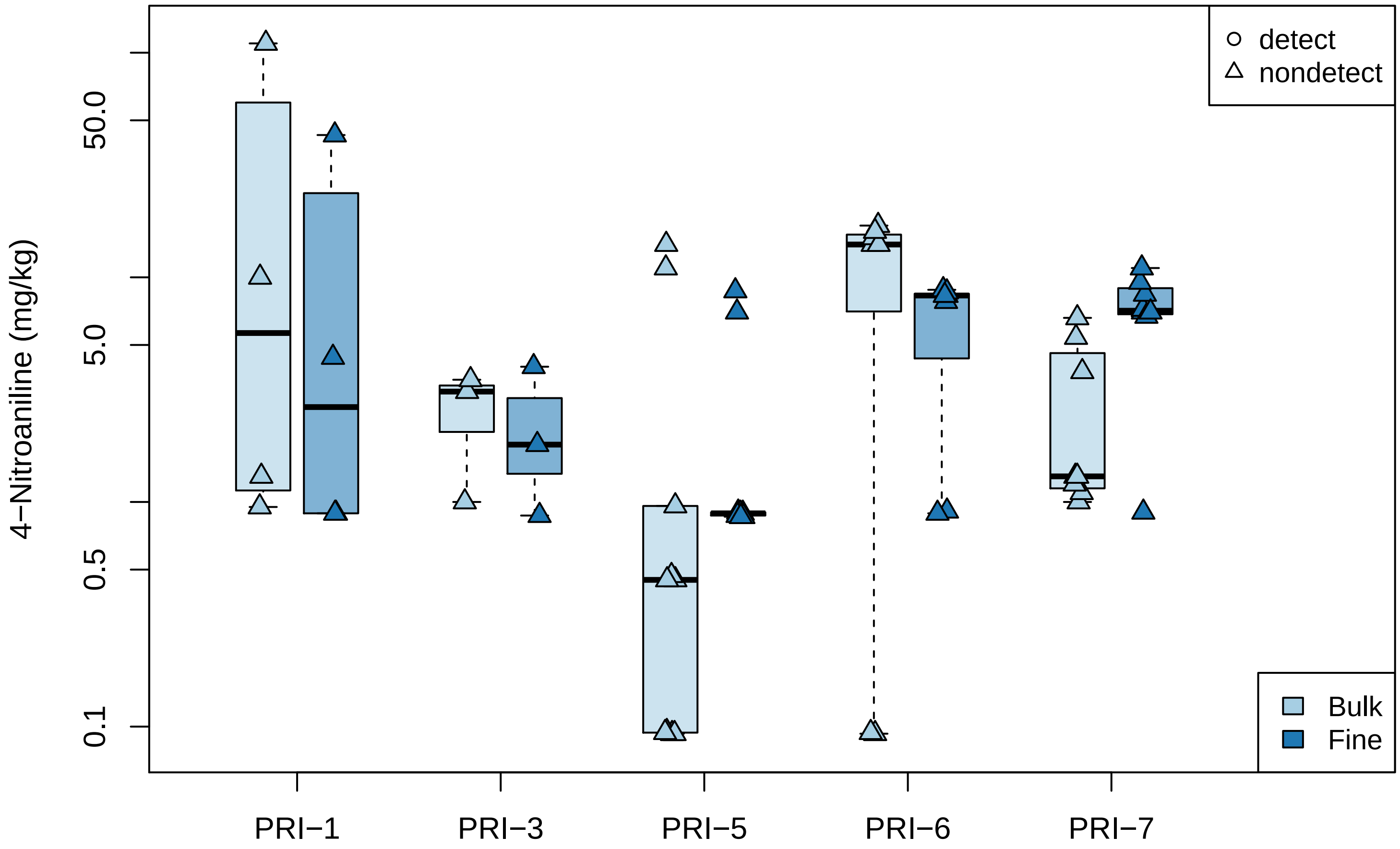


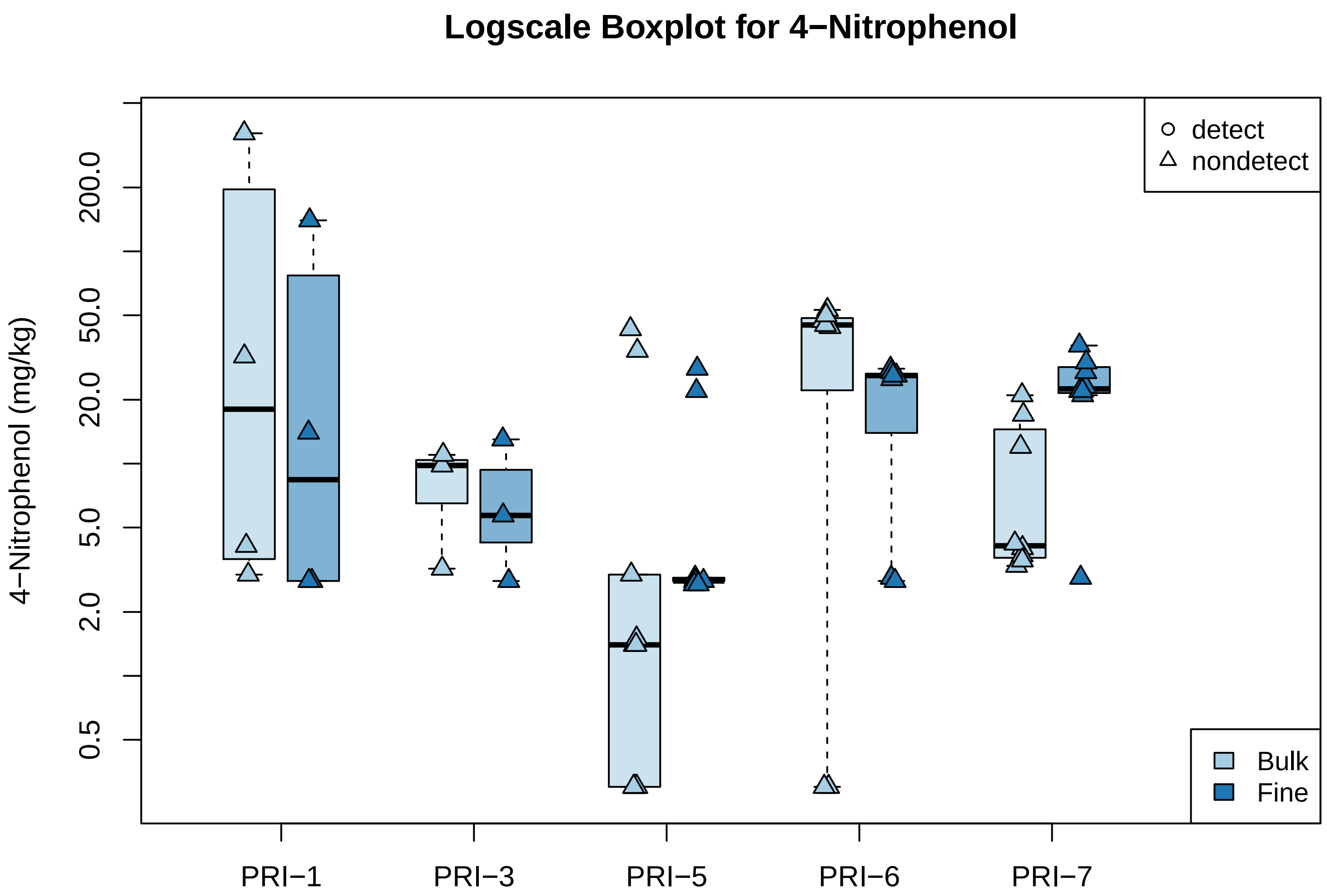

Logscale Boxplot for 4−Chloroaniline
4−Chloroaniline (mg/kg)
5e+01
5e+00
5e−01
5e−02
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

Logscale Boxplot for 4−Chlorophenyl−phenylether

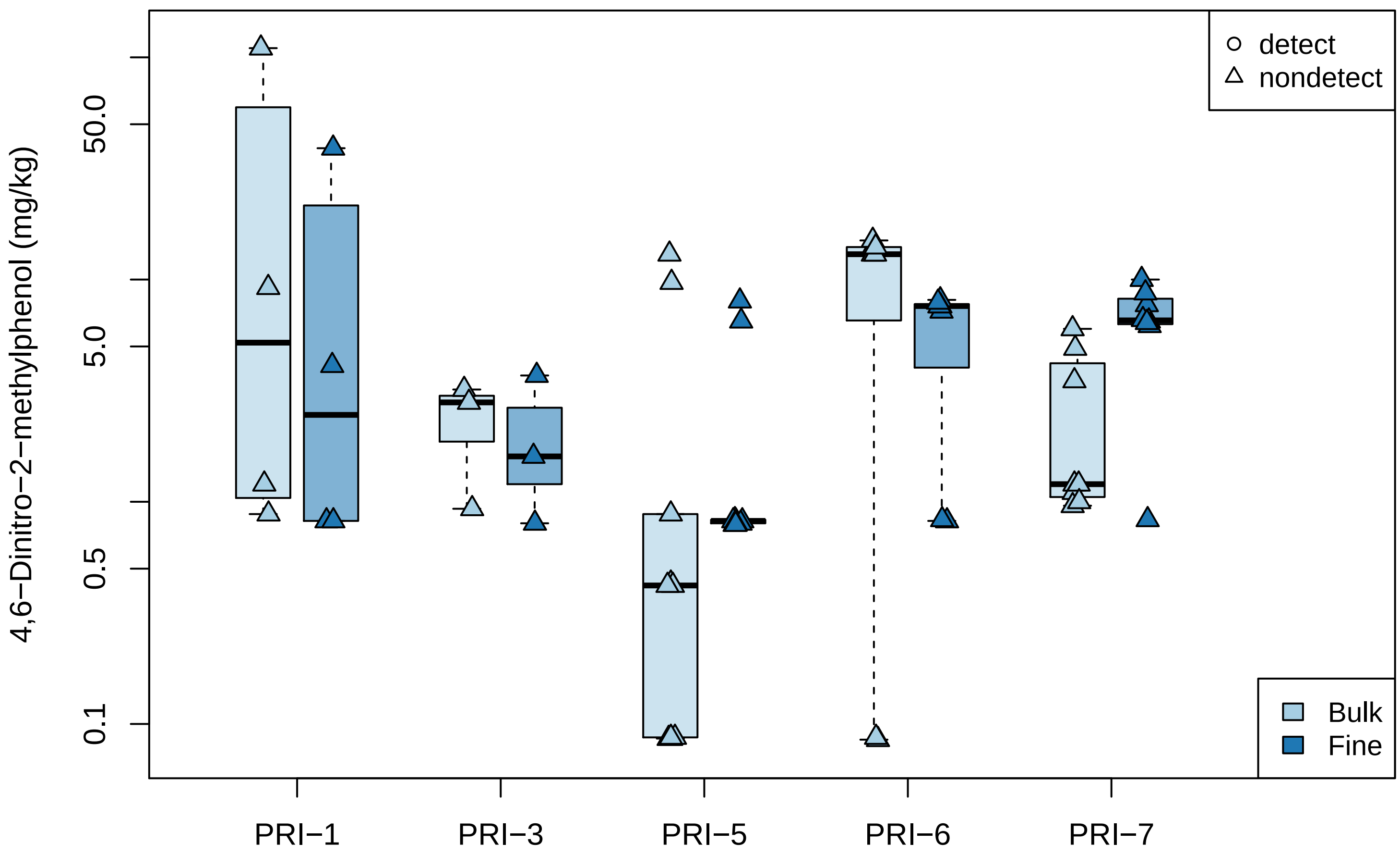


Logscale Boxplot for 4−Nitroaniline

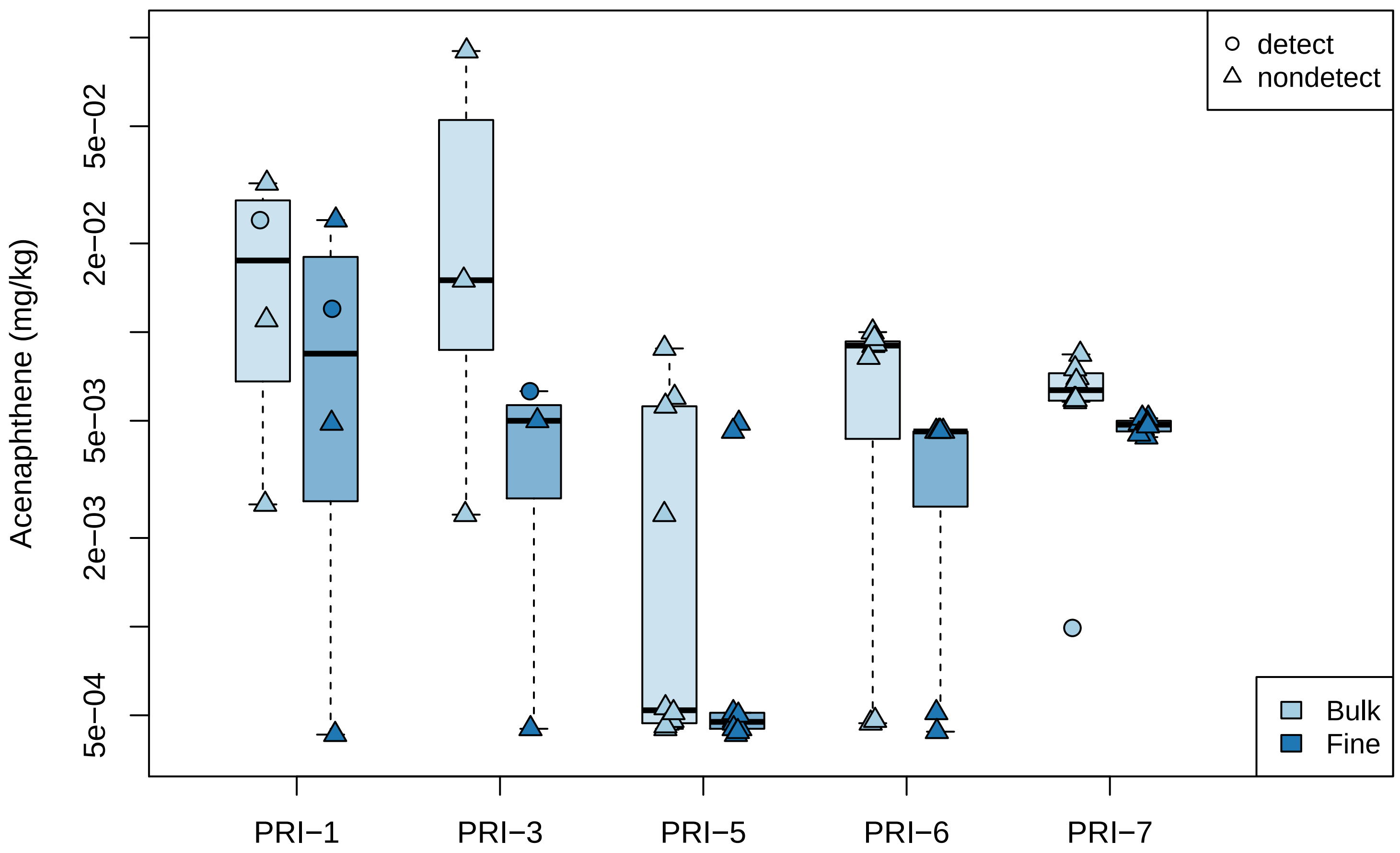


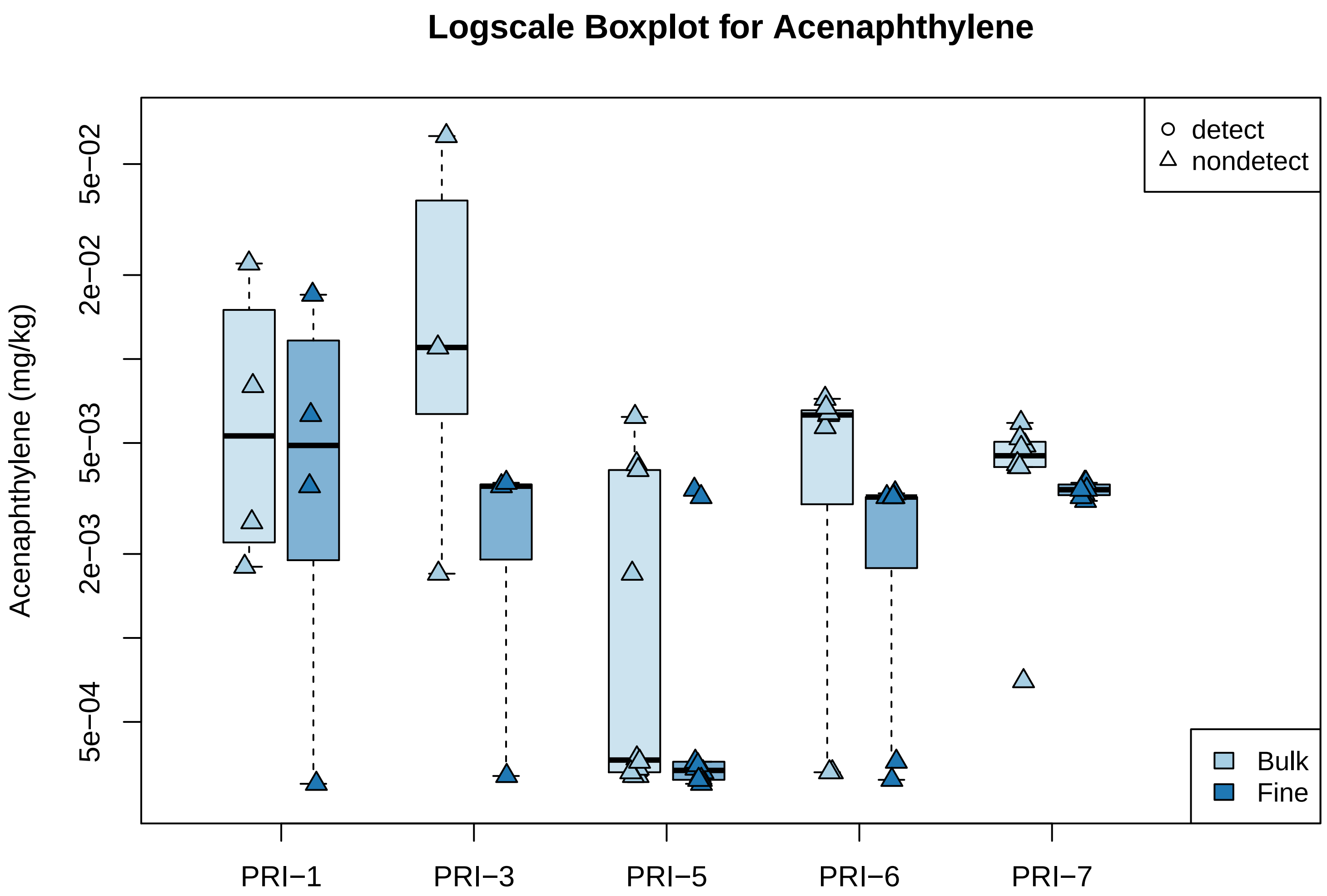

Logscale Boxplot for 4−Nitrophenol
4−Nitrophenol (mg/kg)
200.0
50.0
20.0
5.0
2.0
0.5
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

Logscale Boxplot for 4,6−Dinitro−2−methylphenol

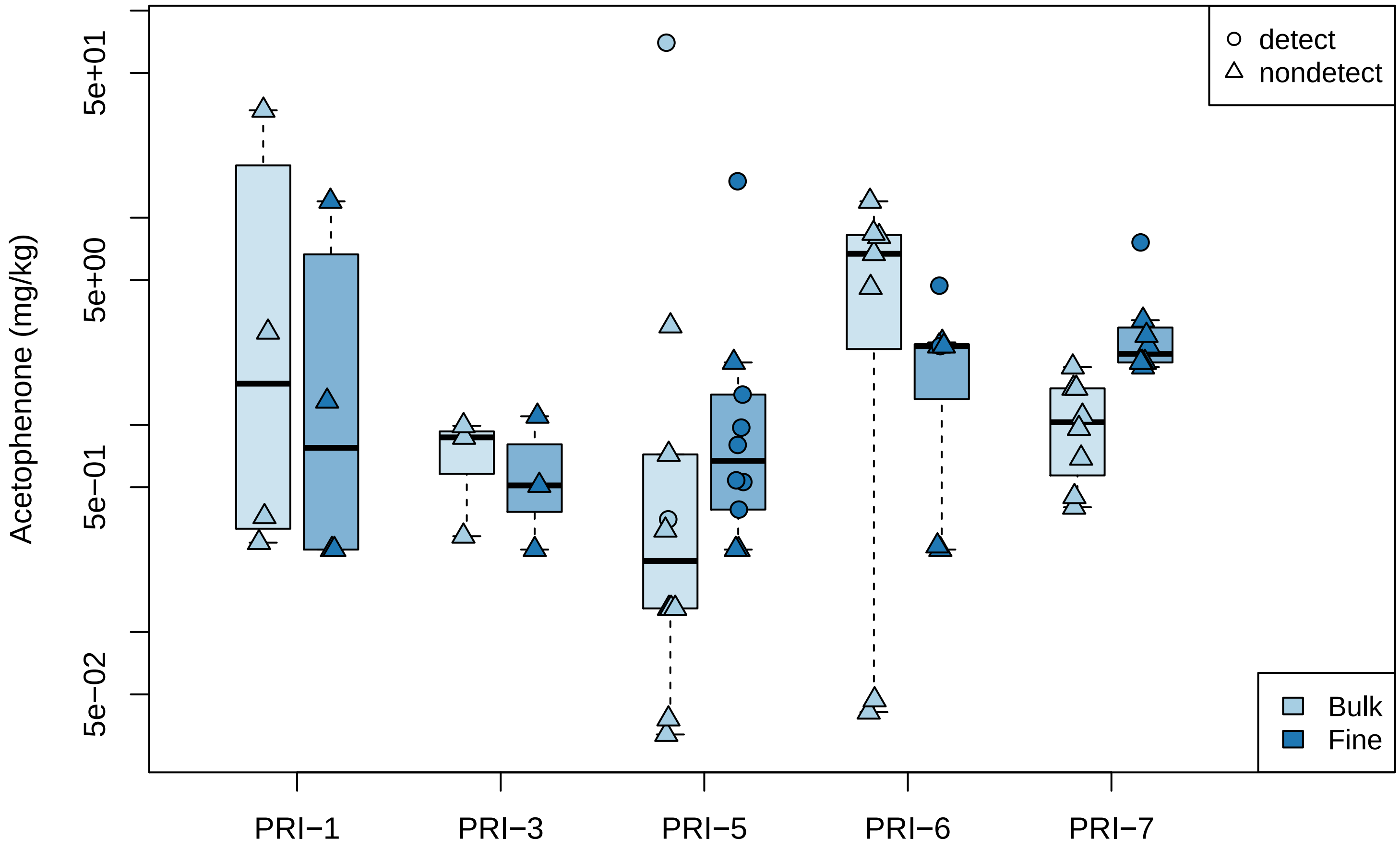


Logscale Boxplot for Acenaphthene

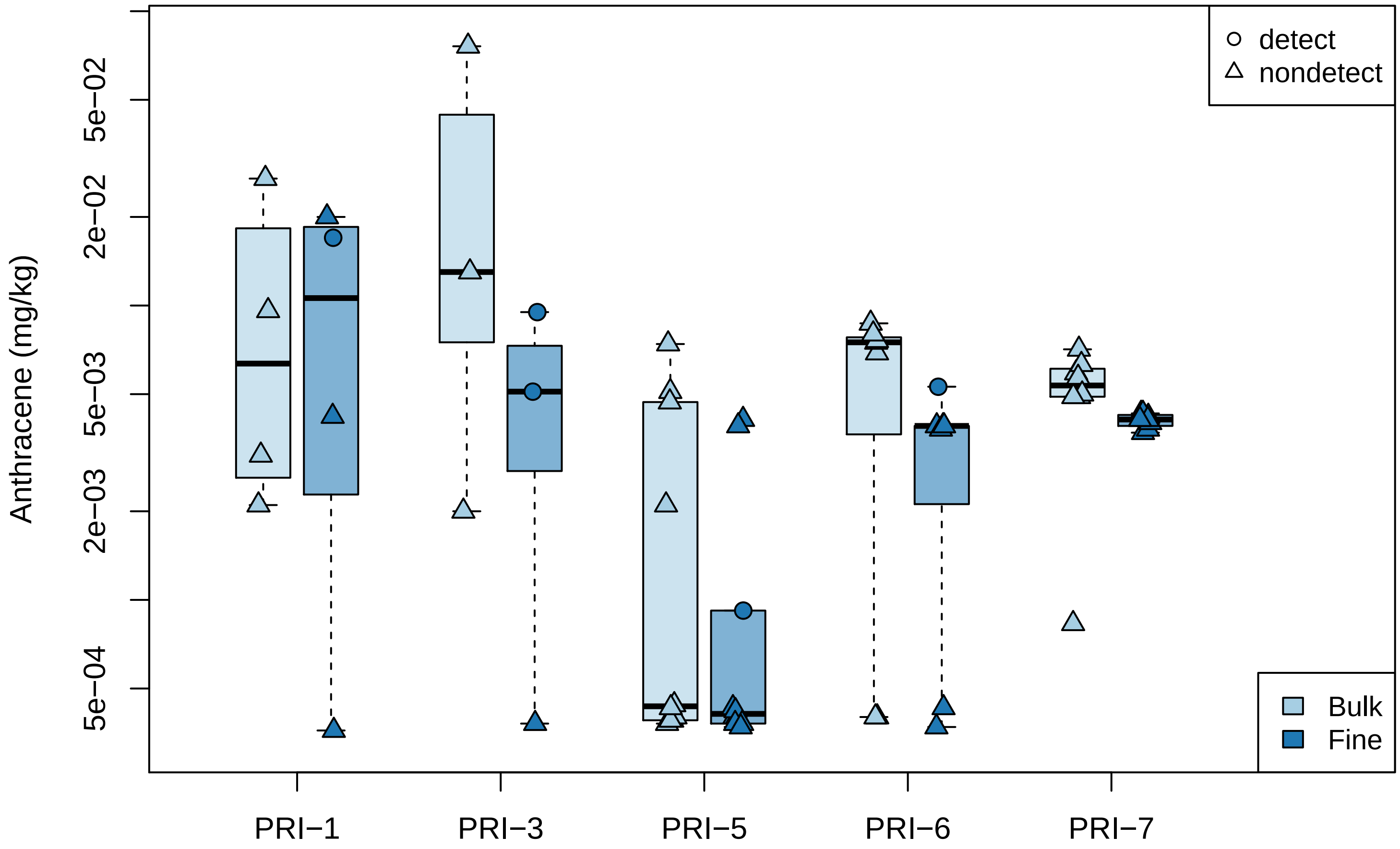


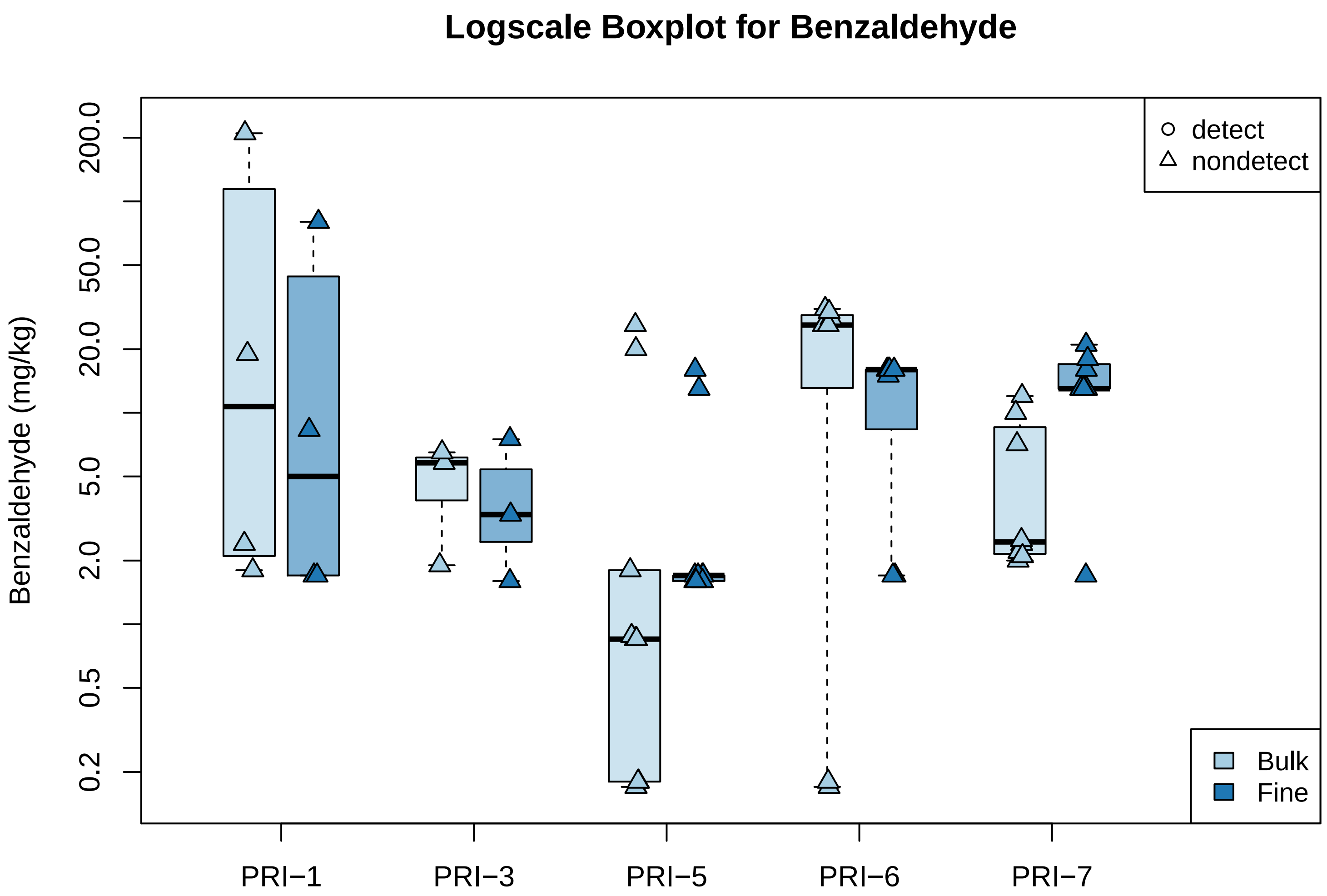

Logscale Boxplot for Acenaphthylene
Acenaphthylene (mg/kg)
5e−02
2e−02
5e−03
2e−03
5e−04
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

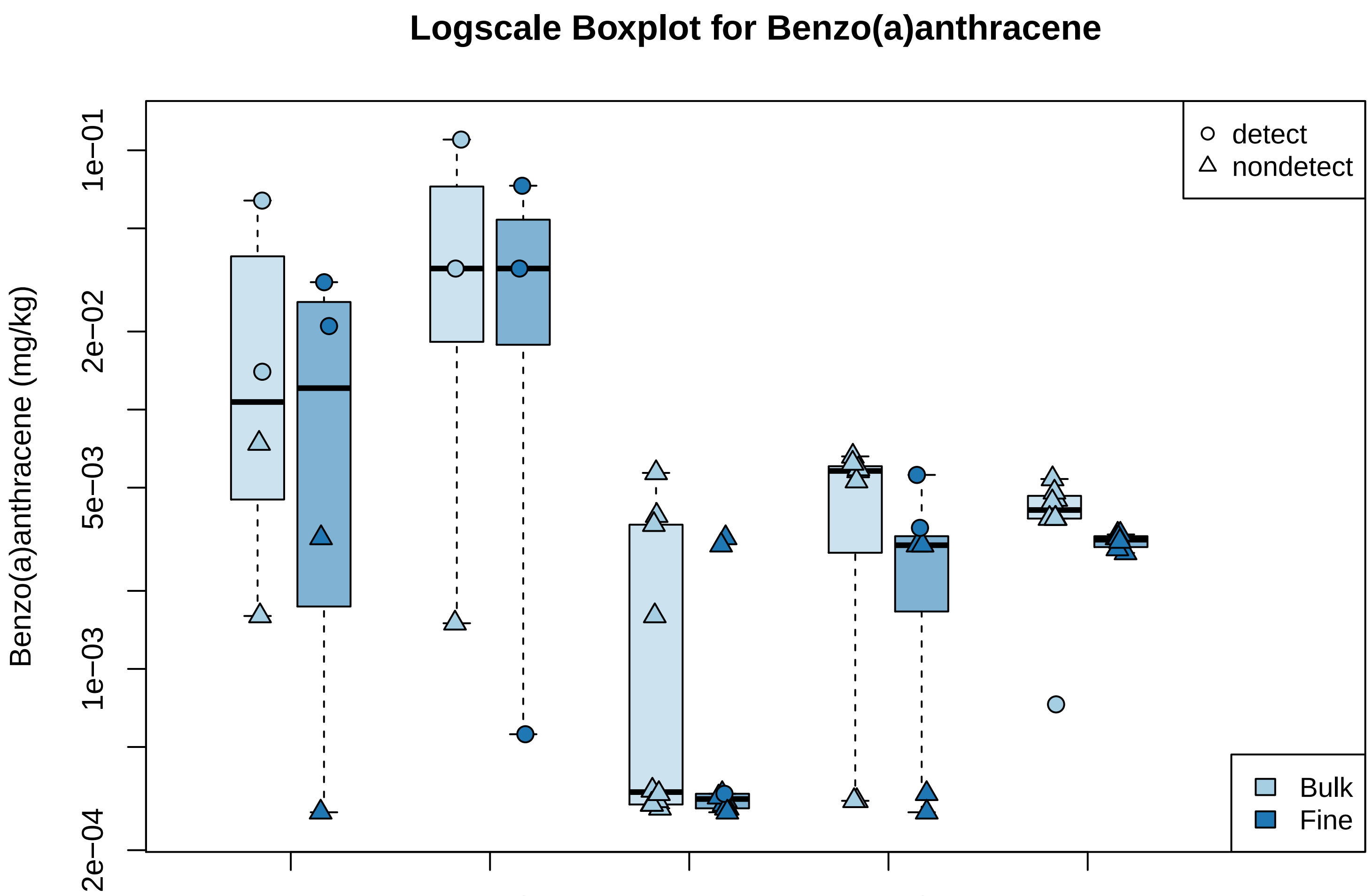
Logscale Boxplot for Acetophenone



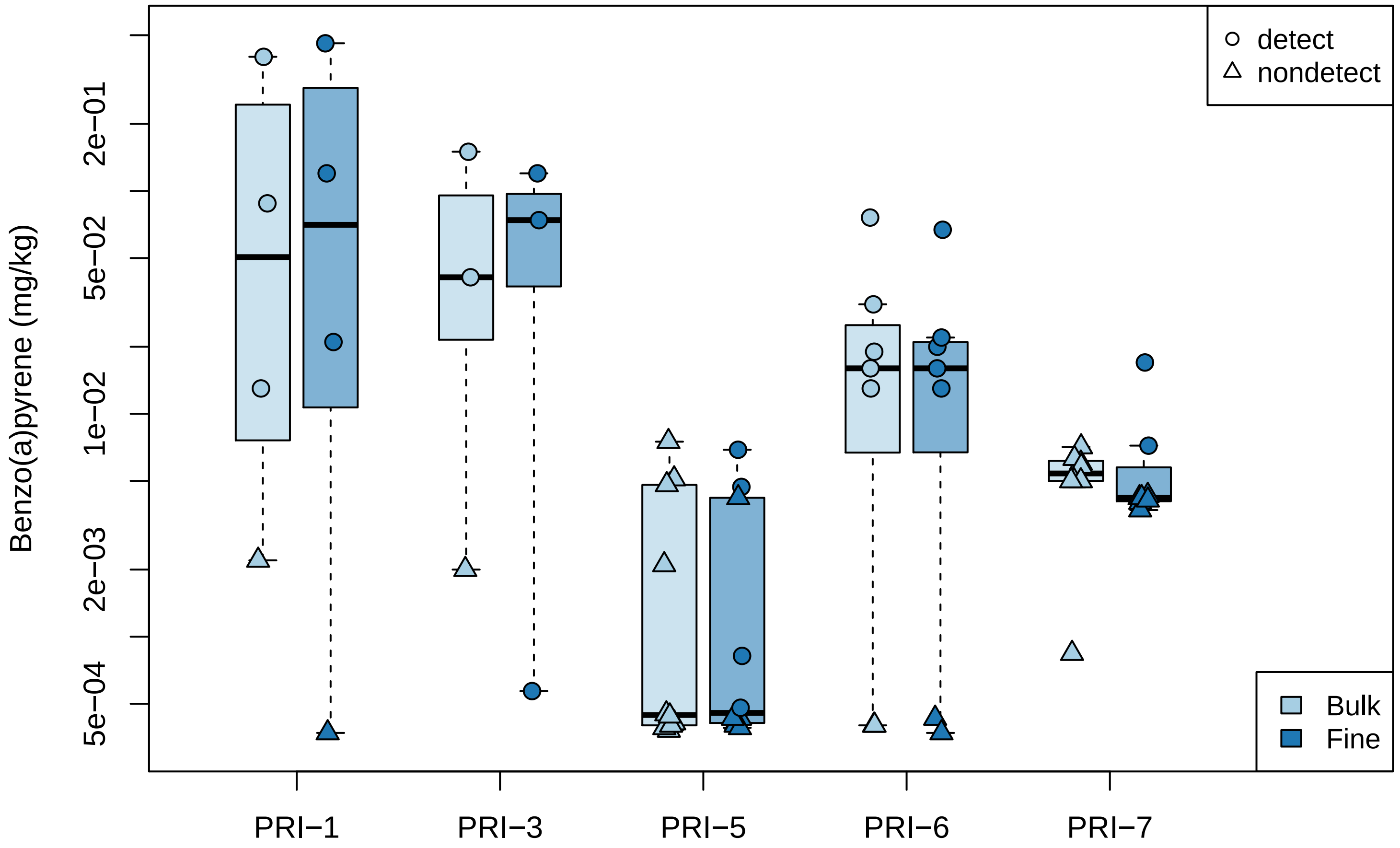
Logscale Boxplot for Anthracene



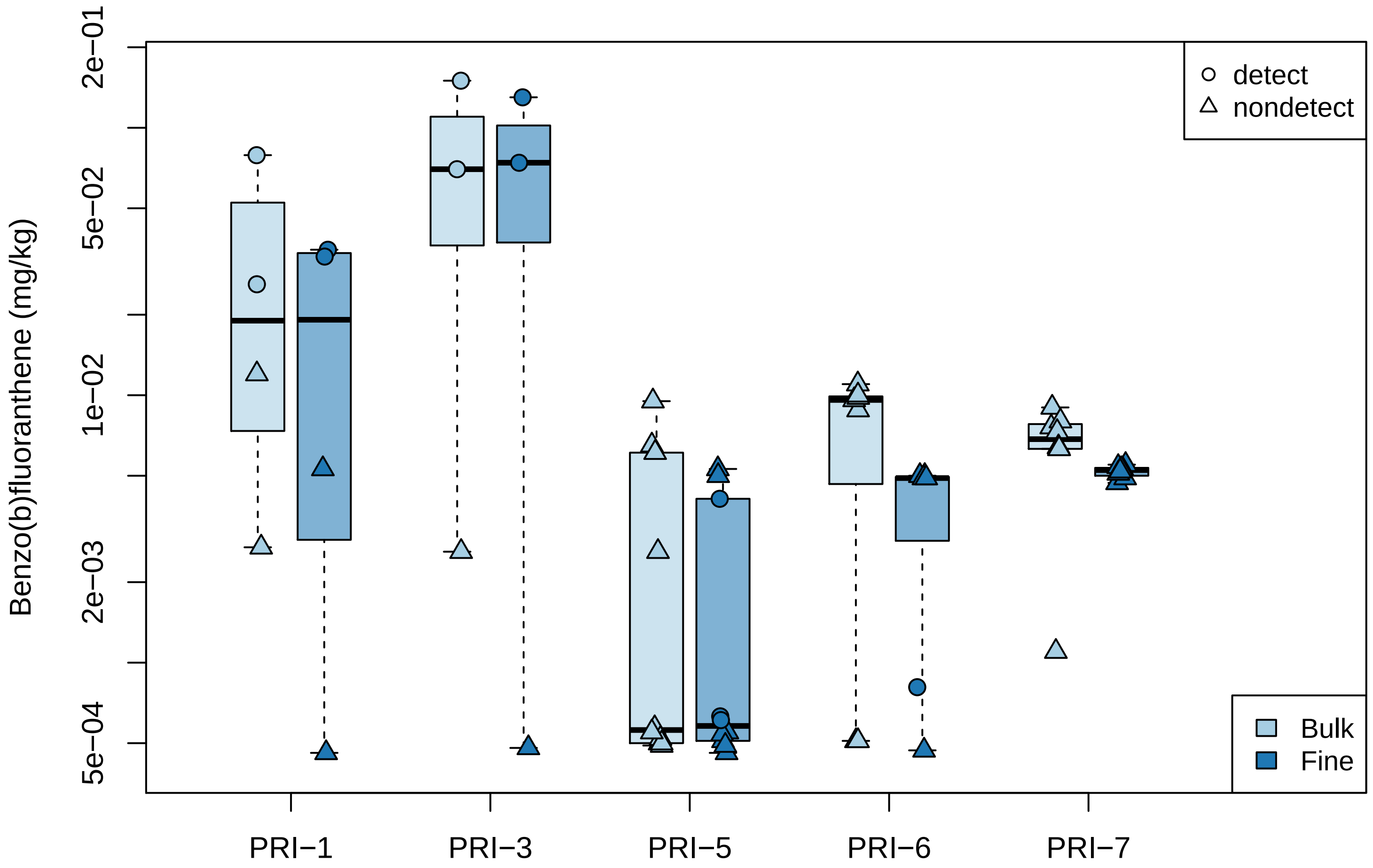

Logscale Boxplot for Benzaldehyde
Benzaldehyde (mg/kg)
200.0
50.0
20.0
5.0
2.0
0.5
0.2
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine


Logscale Boxplot for Benzo(a)anthracene
Benzo(a)anthracene (mg/kg)
1e−01
2e−02
5e−03
1e−03
2e−04
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

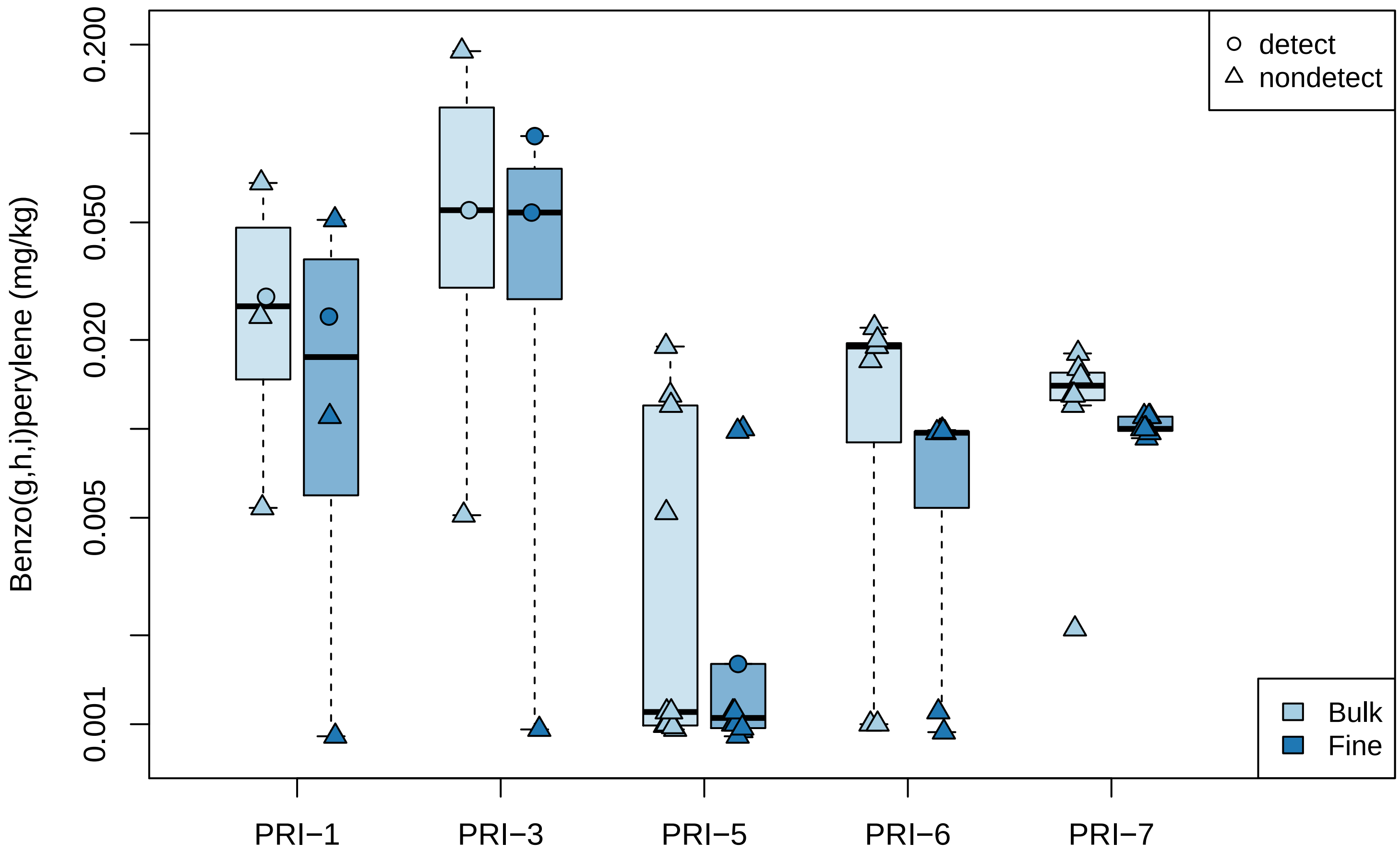
Logscale Boxplot for Benzo(a)pyrene

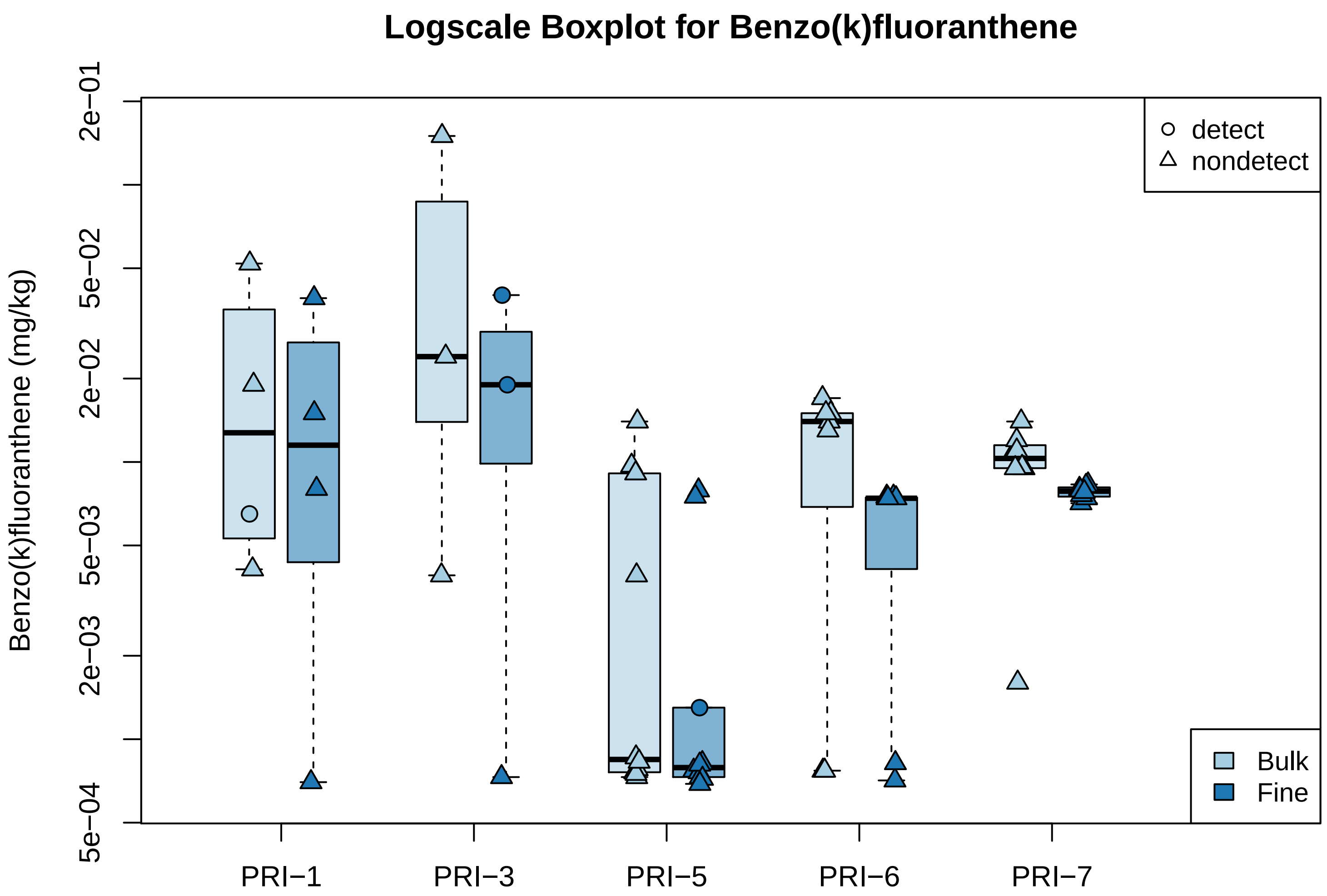


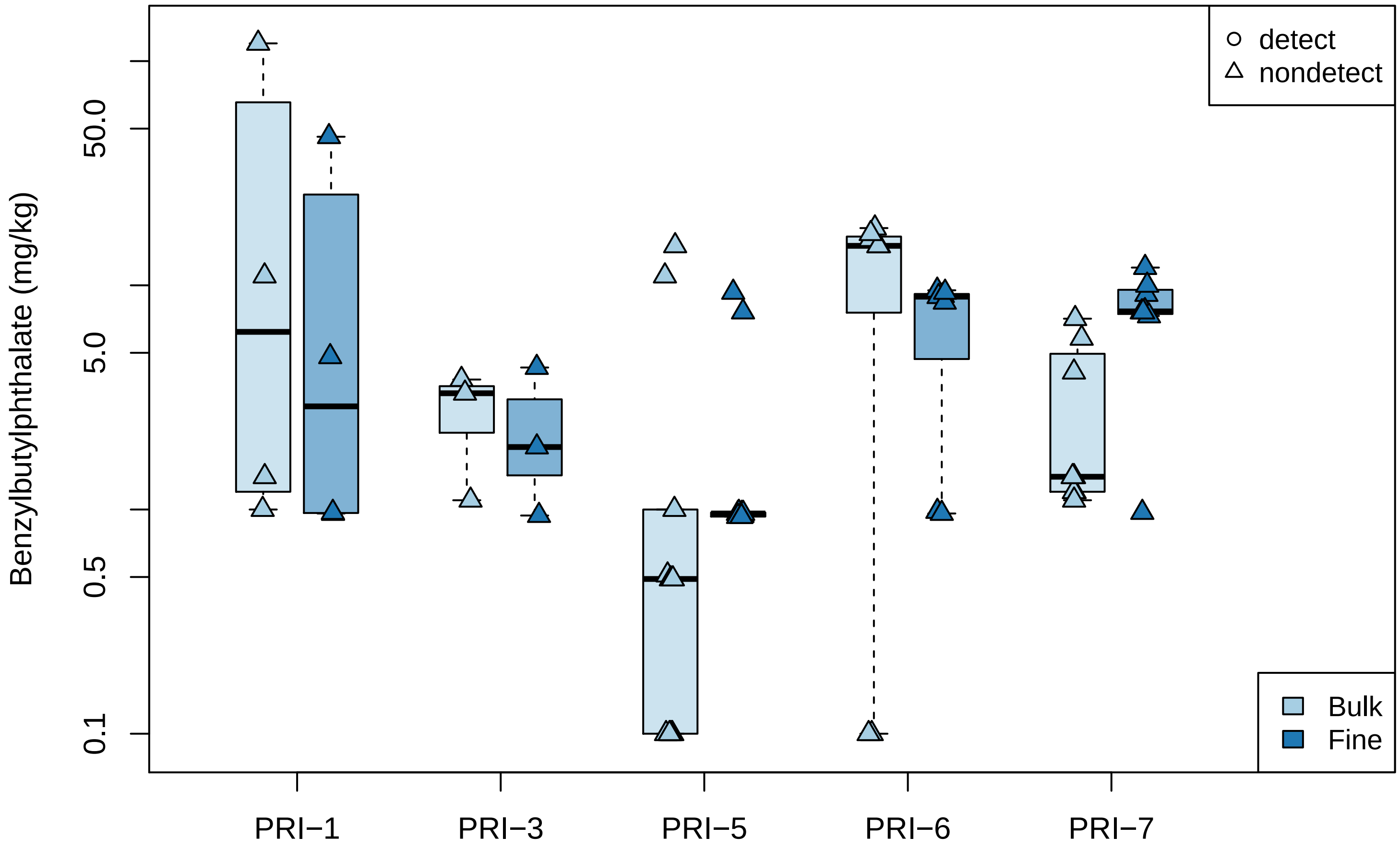
Logscale Boxplot for Benzo(b)fluoranthene



Logscale Boxplot for Benzo(g,h,i)perylene

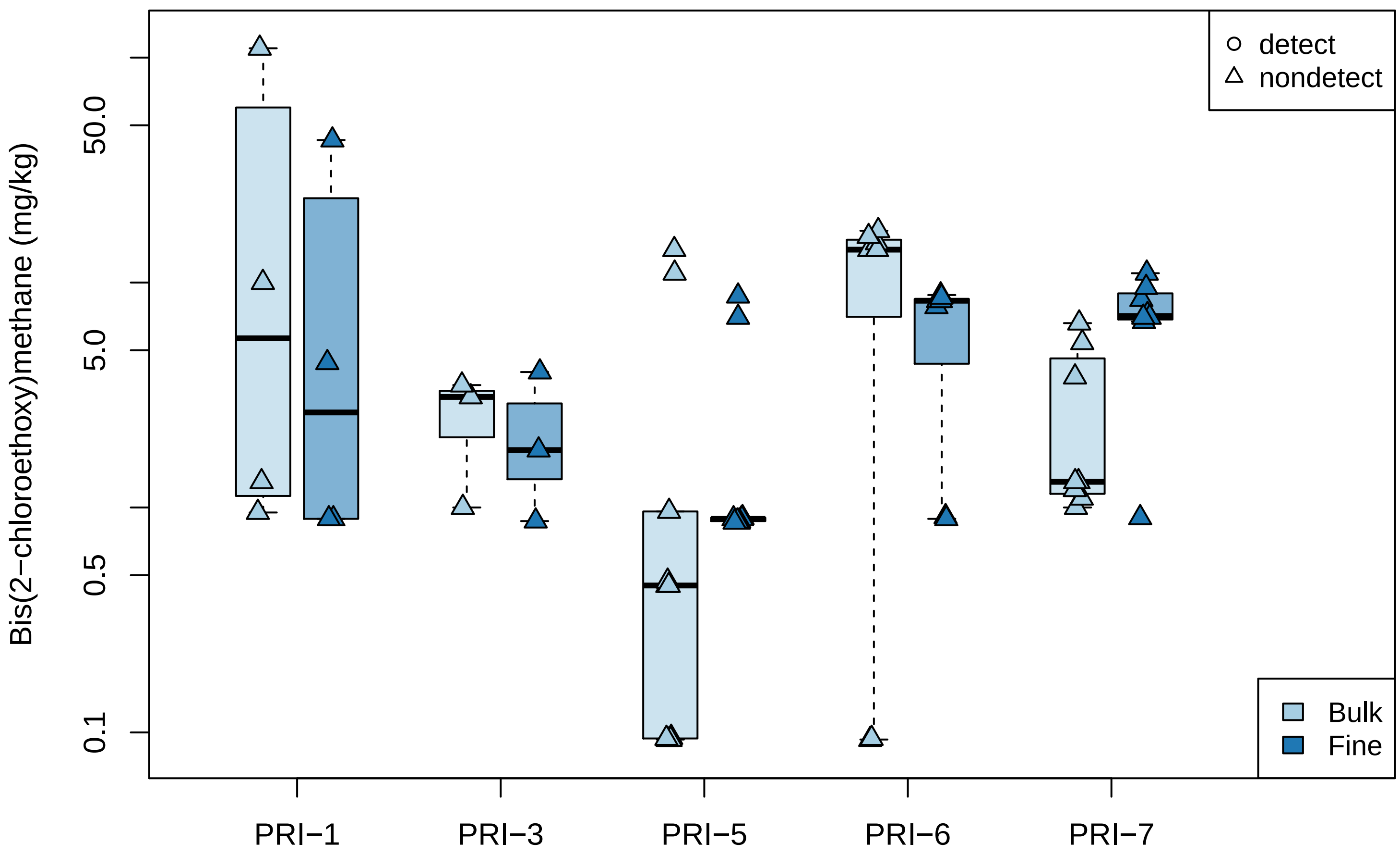


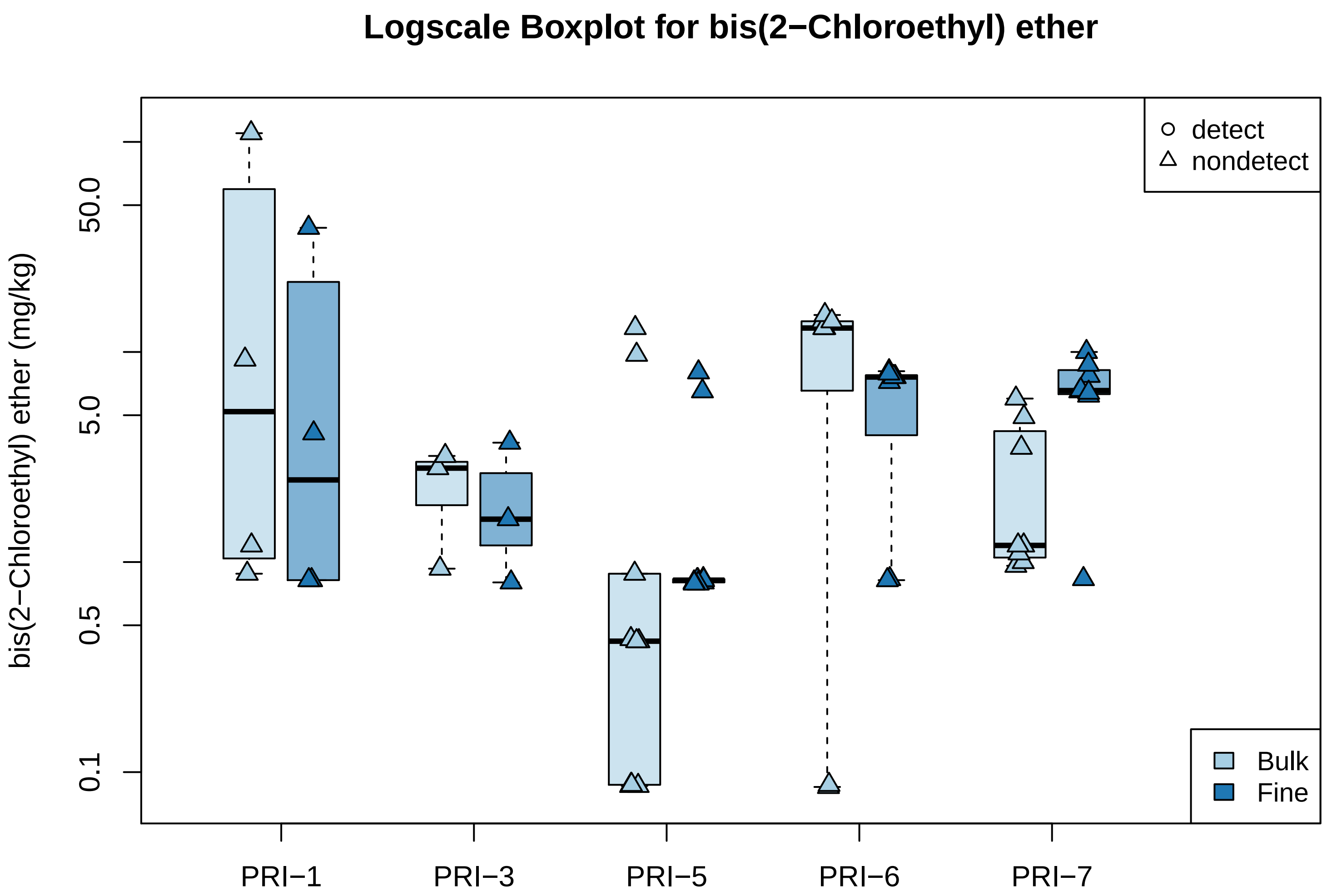

Logscale Boxplot for Benzo(k)fluoranthene
Benzo(k)fluoranthene (mg/kg)
2e−01
5e−02
2e−02
5e−03
2e−03
5e−04
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine



Logscale Boxplot for Benzylbutylphthalate

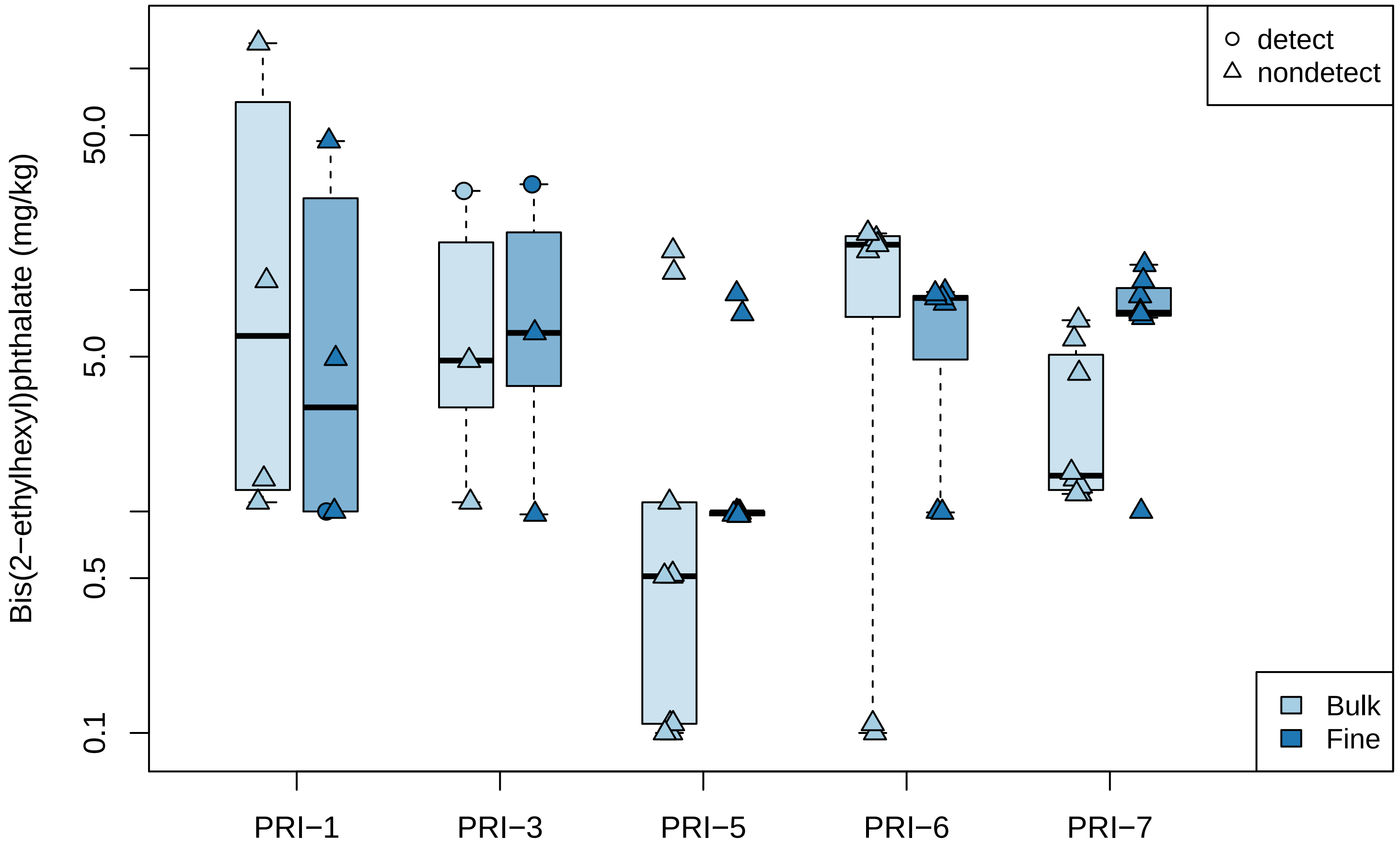
Logscale Boxplot for Bis(2−chloroethoxy)methane



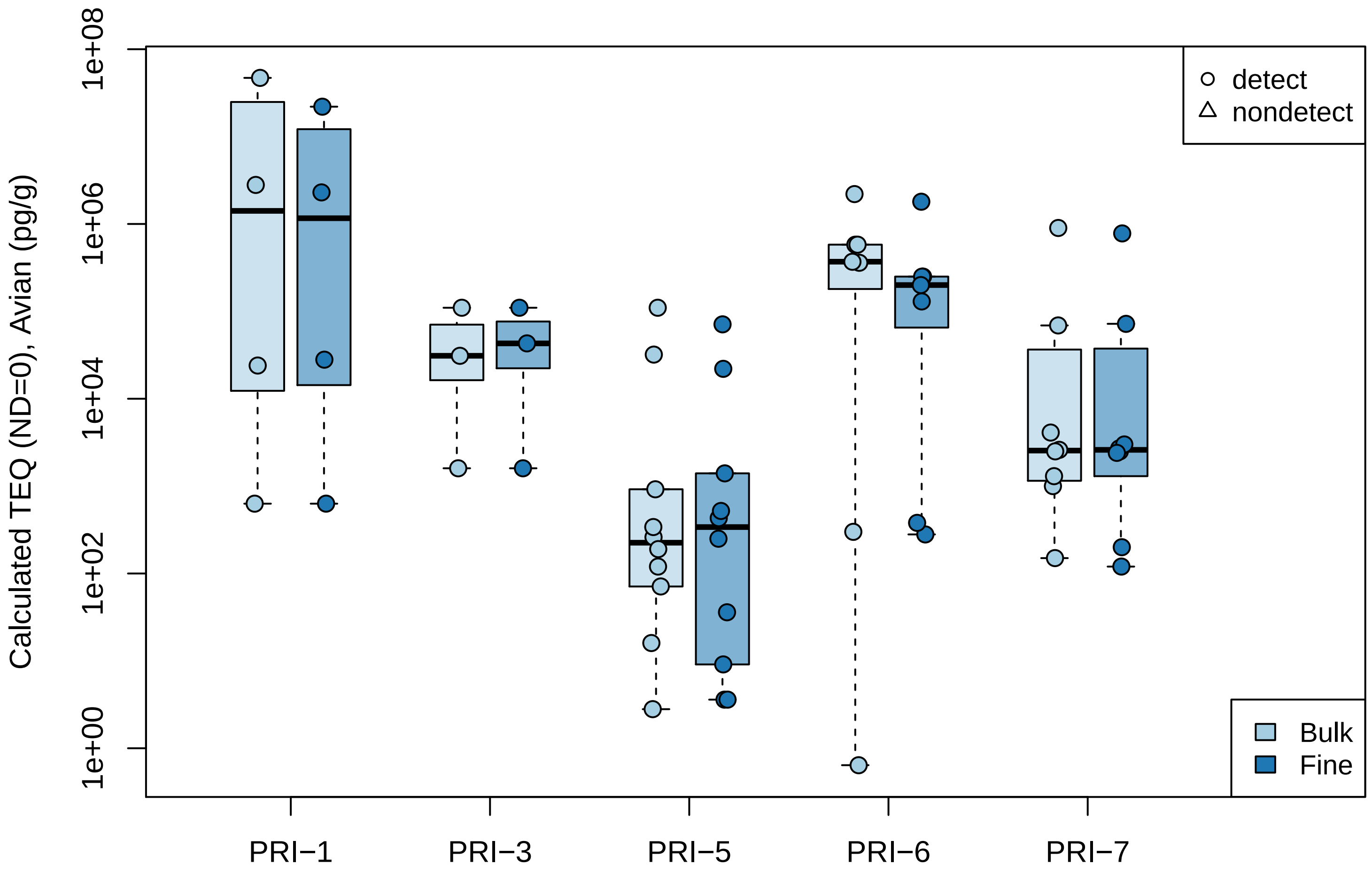


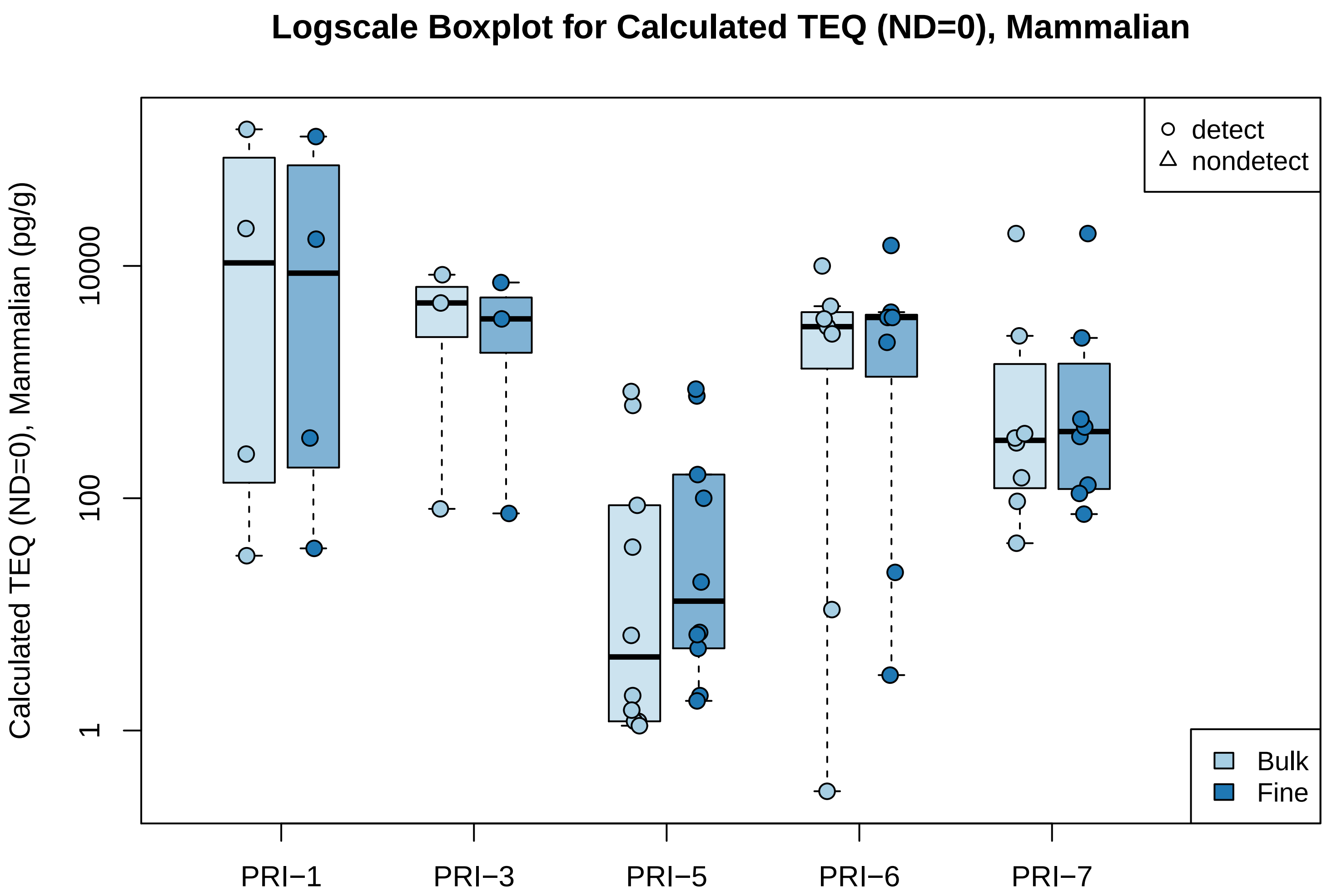
Logscale Boxplot for bis(2−Chloroethyl) ether
bis(2−Chloroethyl) ether (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

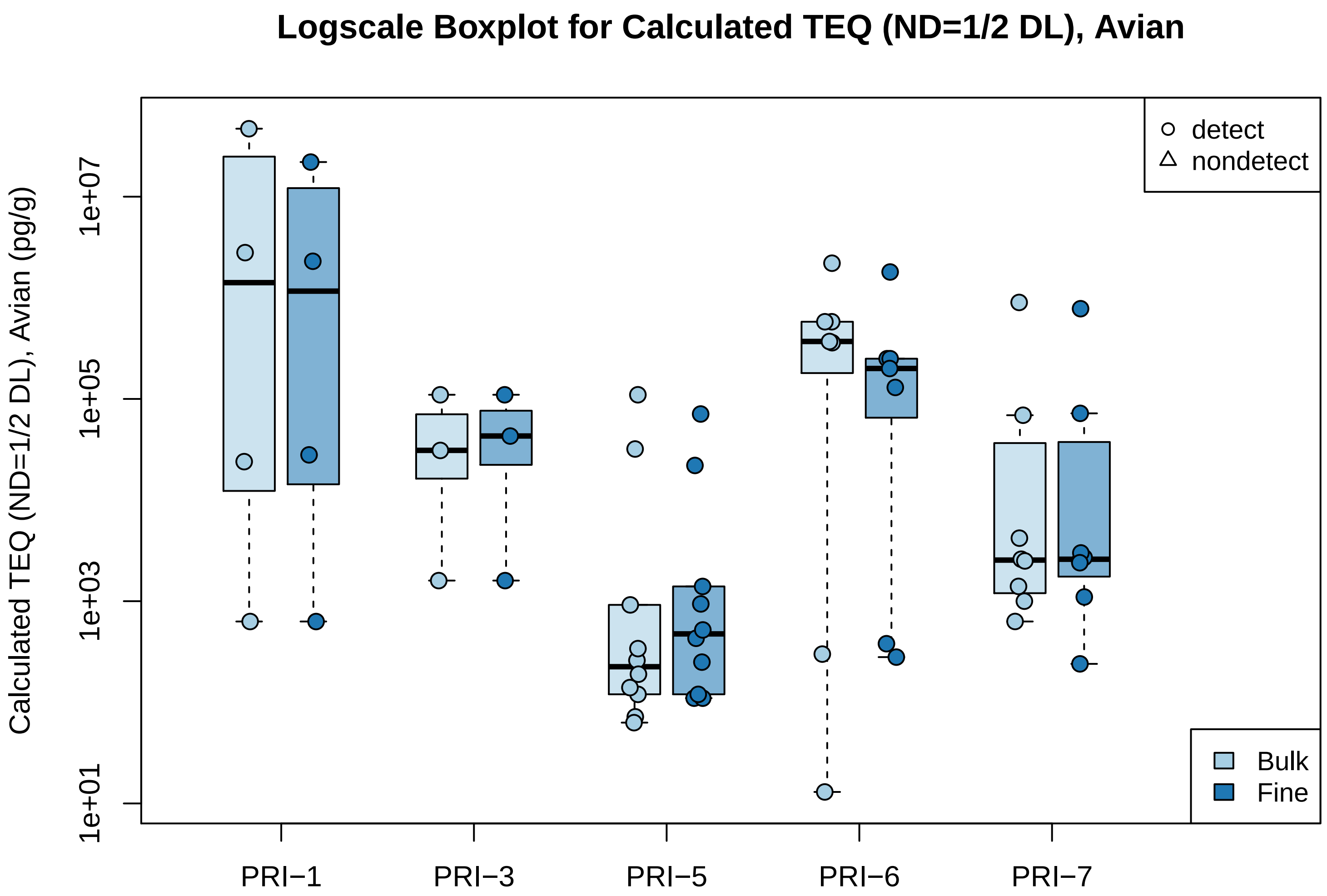
Logscale Boxplot for Bis(2−ethylhexyl)phthalate

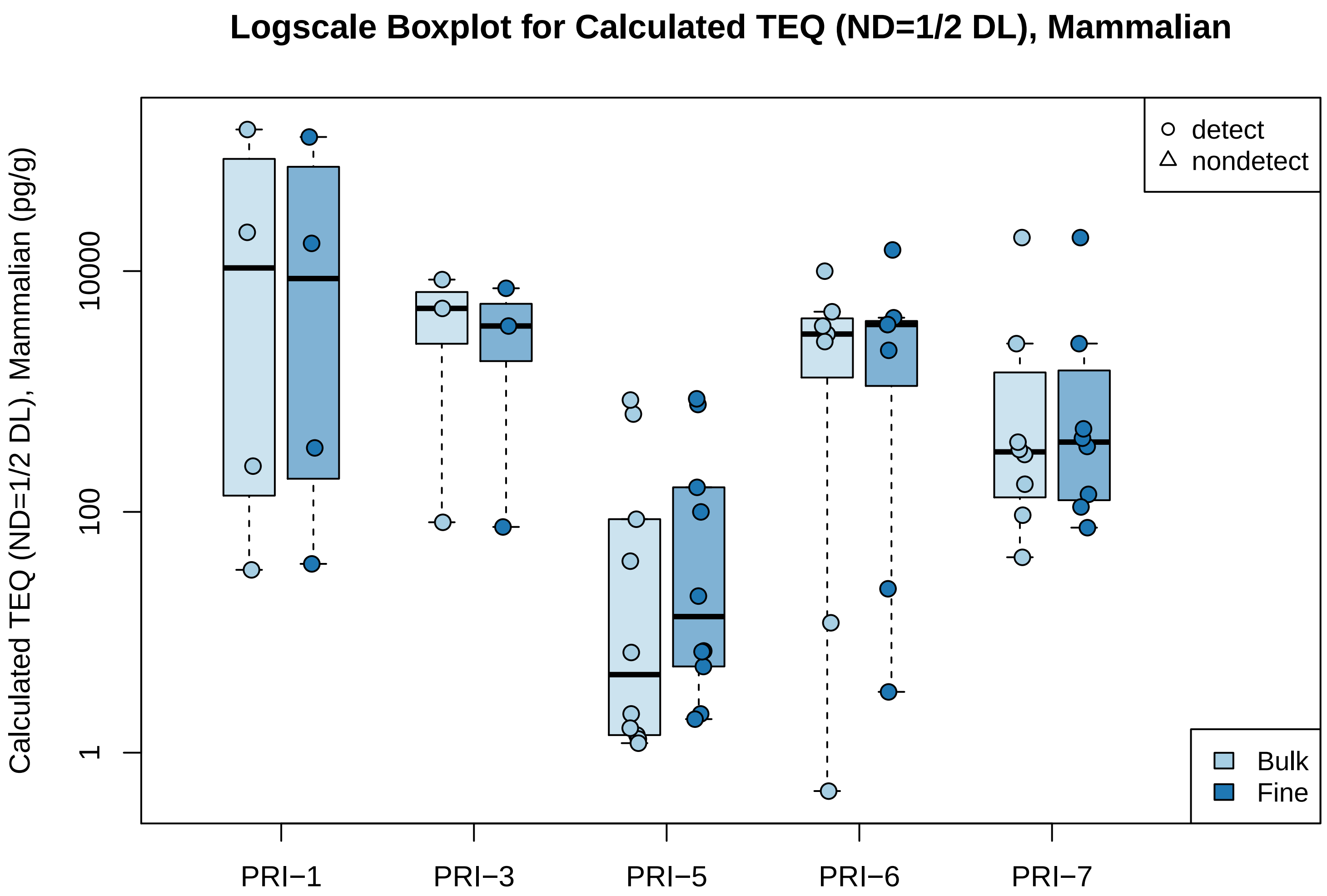


Logscale Boxplot for Calculated TEQ (ND=0), Avian

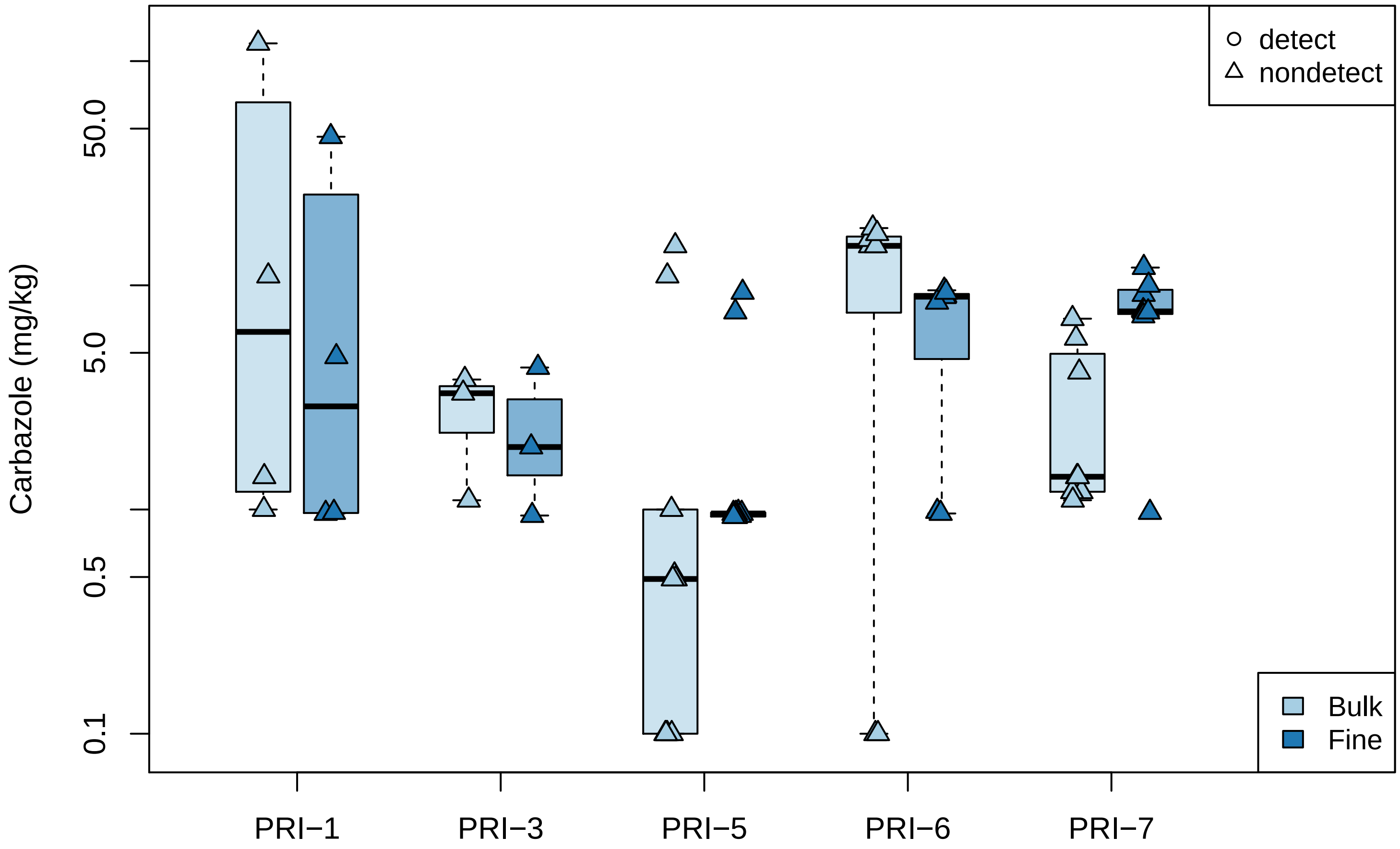


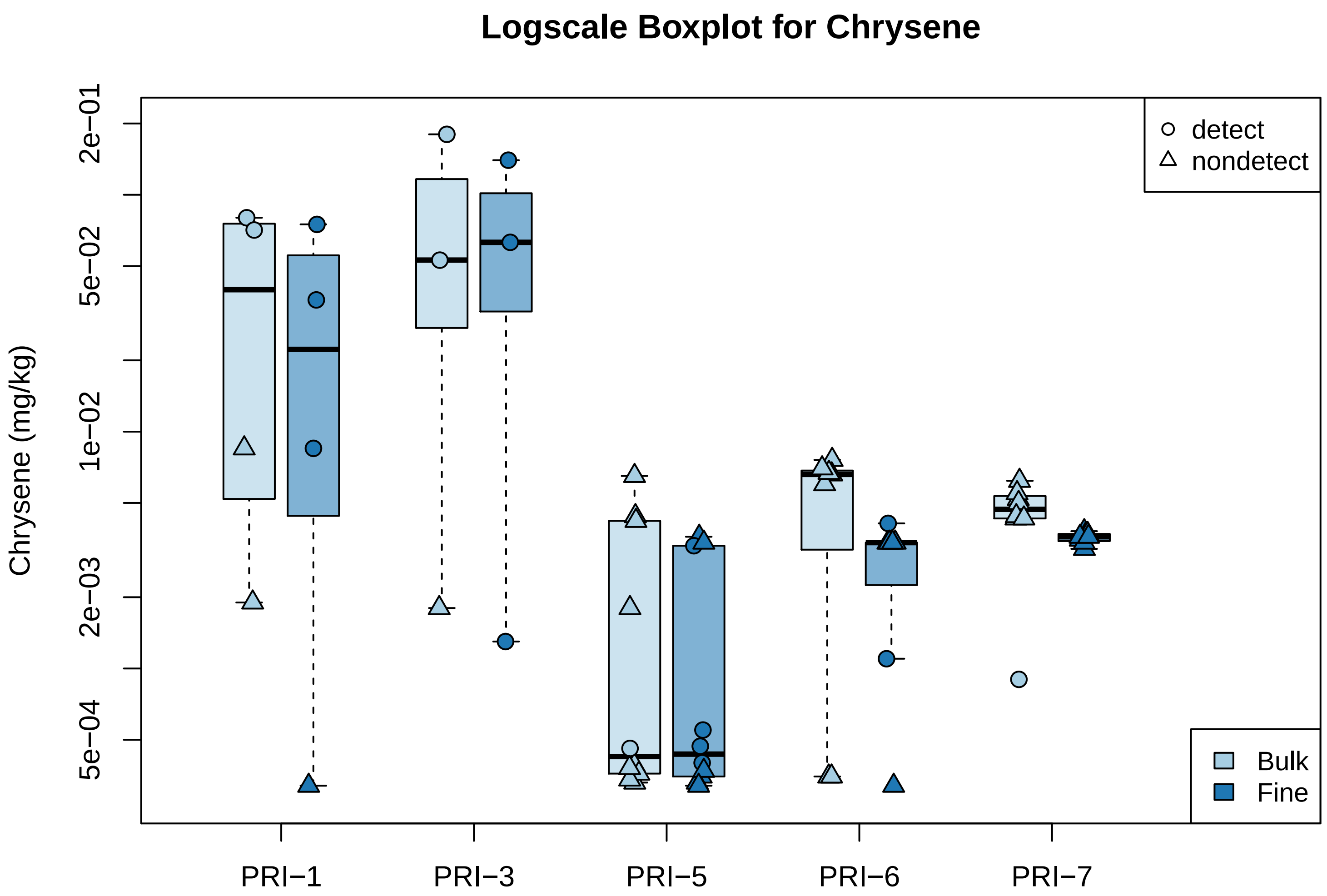

Logscale Boxplot for Calculated TEQ (ND=0), Mammalian
Calculated TEQ (ND=0), Mammalian (pg/g)
1
100
10000
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

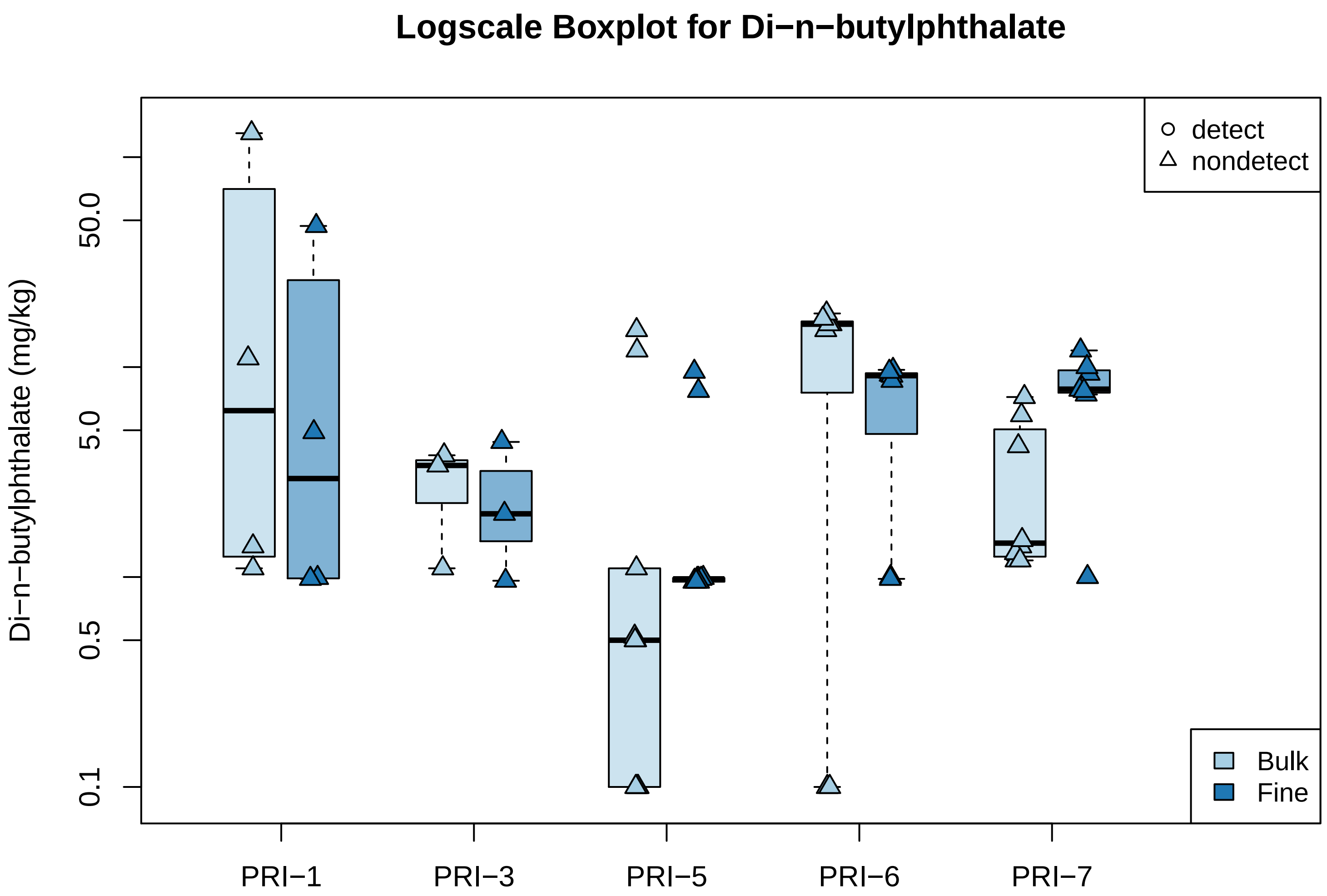

Logscale Boxplot for Calculated TEQ (ND=1/2 DL), Avian
Calculated TEQ (ND=1/2 DL), Avian (pg/g)
1e+01
1e+03
1e+05
1e+07
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine


Logscale Boxplot for Calculated TEQ (ND=1/2 DL), Mammalian
Calculated TEQ (ND=1/2 DL), Mammalian (pg/g)
10000
100
1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

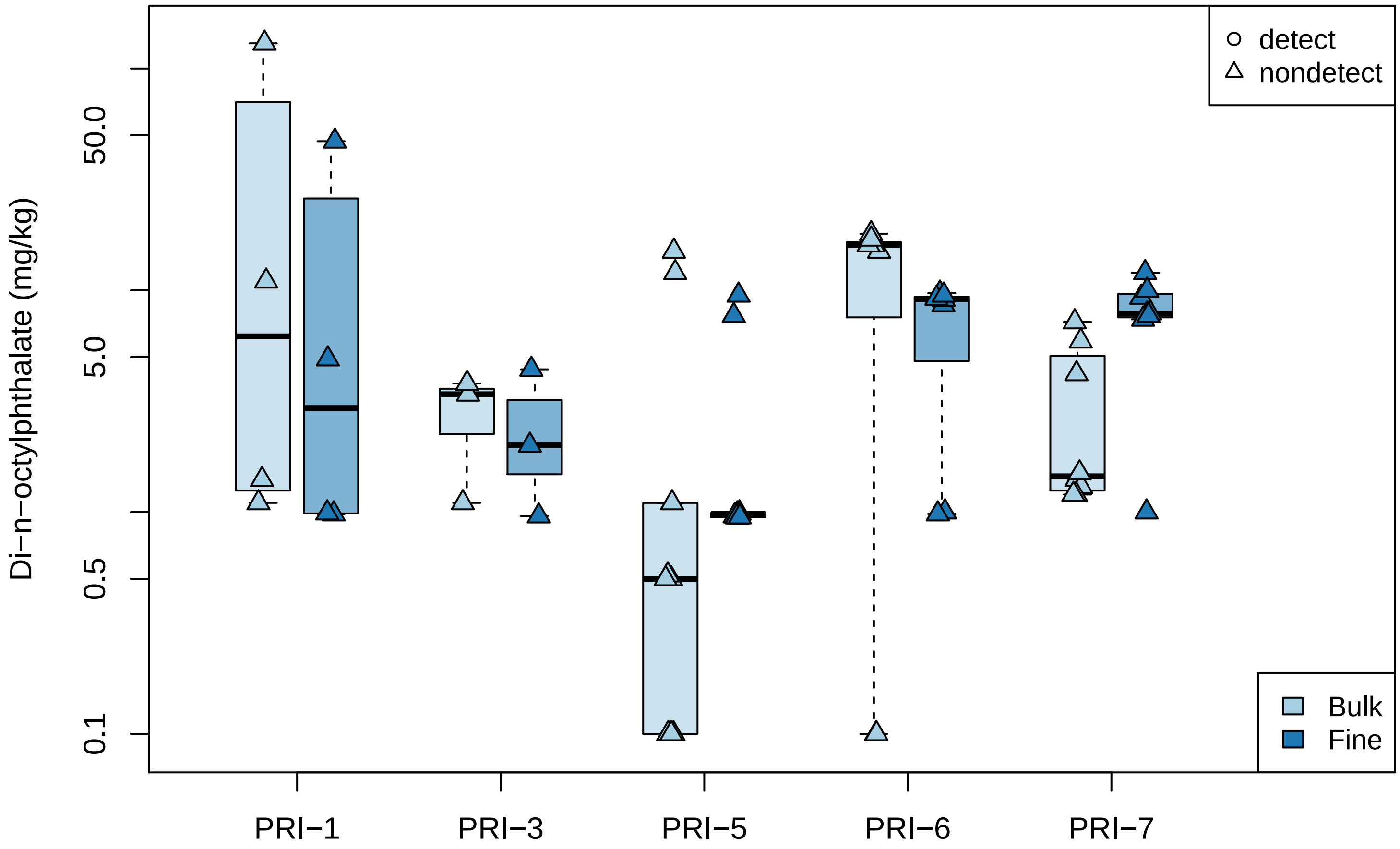
Logscale Boxplot for Carbazole



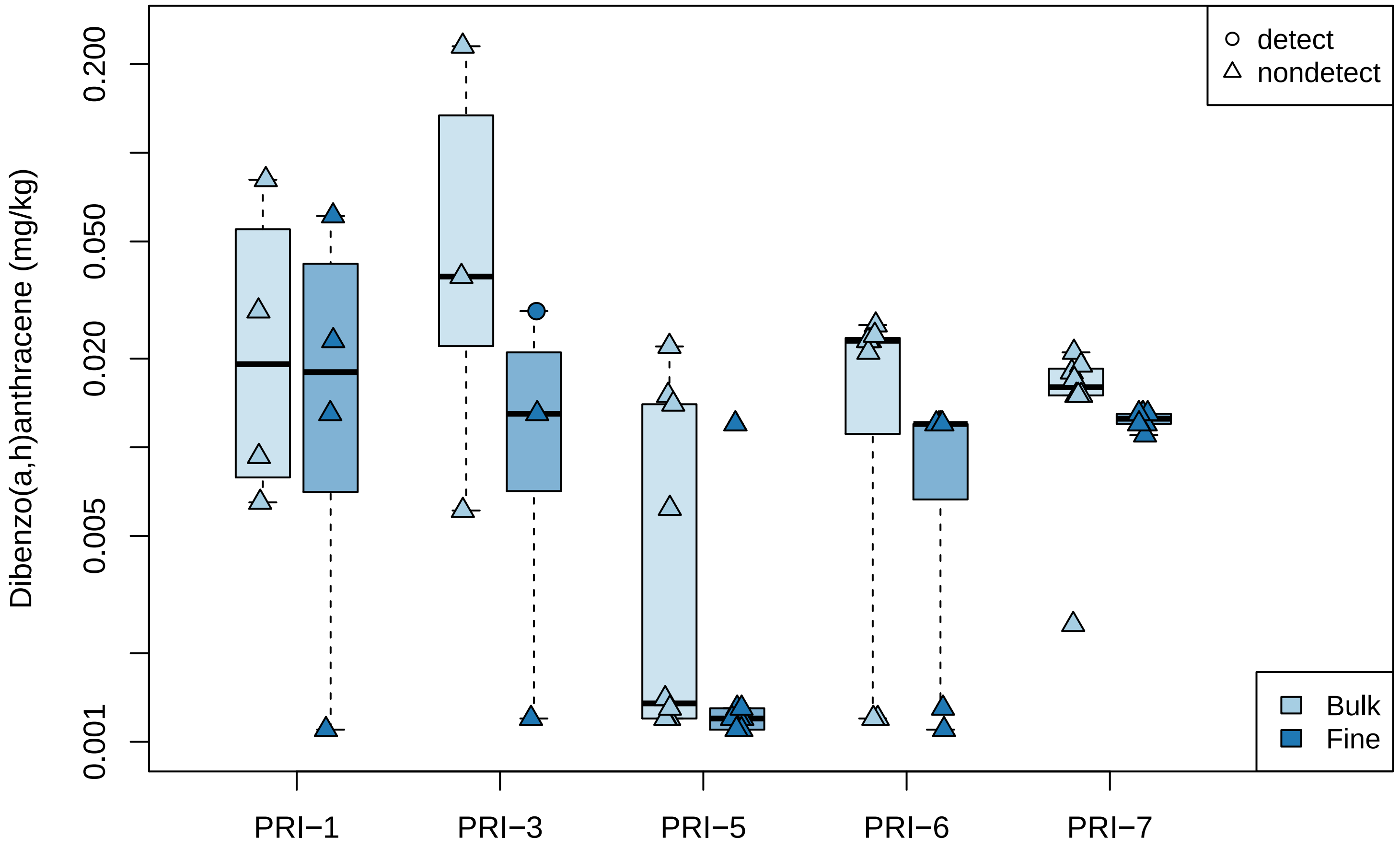

Logscale Boxplot for Chrysene
Chrysene (mg/kg)
2e−01
5e−02
1e−02
2e−03
5e−04
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
detect
nondetect
Bulk
Fine

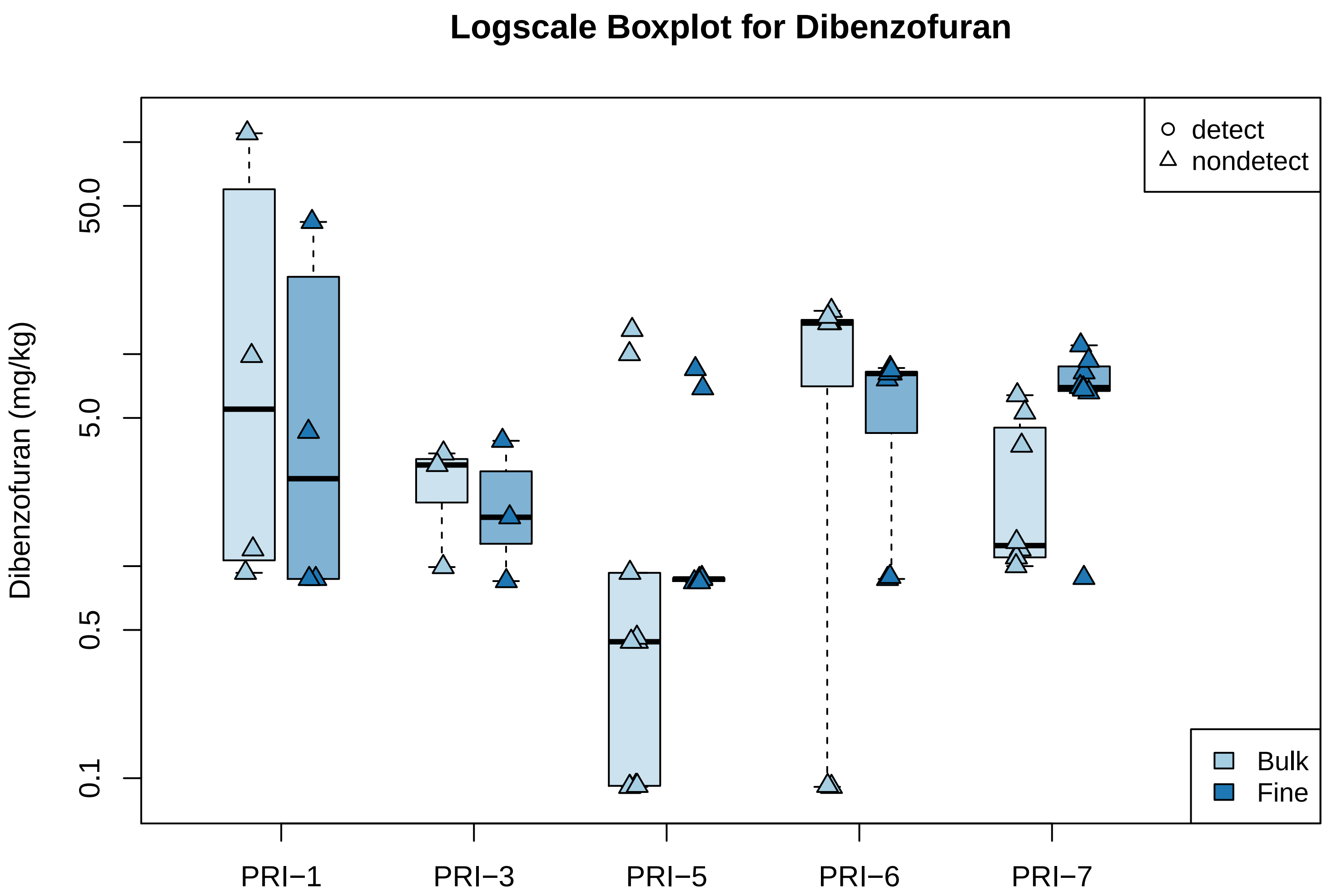

Logscale Boxplot for Di−n−butylphthalate
Di−n−butylphthalate (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

Logscale Boxplot for Di−n−octylphthalate

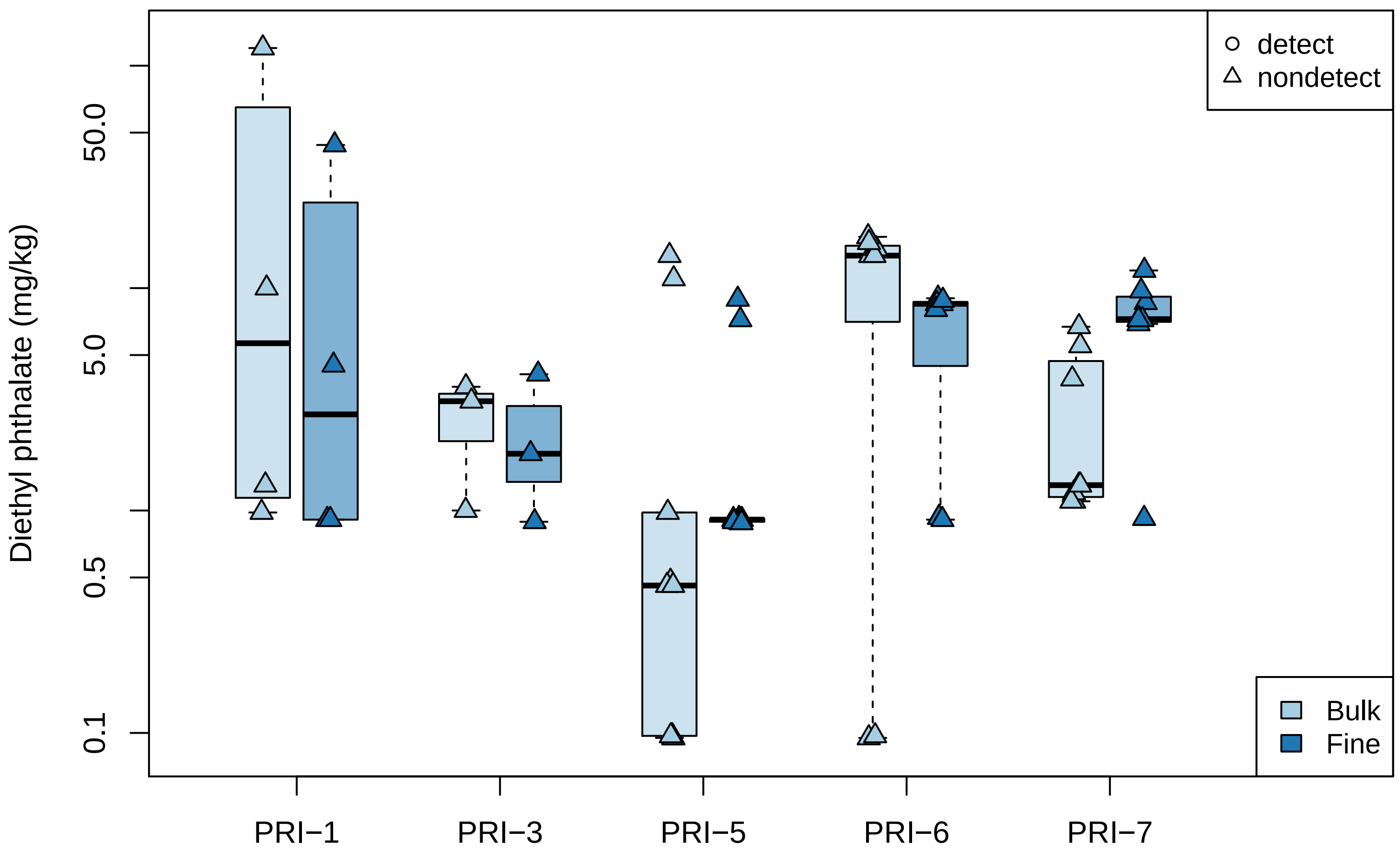


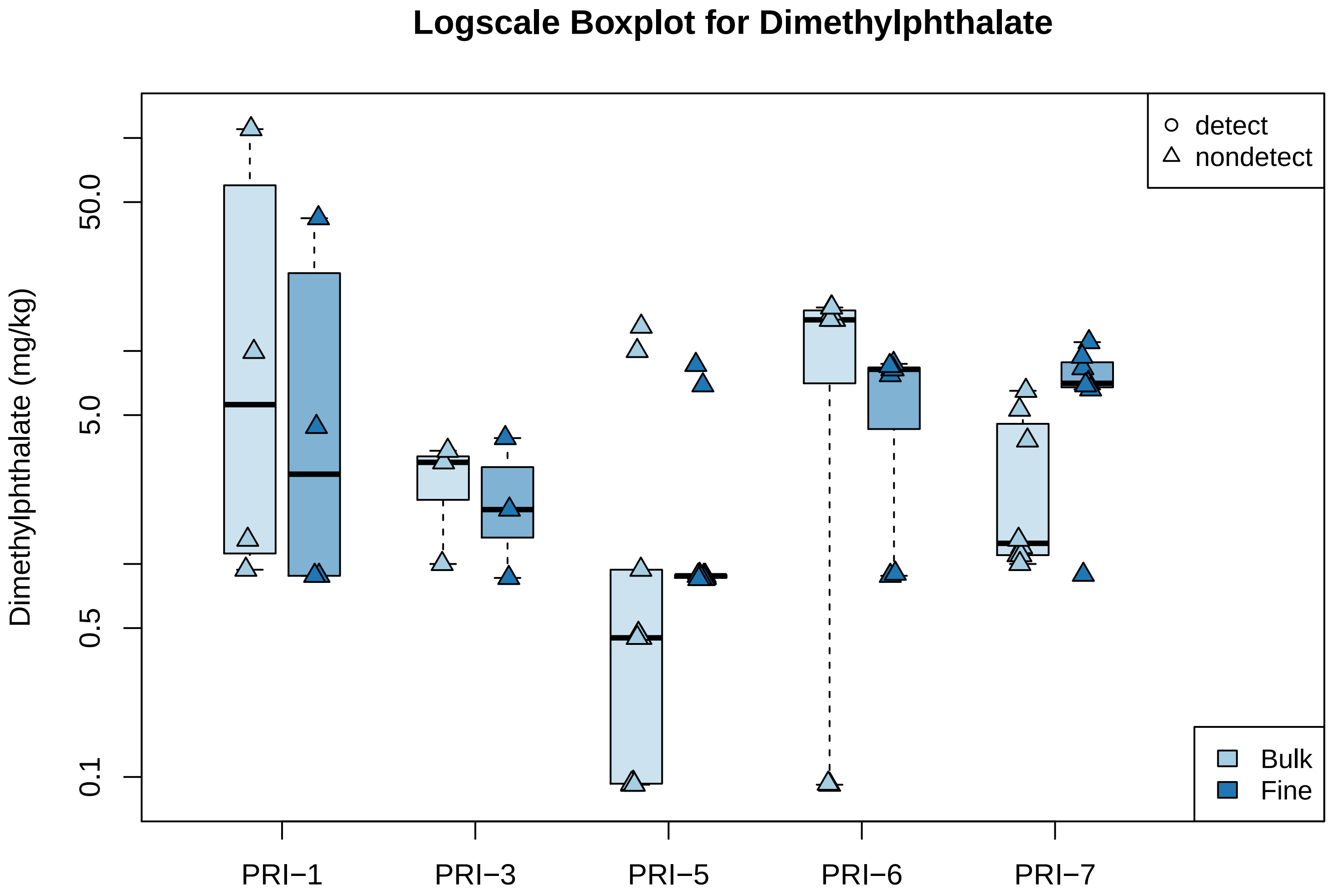
Logscale Boxplot for Dibenzo(a,h)anthracene



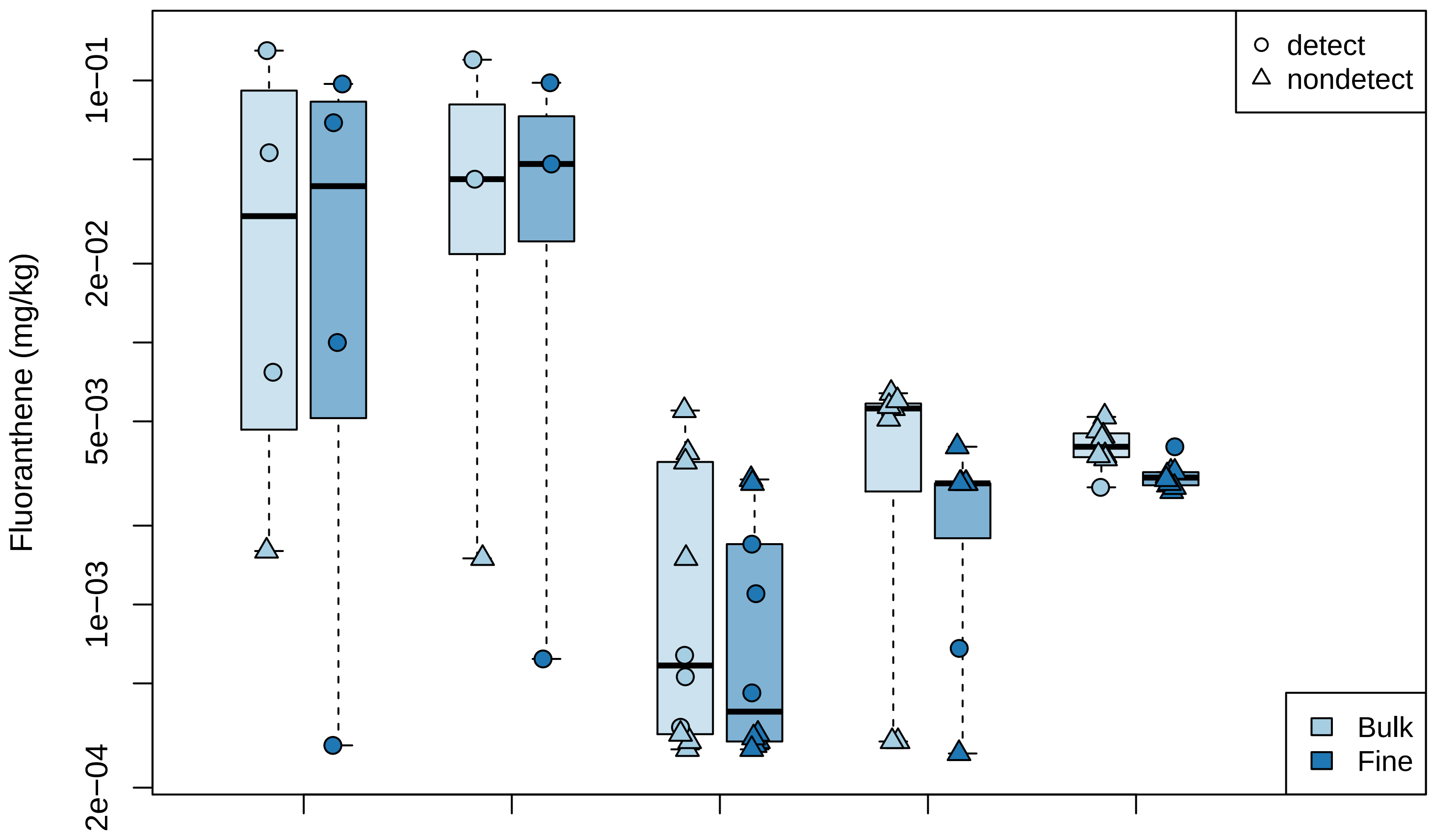
Logscale Boxplot for Dibenzofuran
Dibenzofuran (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

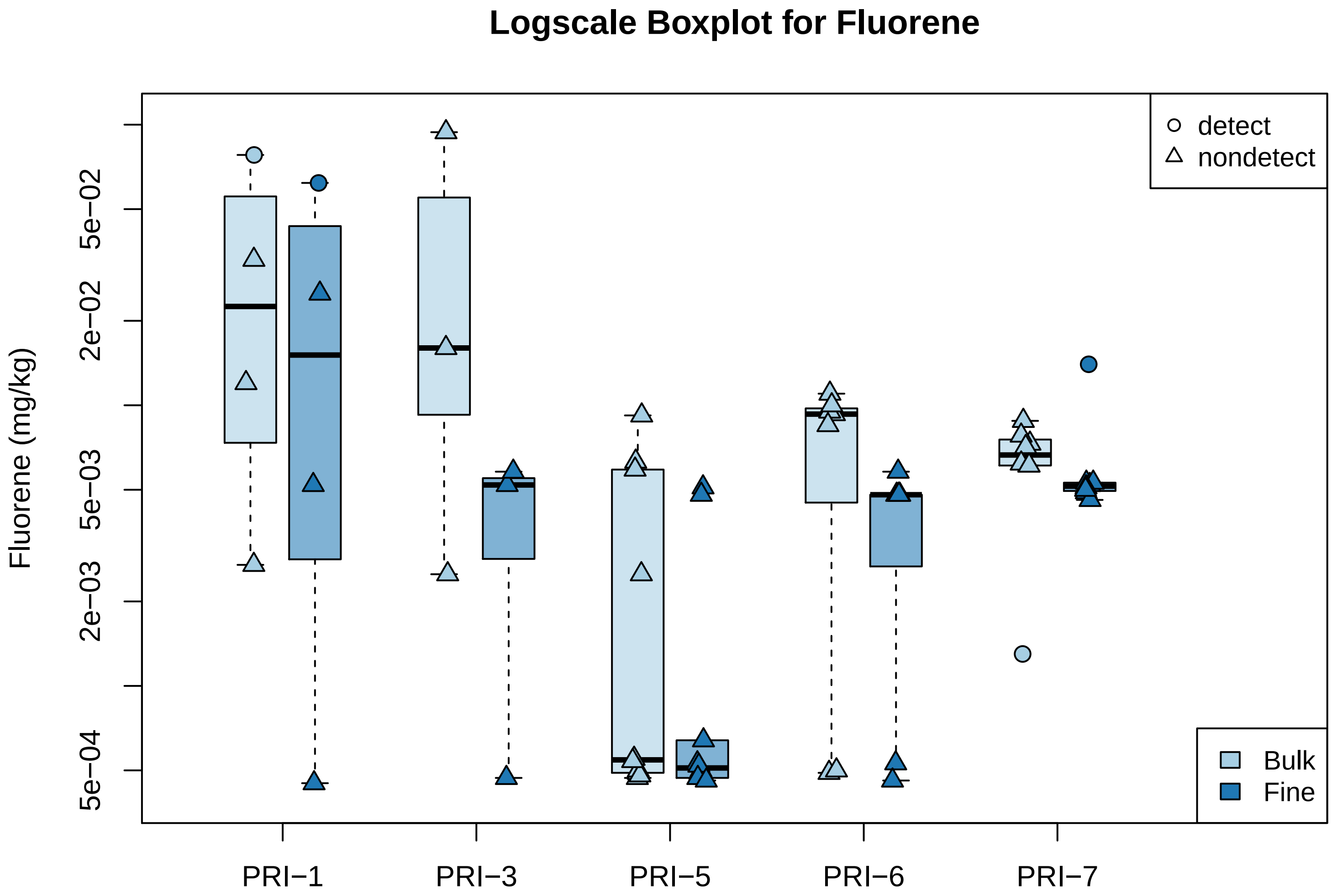
Logscale Boxplot for Diethyl phthalate




Logscale Boxplot for Dimethylphthalate
Dimethylphthalate (mg/kg)
50.0
5.0
0.5
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

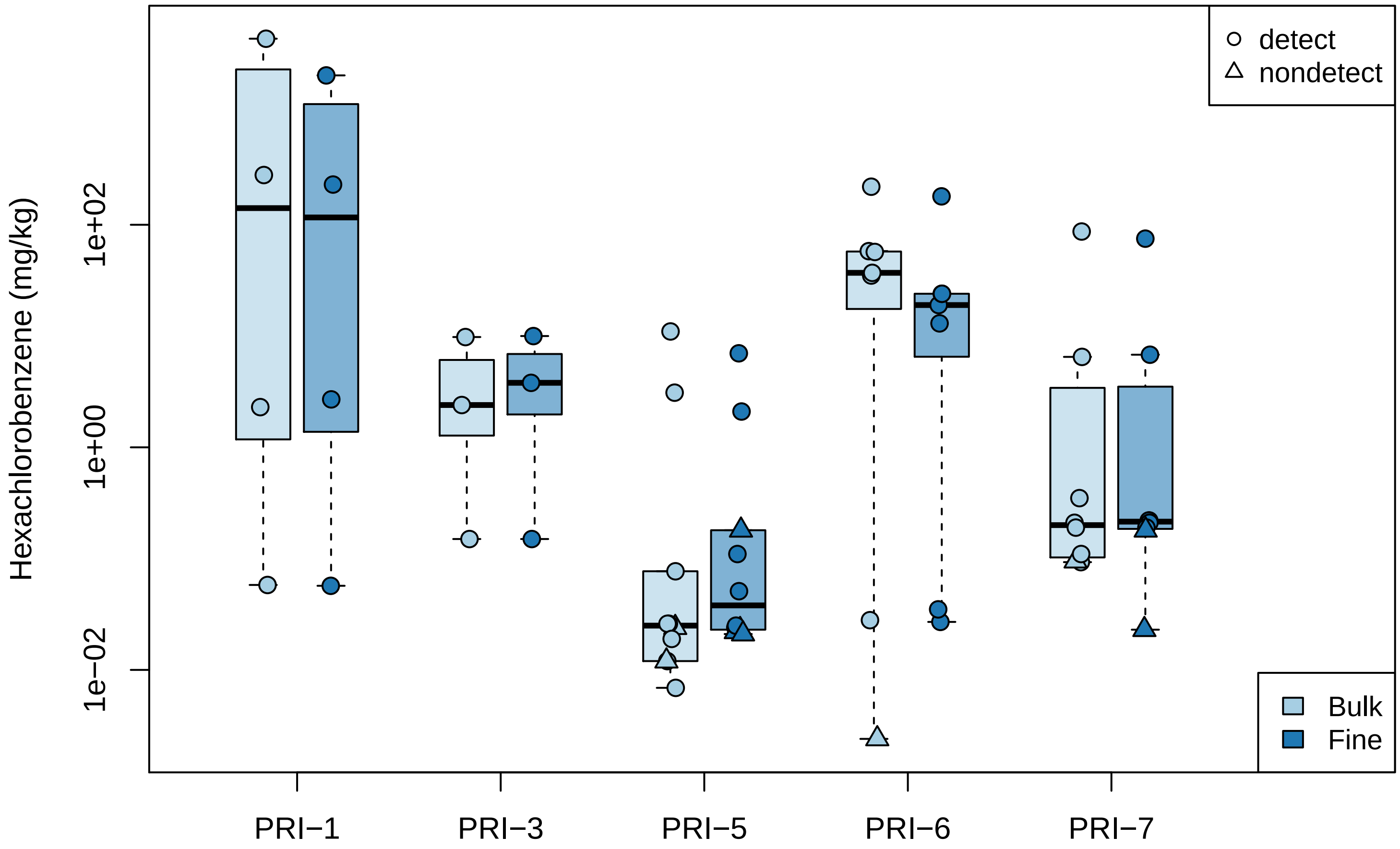
Logscale Boxplot for Fluoranthene

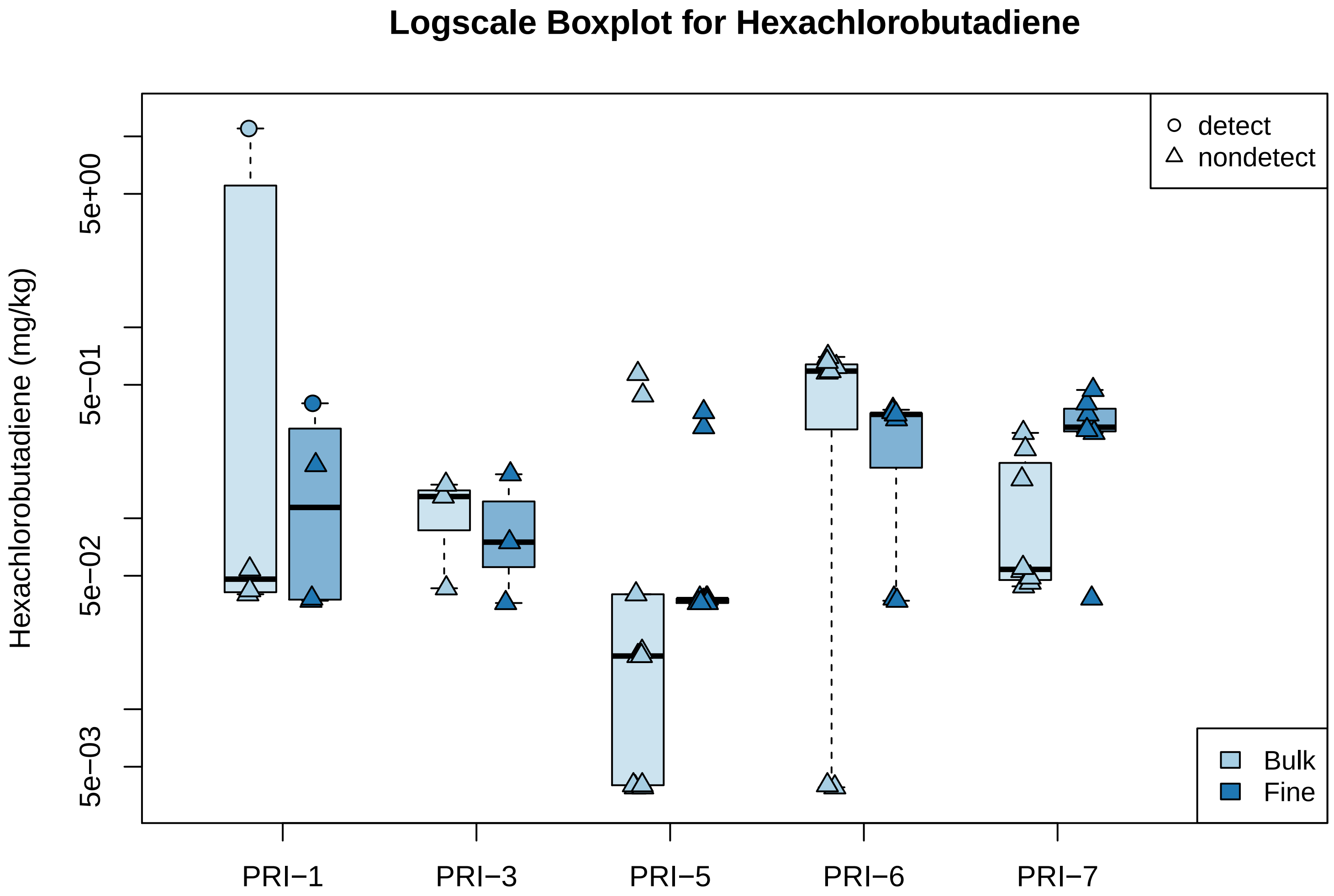


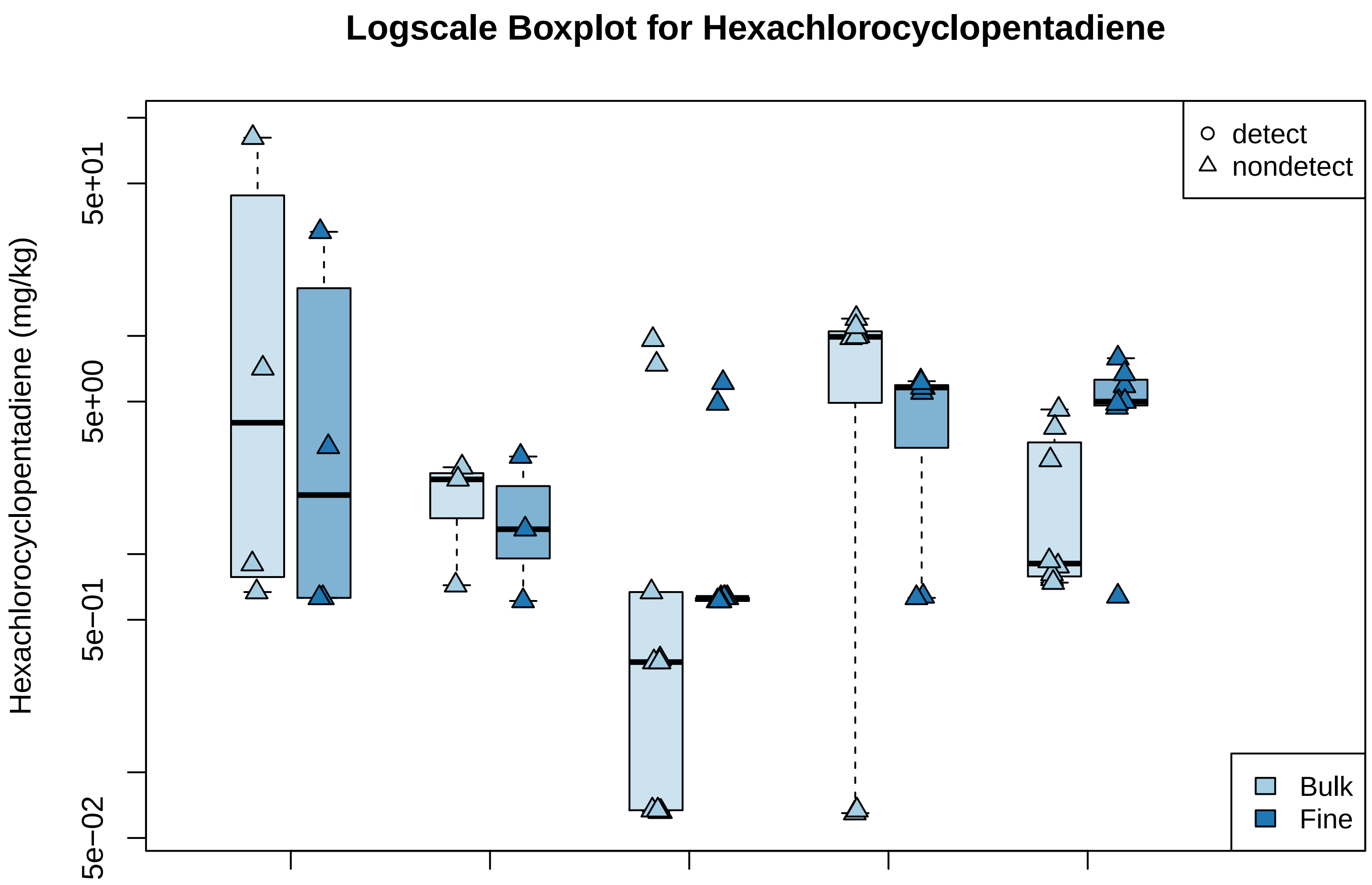


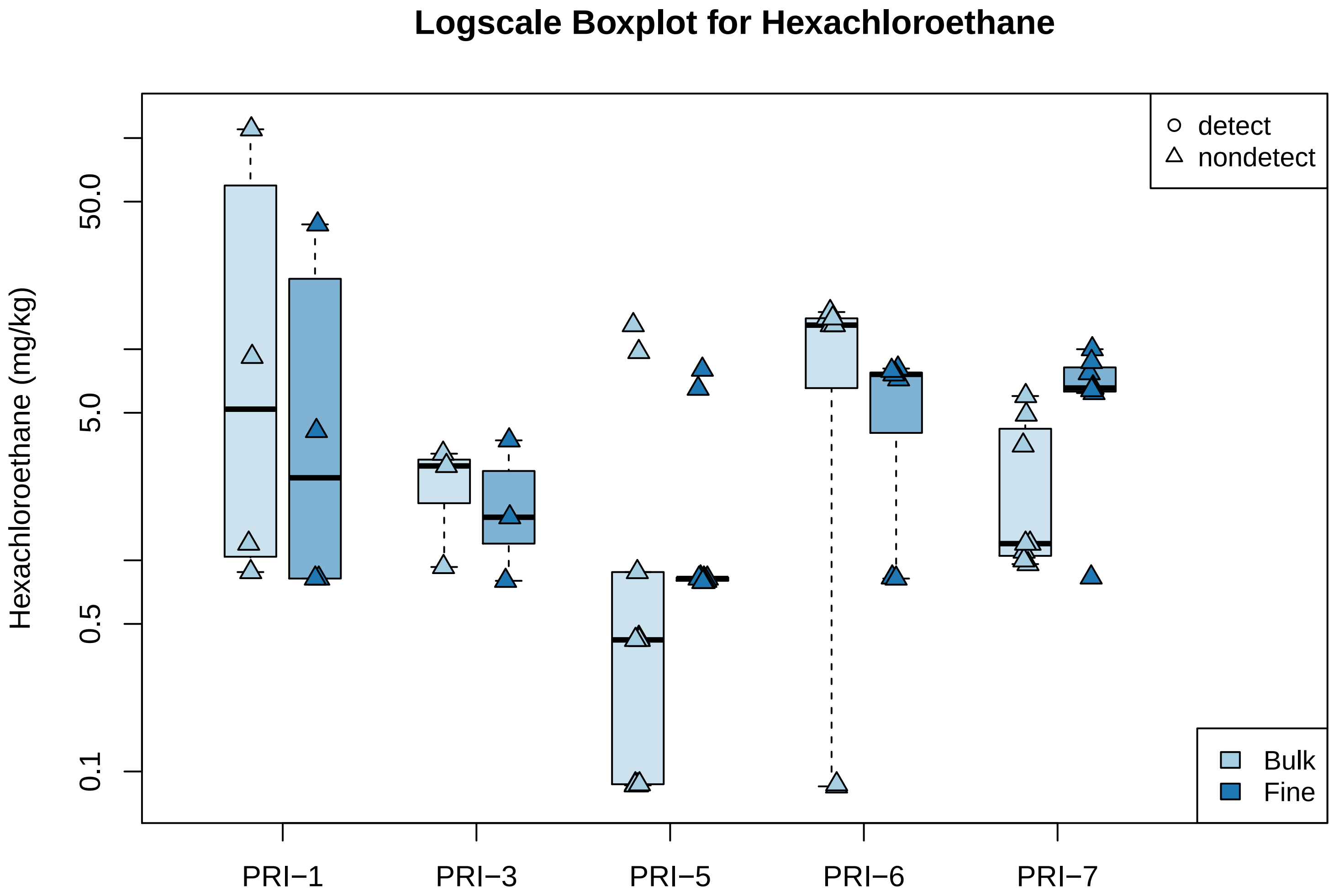
Logscale Boxplot for Fluorene

Logscale Boxplot for Hexachlorobenzene

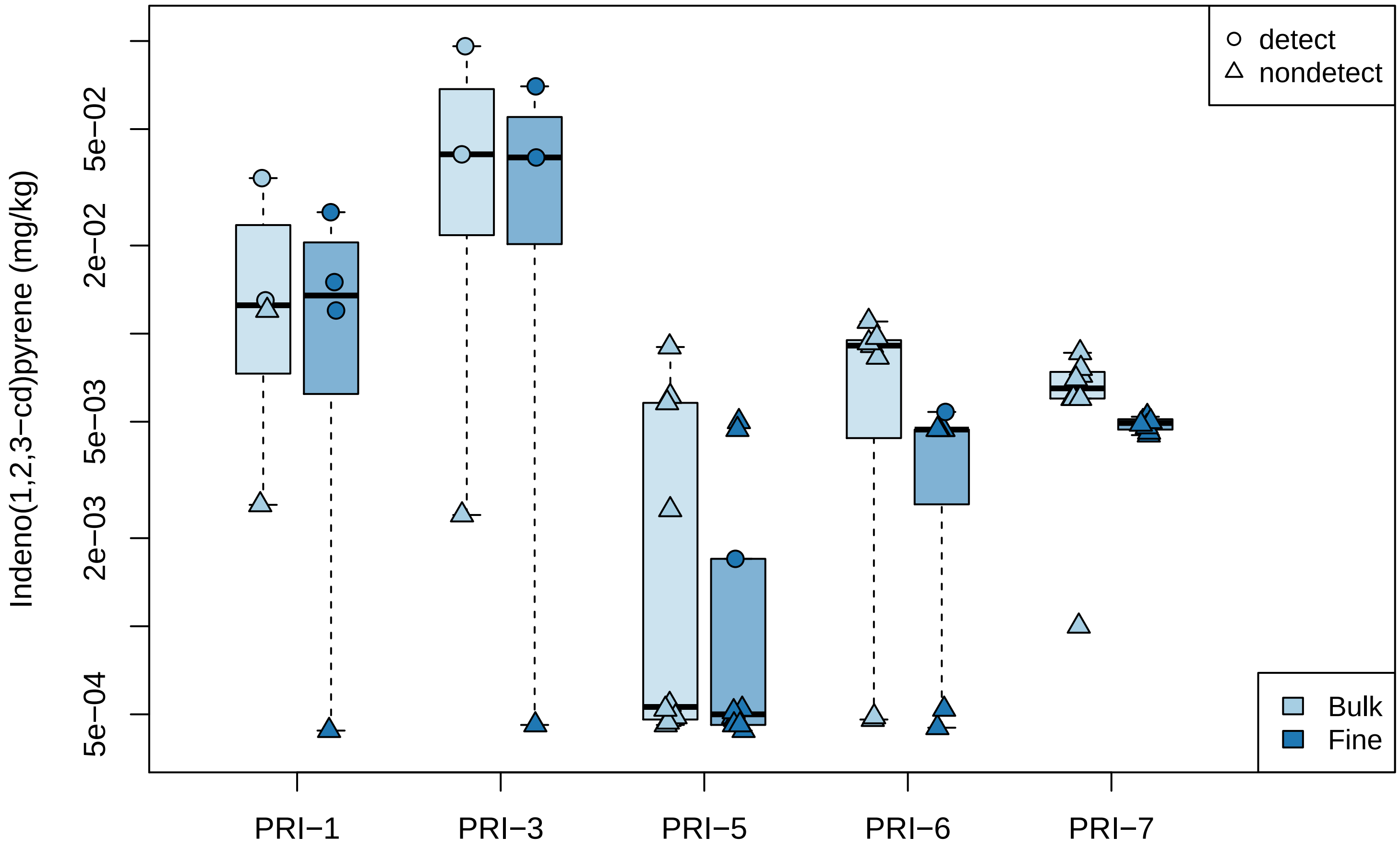



Logscale Boxplot for Hexachlorobutadiene
Hexachlorobutadiene (mg/kg)
5e+00
5e−01
5e−02
5e−03
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

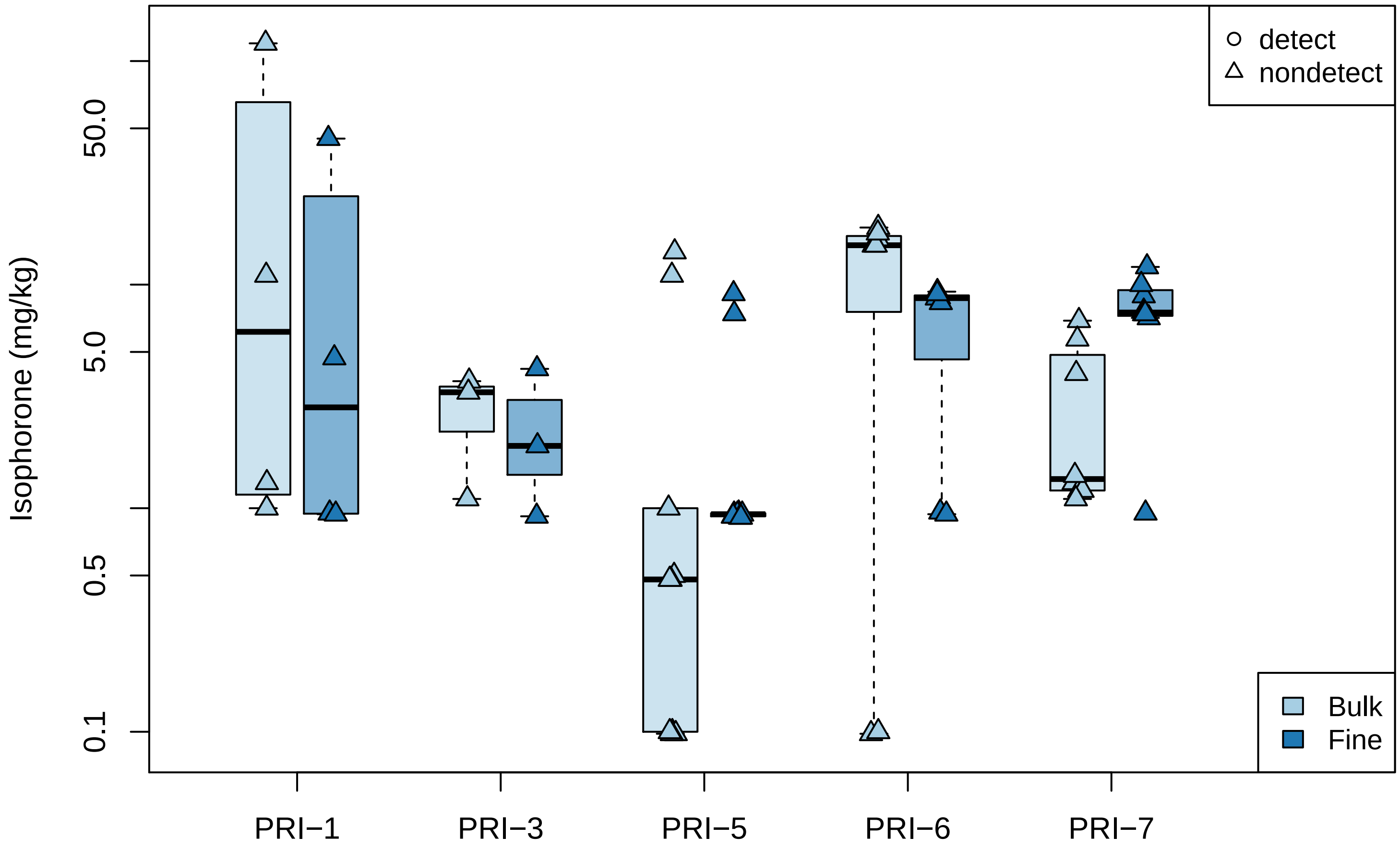

Logscale Boxplot for Hexachlorocyclopentadiene
Hexachlorocyclopentadiene (mg/kg)
5e+01
5e+00
5e−01
5e−02
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine


Logscale Boxplot for Hexachloroethane
Hexachloroethane (mg/kg)
0.1
0.5
5.0
50.0
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

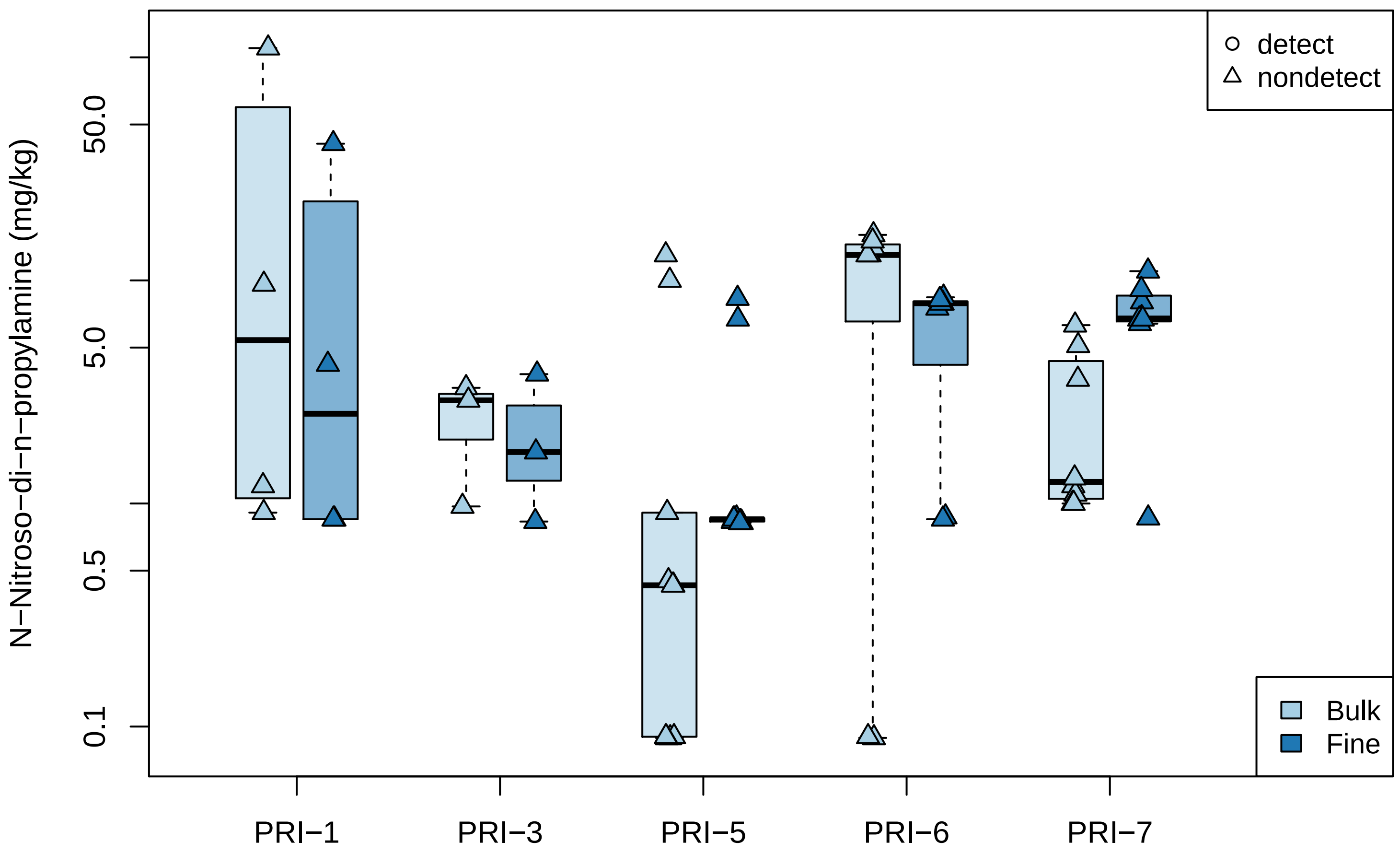
Logscale Boxplot for Indeno(1,2,3−cd)pyrene

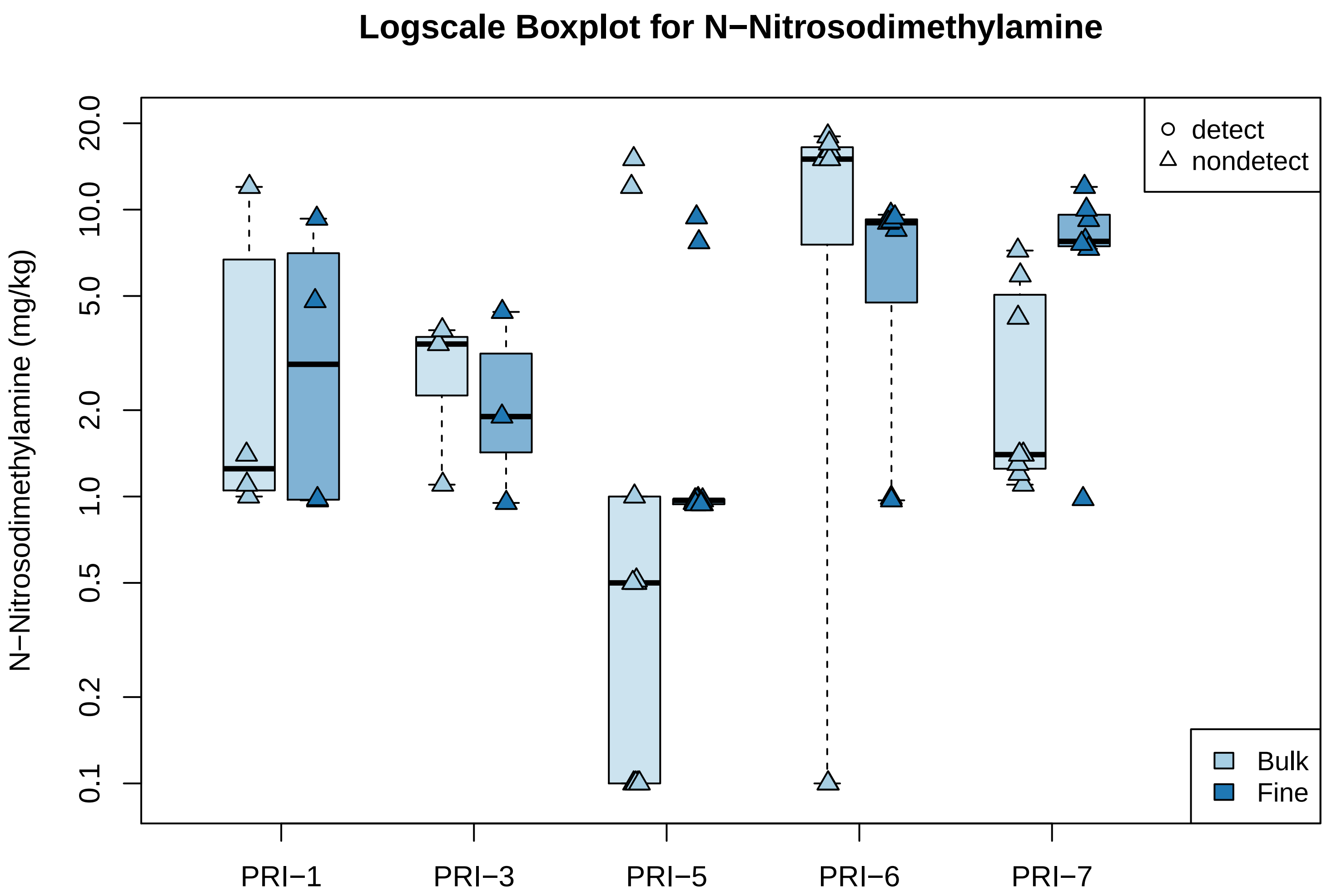


Logscale Boxplot for Isophorone

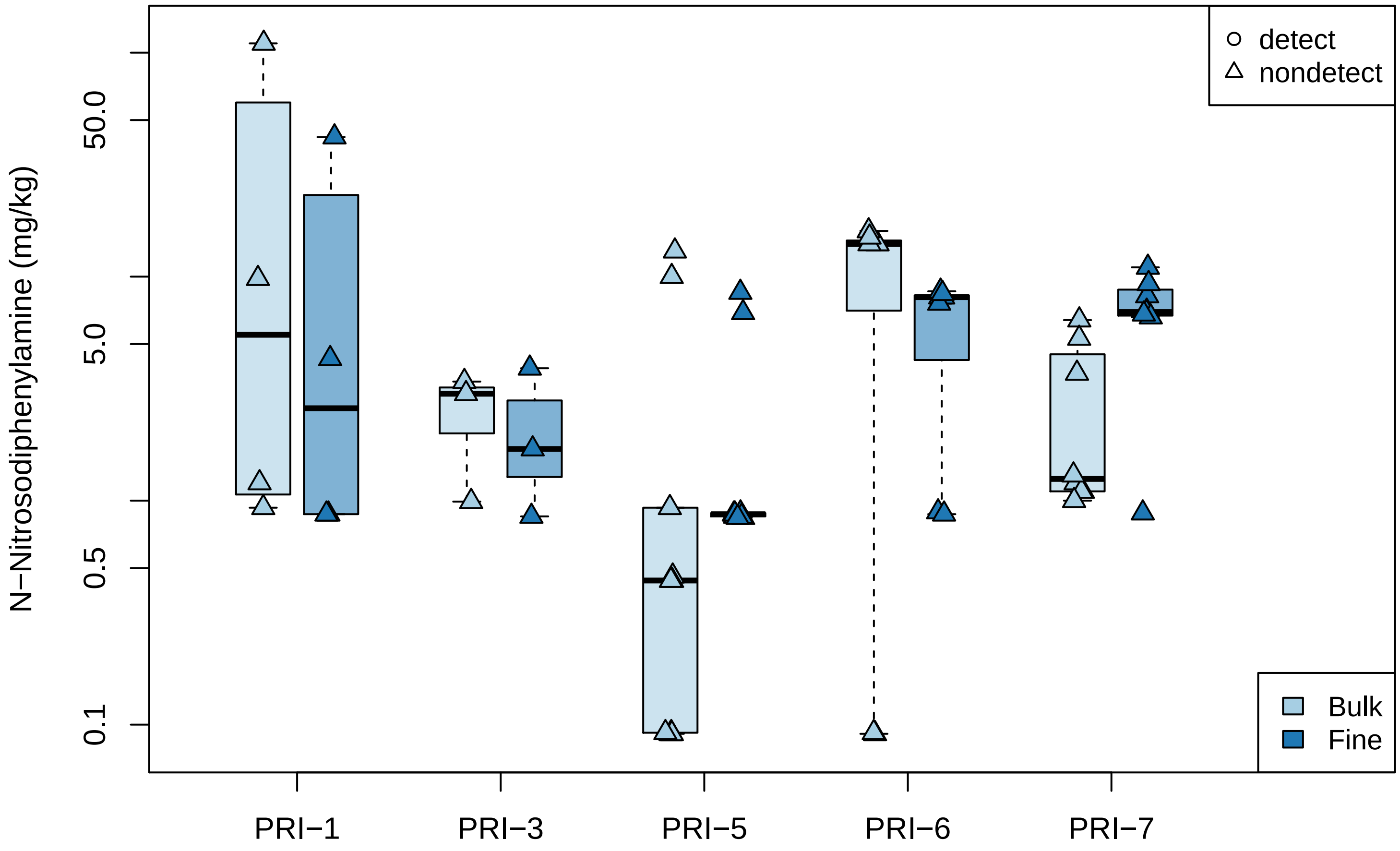


Logscale Boxplot for N−Nitroso−di−n−propylamine

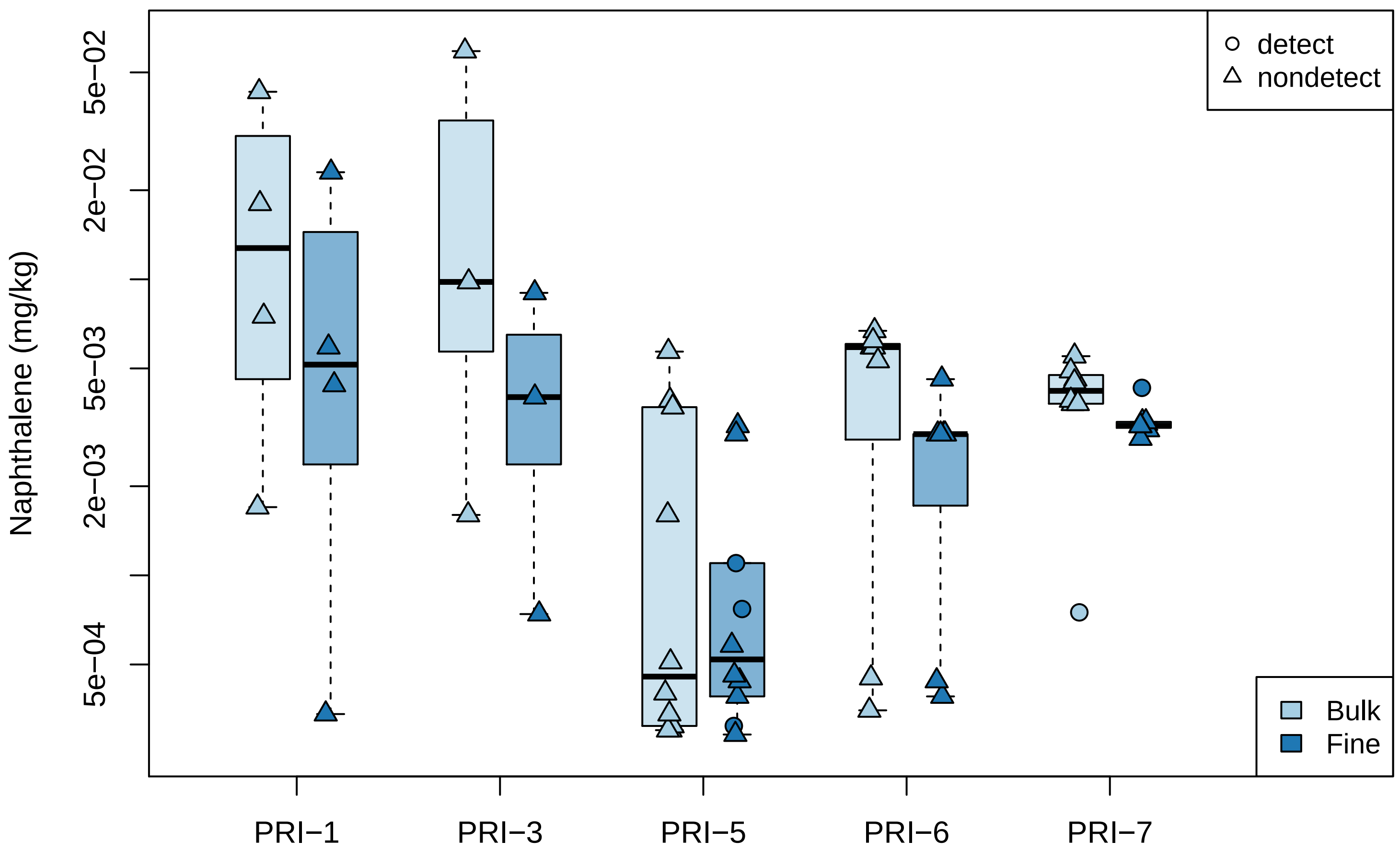



Logscale Boxplot for N−Nitrosodimethylamine
N−Nitrosodimethylamine (mg/kg)
20.0
10.0
5.0
2.0
1.0
0.5
0.2
0.1
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

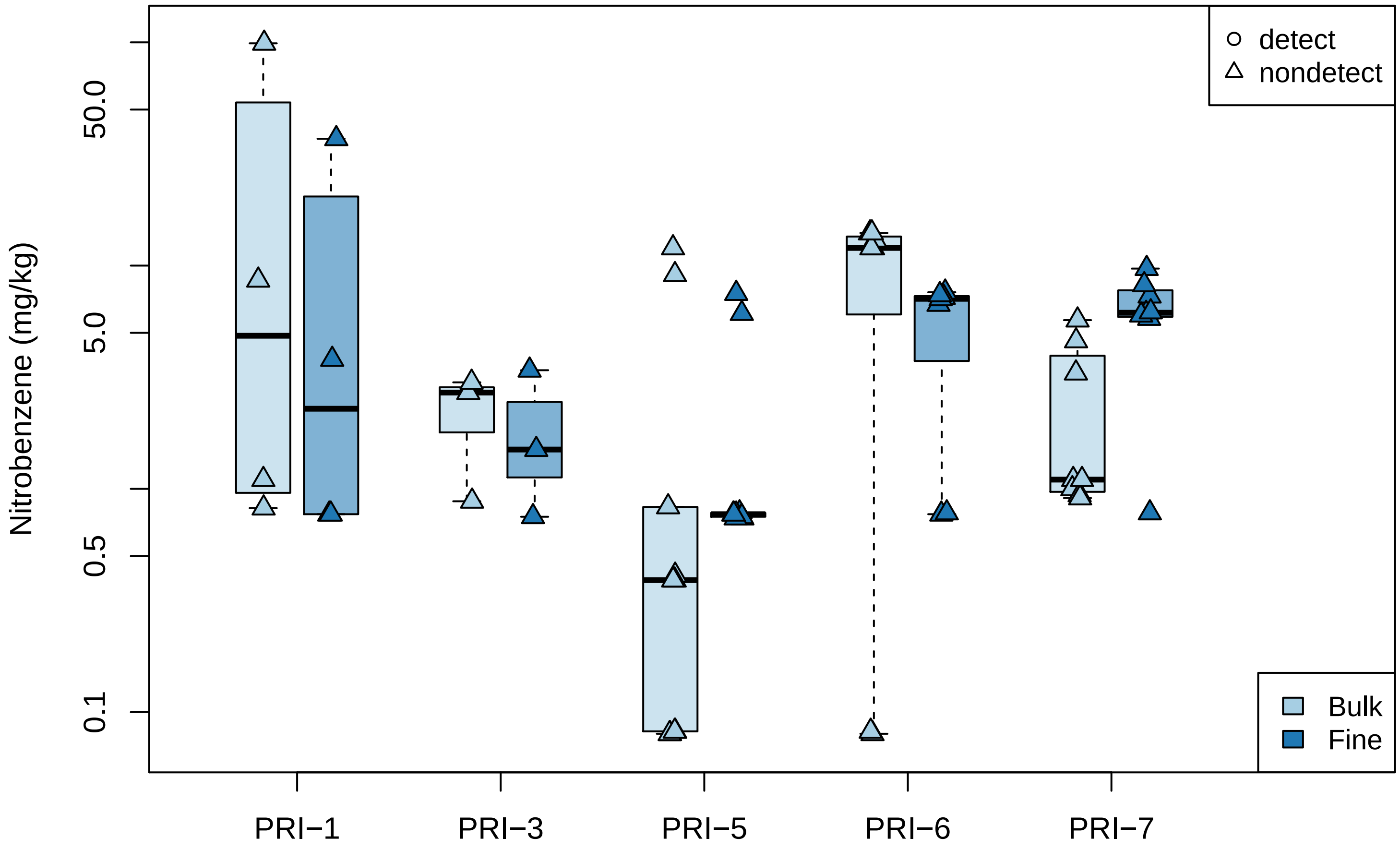
Logscale Boxplot for N−Nitrosodiphenylamine



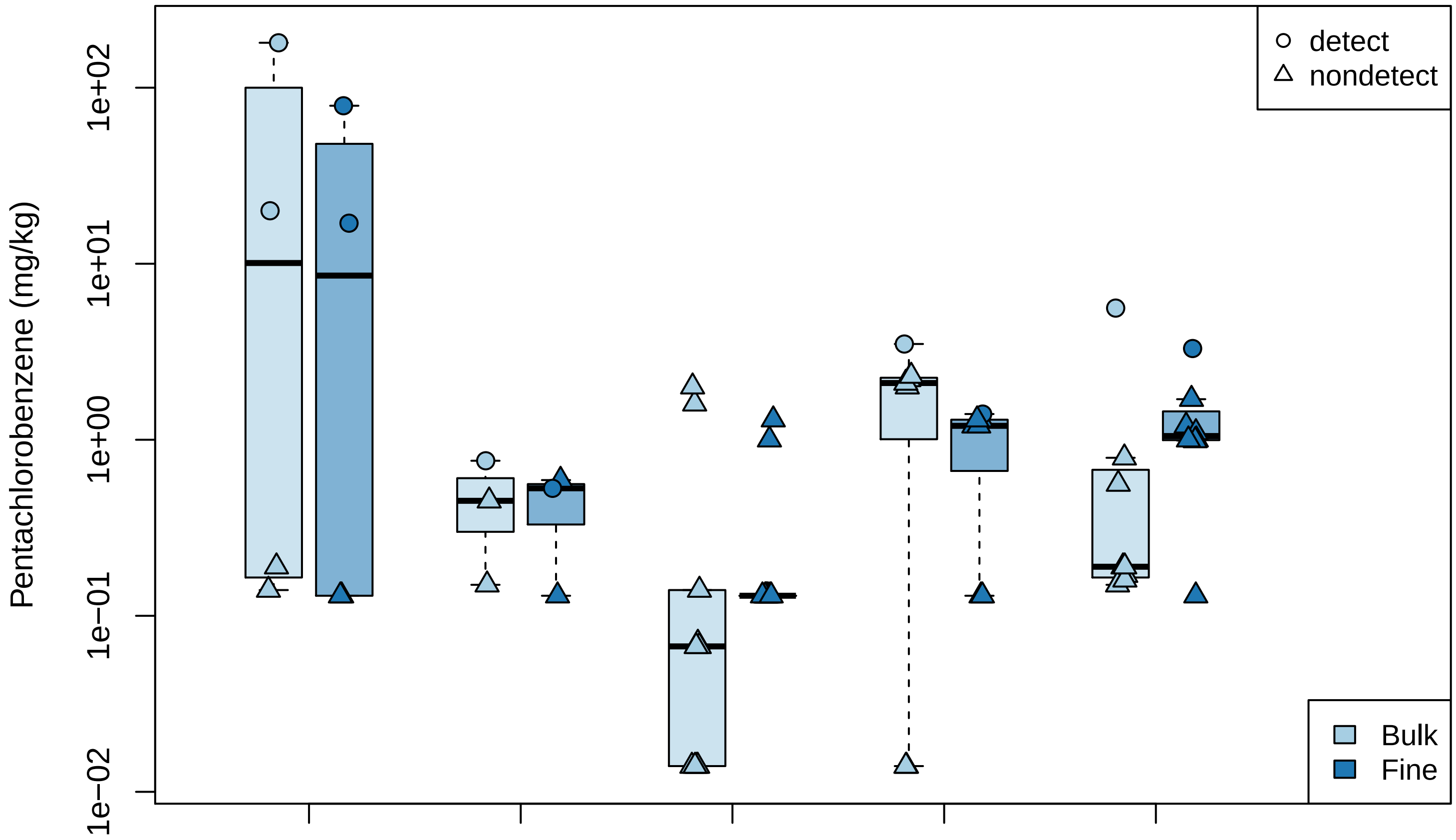
Logscale Boxplot for Naphthalene

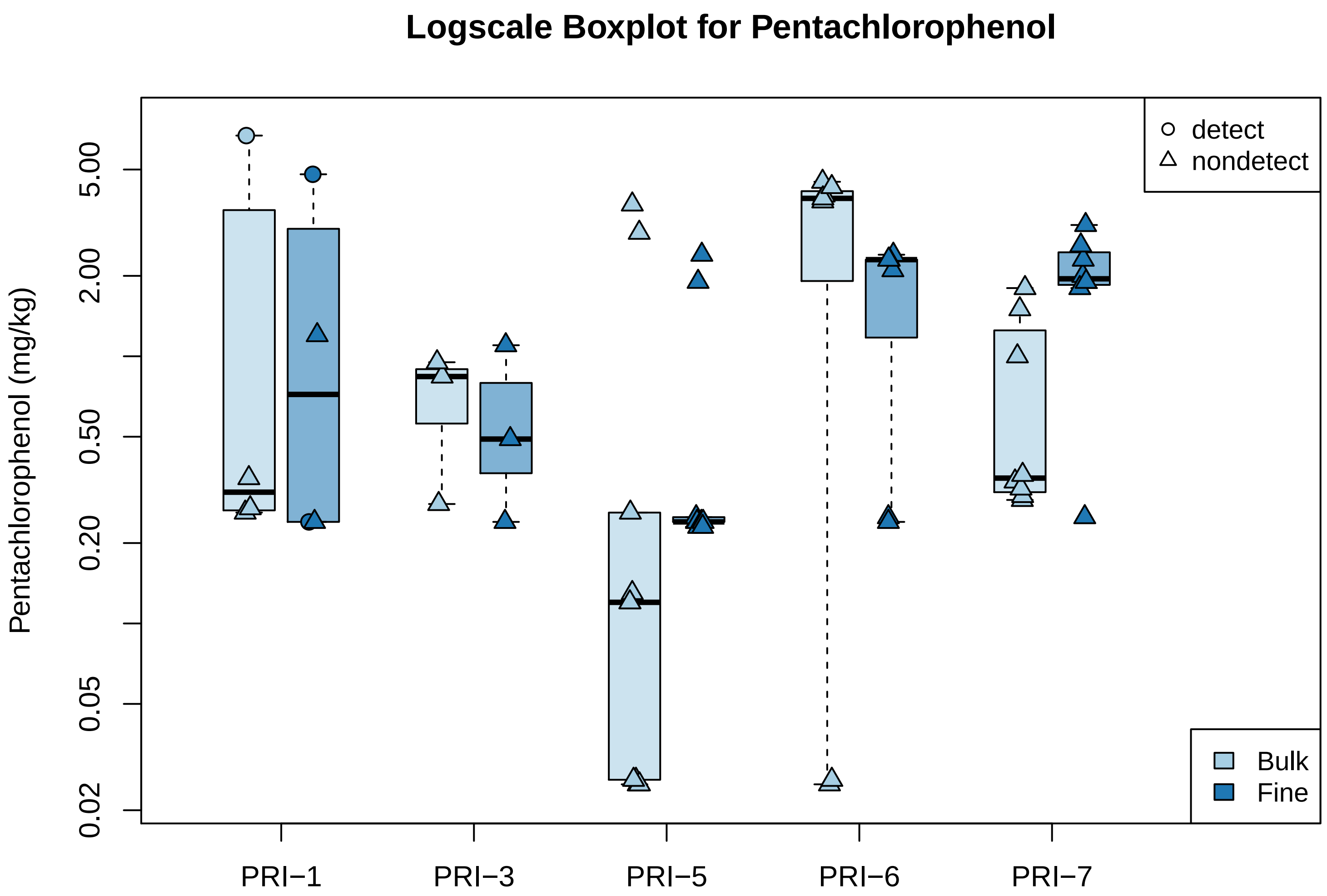


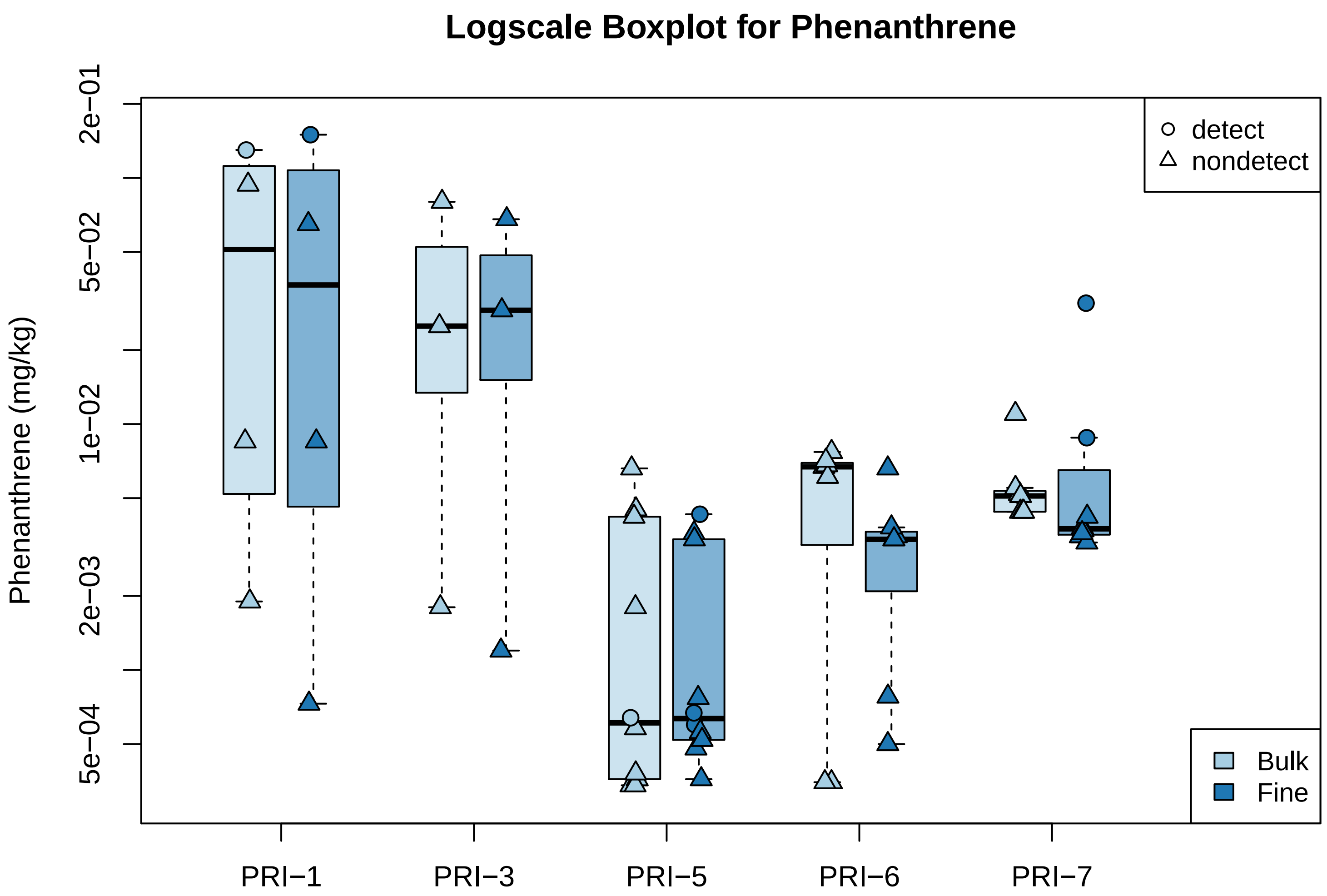
Logscale Boxplot for Nitrobenzene



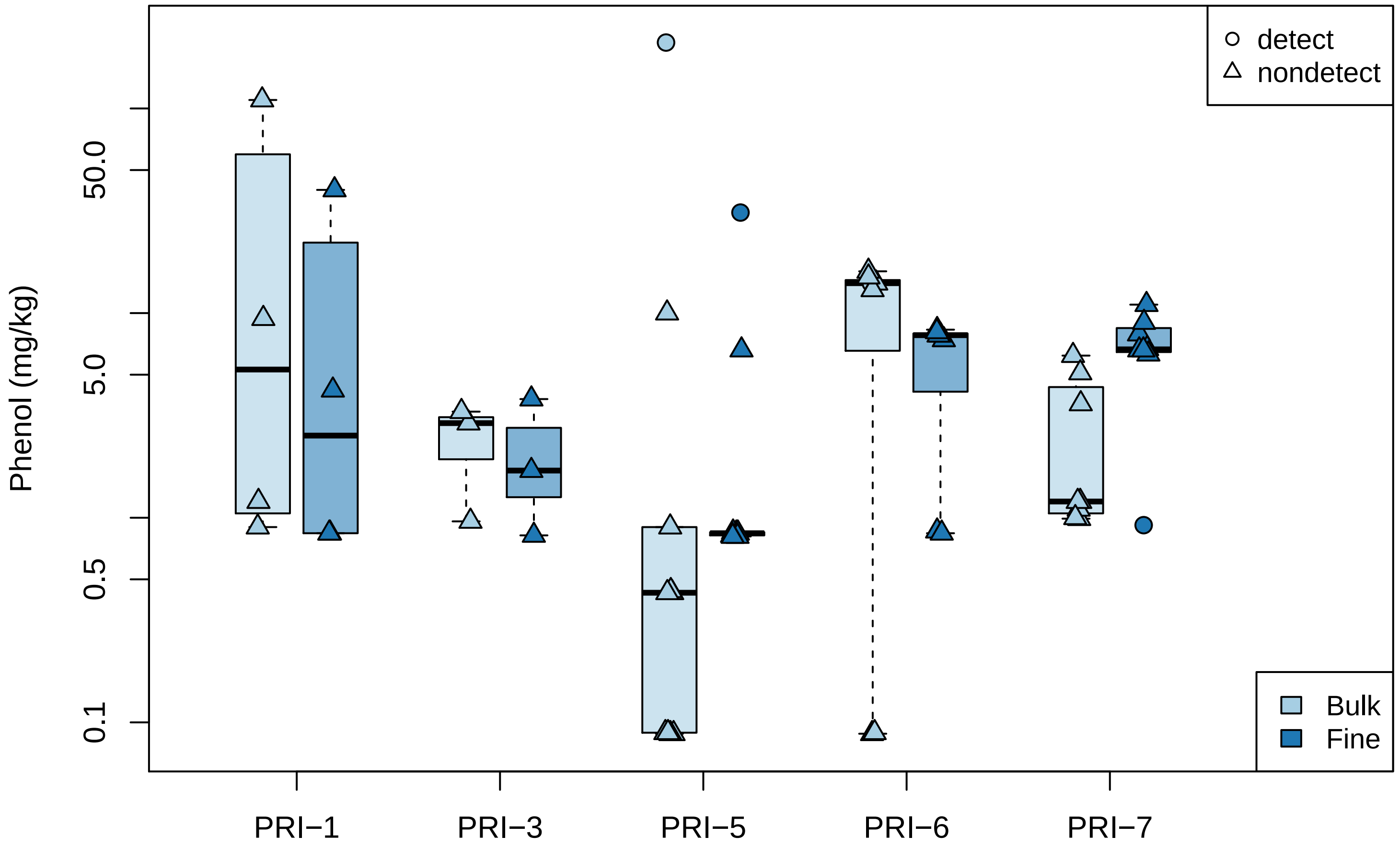
Logscale Boxplot for Pentachlorobenzene

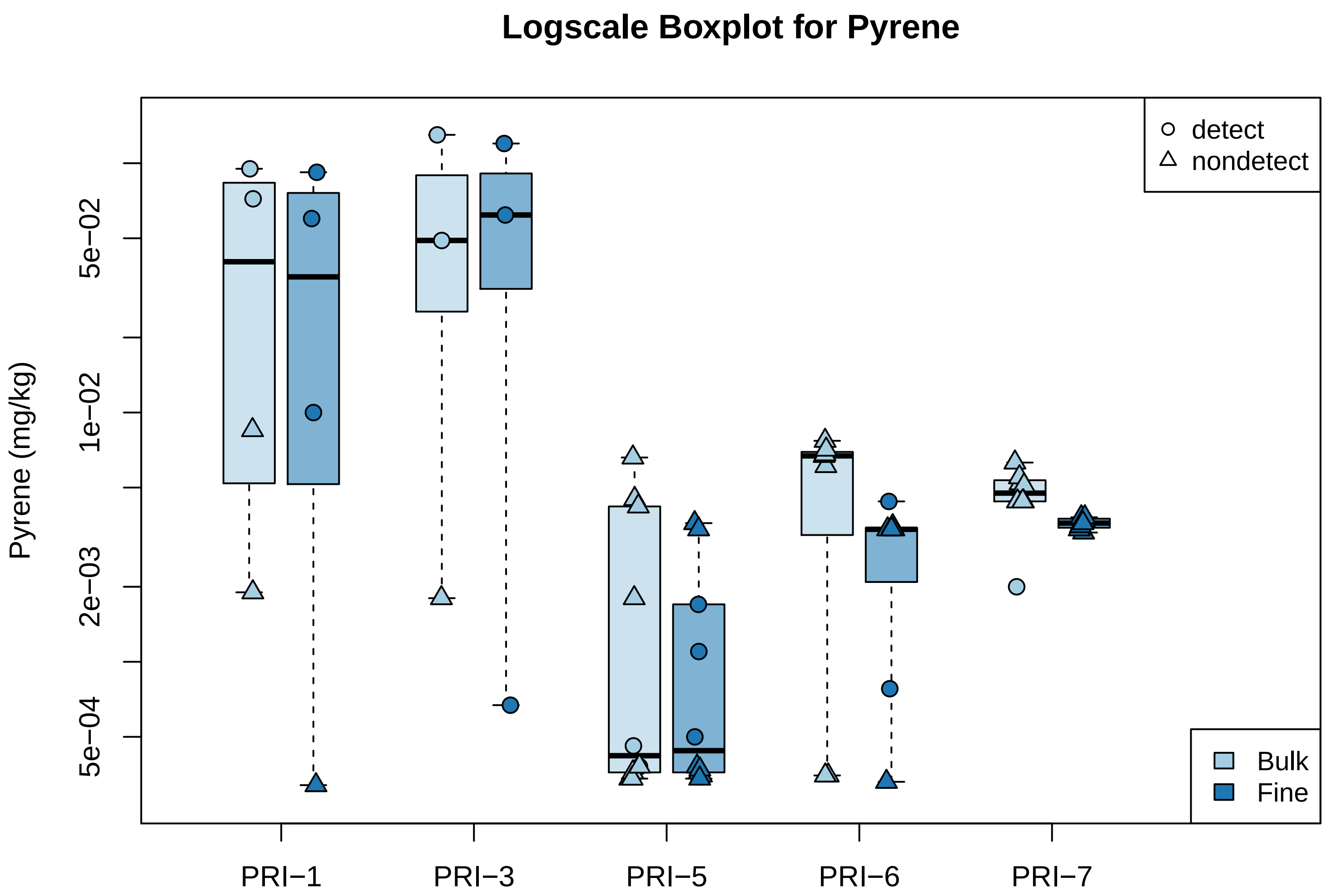



Logscale Boxplot for Pentachlorophenol
Pentachlorophenol (mg/kg)
5.00
2.00
0.50
0.20
0.05
0.02
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

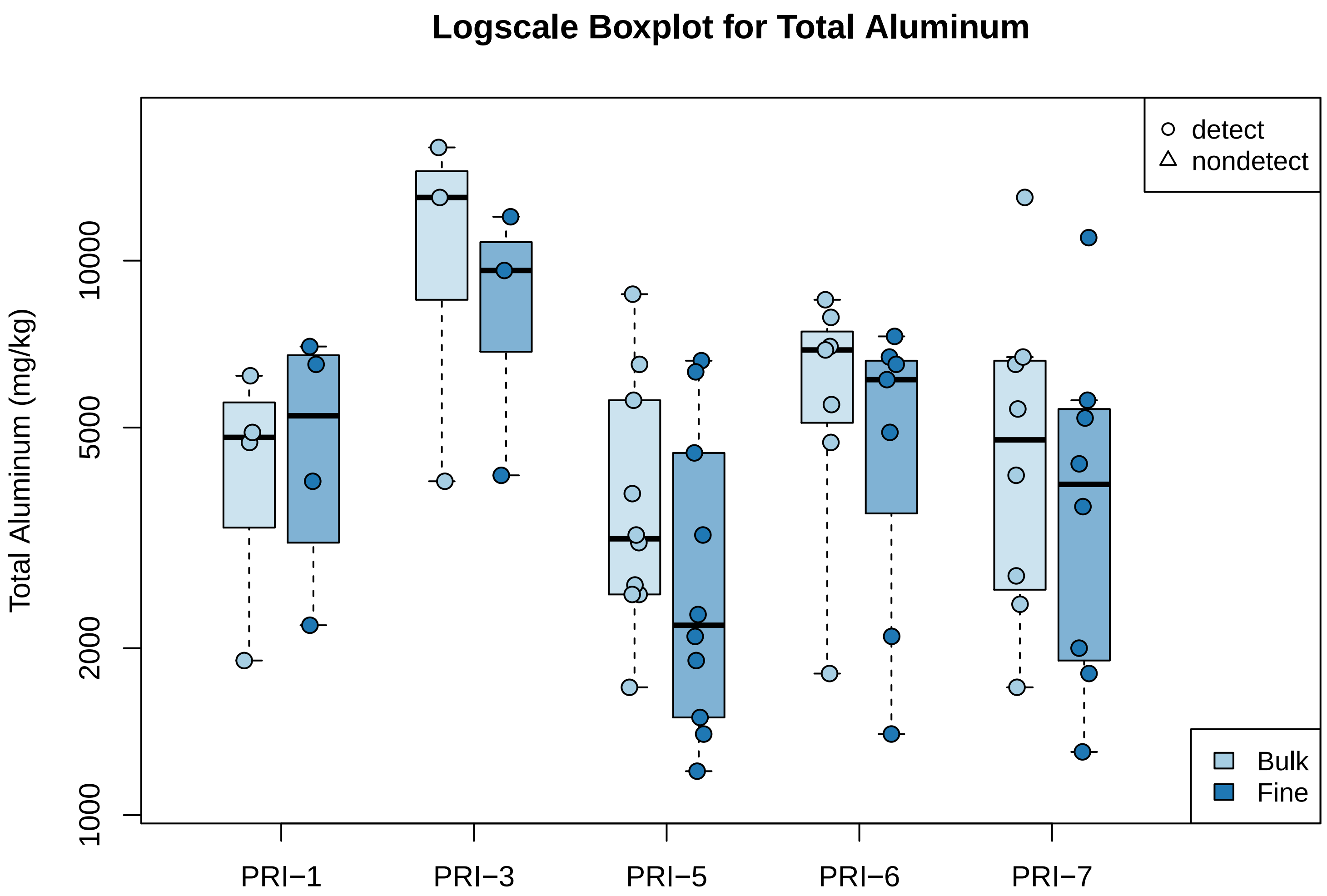

Logscale Boxplot for Phenanthrene
Phenanthrene (mg/kg)
2e−01
5e−02
1e−02
2e−03
5e−04
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

Logscale Boxplot for Phenol

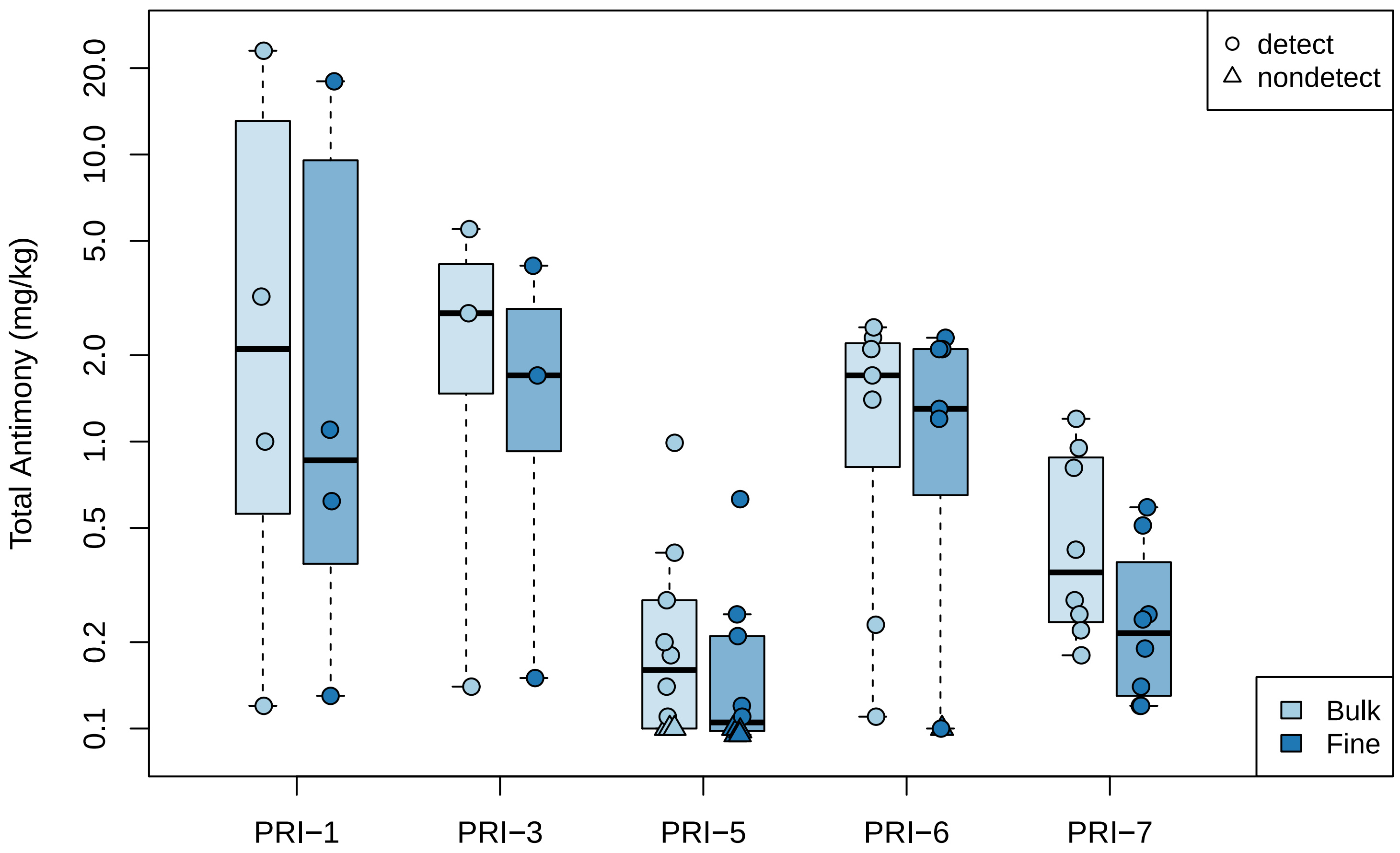


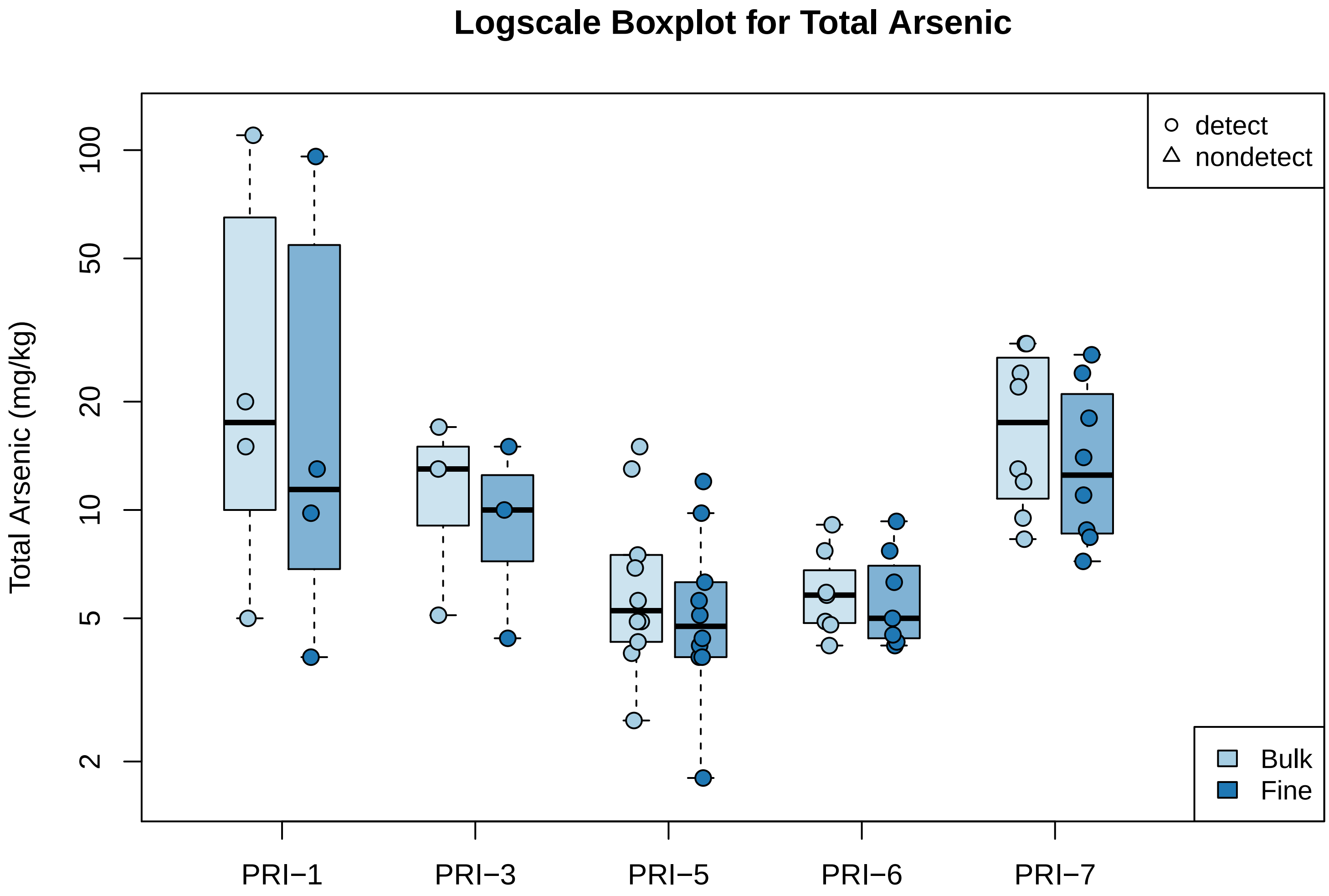


Logscale Boxplot for Pyrene
Pyrene (mg/kg)
5e−02
1e−02
2e−03
5e−04
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine


Logscale Boxplot for Total Aluminum
Total Aluminum (mg/kg)
1000
2000
5000
10000
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

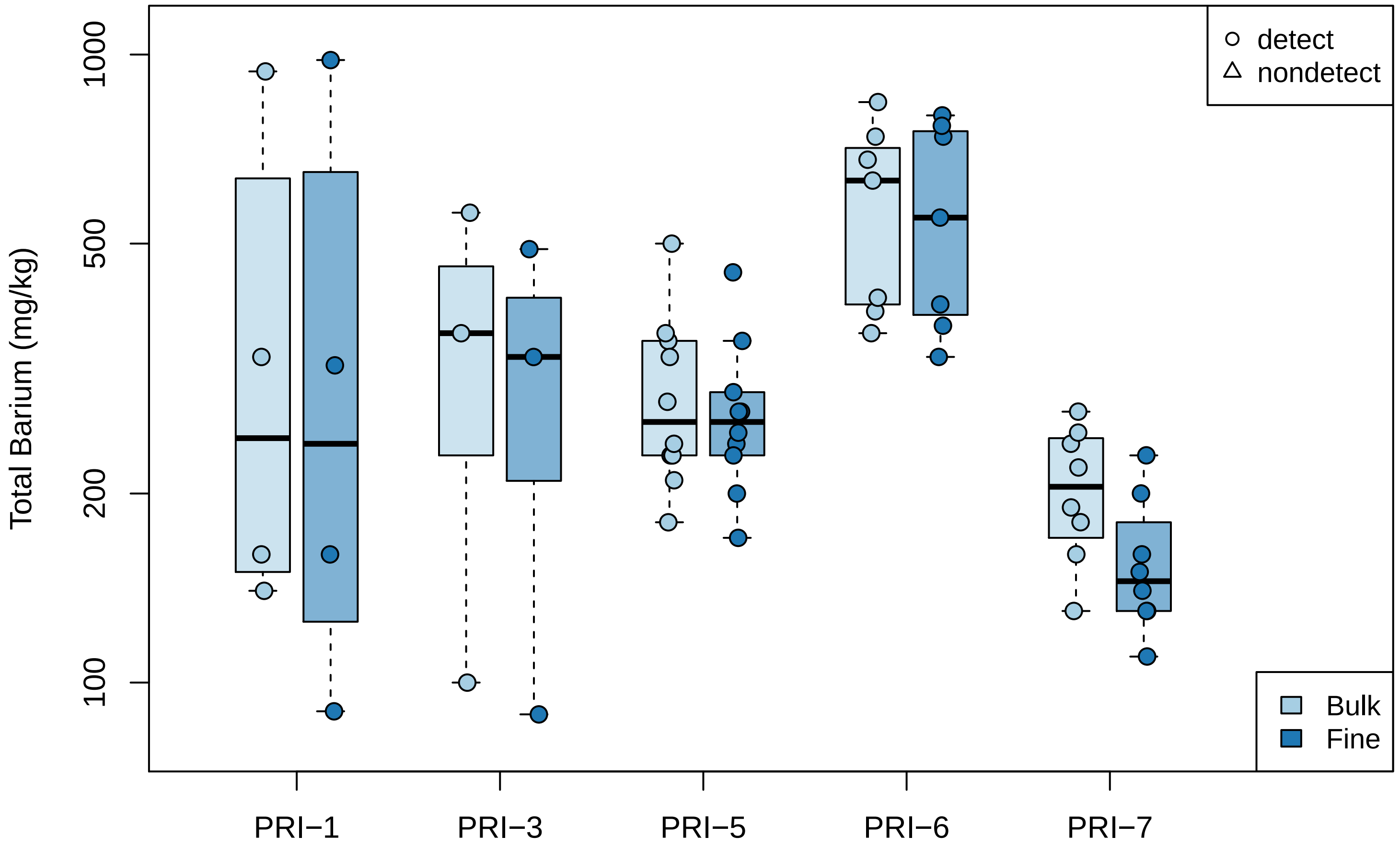
Logscale Boxplot for Total Antimony

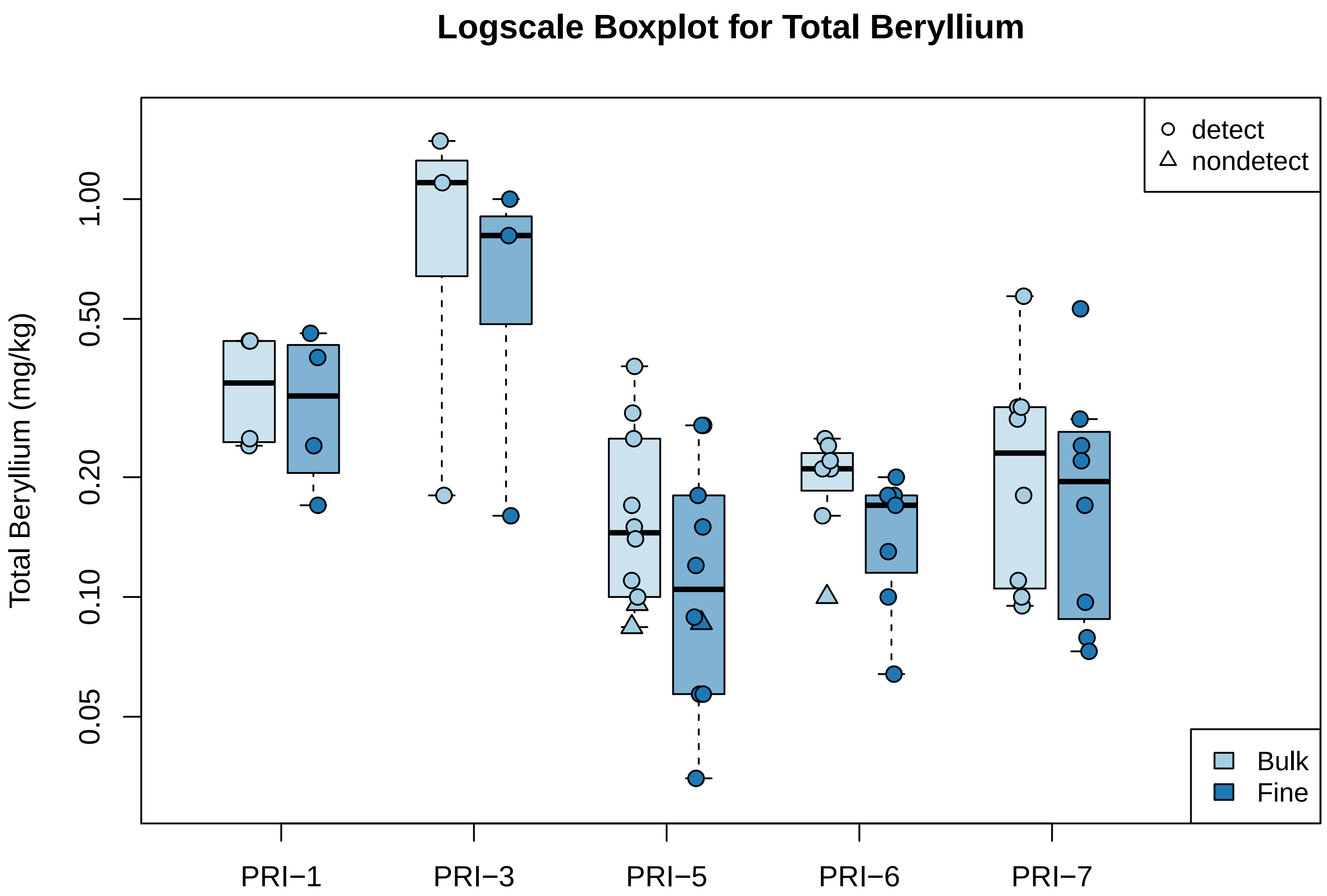


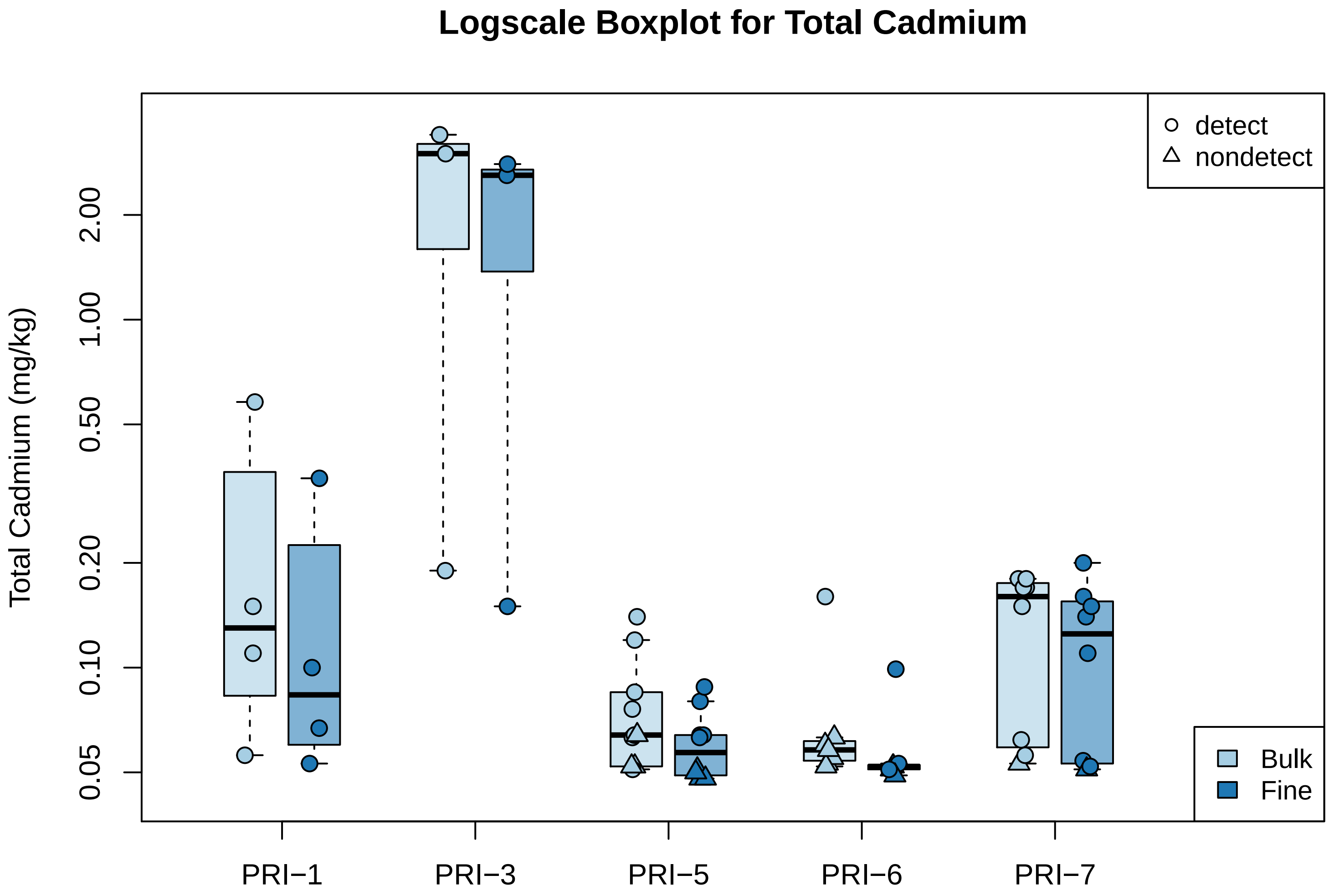


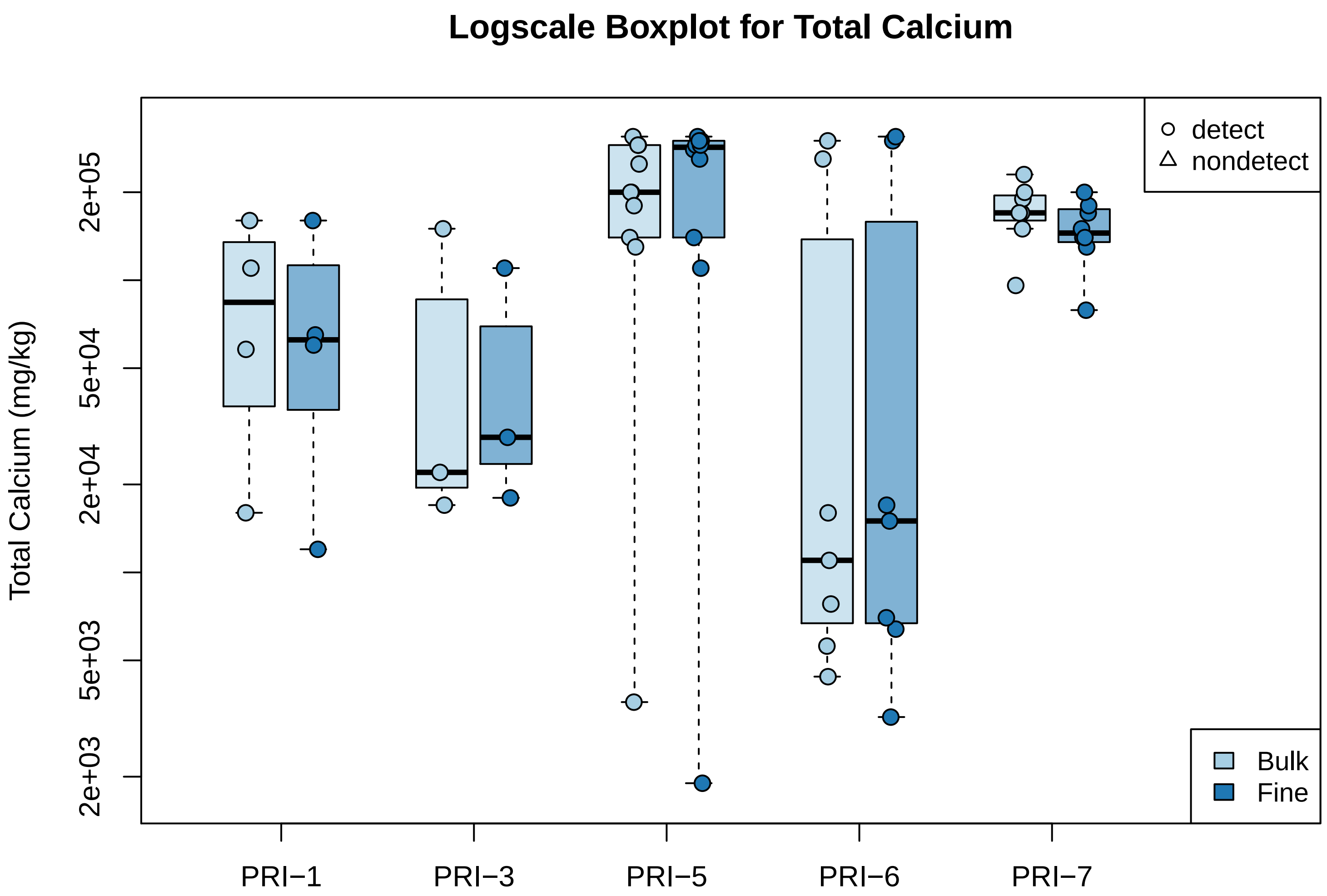
Logscale Boxplot for Total Arsenic

Logscale Boxplot for Total Barium

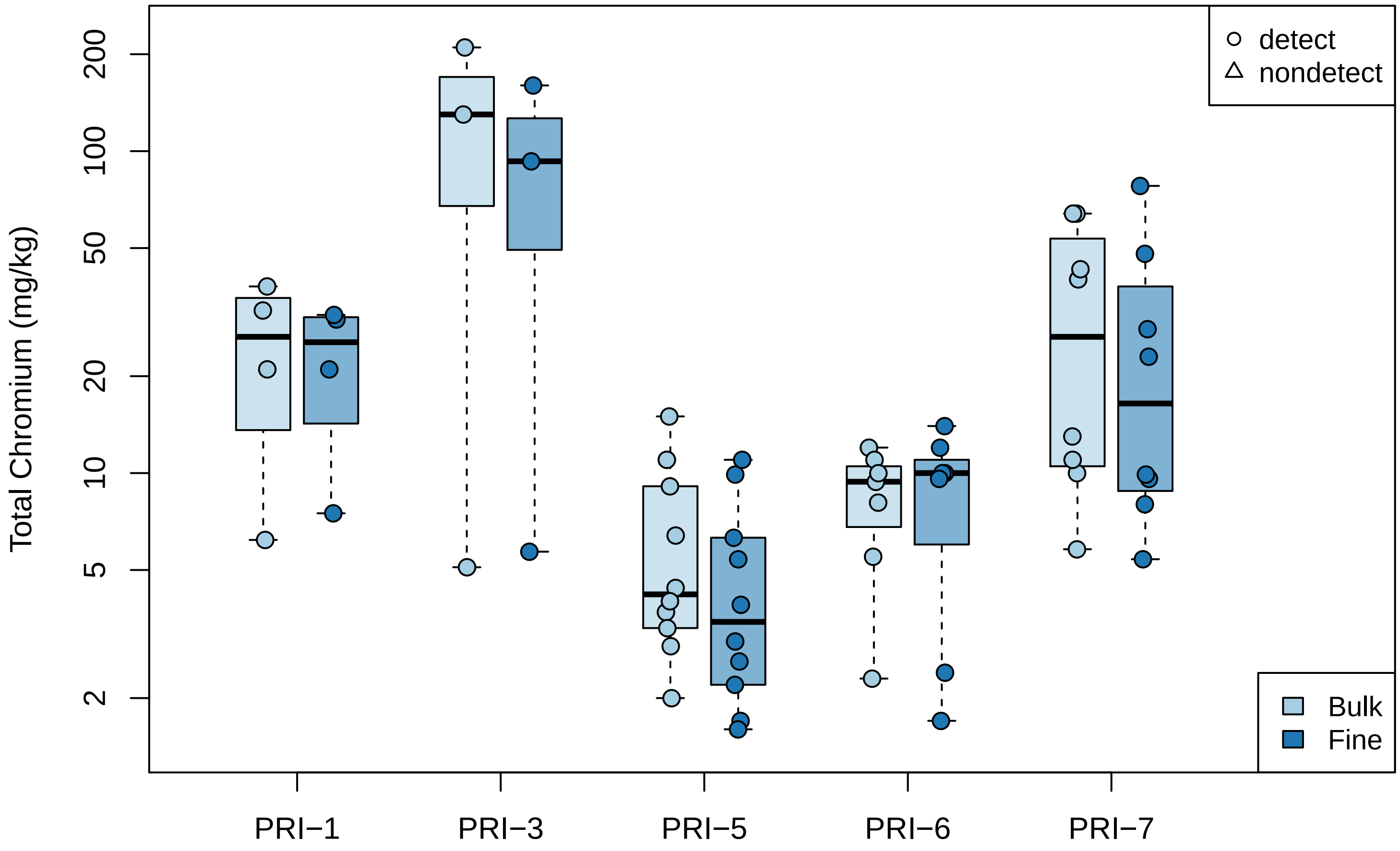


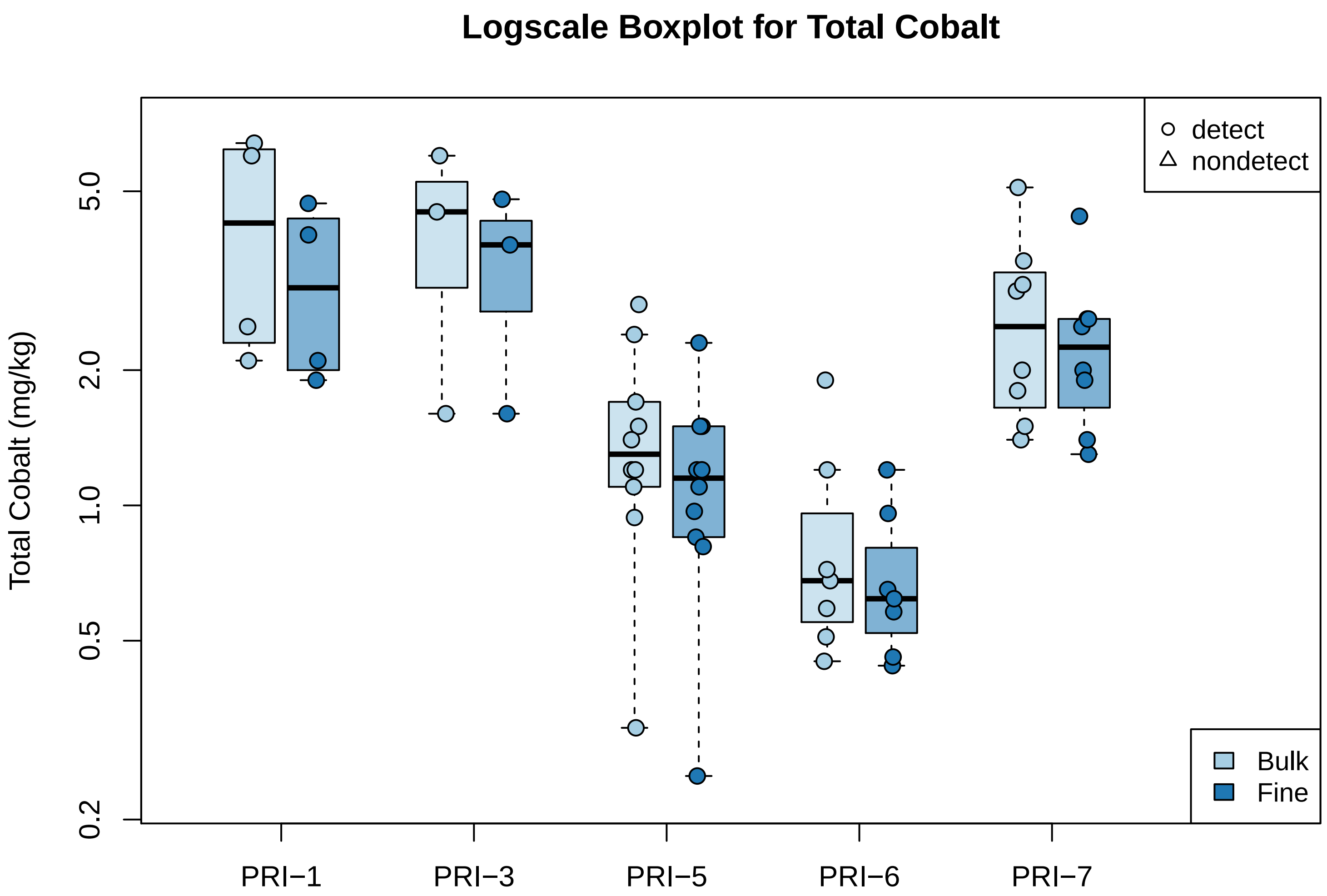

Logscale Boxplot for Total Beryllium
Total Beryllium (mg/kg)
1.00
0.50
0.20
0.10
0.05
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

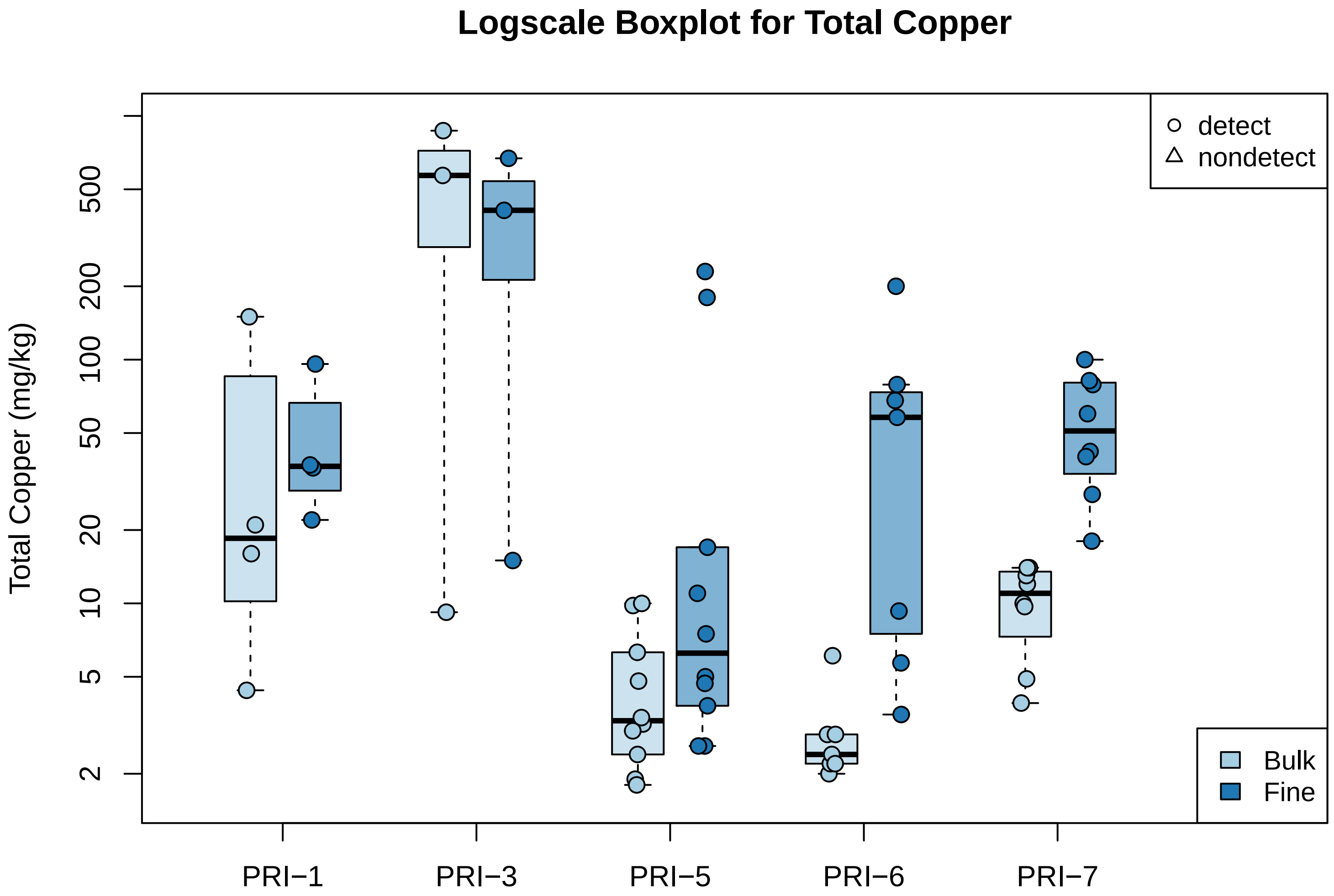

Logscale Boxplot for Total Cadmium
Total Cadmium (mg/kg)
2.00
1.00
0.50
0.20
0.10
0.05
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

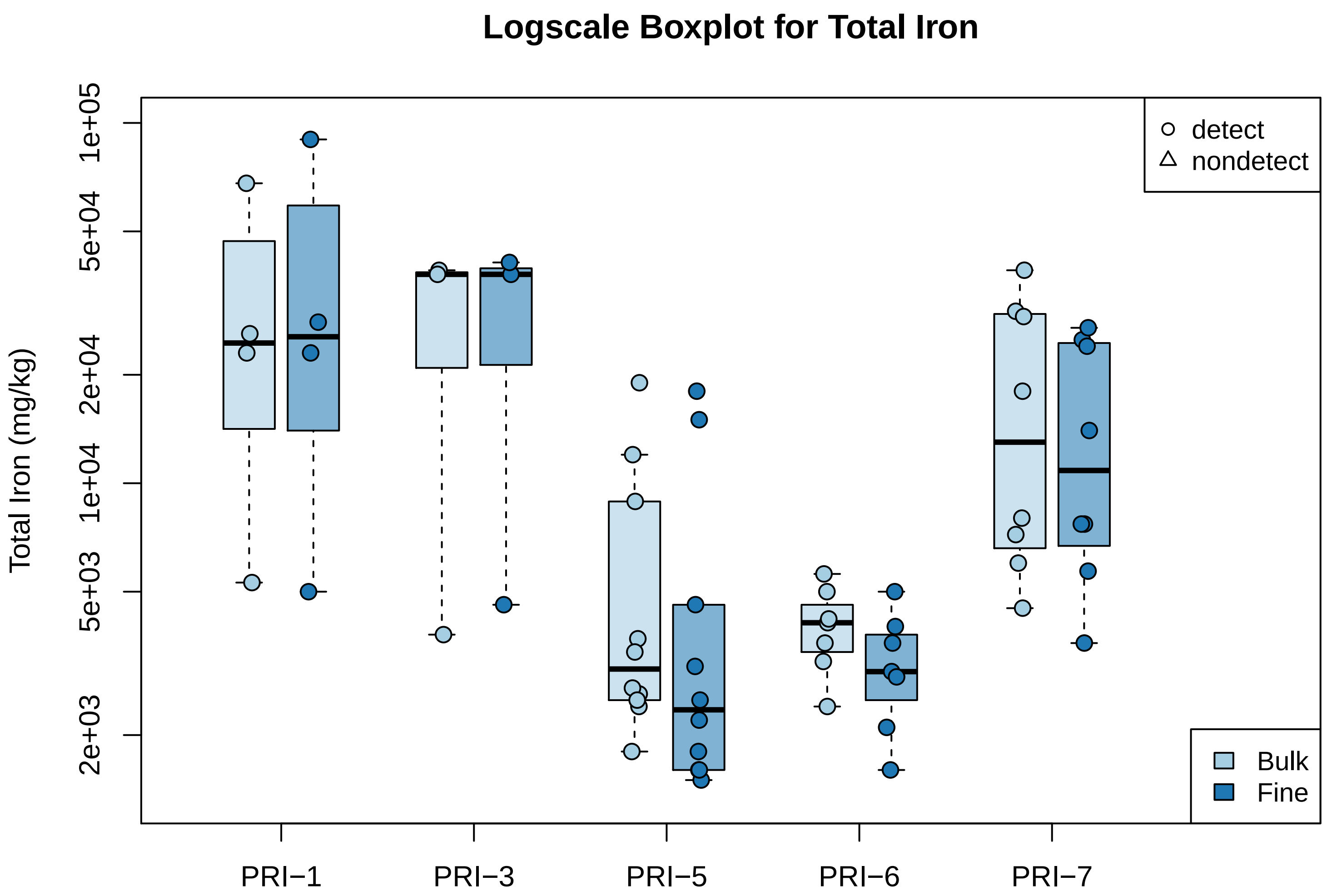
Logscale Boxplot for Total Calcium
Total Calcium (mg/kg)
2e+03
5e+03
2e+04
5e+04
2e+05
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

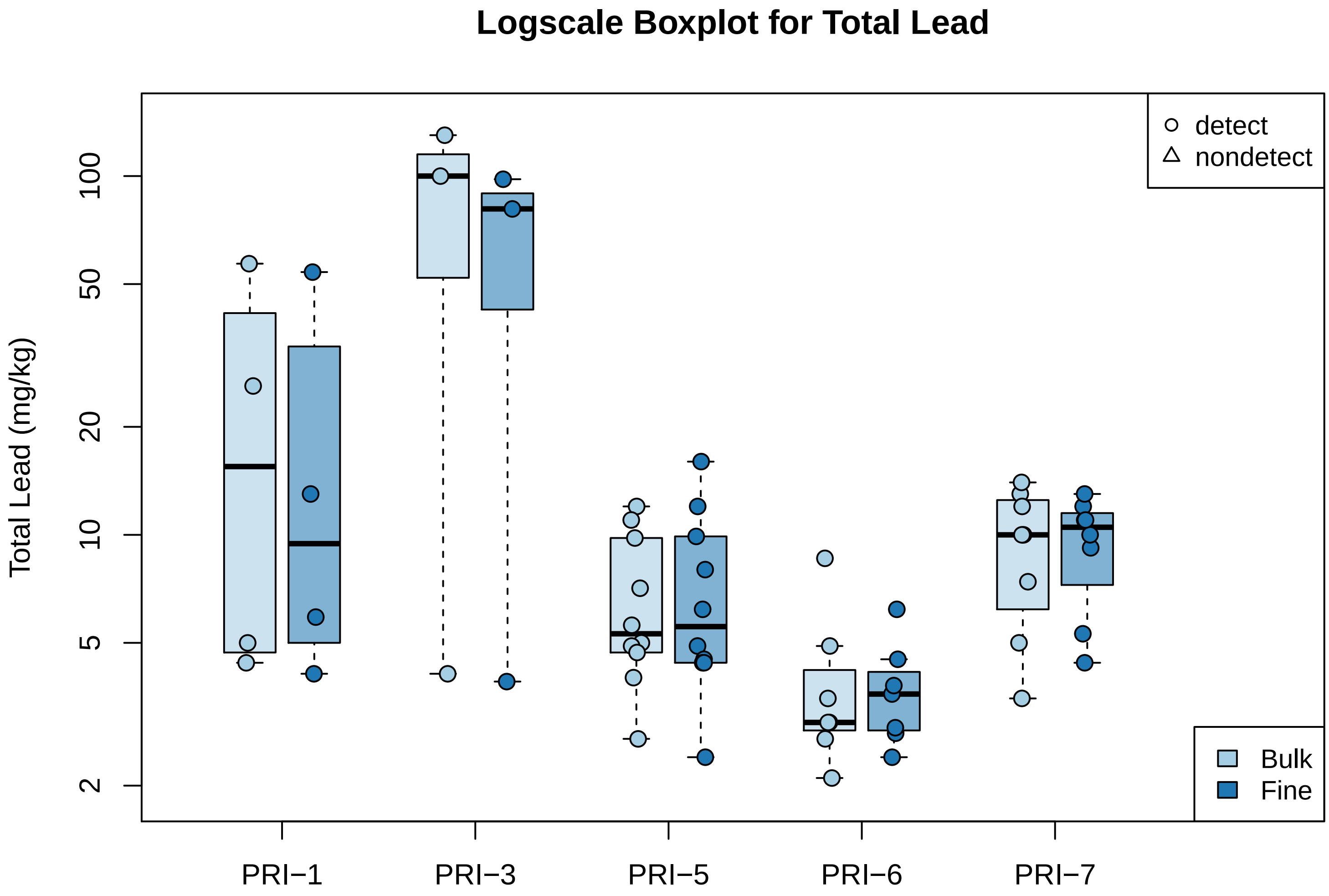
Logscale Boxplot for Total Chromium



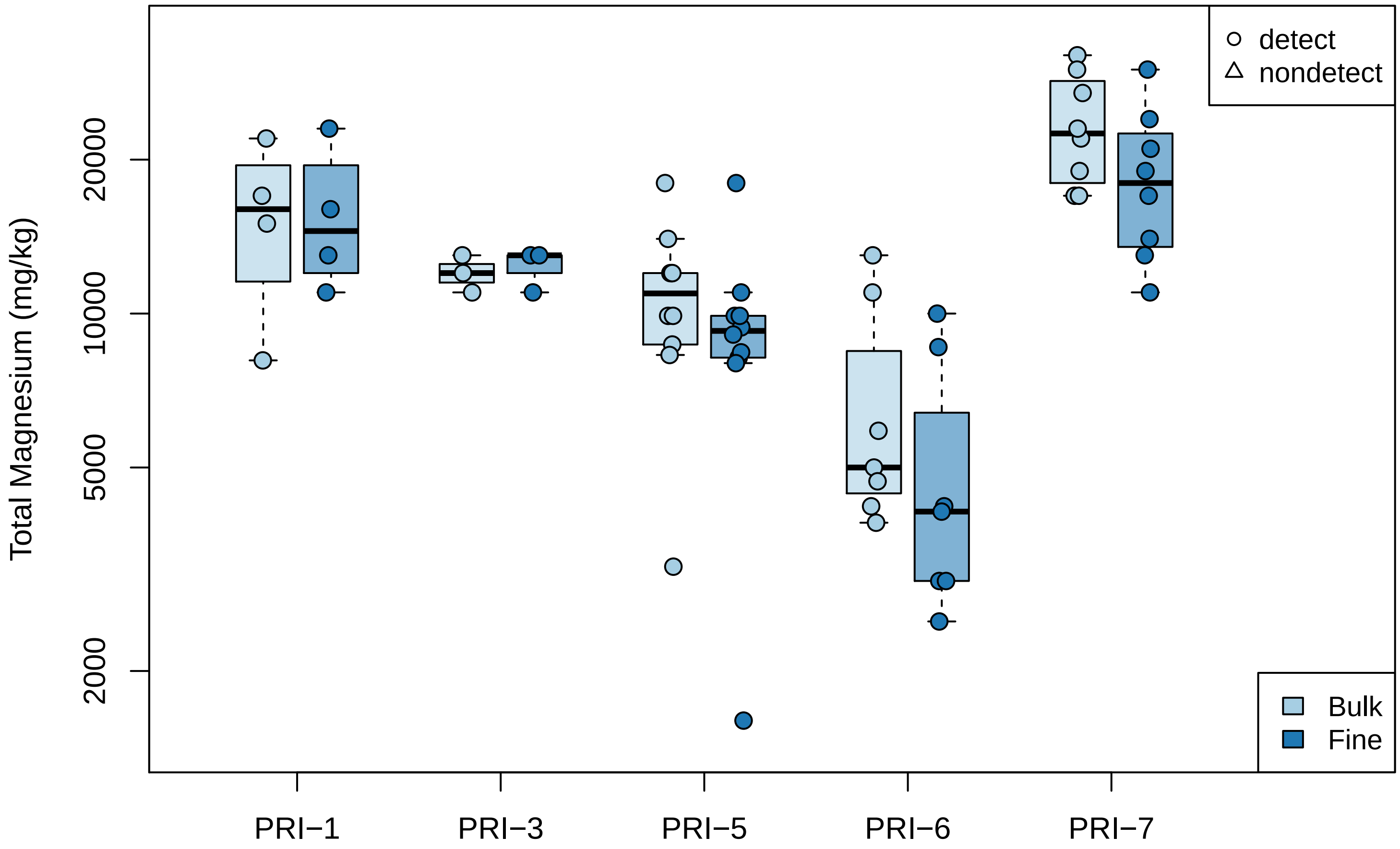

Logscale Boxplot for Total Cobalt
Total Cobalt (mg/kg)
5.0
2.0
1.0
0.5
0.2
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

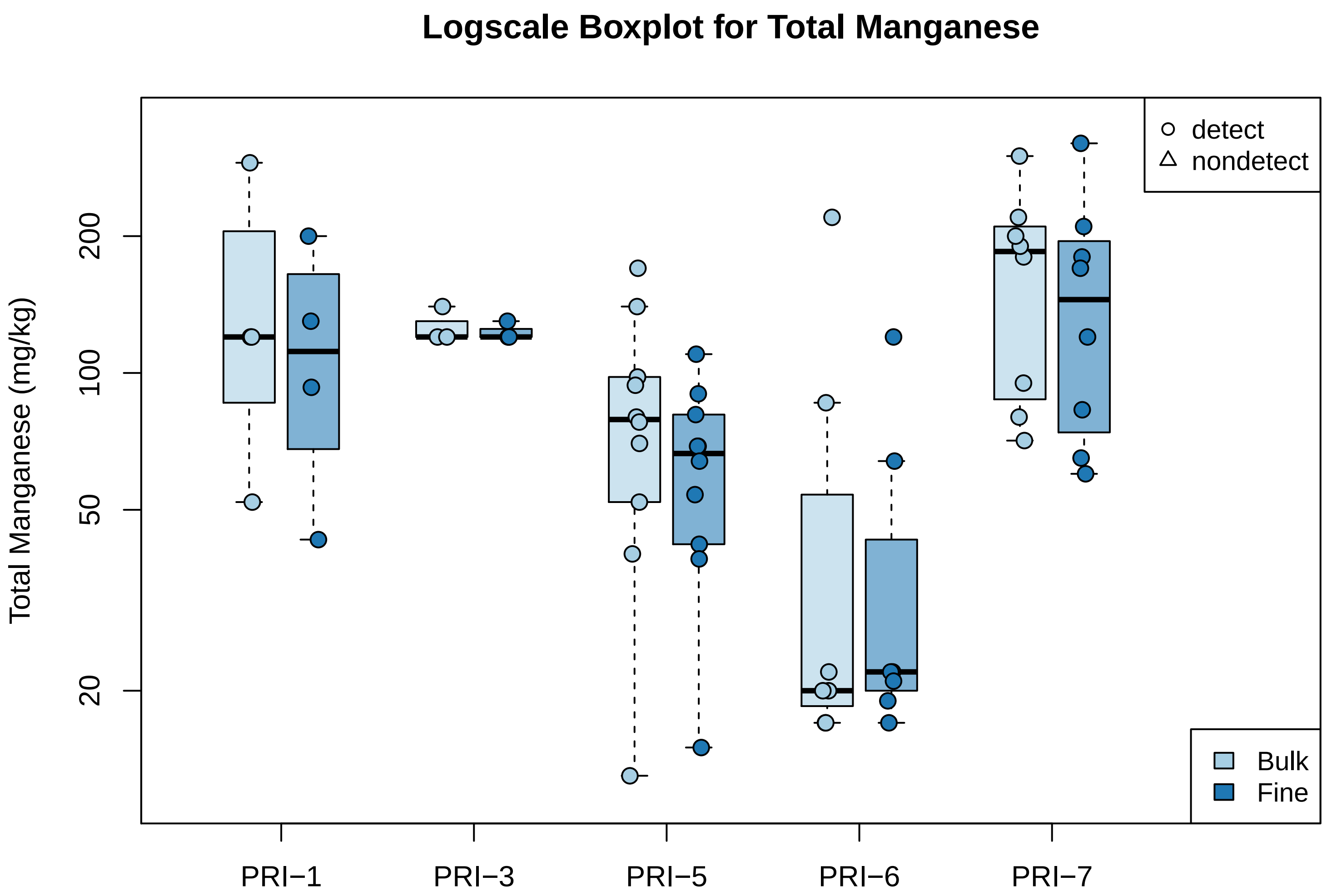

Logscale Boxplot for Total Copper
Total Copper (mg/kg)
2
5
10
20
50
100
200
500
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine


Logscale Boxplot for Total Iron
Total Iron (mg/kg)
1e+05
5e+04
2e+04
1e+04
5e+03
2e+03
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

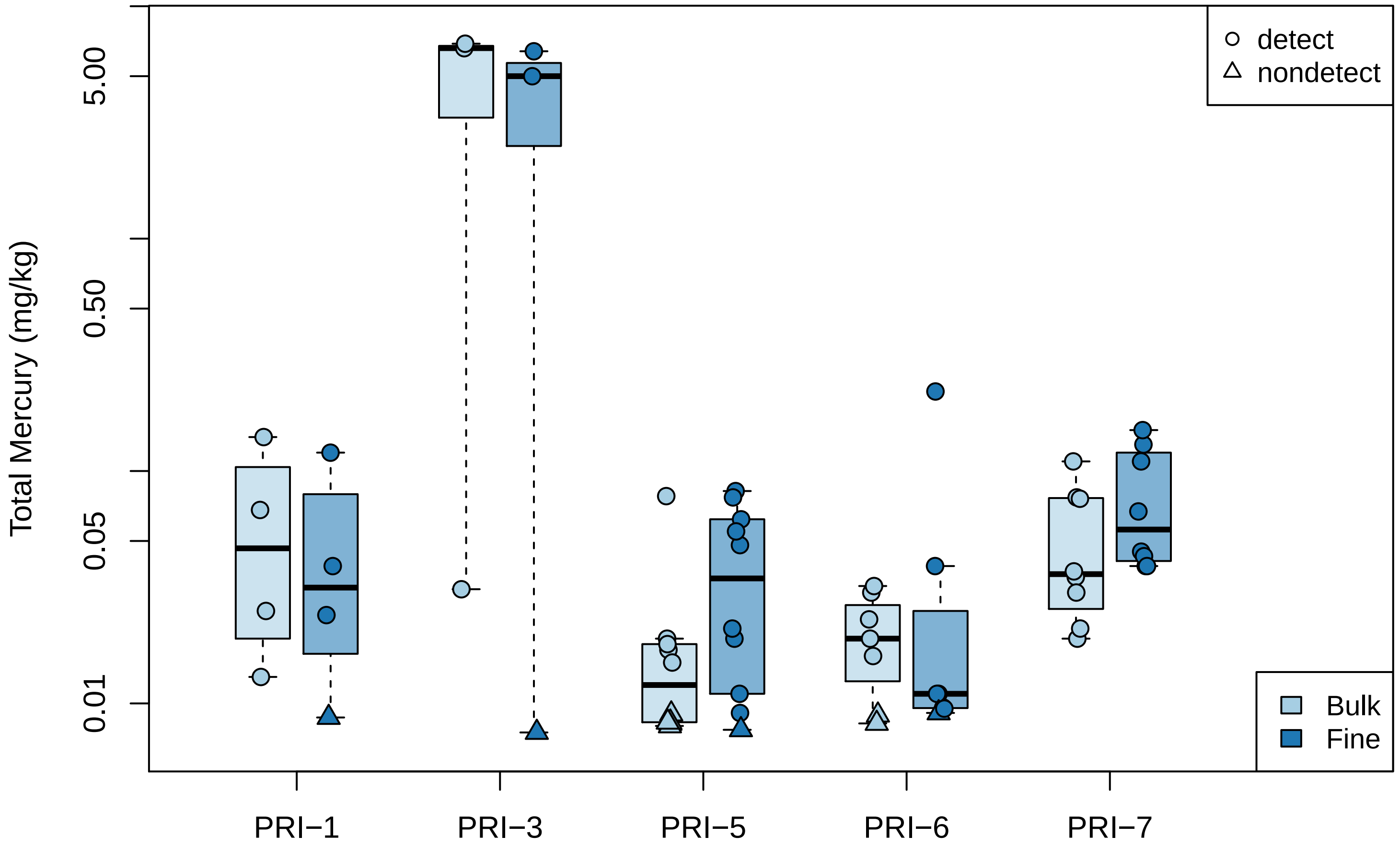

Logscale Boxplot for Total Lead
Total Lead (mg/kg)
100
50
20
10
5
2
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

Logscale Boxplot for Total Magnesium

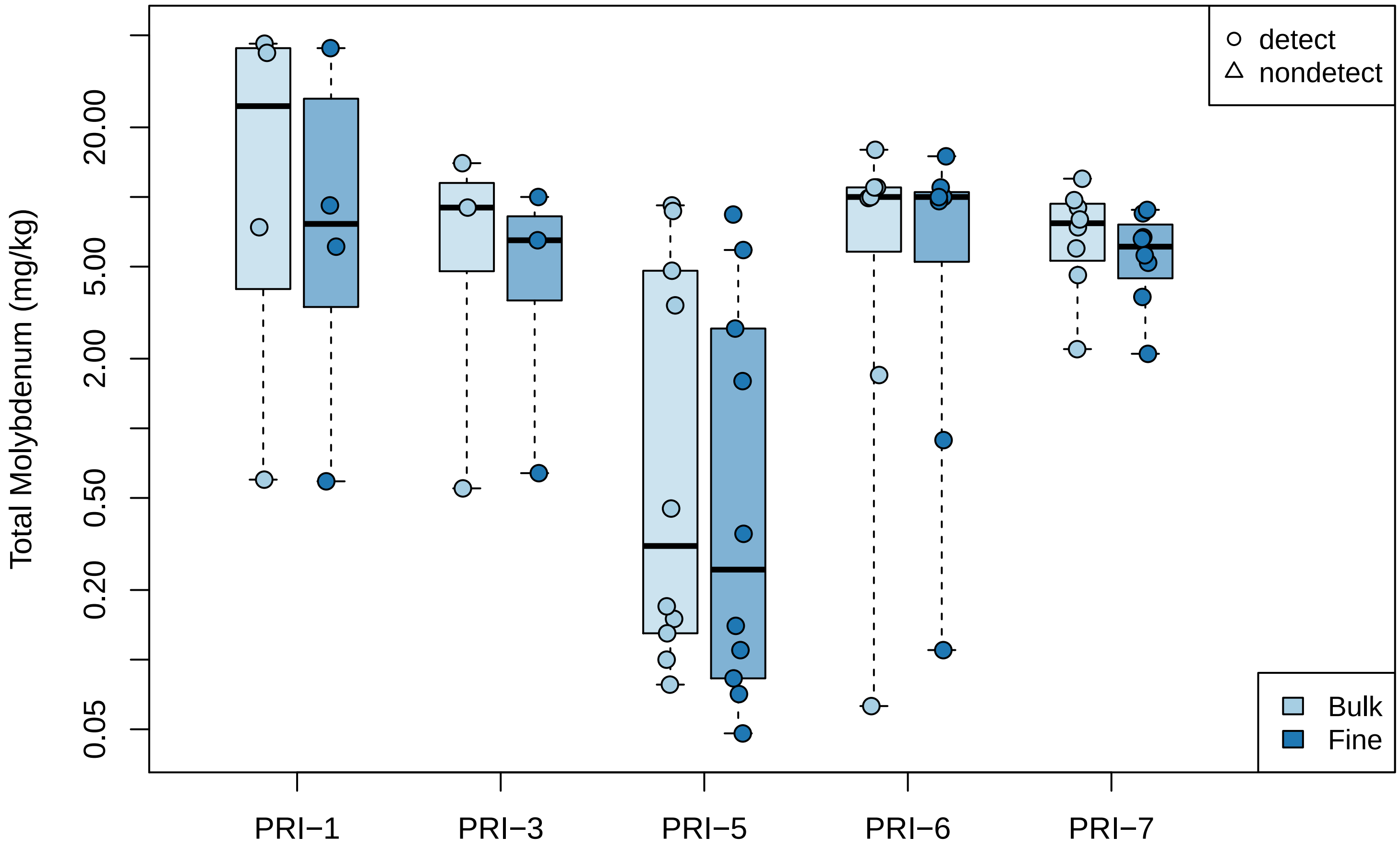



Logscale Boxplot for Total Manganese
Total Manganese (mg/kg)
20
50
100
200
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

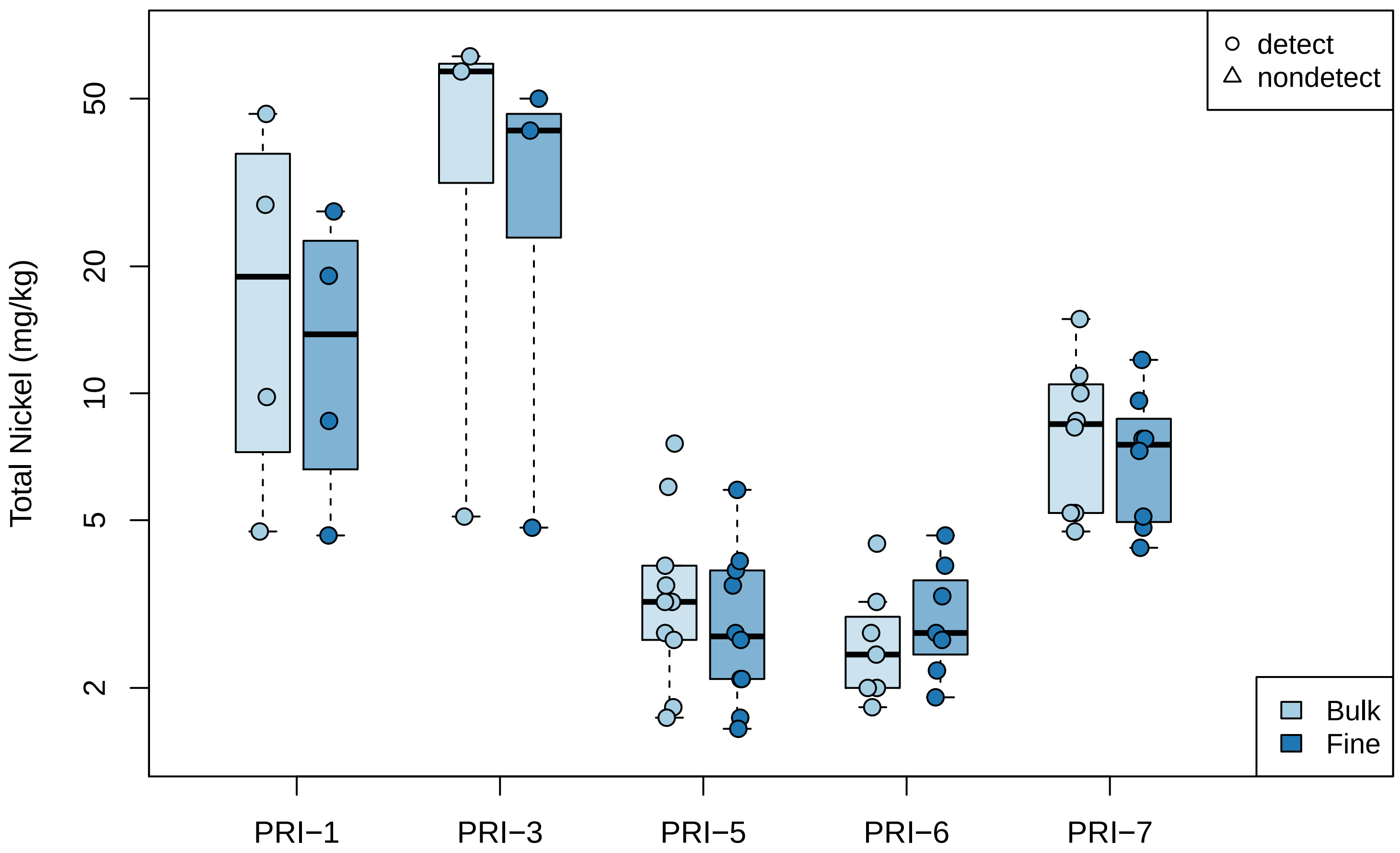
Logscale Boxplot for Total Mercury



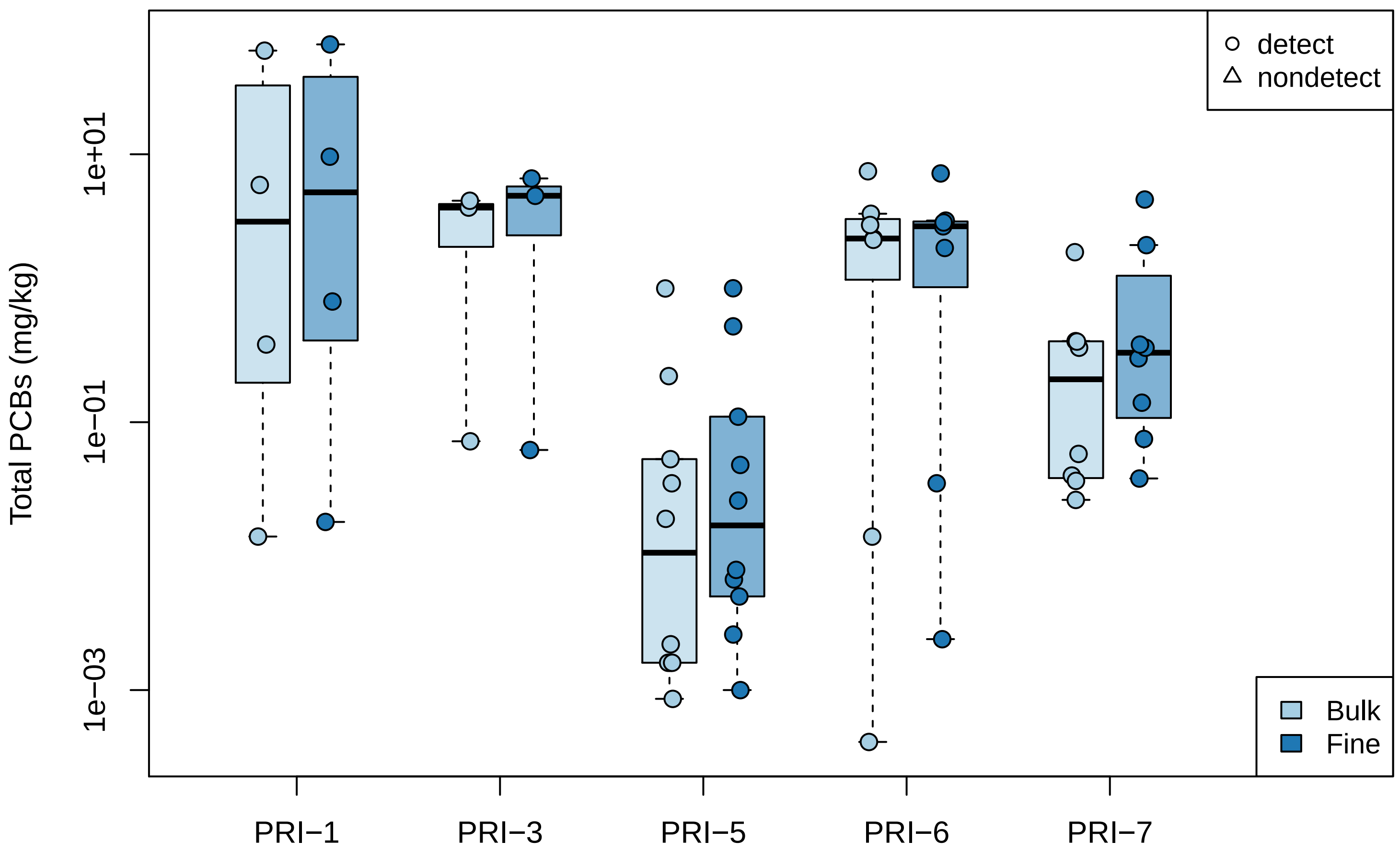
Logscale Boxplot for Total Molybdenum

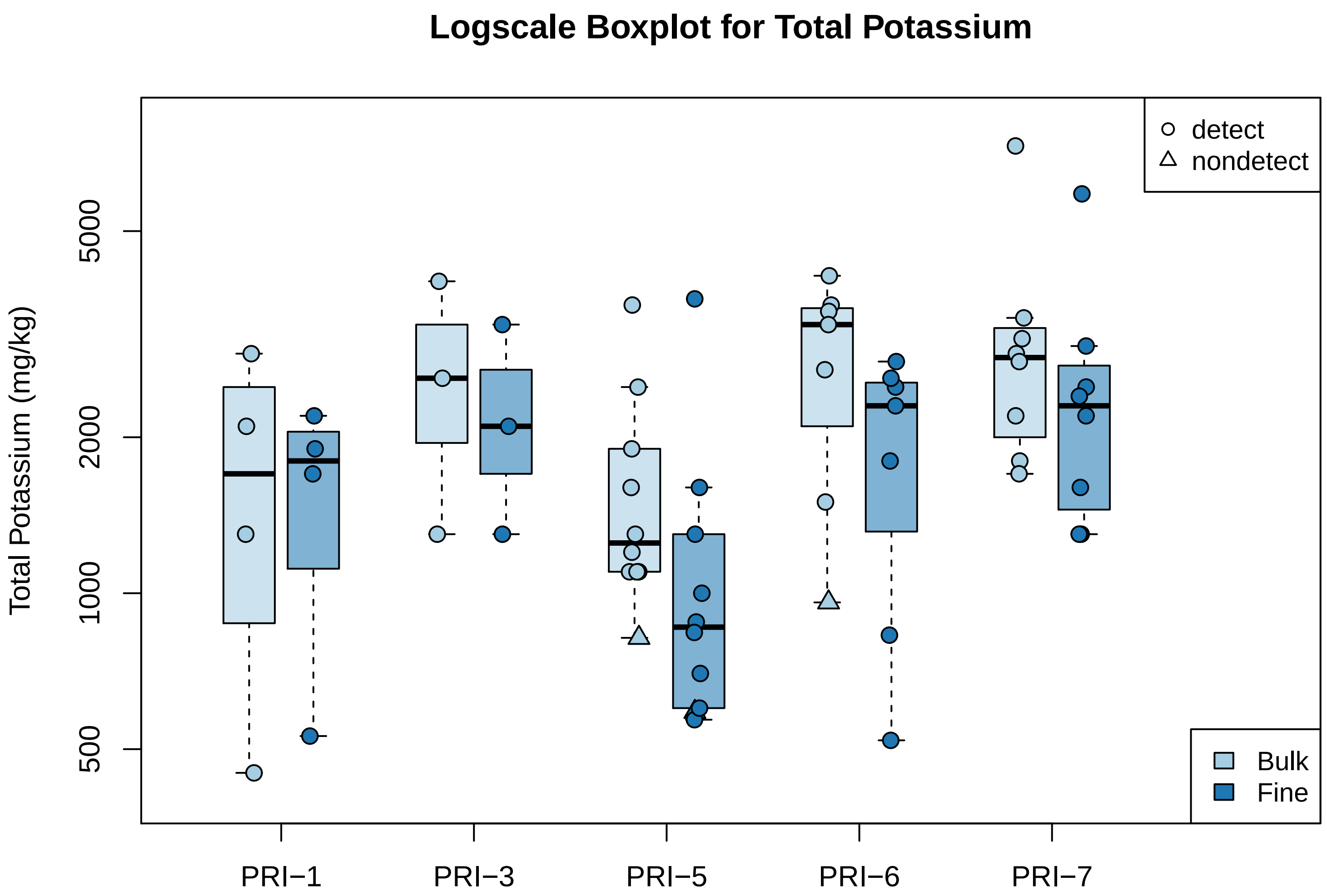


Logscale Boxplot for Total Nickel

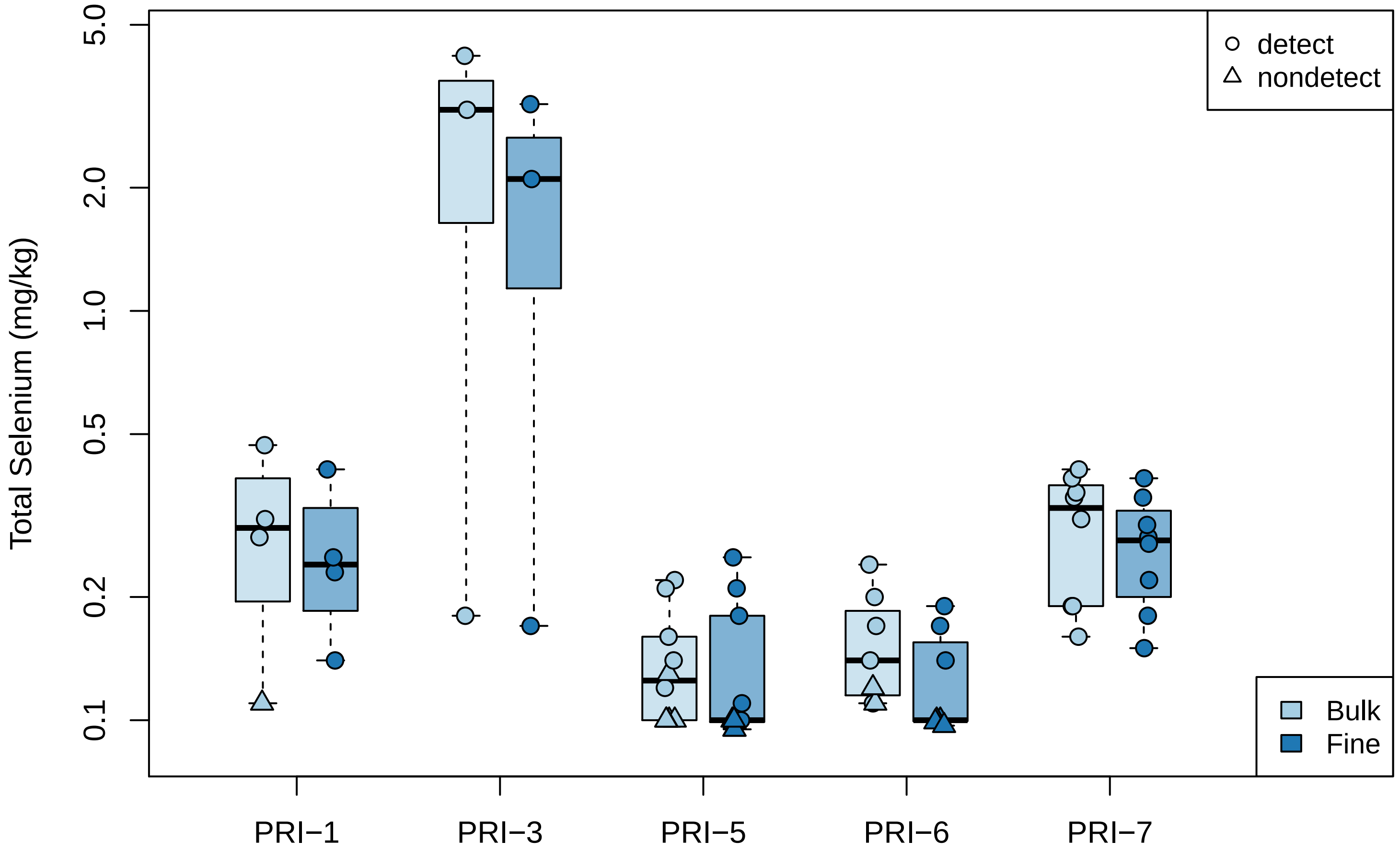


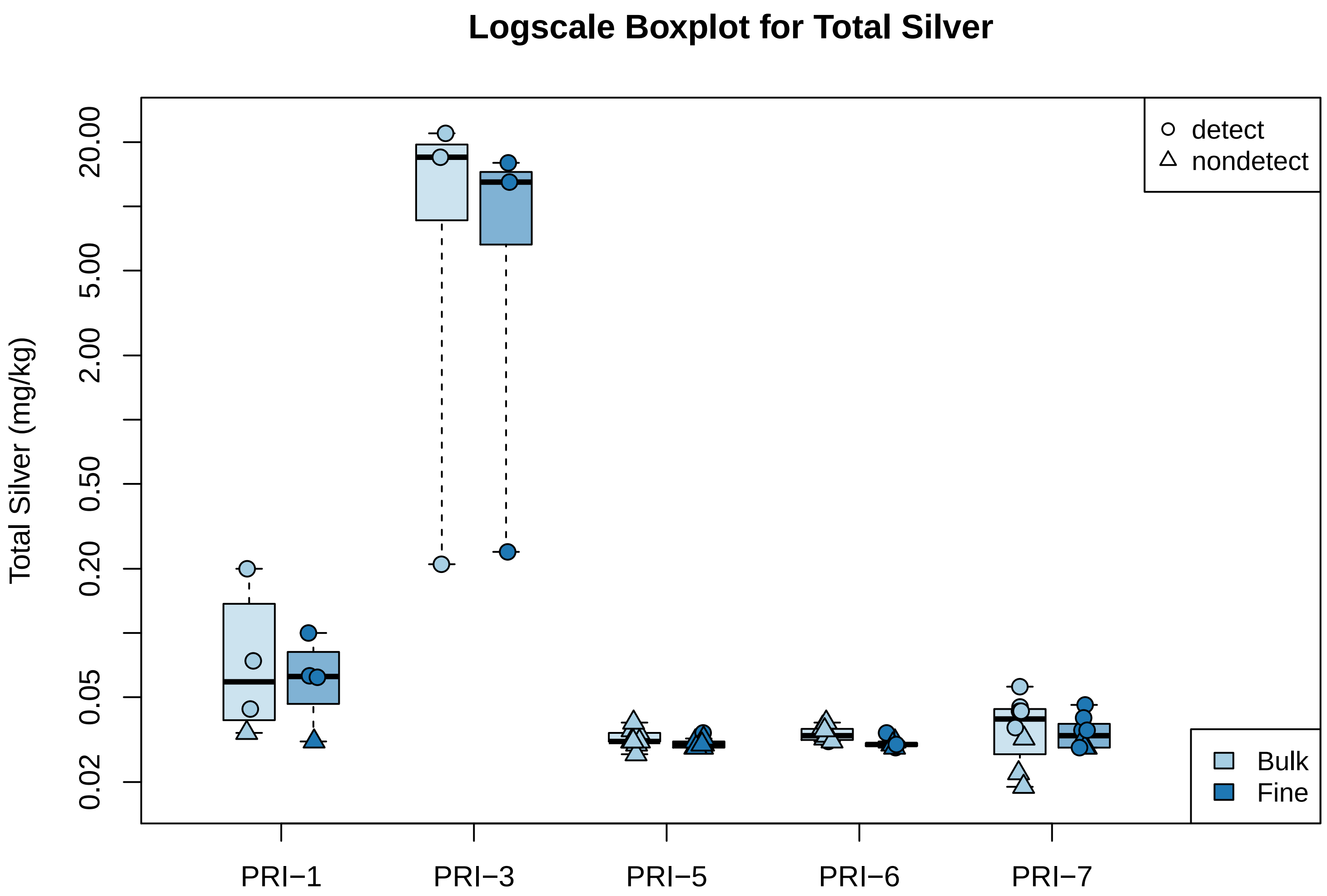
Logscale Boxplot for Total PCBs

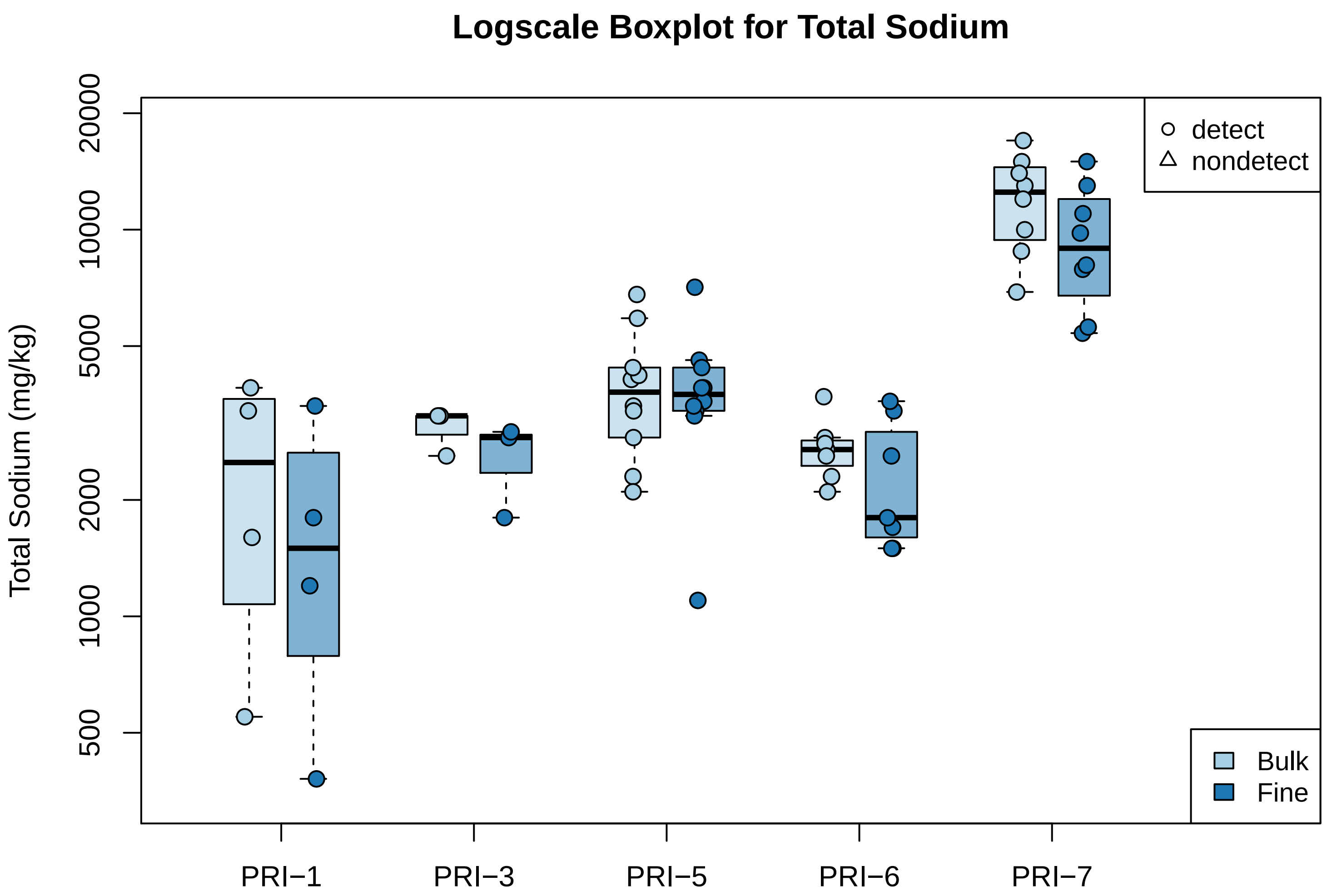


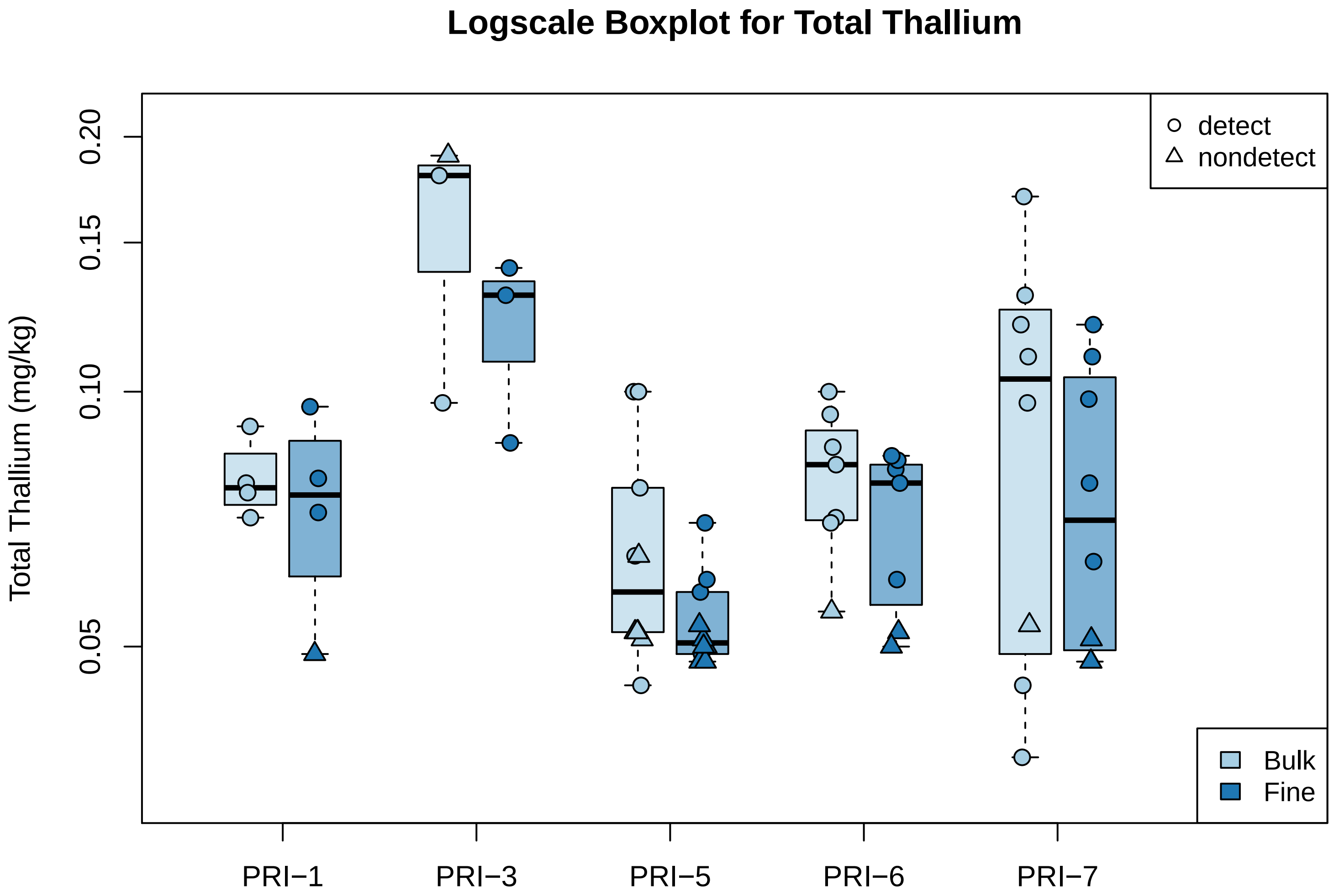

Logscale Boxplot for Total Potassium
Total Potassium (mg/kg)
5000
2000
1000
500
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

Logscale Boxplot for Total Selenium

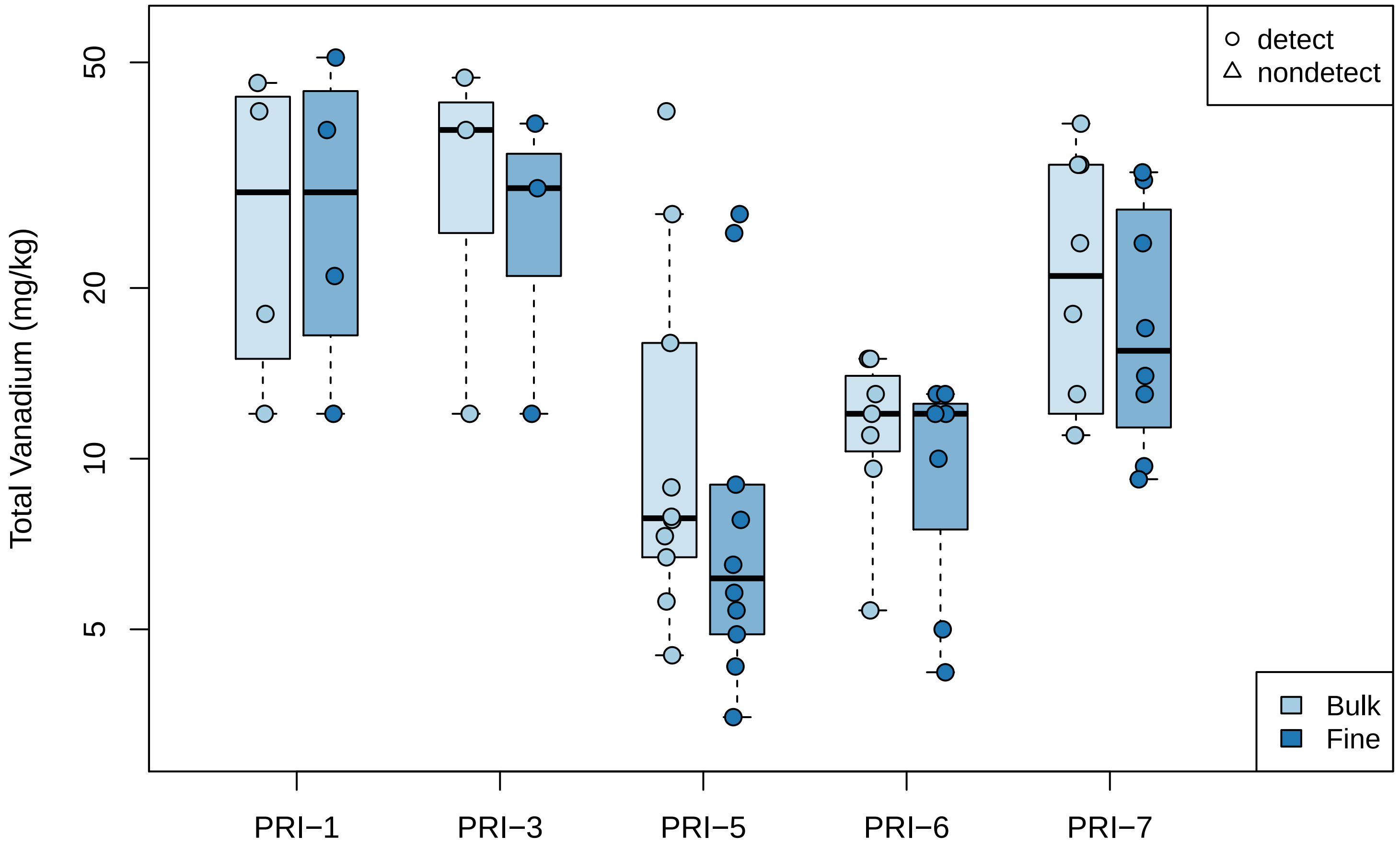


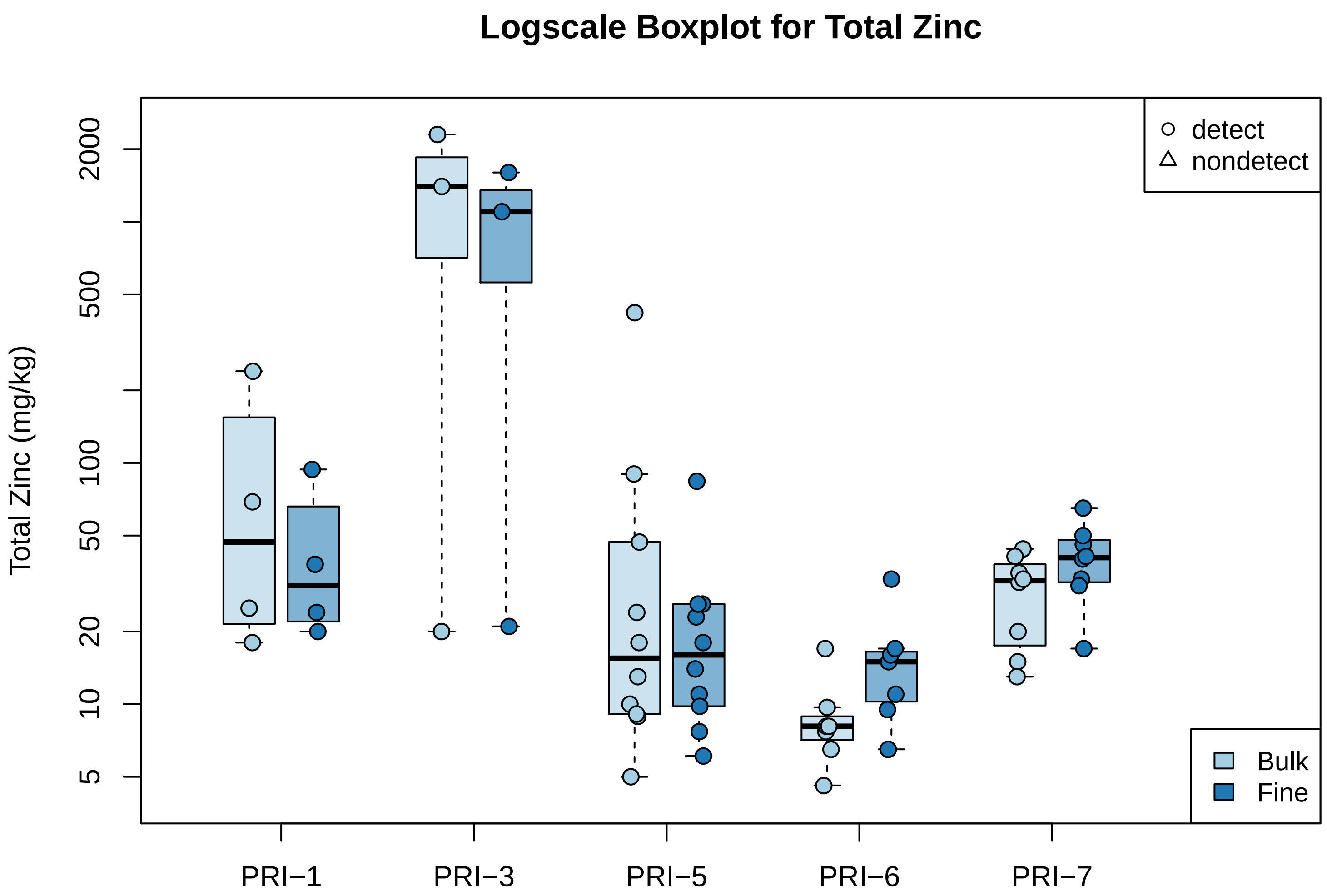

Logscale Boxplot for Total Silver
Total Silver (mg/kg)
20.00
5.00
2.00
0.50
0.20
0.05
0.02
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
detect
nondetect
Bulk
Fine


Logscale Boxplot for Total Sodium
Total Sodium (mg/kg)
500
1000
2000
5000
10000
20000
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine


Logscale Boxplot for Total Thallium
Total Thallium (mg/kg)
0.05
0.10
0.15
0.20
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

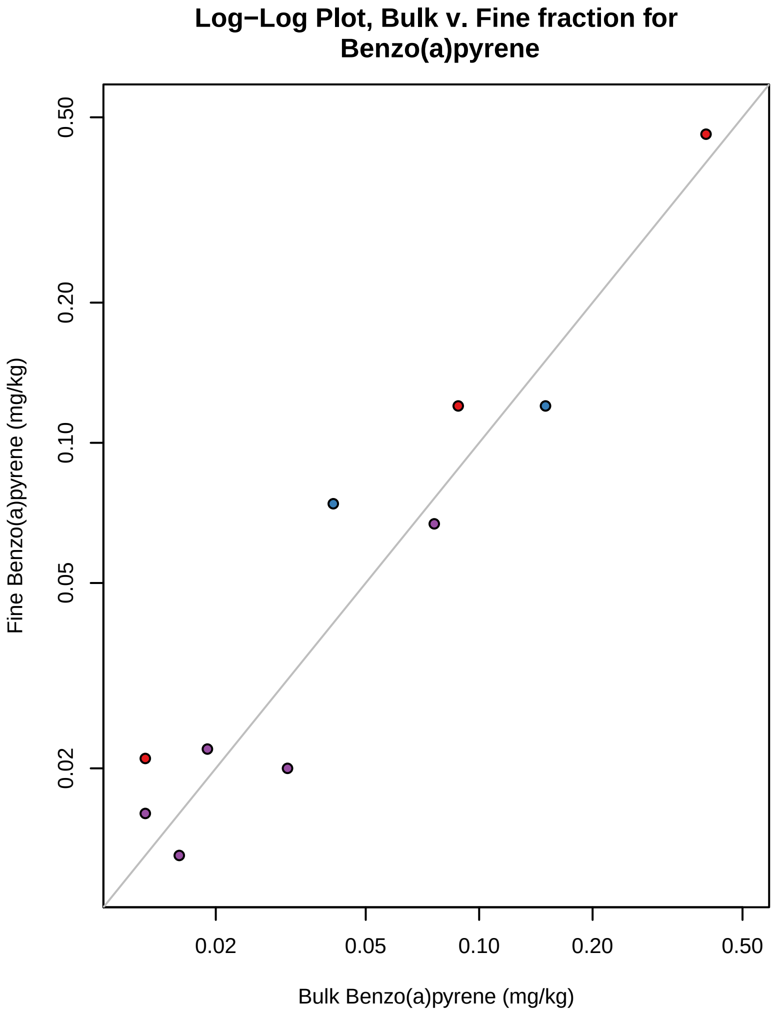
Logscale Boxplot for Total Vanadium

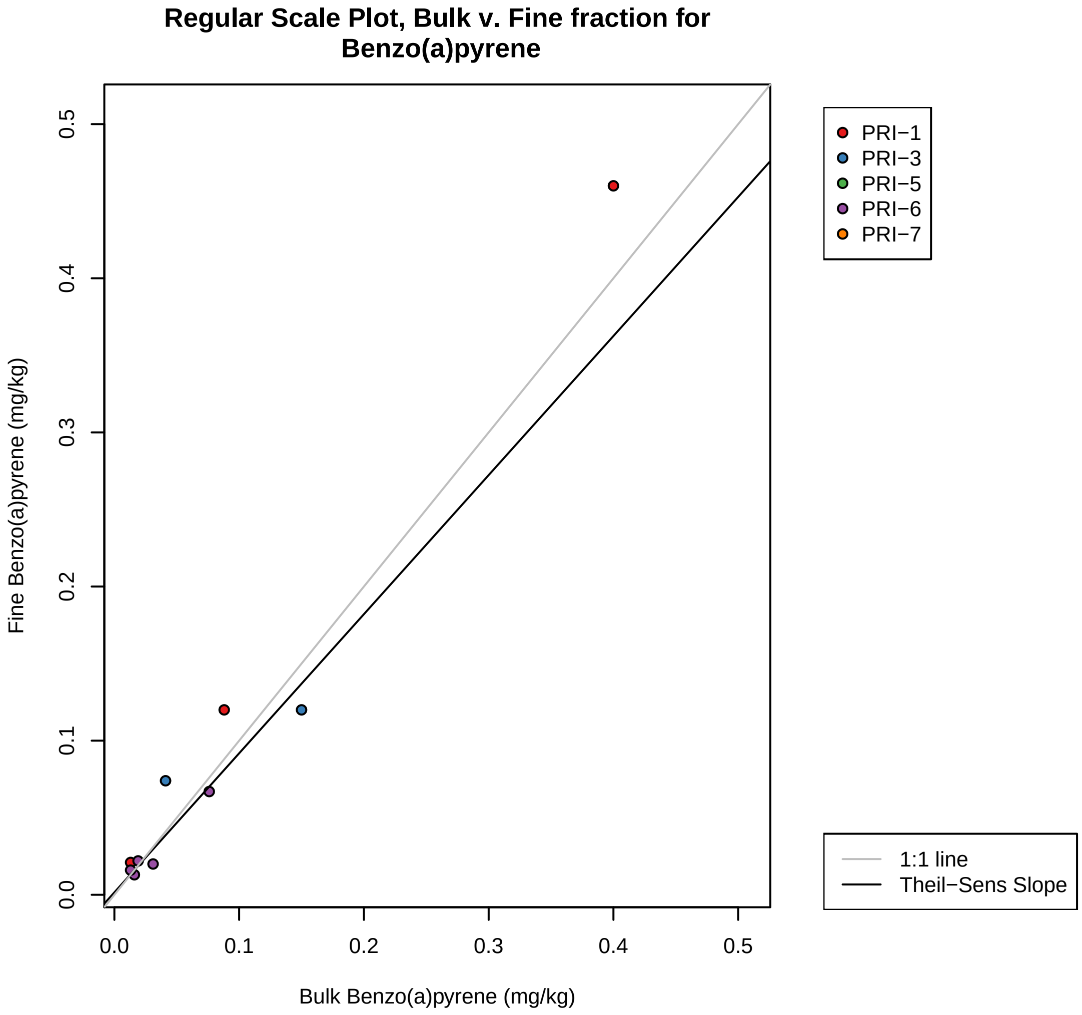


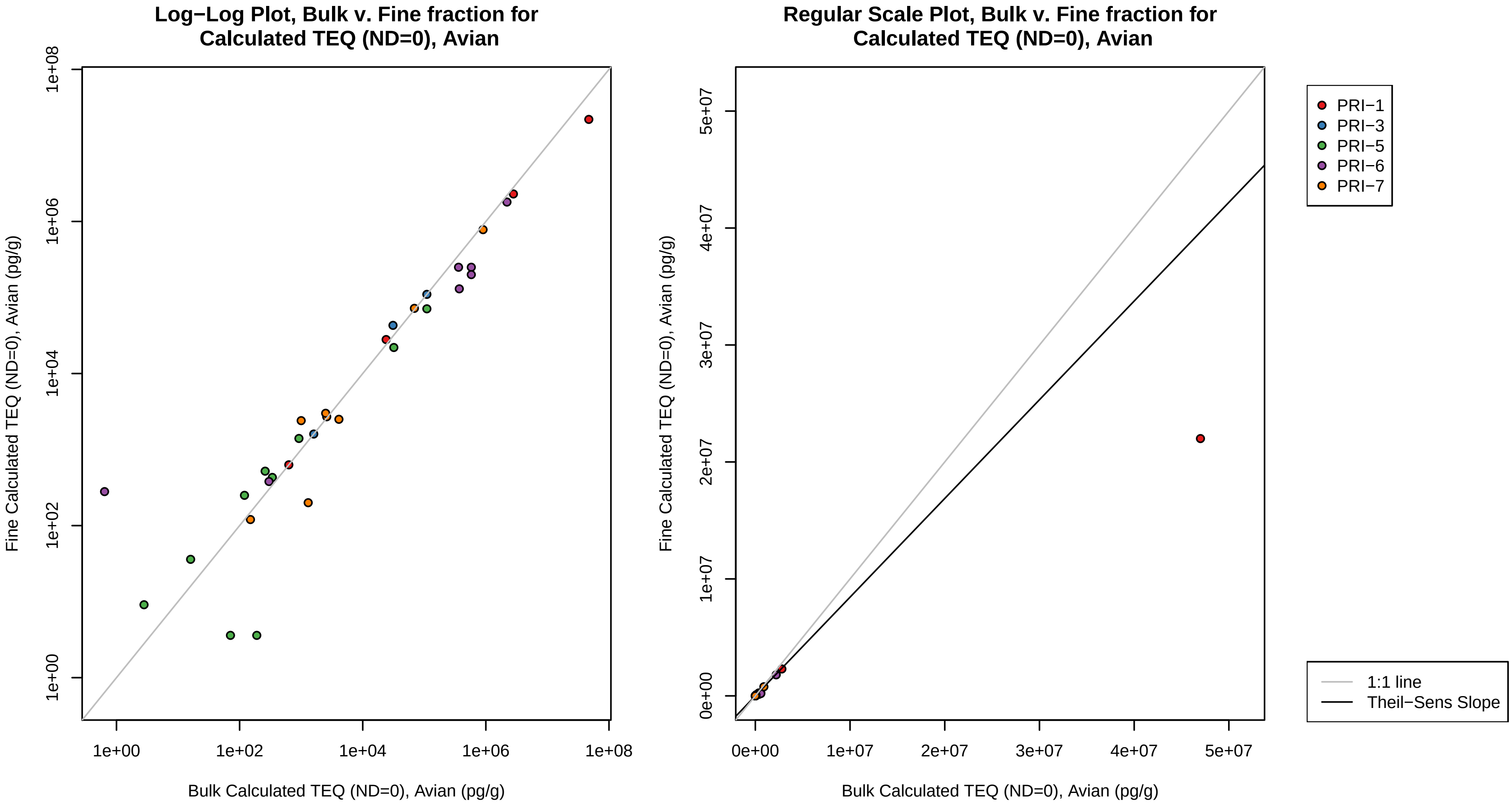

Logscale Boxplot for Total Zinc
Total Zinc (mg/kg)
2000
500
100
50
20
10
5
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
○ detect
△ nondetect
Bulk
Fine

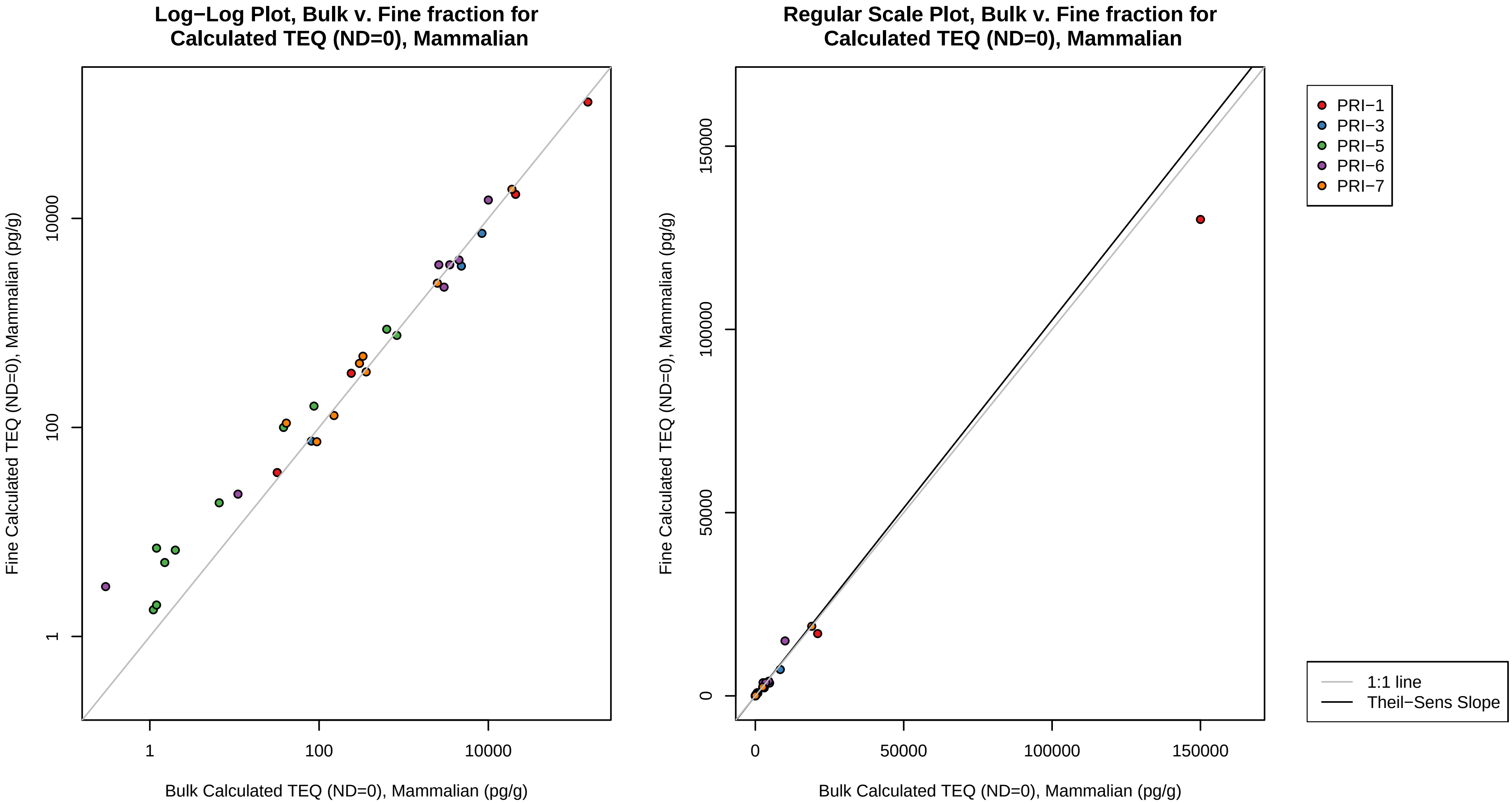
Attachment B

Fine Fraction vs. Bulk Sample Scatterplots


Log−Log Plot, Bulk v. Fine fraction for Benzo(a)pyrene

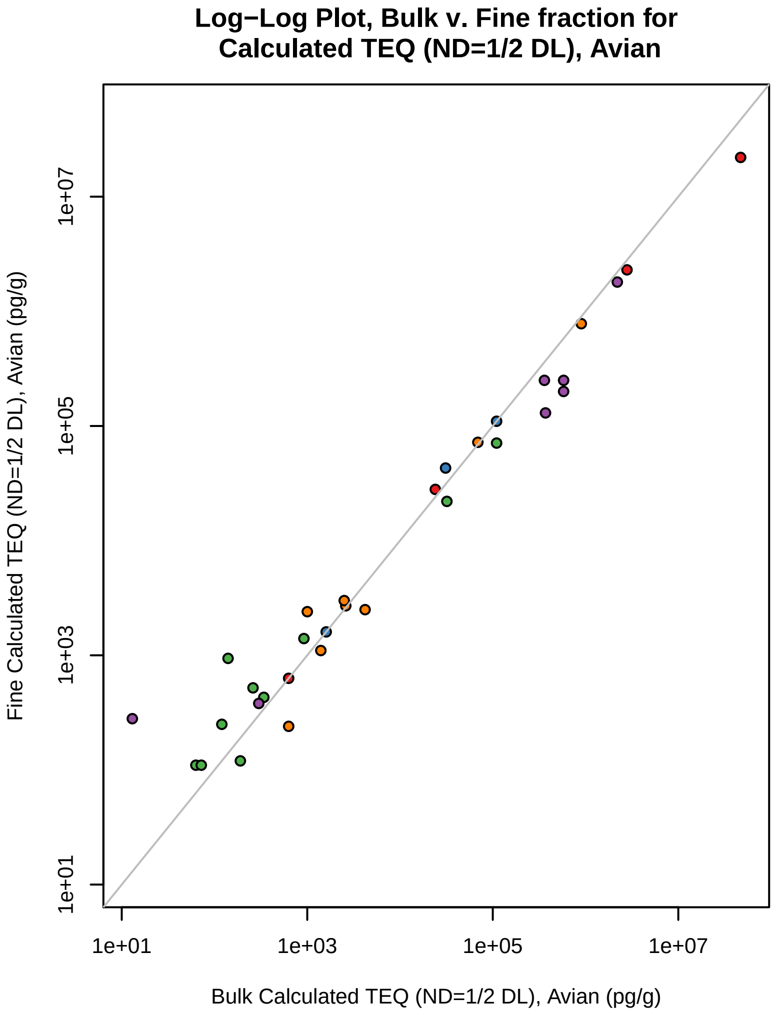

Regular Scale Plot, Bulk v. Fine fraction for Benzo(a)pyrene


Log−Log Plot, Bulk v. Fine fraction for
Calculated TEQ (ND=0), Avian
Fine Calculated TEQ (ND=0), Avian (pg/g)
1e+00
1e+02
1e+04
1e+06
1e+08
Bulk Calculated TEQ (ND=0), Avian (pg/g)
Regular Scale Plot, Bulk v. Fine fraction for
Calculated TEQ (ND=0), Avian
Fine Calculated TEQ (ND=0), Avian (pg/g)
0e+00
1e+07
2e+07
3e+07
4e+07
5e+07
Bulk Calculated TEQ (ND=0), Avian (pg/g)
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
1:1 line
Theil−Sens Slope

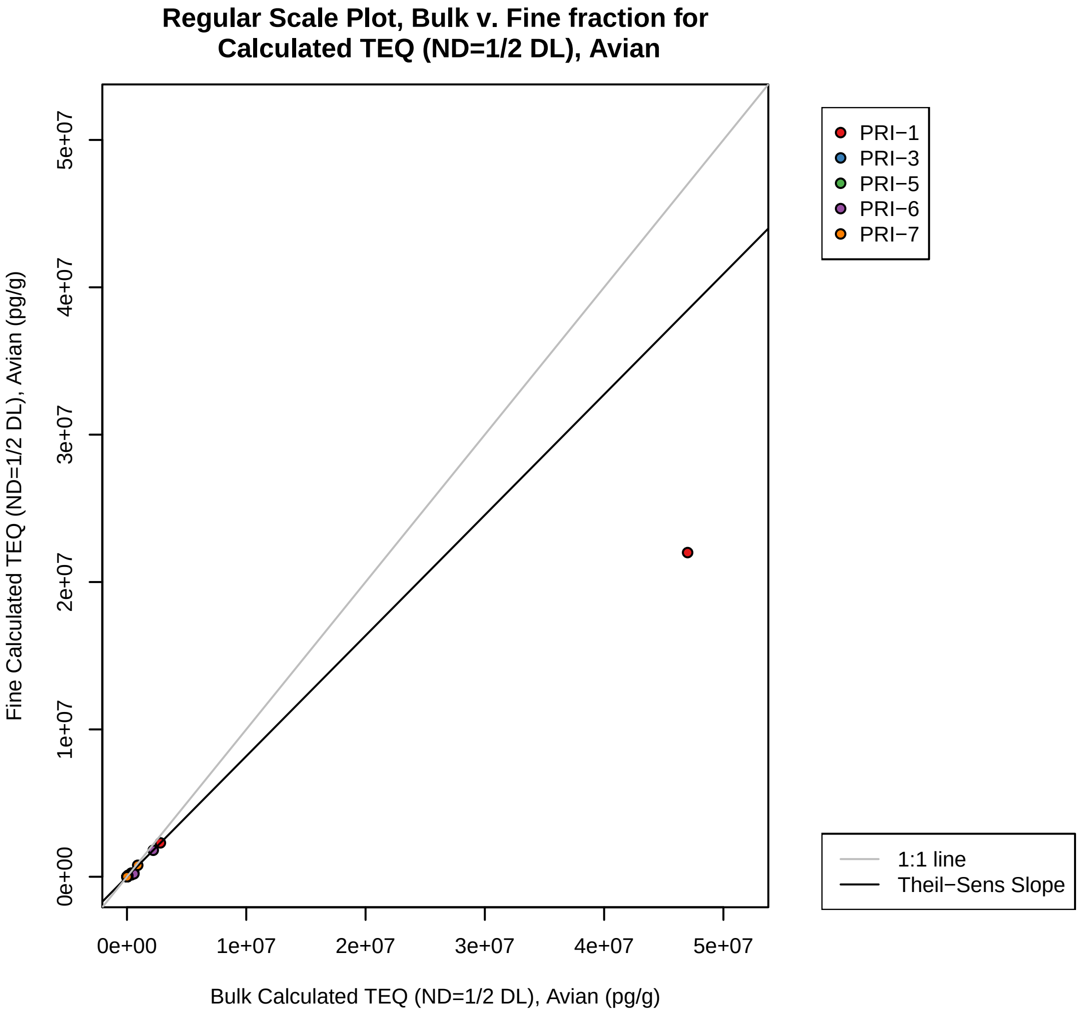


Log−Log Plot, Bulk v. Fine fraction for Calculated TEQ (ND=0), Mammalian

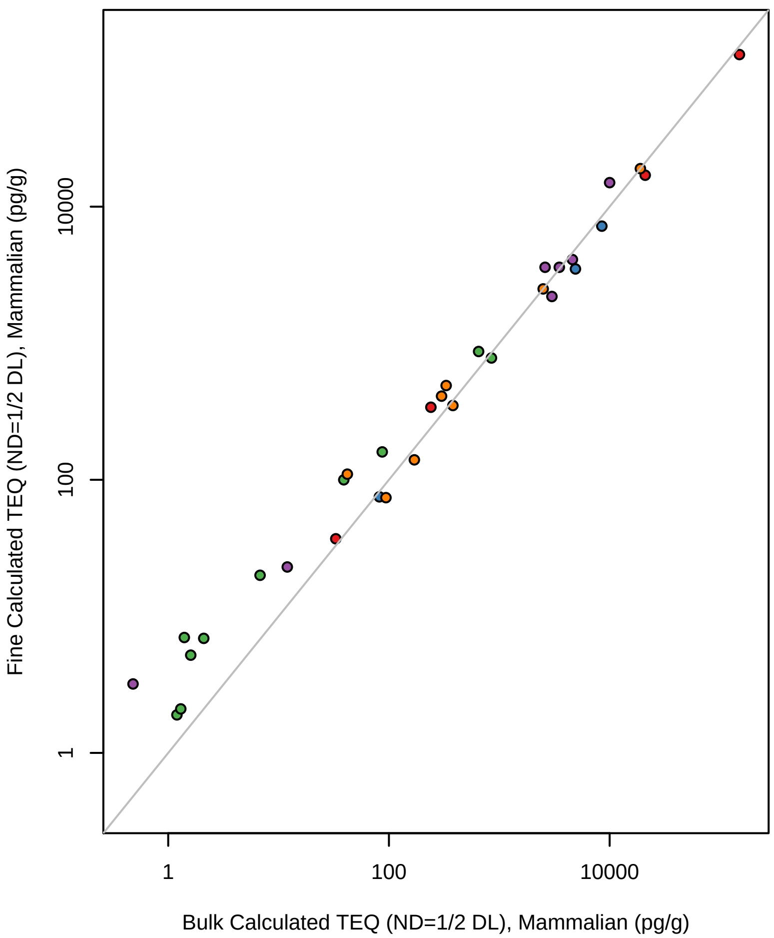
Regular Scale Plot, Bulk v. Fine fraction for Calculated TEQ (ND=0), Mammalian



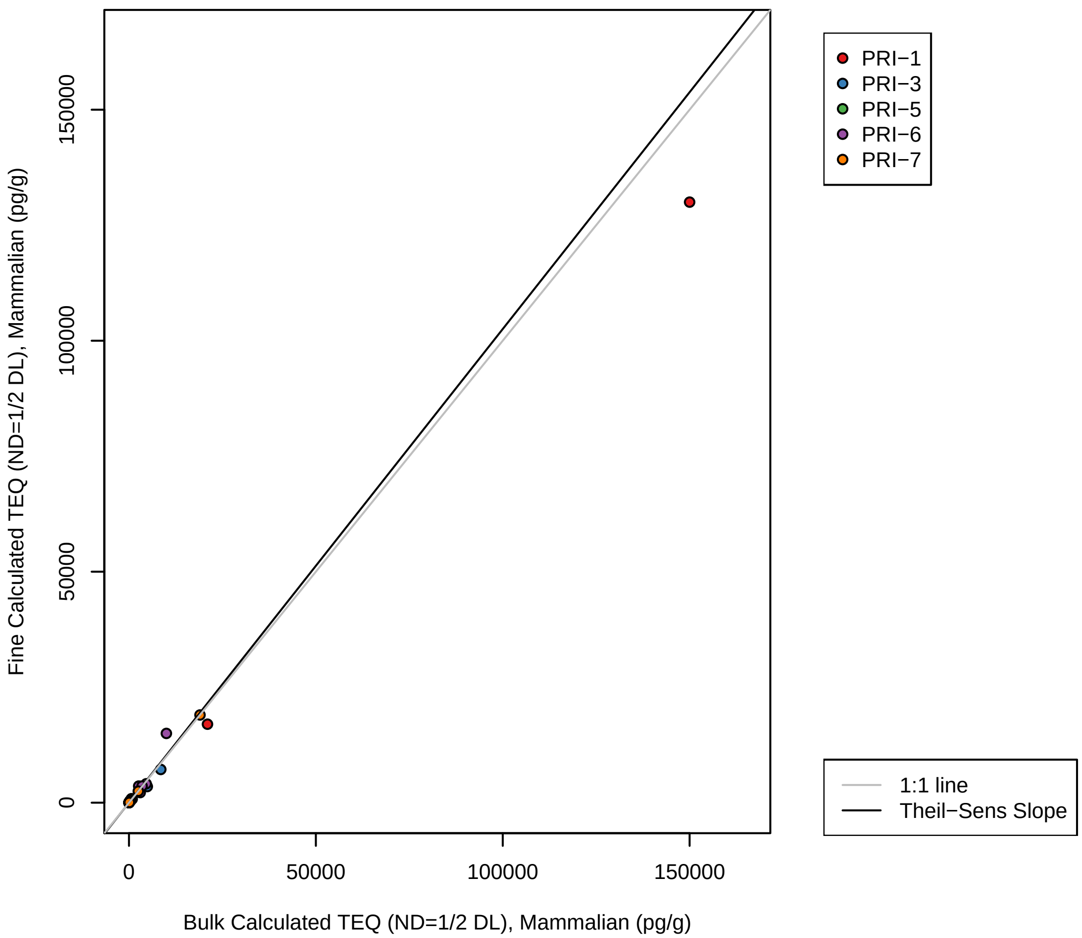
Log−Log Plot, Bulk v. Fine fraction for Calculated TEQ (ND=1/2 DL), Avian



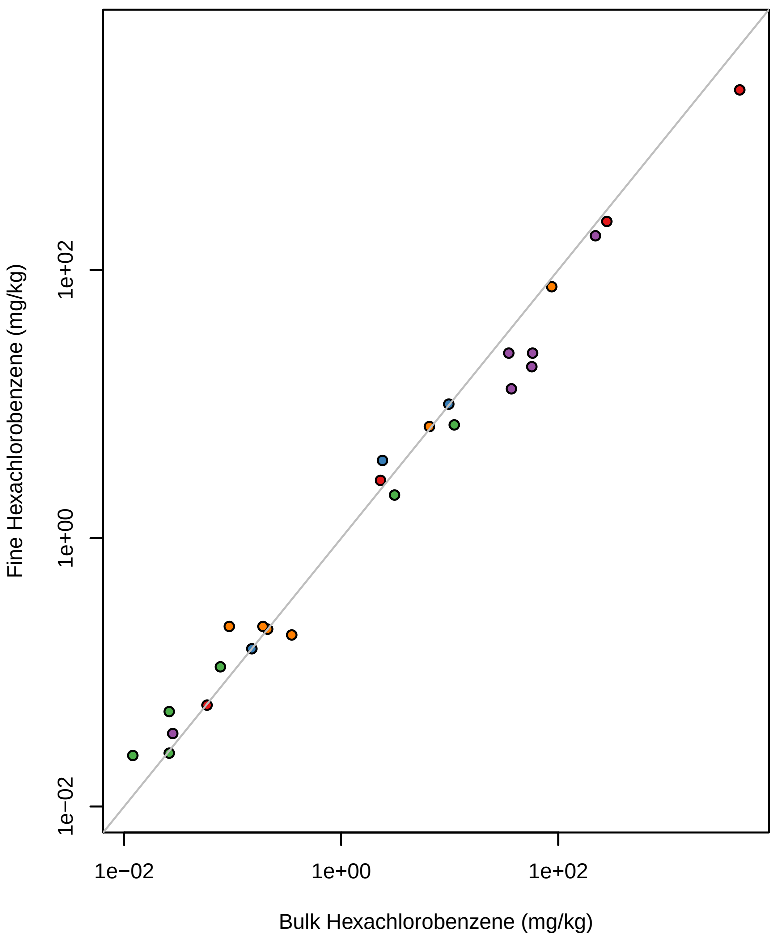
Regular Scale Plot, Bulk v. Fine fraction for Calculated TEQ (ND=1/2 DL), Avian



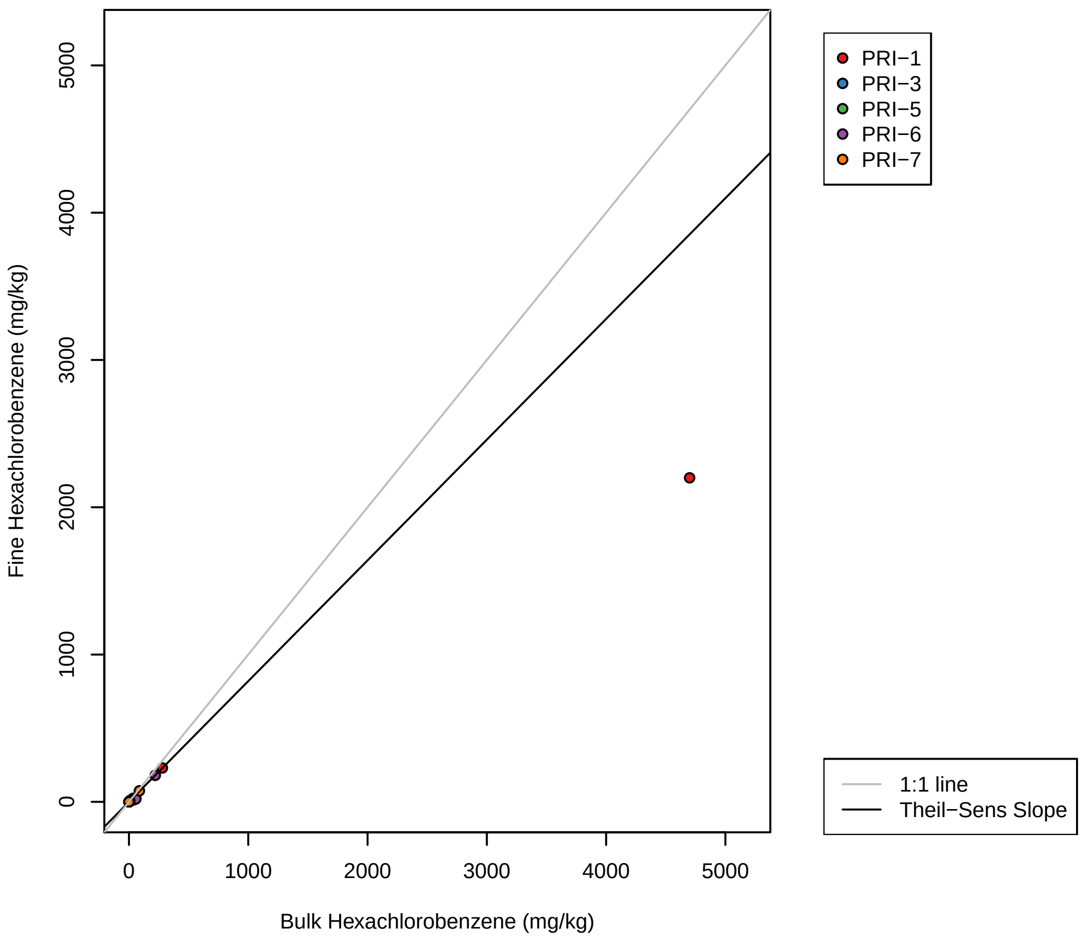
Log−Log Plot, Bulk v. Fine fraction for
Calculated TEQ (ND=1/2 DL), Mammalian



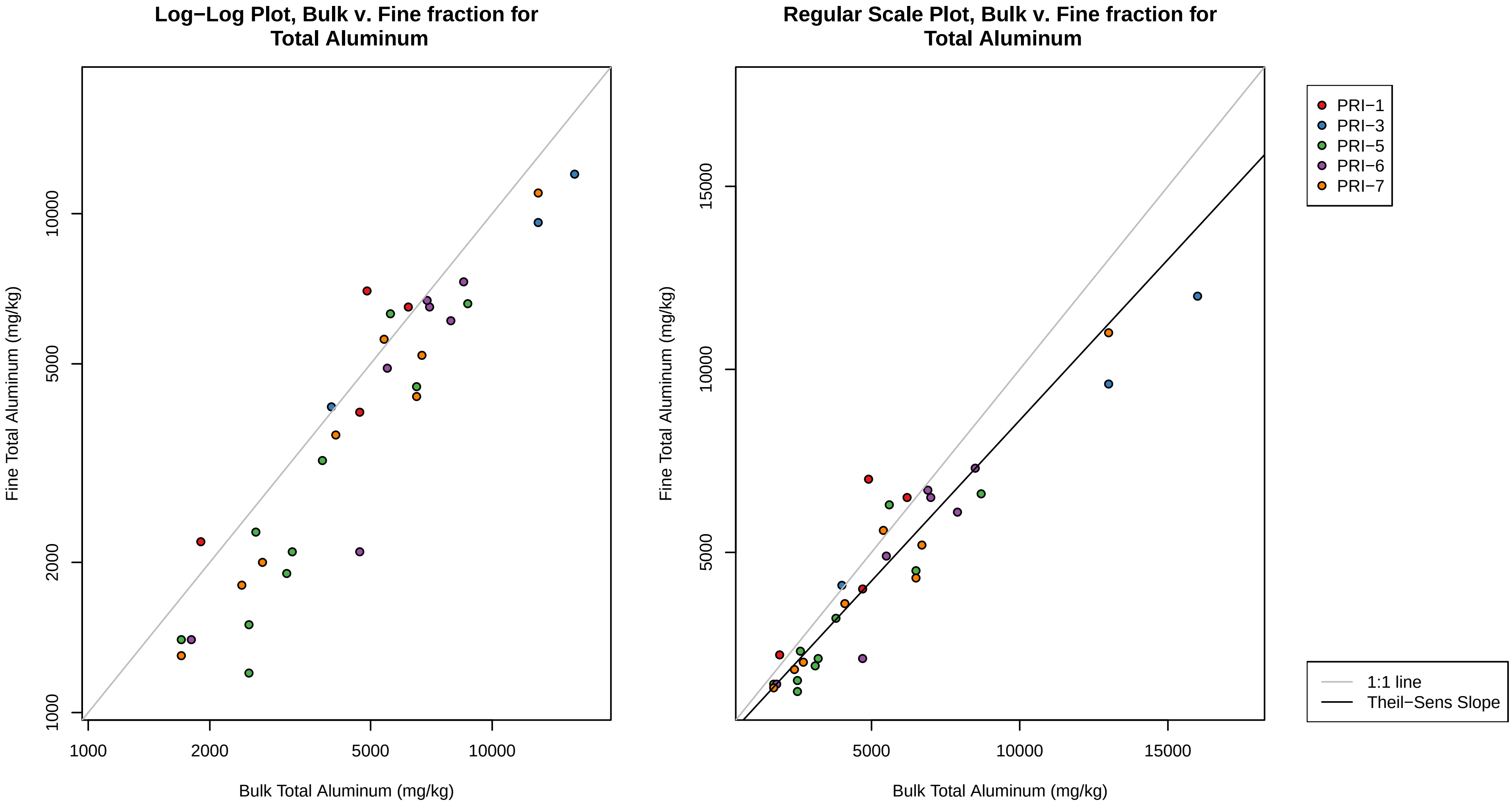
Regular Scale Plot, Bulk v. Fine fraction for
Calculated TEQ (ND=1/2 DL), Mammalian



Log−Log Plot, Bulk v. Fine fraction for Hexachlorobenzene

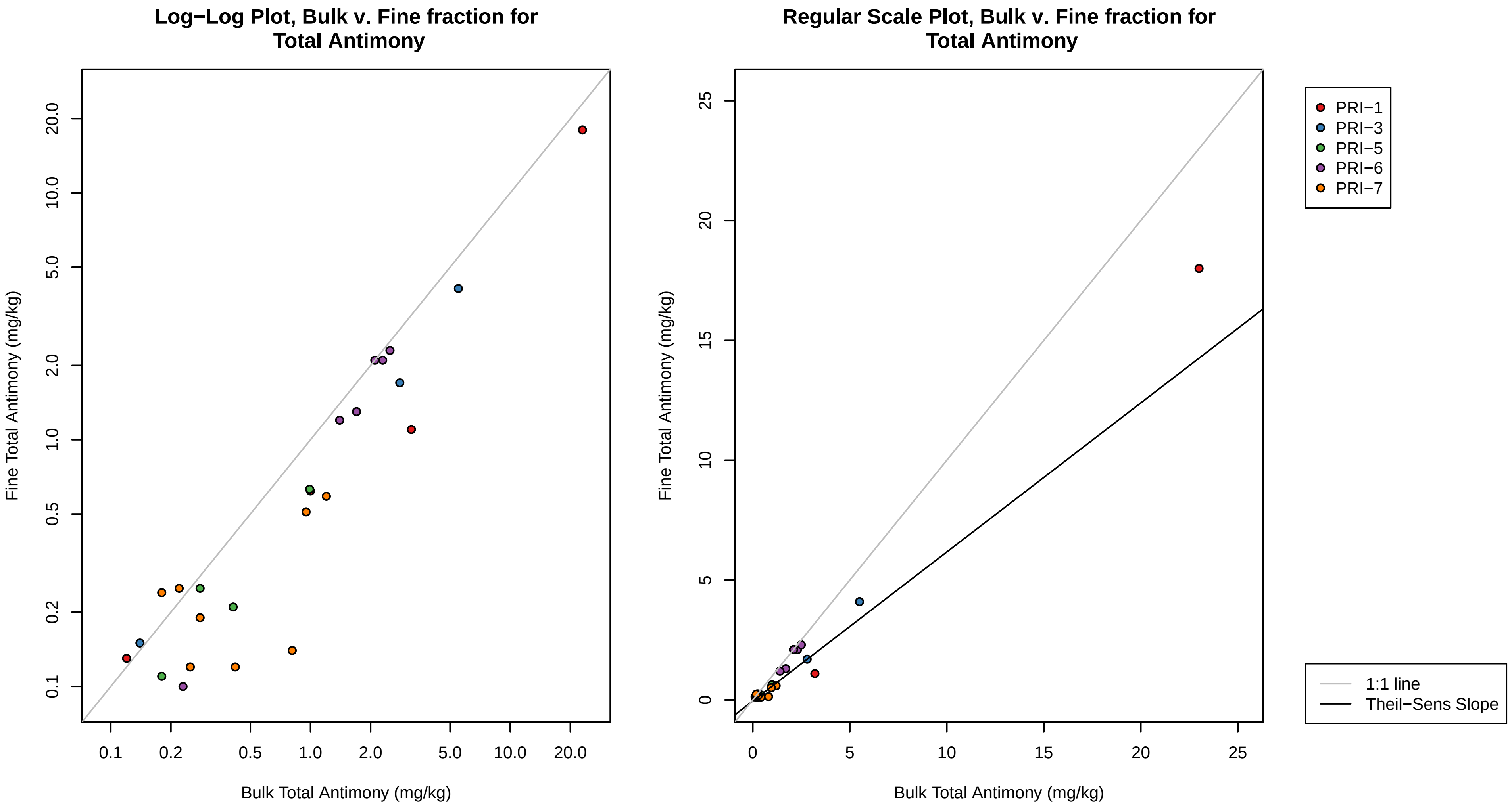


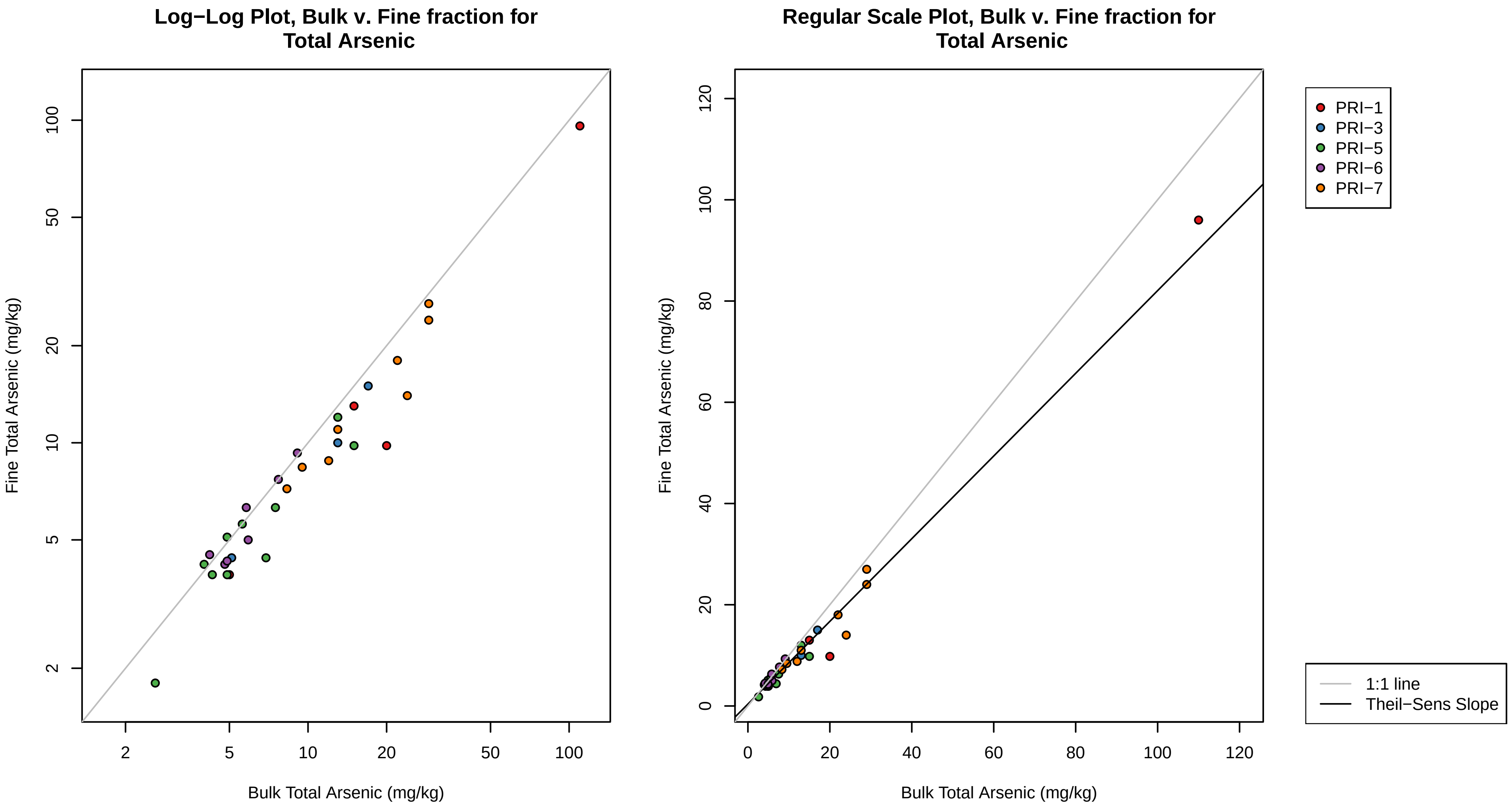
Regular Scale Plot, Bulk v. Fine fraction for Hexachlorobenzene



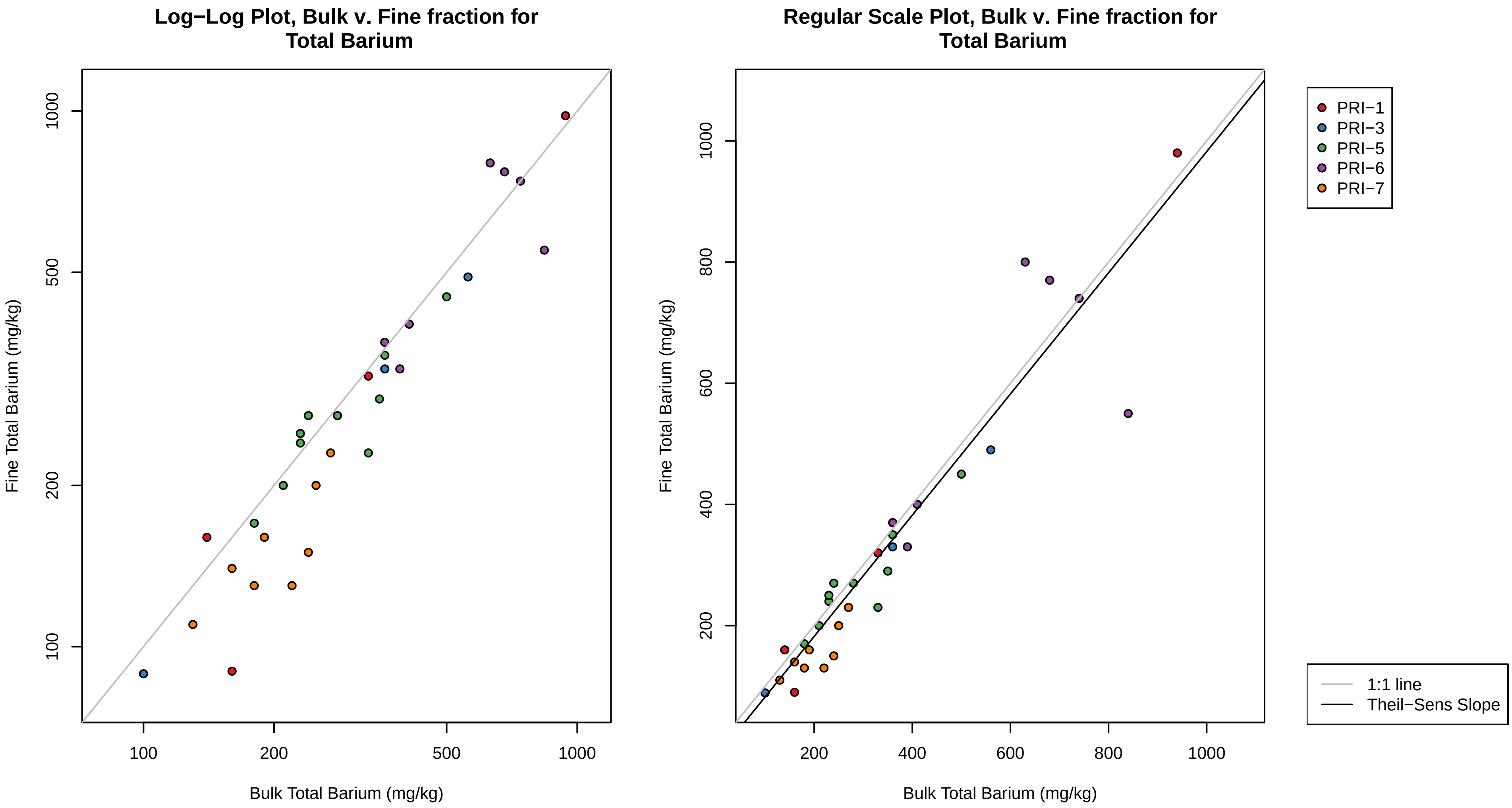
Log−Log Plot, Bulk v. Fine fraction for Total Aluminum

Regular Scale Plot, Bulk v. Fine fraction for Total Aluminum


Log−Log Plot, Bulk v. Fine fraction for Total Antimony
Fine Total Antimony (mg/kg)
0.1
0.2
0.5
1.0
2.0
5.0
10.0
20.0
Bulk Total Antimony (mg/kg)
0.1
0.2
0.5
1.0
2.0
5.0
10.0
20.0
Regular Scale Plot, Bulk v. Fine fraction for Total Antimony
Fine Total Antimony (mg/kg)
0
5
10
15
20
25
Bulk Total Antimony (mg/kg)
0
5
10
15
20
25
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
1:1 line
Theil−Sens Slope

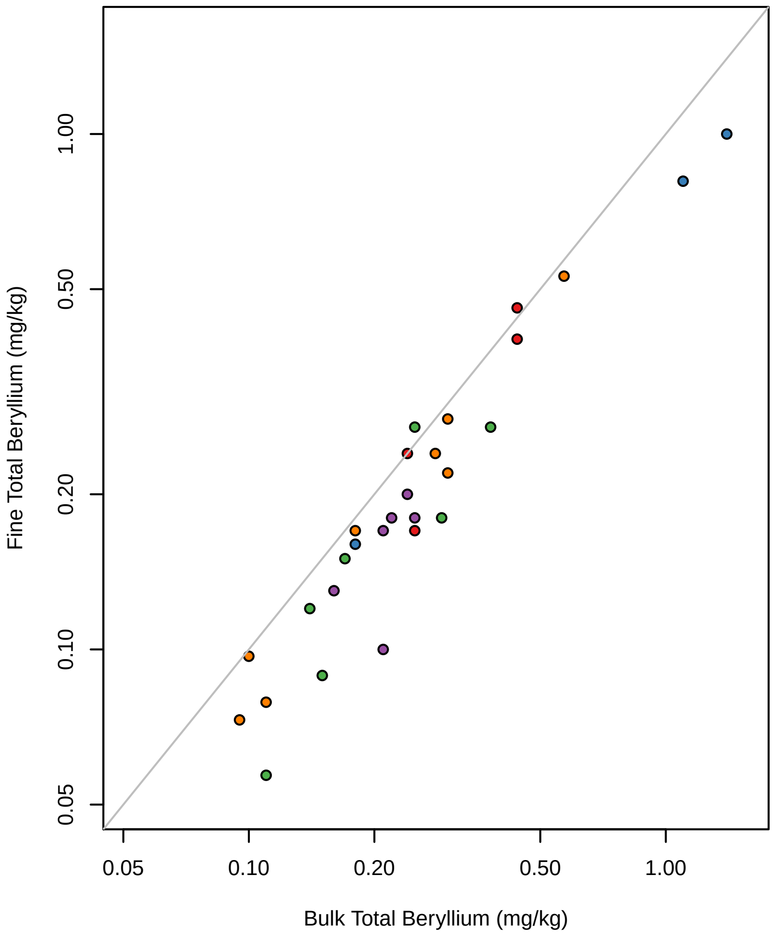

Log−Log Plot, Bulk v. Fine fraction for Total Arsenic

Regular Scale Plot, Bulk v. Fine fraction for Total Arsenic

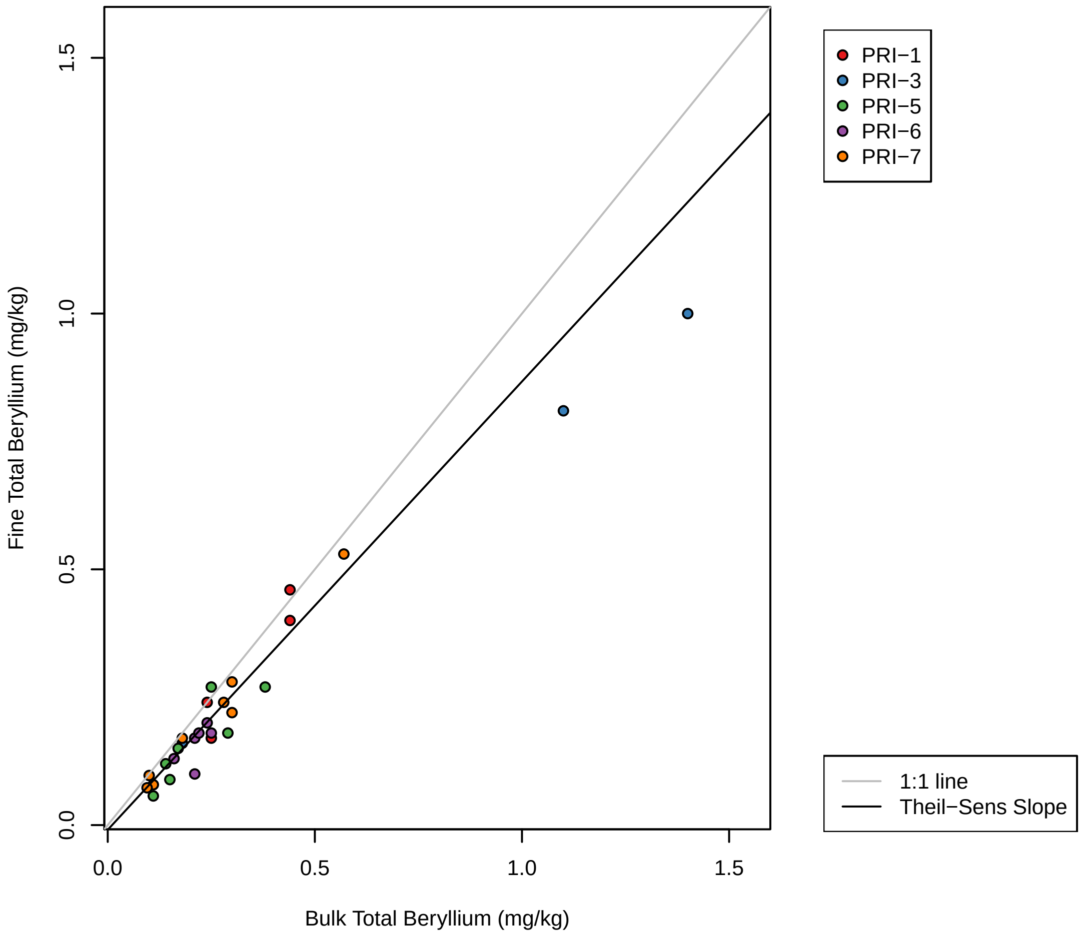


Log−Log Plot, Bulk v. Fine fraction for Total Barium

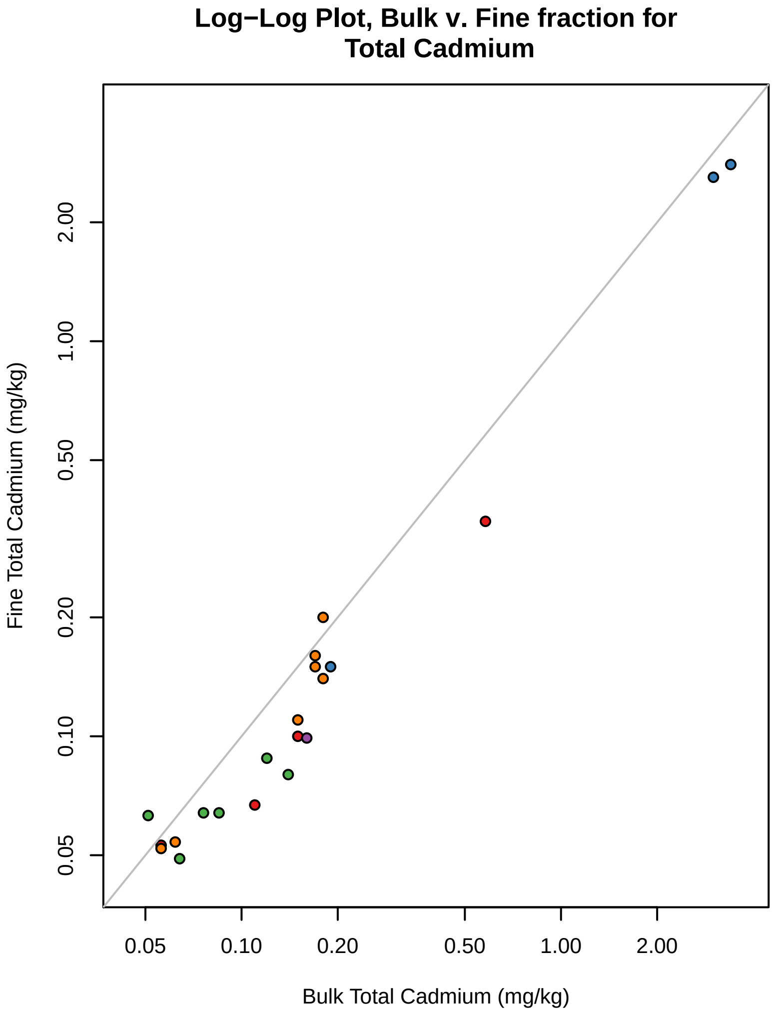
Regular Scale Plot, Bulk v. Fine fraction for Total Barium

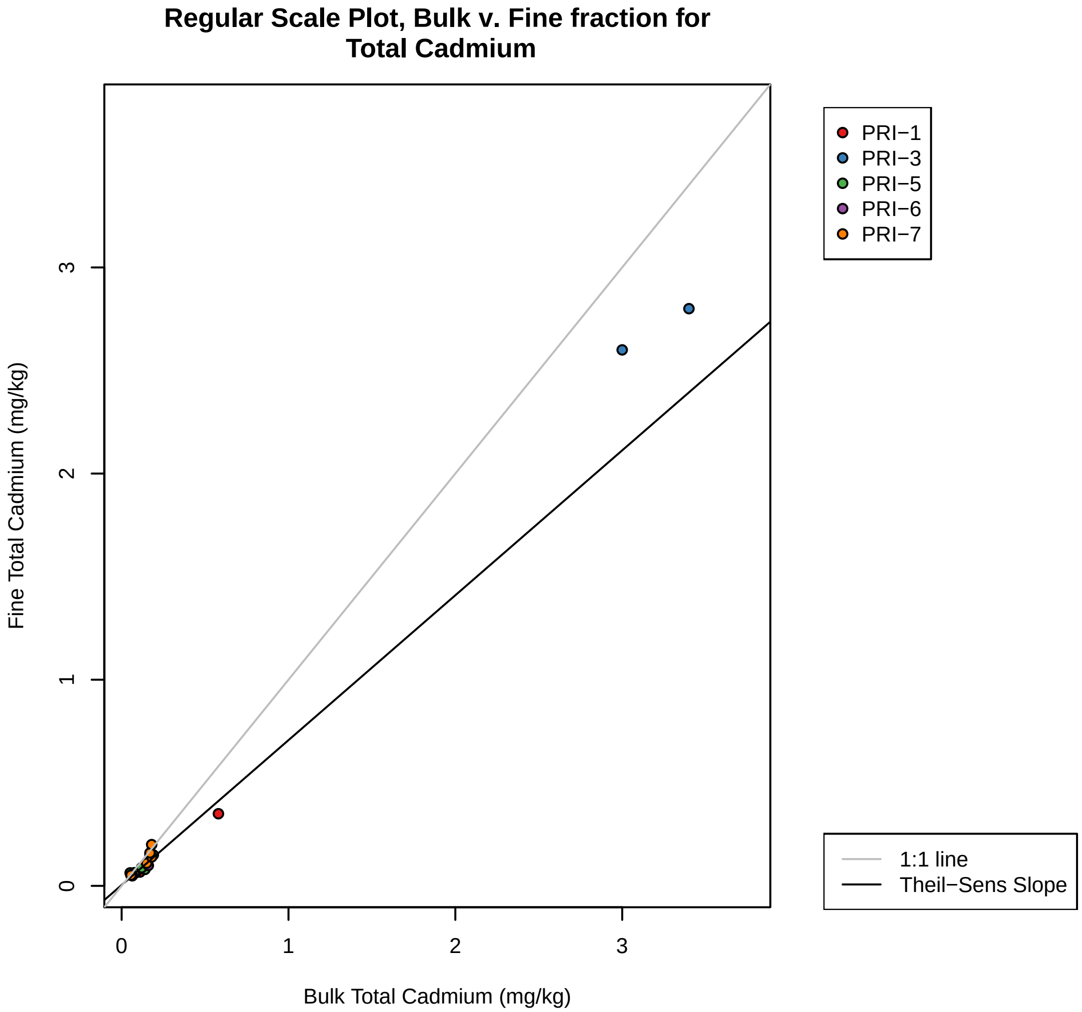


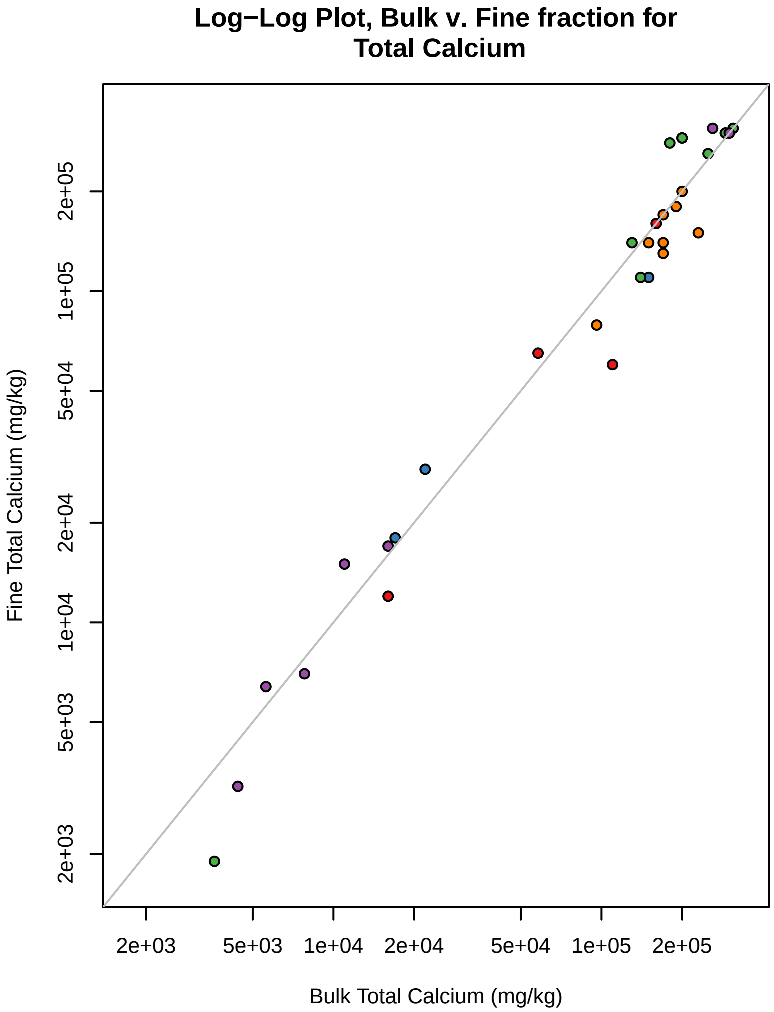
Log−Log Plot, Bulk v. Fine fraction for Total Beryllium



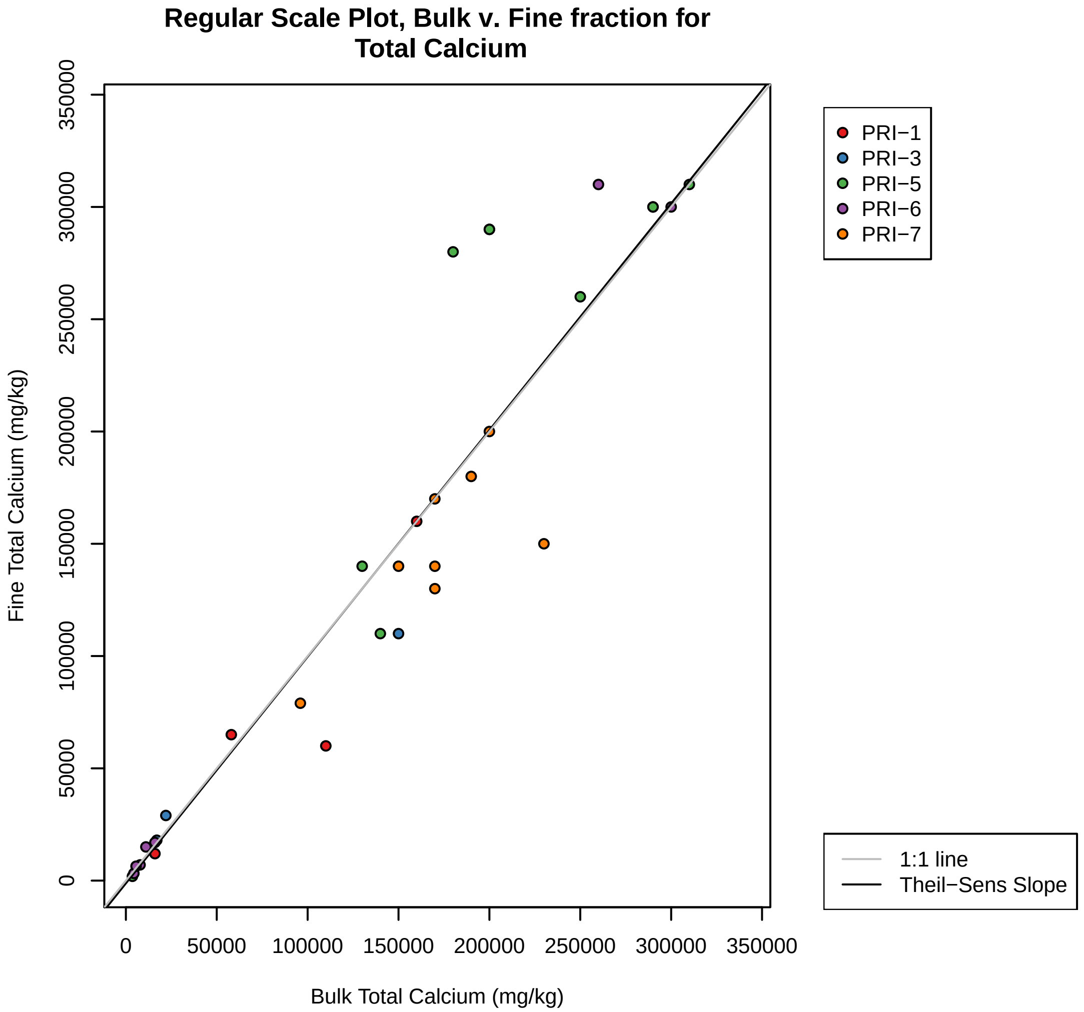
Regular Scale Plot, Bulk v. Fine fraction for Total Beryllium


Log−Log Plot, Bulk v. Fine fraction for Total Cadmium

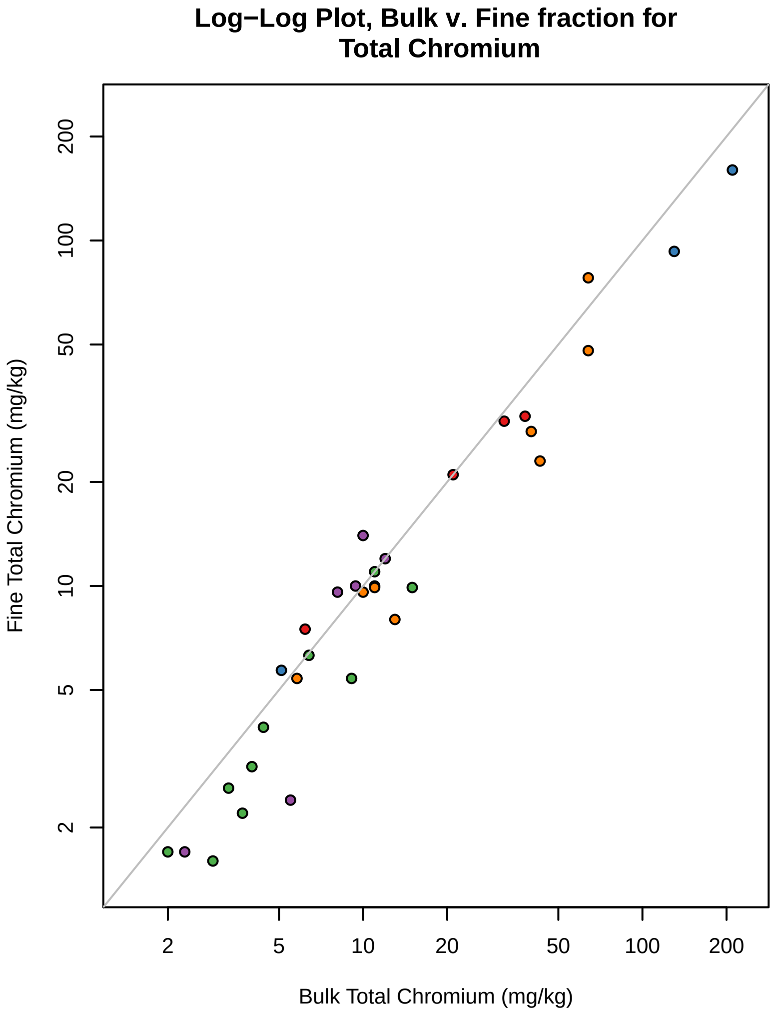

Regular Scale Plot, Bulk v. Fine fraction for Total Cadmium



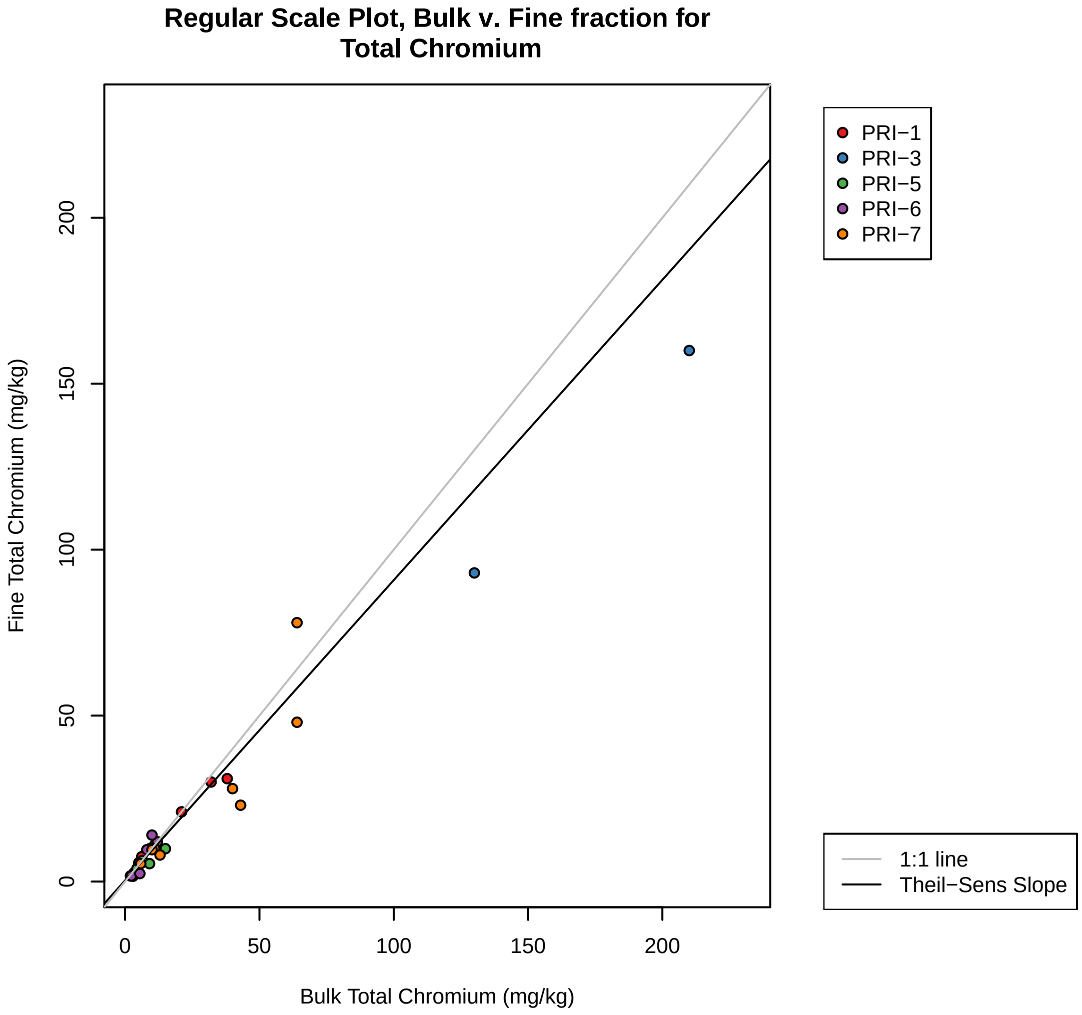
Log−Log Plot, Bulk v. Fine fraction for
Total Calcium



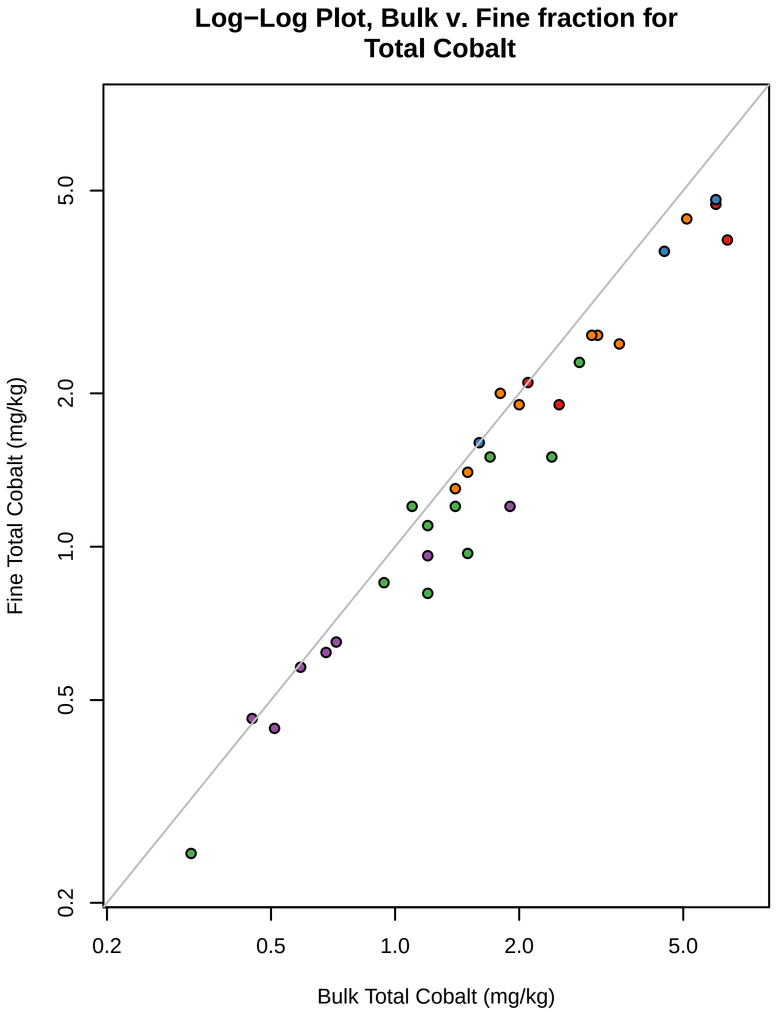
Regular Scale Plot, Bulk v. Fine fraction for
Total Calcium

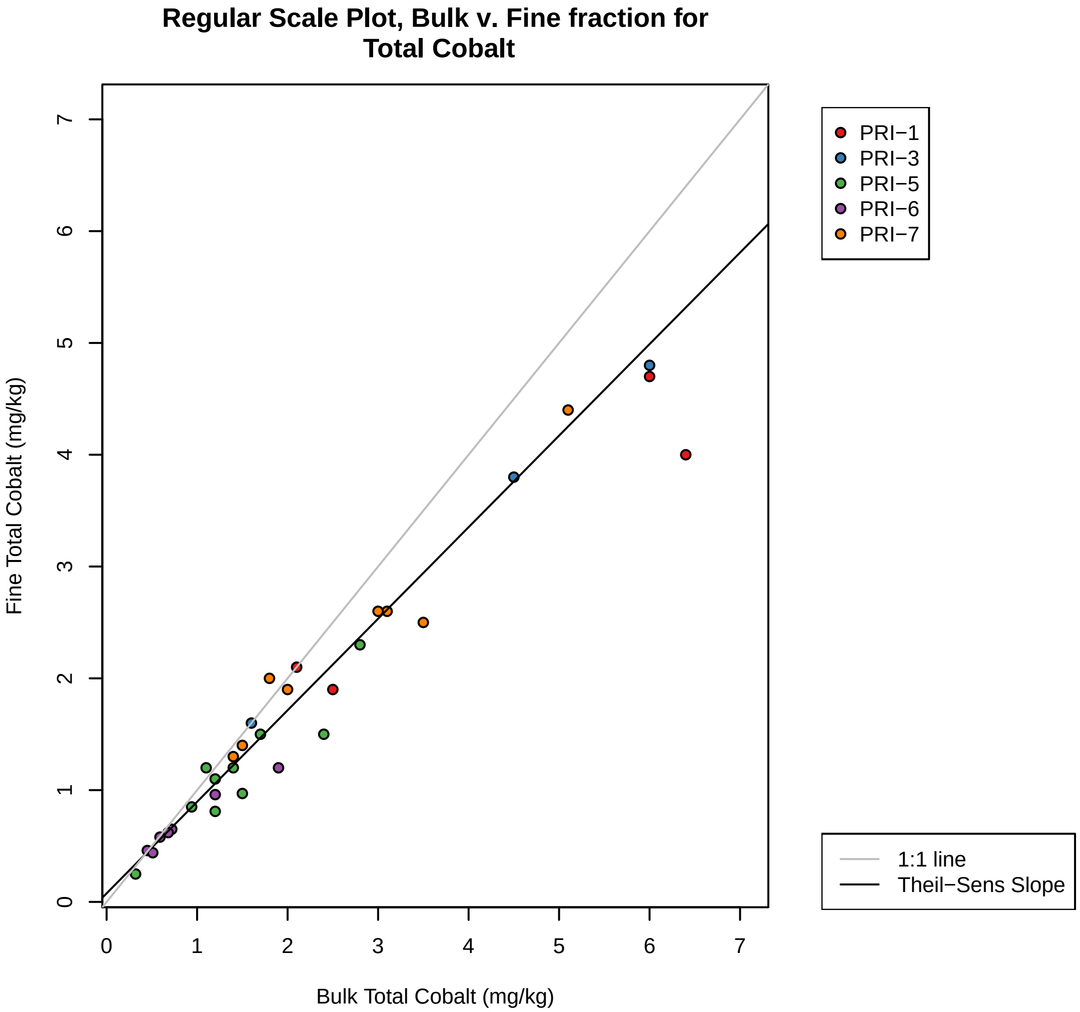


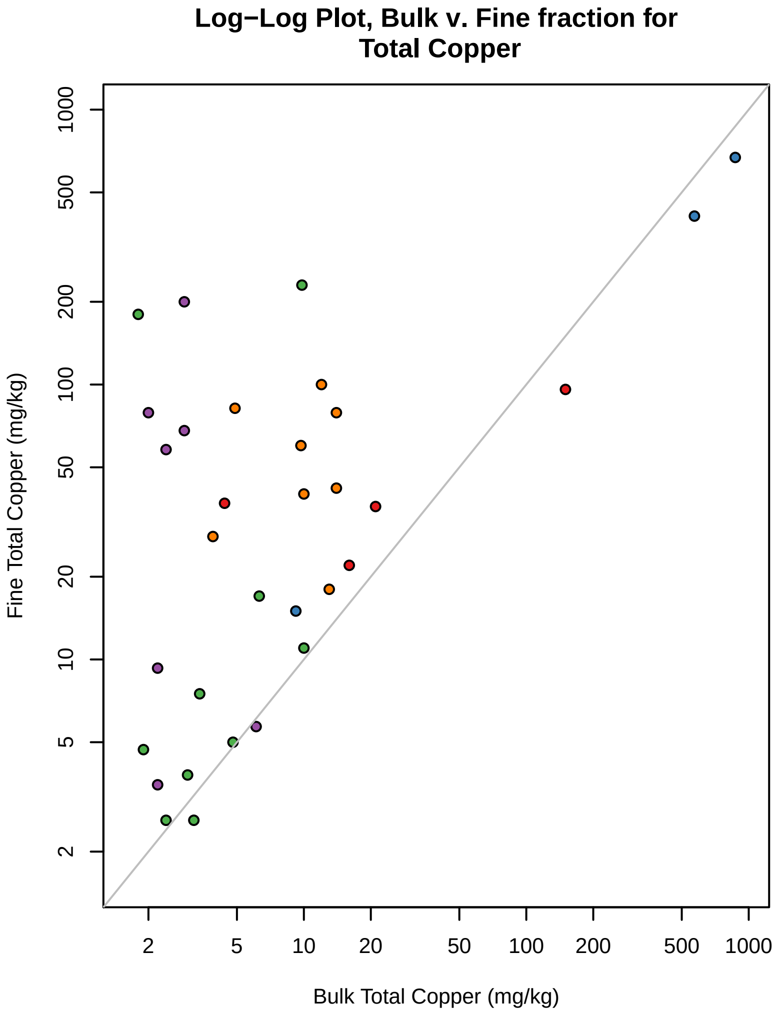
Log−Log Plot, Bulk v. Fine fraction for Total Chromium



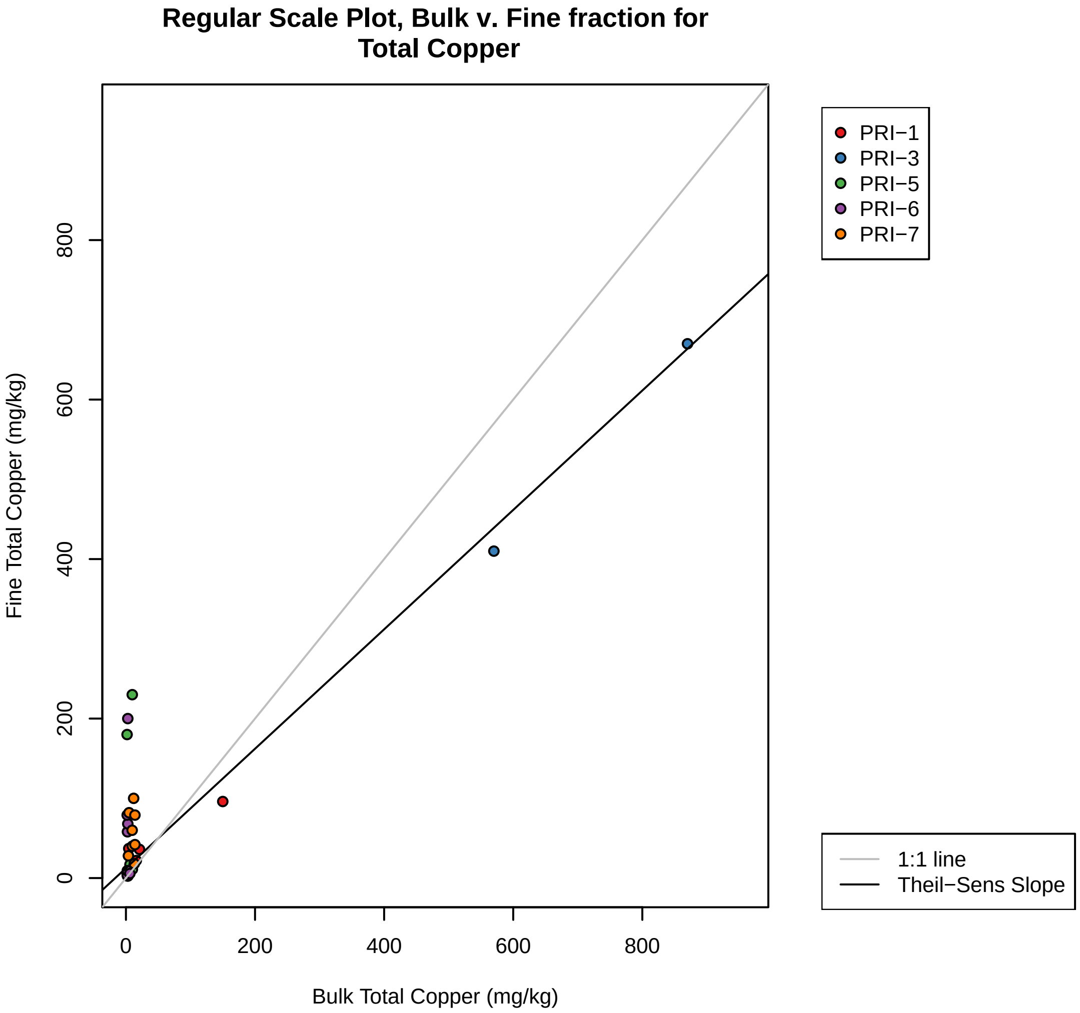
Regular Scale Plot, Bulk v. Fine fraction for Total Chromium


Log−Log Plot, Bulk v. Fine fraction for Total Cobalt
Fine Total Cobalt (mg/kg)
0.2
0.5
1.0
2.0
5.0
Bulk Total Cobalt (mg/kg)
0.2
0.5
1.0
2.0
5.0

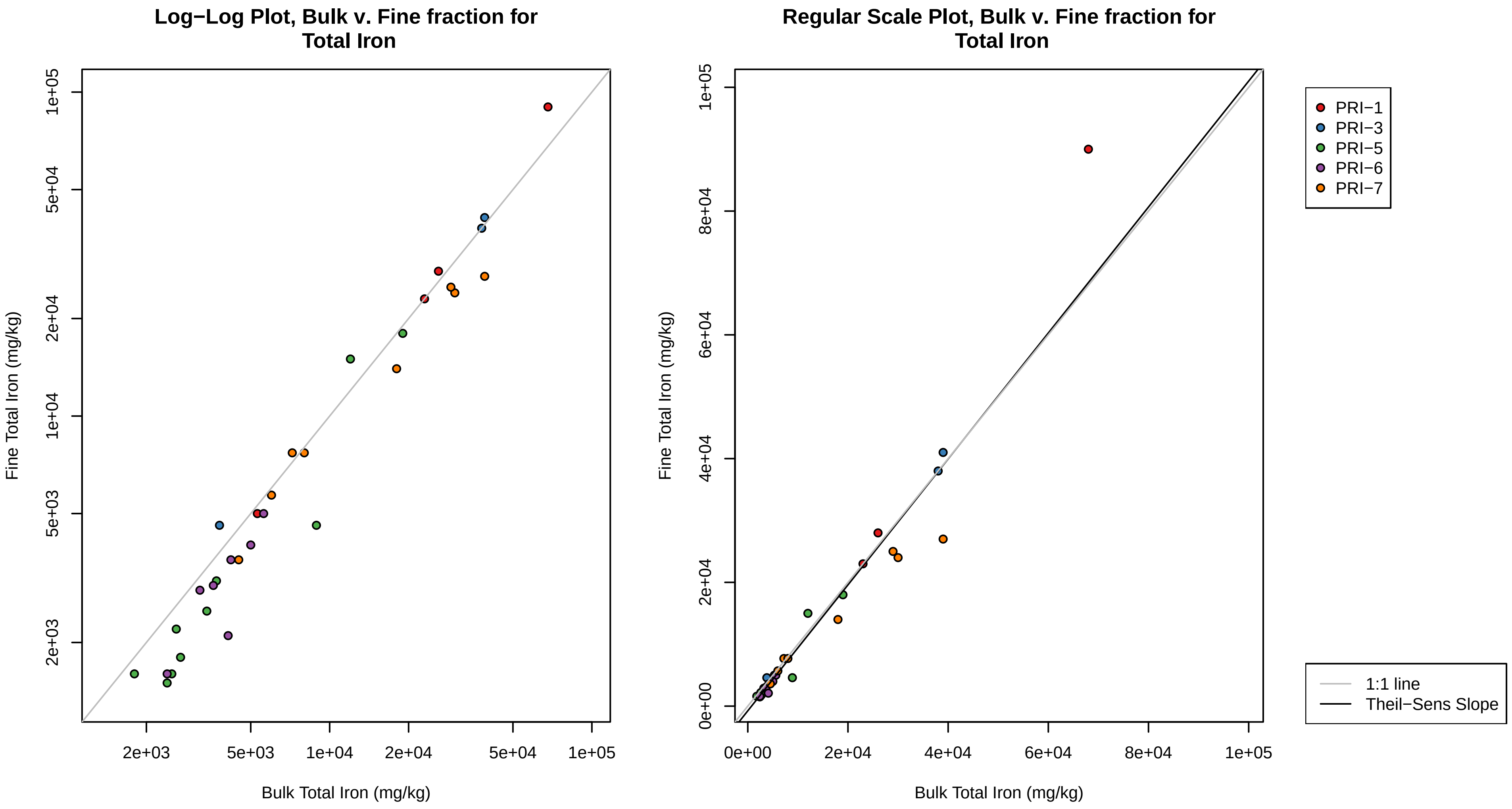

Regular Scale Plot, Bulk v. Fine fraction for Total Cobalt
Fine Total Cobalt (mg/kg)
0
1
2
3
4
5
6
7
Bulk Total Cobalt (mg/kg)
0
1
2
3
4
5
6
7
● PRI−1
● PRI−3
● PRI−5
● PRI−6
● PRI−7
1:1 line
Theil−Sens Slope

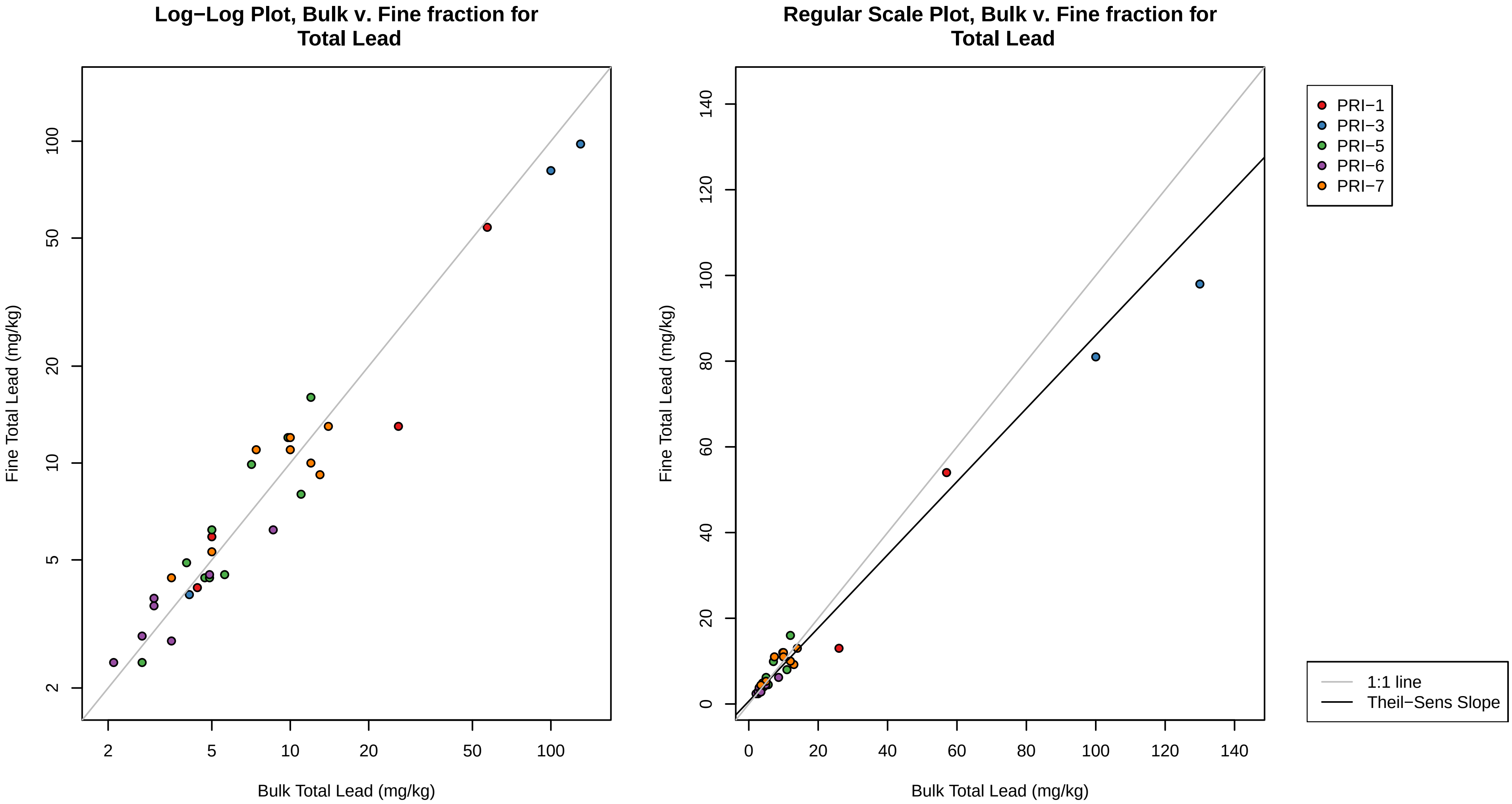


Log−Log Plot, Bulk v. Fine fraction for Total Copper



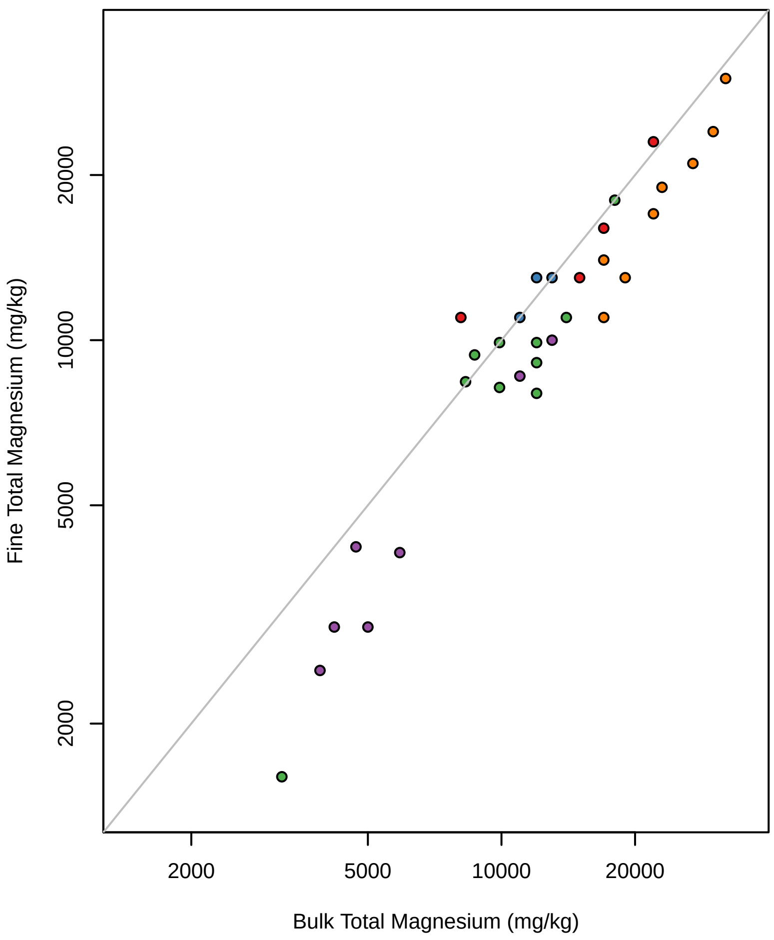
Regular Scale Plot, Bulk v. Fine fraction for Total Copper


Log−Log Plot, Bulk v. Fine fraction for Total Iron
Fine Total Iron (mg/kg)
1e+05
5e+04
2e+04
1e+04
5e+03
2e+03
2e+03
5e+03
1e+04
2e+04
5e+04
1e+05
Bulk Total Iron (mg/kg)
Regular Scale Plot, Bulk v. Fine fraction for Total Iron
Fine Total Iron (mg/kg)
1e+05
8e+04
6e+04
4e+04
2e+04
0e+00
0e+00
2e+04
4e+04
6e+04
8e+04
1e+05
Bulk Total Iron (mg/kg)
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
1:1 line
Theil−Sens Slope

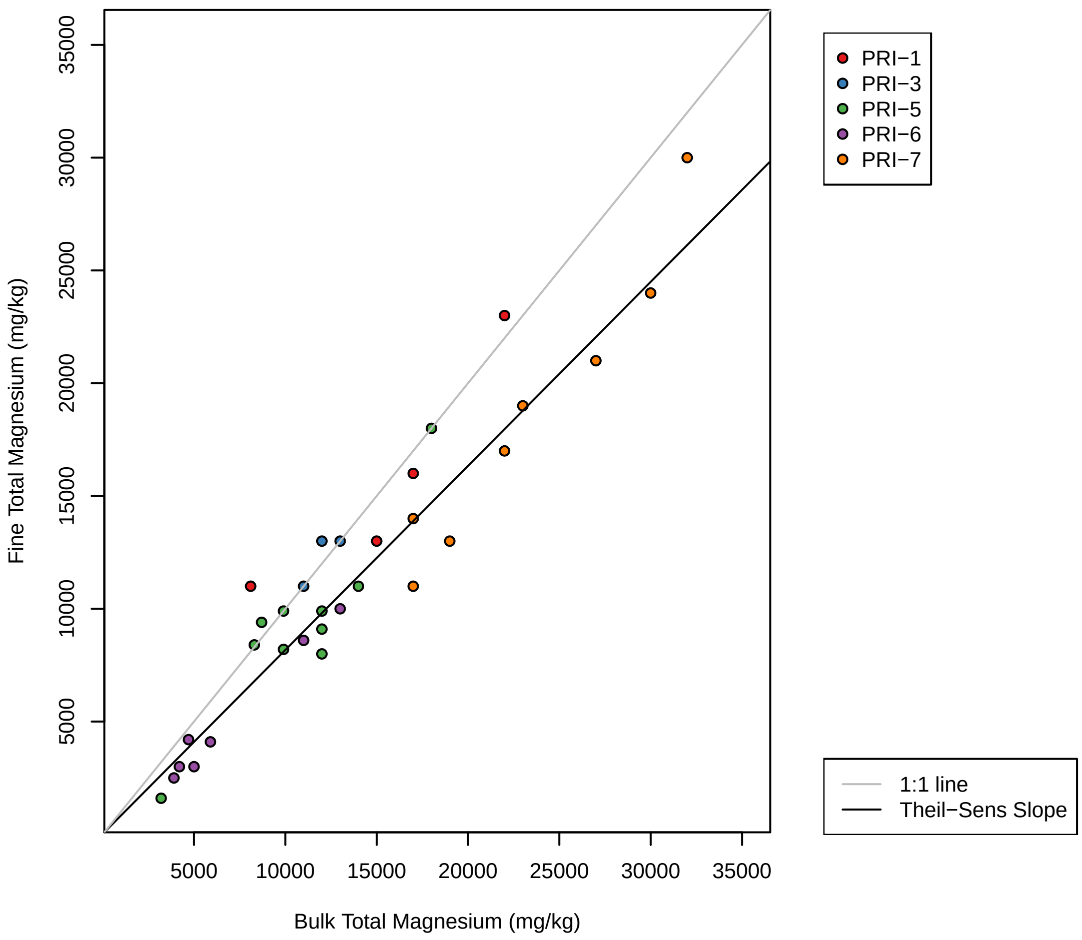


Log−Log Plot, Bulk v. Fine fraction for Total Lead

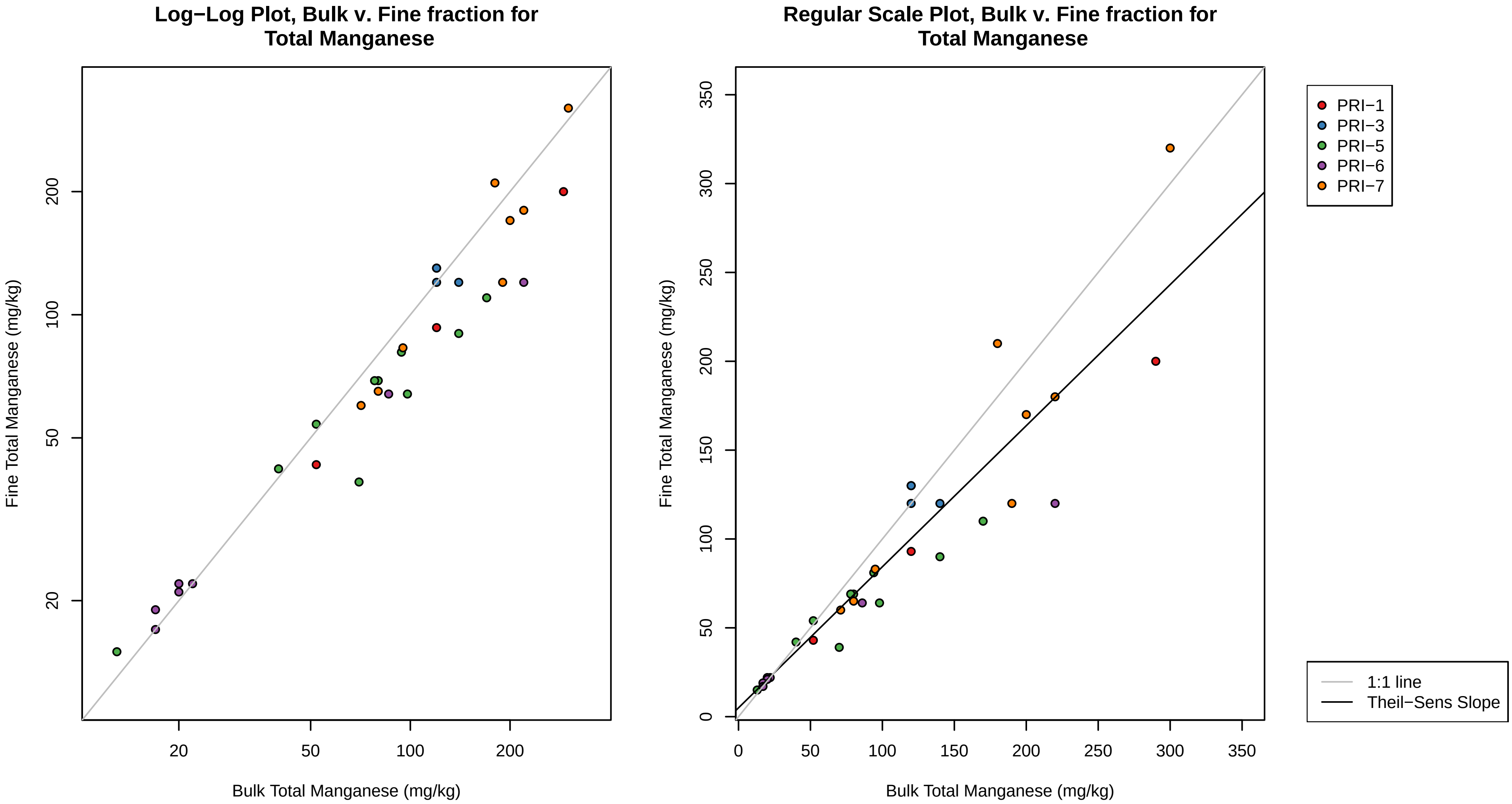
Regular Scale Plot, Bulk v. Fine fraction for Total Lead



Log−Log Plot, Bulk v. Fine fraction for Total Magnesium

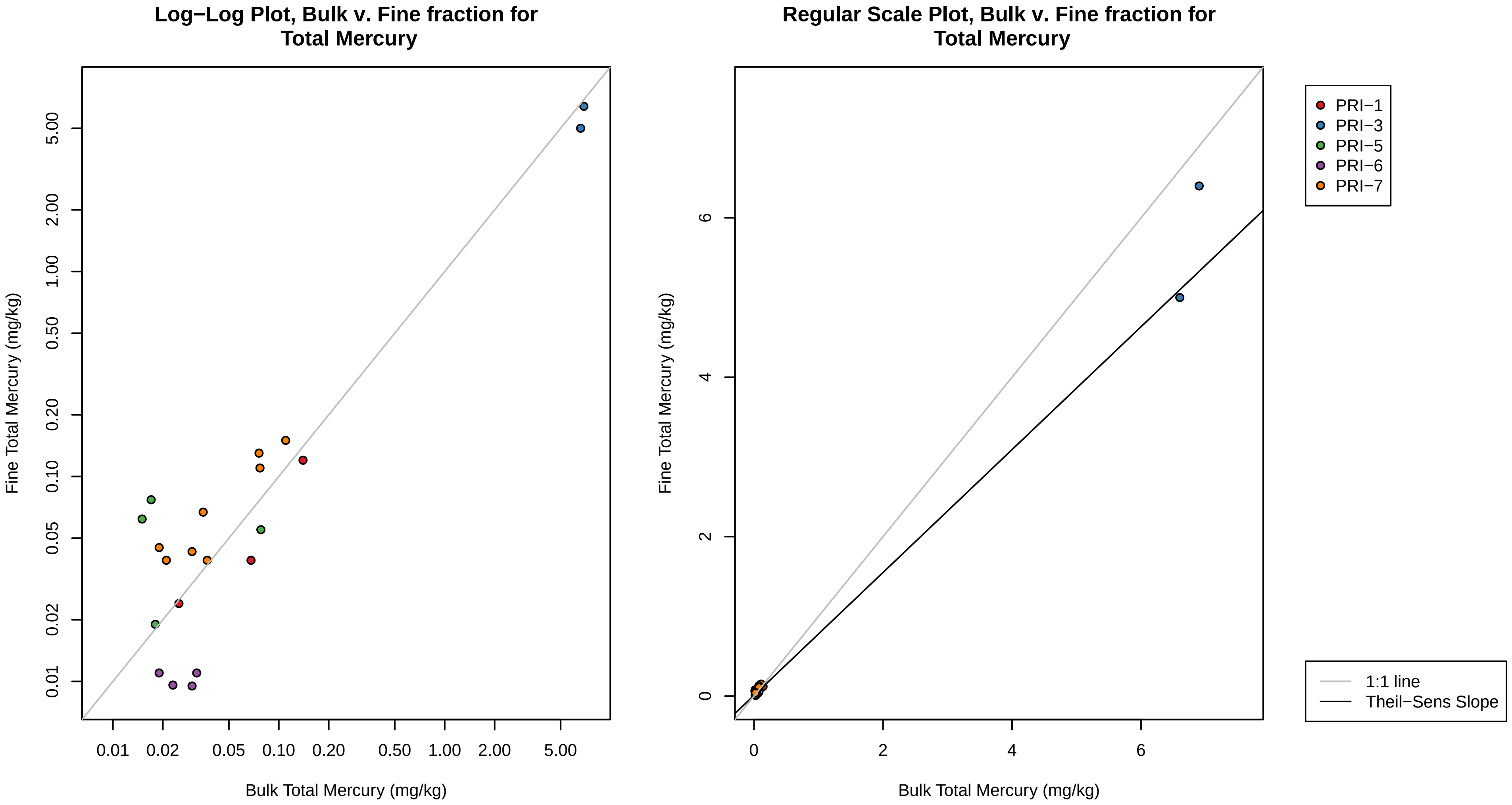


Regular Scale Plot, Bulk v. Fine fraction for Total Magnesium



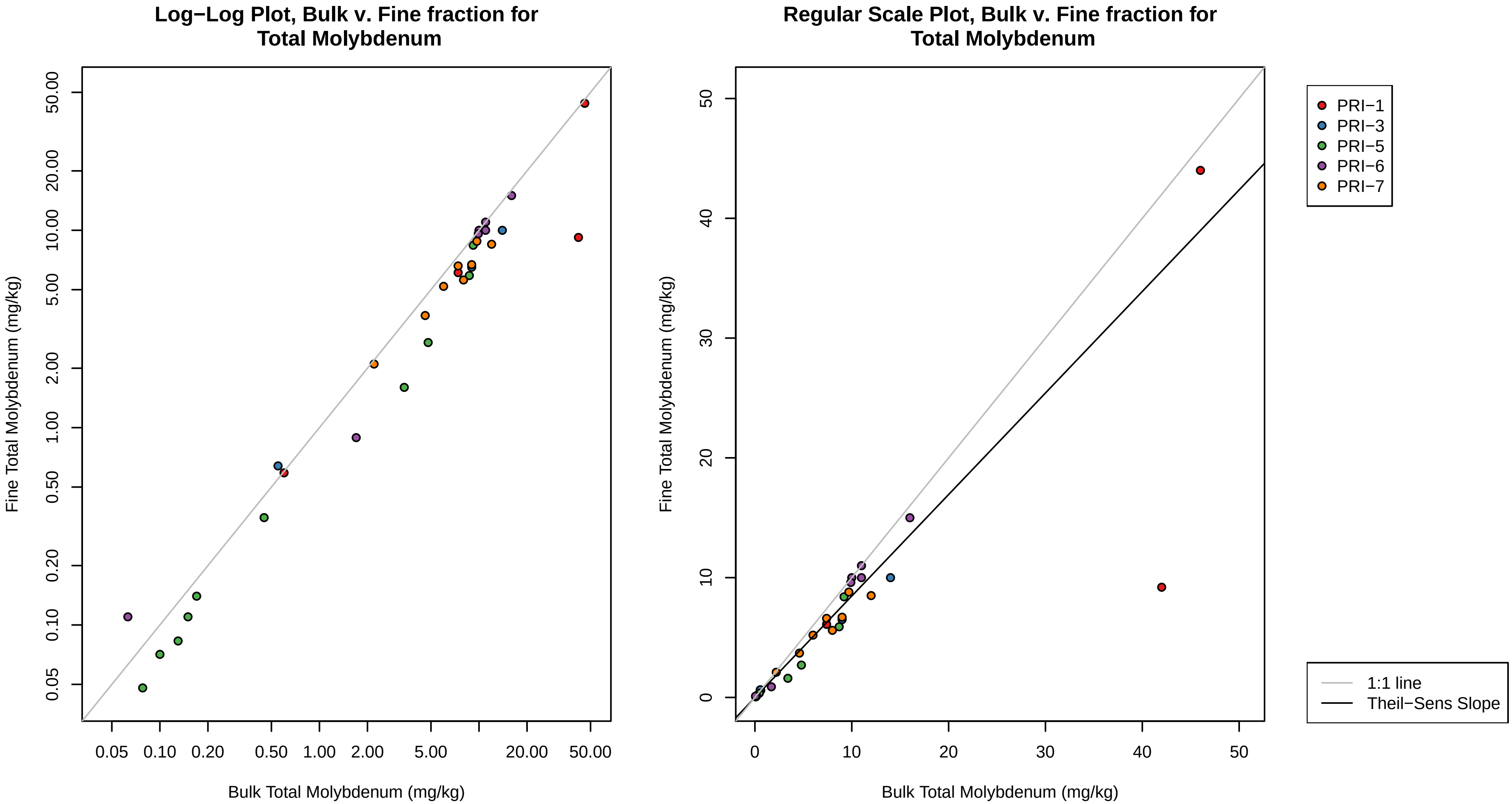
Log−Log Plot, Bulk v. Fine fraction for Total Manganese

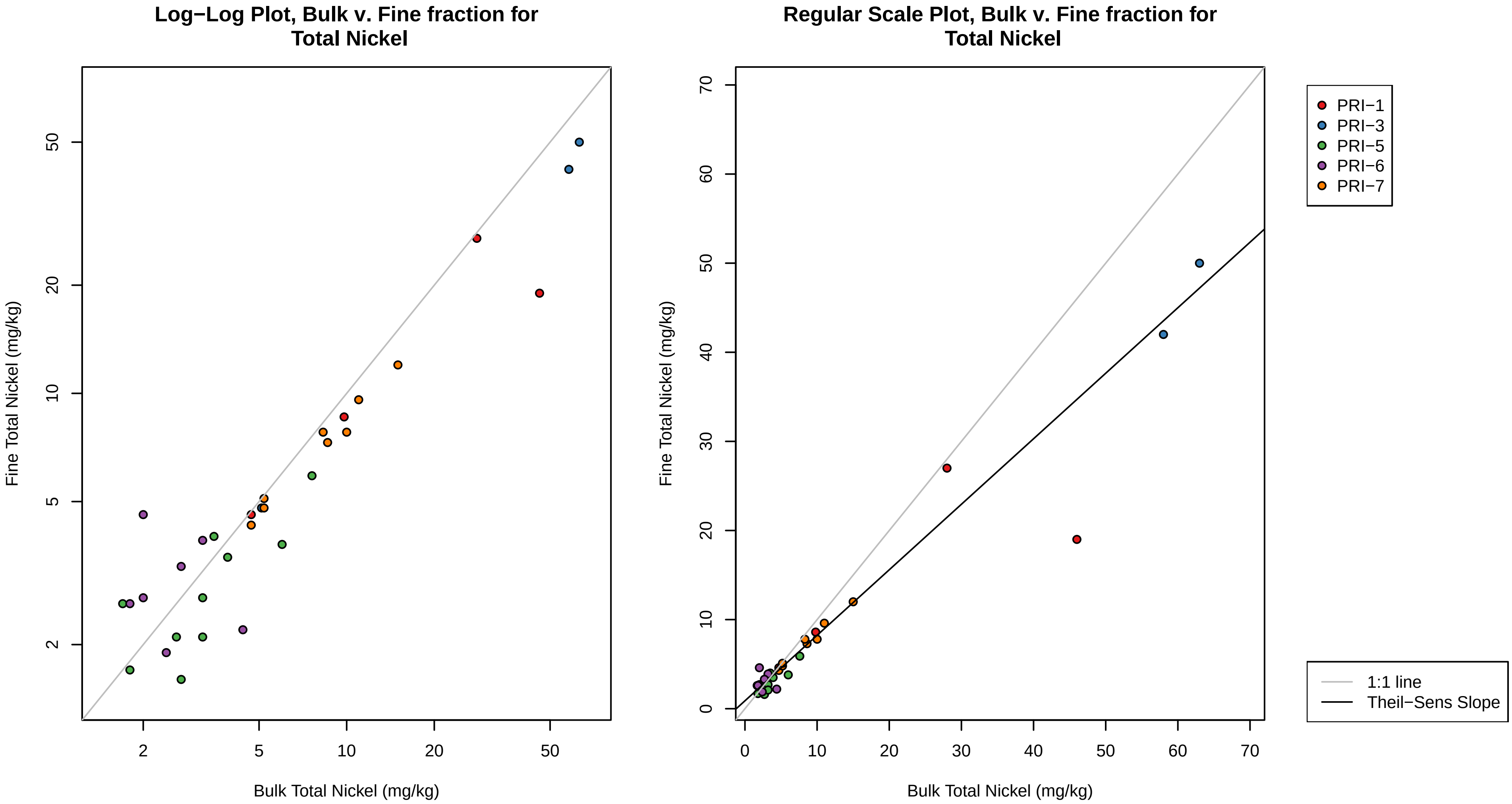
Regular Scale Plot, Bulk v. Fine fraction for Total Manganese

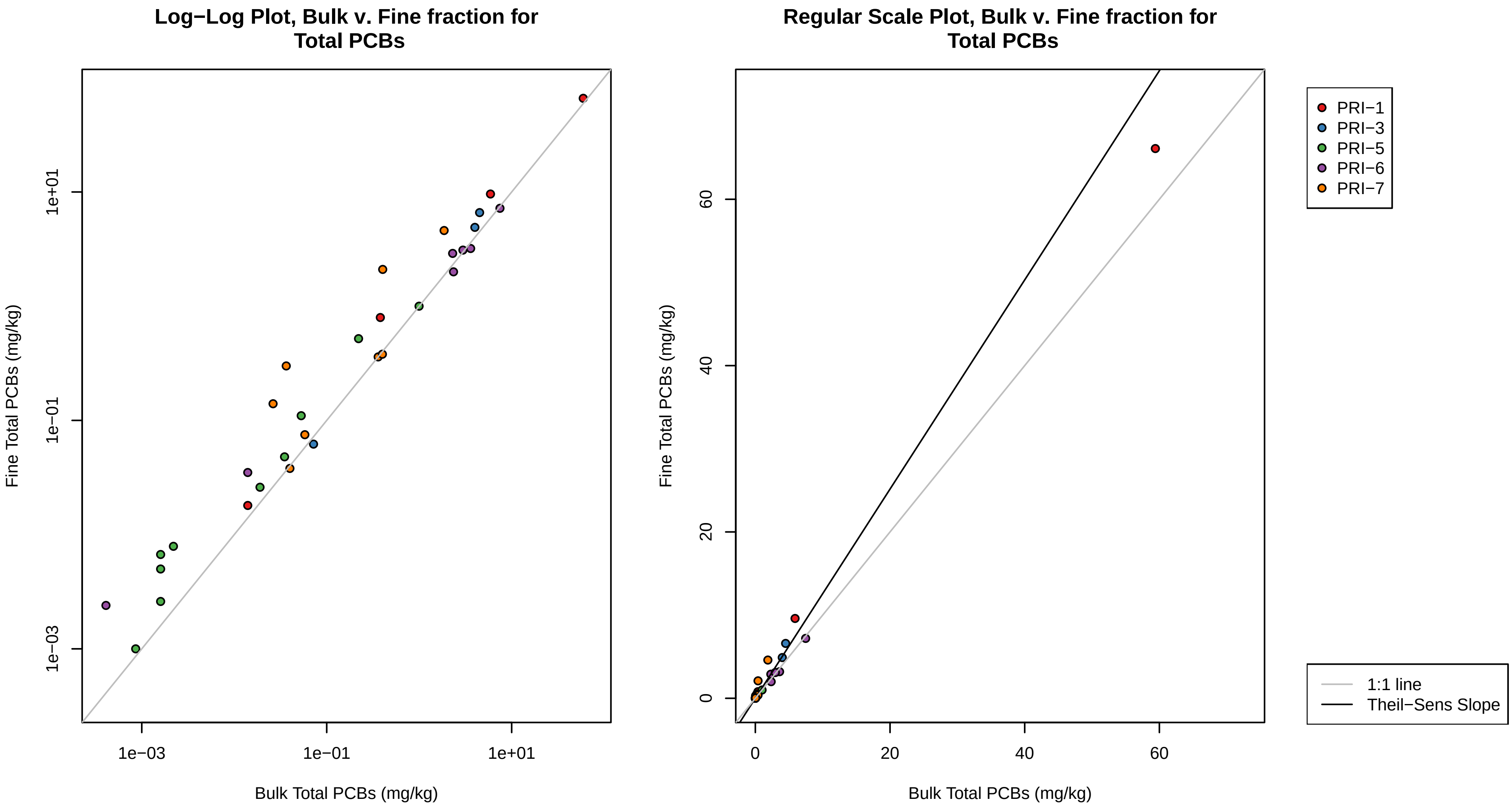


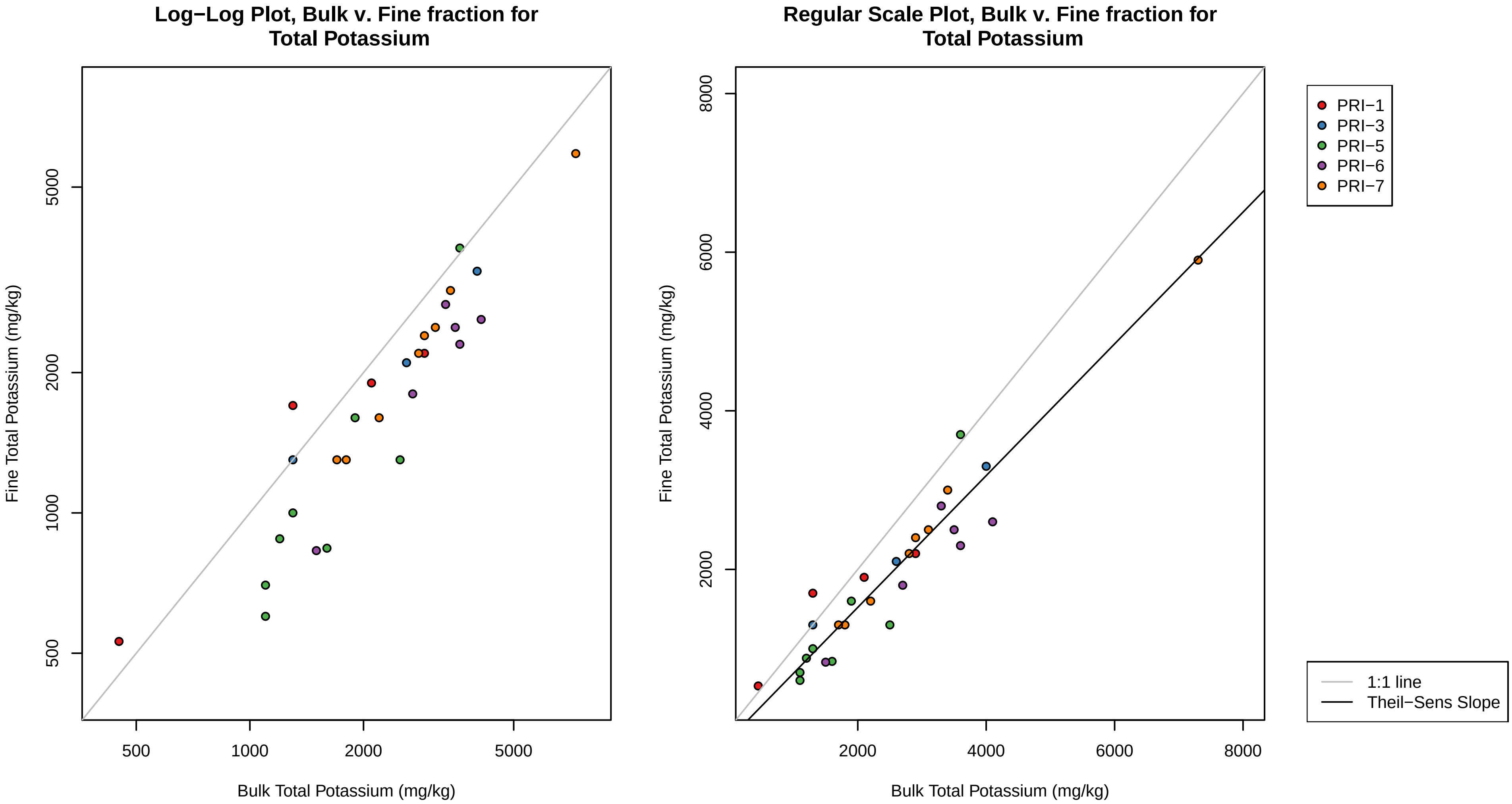
Log−Log Plot, Bulk v. Fine fraction for Total Mercury

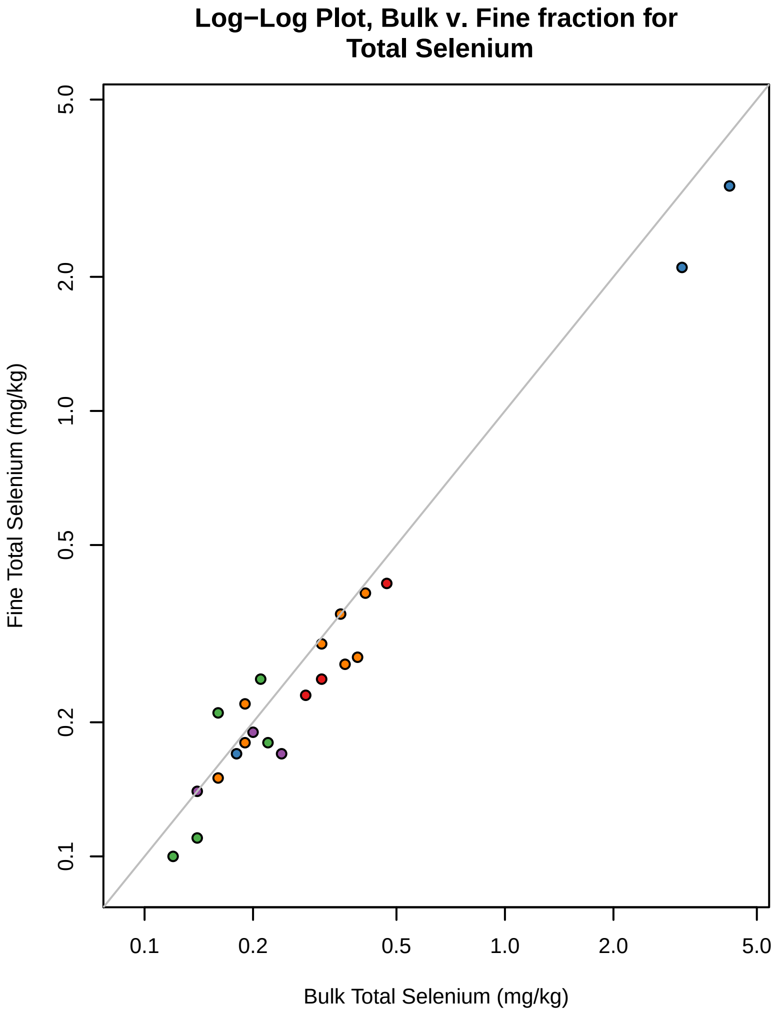
Regular Scale Plot, Bulk v. Fine fraction for Total Mercury

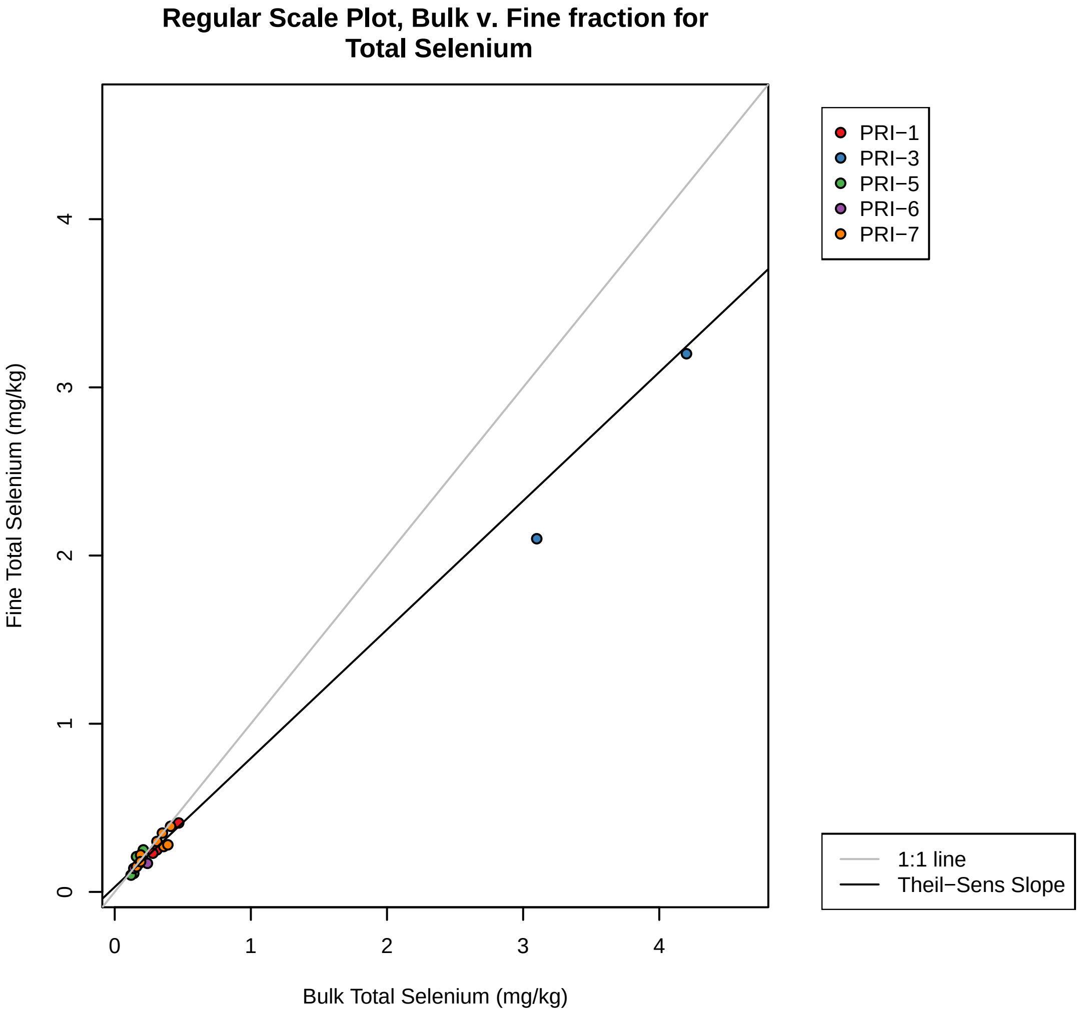

Log−Log Plot, Bulk v. Fine fraction for Total Molybdenum
Fine Total Molybdenum (mg/kg)
50.00
20.00
10.00
5.00
2.00
1.00
0.50
0.20
0.10
0.05
0.05
0.10
0.20
0.50
1.00
2.00
5.00
20.00
50.00
Bulk Total Molybdenum (mg/kg)
Regular Scale Plot, Bulk v. Fine fraction for Total Molybdenum
Fine Total Molybdenum (mg/kg)
50
40
30
20
10
0
0
10
20
30
40
50
Bulk Total Molybdenum (mg/kg)
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
1:1 line
Theil−Sens Slope

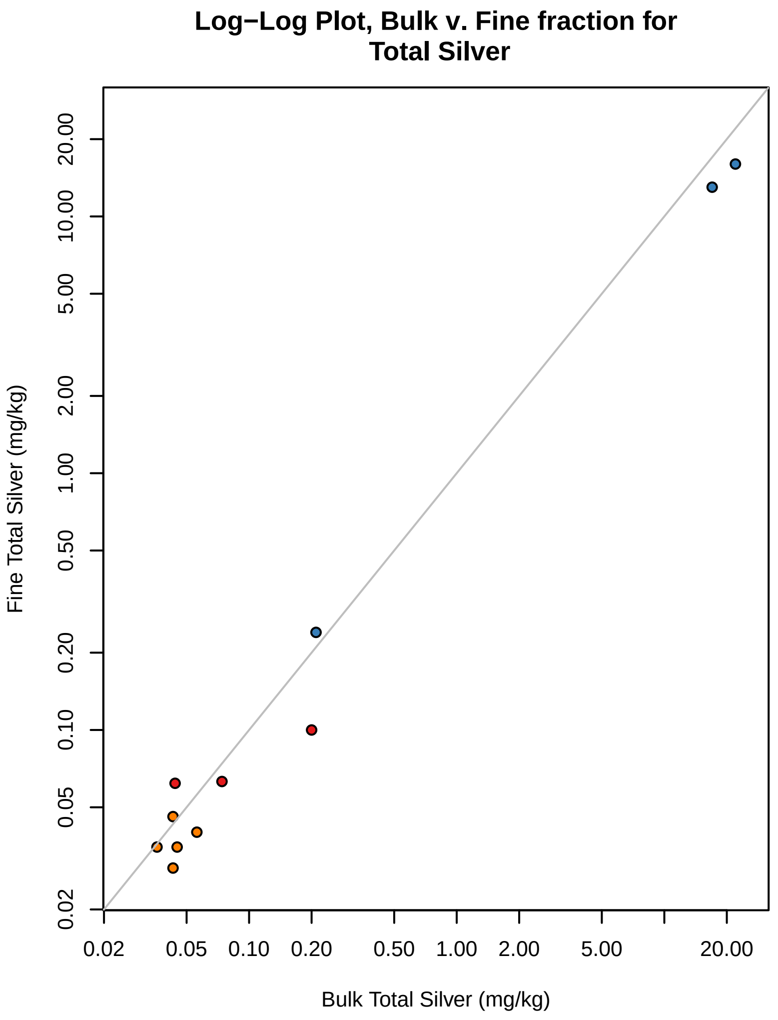

Log−Log Plot, Bulk v. Fine fraction for Total Nickel
Fine Total Nickel (mg/kg)
50
20
10
5
2
2
5
10
20
50
Bulk Total Nickel (mg/kg)
Regular Scale Plot, Bulk v. Fine fraction for Total Nickel
Fine Total Nickel (mg/kg)
70
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
Bulk Total Nickel (mg/kg)
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
1:1 line
Theil−Sens Slope

Log−Log Plot, Bulk v. Fine fraction for Total PCBs
Fine Total PCBs (mg/kg)
1e+01
1e−01
1e−03
1e−03
1e−01
1e+01
Bulk Total PCBs (mg/kg)
Regular Scale Plot, Bulk v. Fine fraction for Total PCBs
Fine Total PCBs (mg/kg)
60
40
20
0
0
20
40
60
Bulk Total PCBs (mg/kg)
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
1:1 line
Theil−Sens Slope

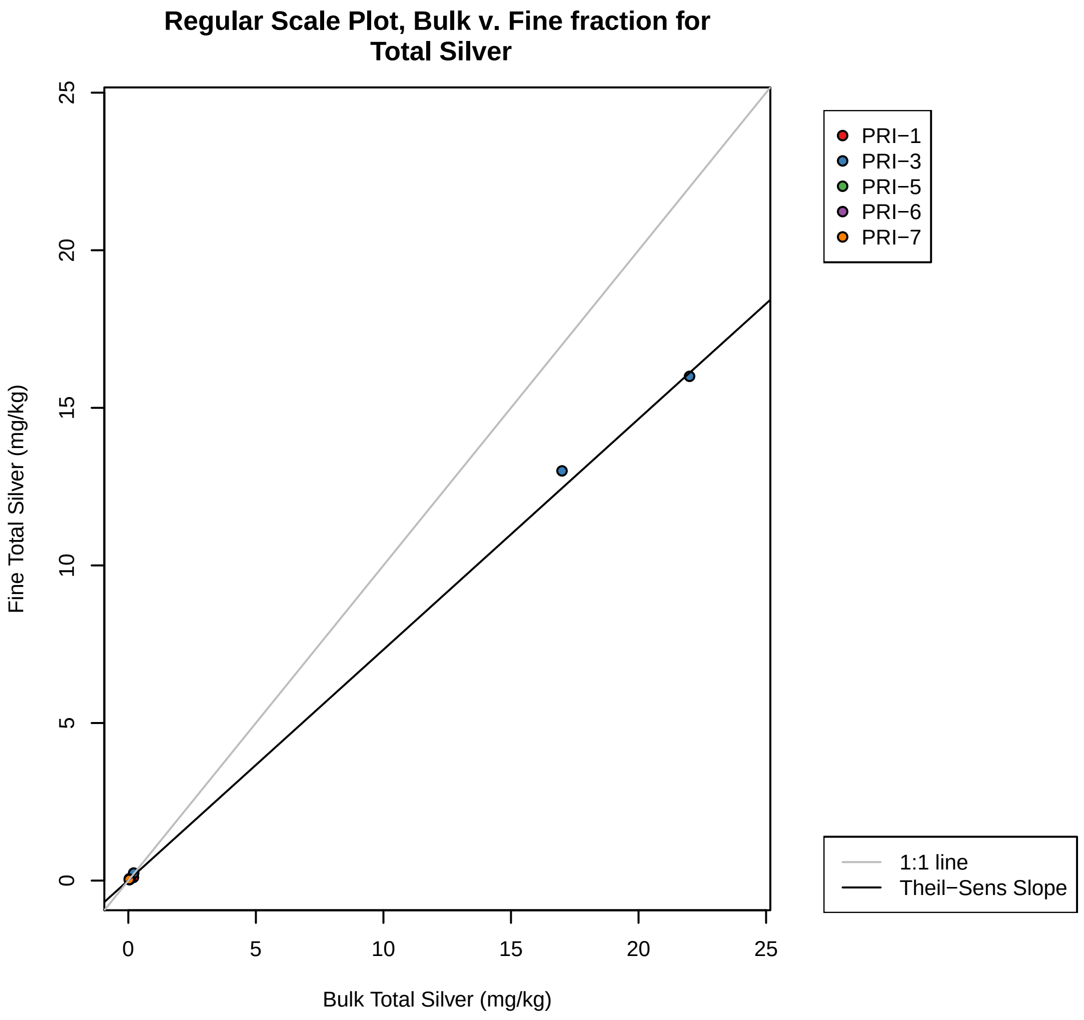

Log−Log Plot, Bulk v. Fine fraction for Total Potassium
Fine Total Potassium (mg/kg)
5000
2000
1000
500
500
1000
2000
5000
Bulk Total Potassium (mg/kg)
Regular Scale Plot, Bulk v. Fine fraction for Total Potassium
Fine Total Potassium (mg/kg)
8000
6000
4000
2000
2000
4000
6000
8000
Bulk Total Potassium (mg/kg)
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
1:1 line
Theil−Sens Slope


Log−Log Plot, Bulk v. Fine fraction for
Total Selenium
Fine Total Selenium (mg/kg)
5.0
2.0
1.0
0.5
0.2
0.1
0.1
0.2
0.5
1.0
2.0
5.0
Bulk Total Selenium (mg/kg)

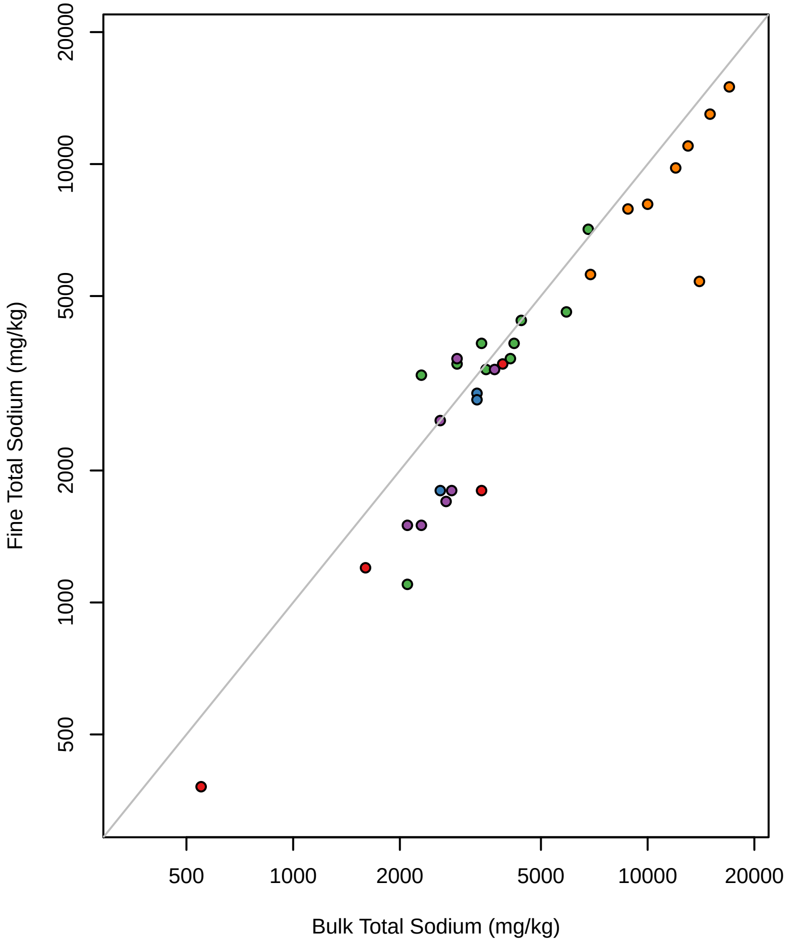

Regular Scale Plot, Bulk v. Fine fraction for
Total Selenium
Fine Total Selenium (mg/kg)
4
3
2
1
0
0
1
2
3
4
Bulk Total Selenium (mg/kg)
PRI−1
PRI−3
PRI−5
PRI−6
PRI−7
1:1 line
Theil−Sens Slope

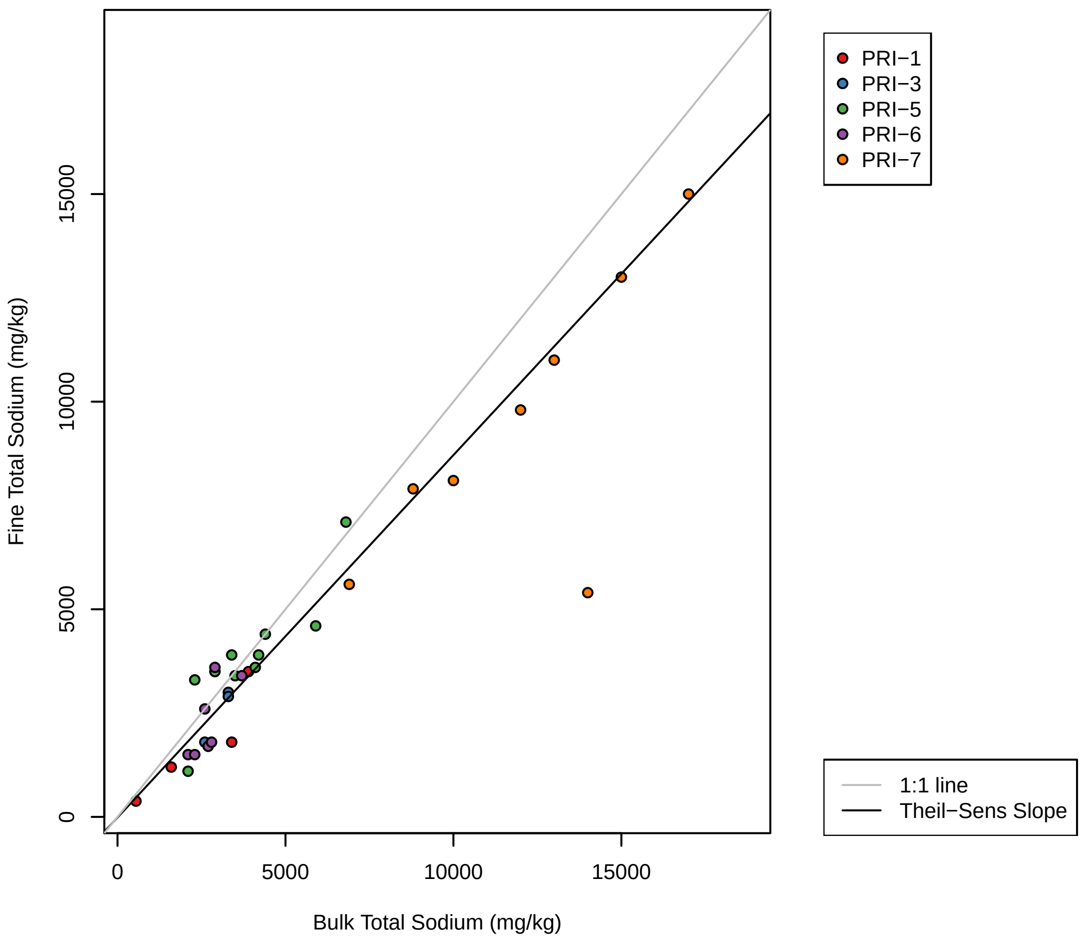


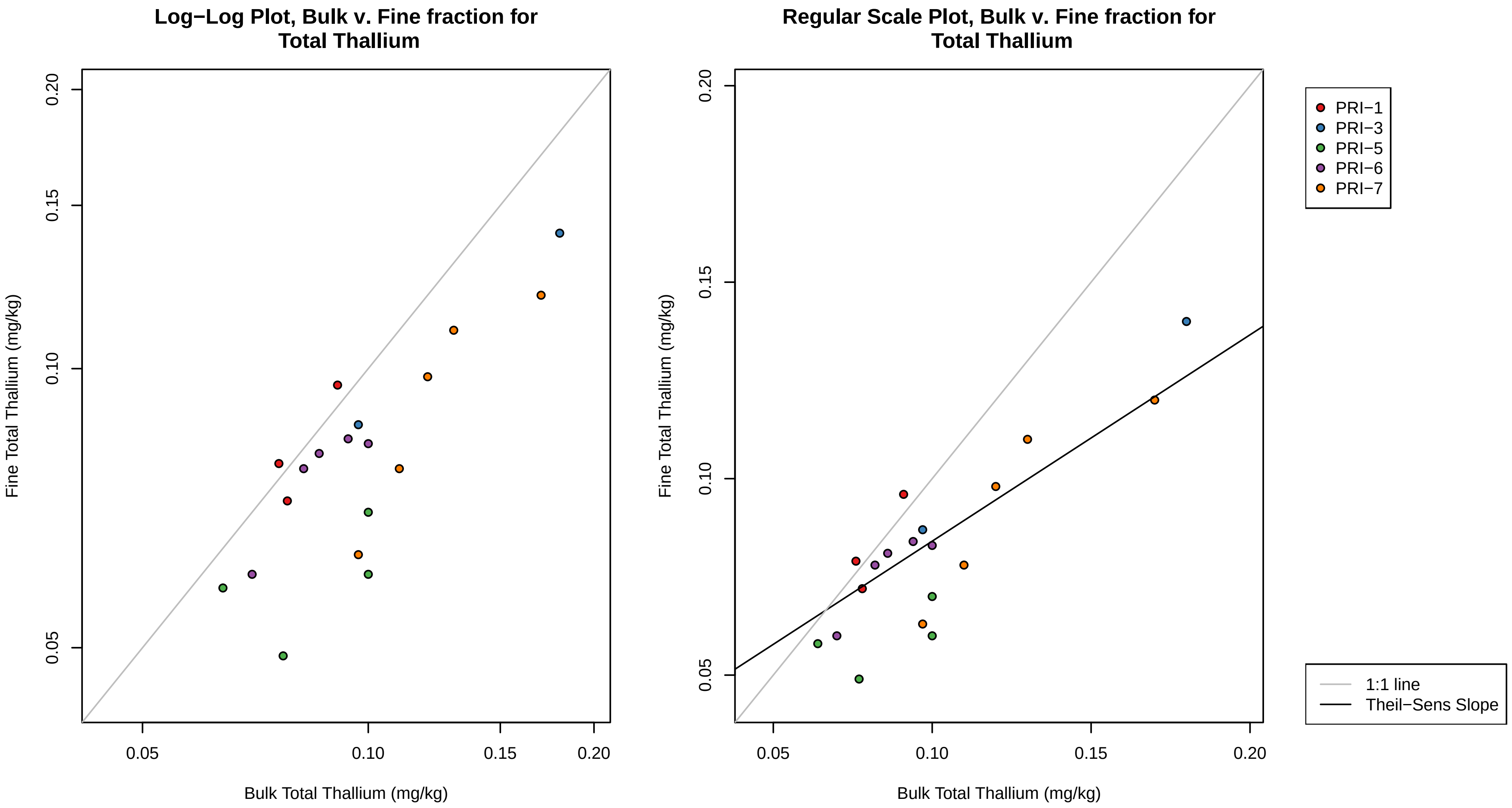
Log−Log Plot, Bulk v. Fine fraction for Total Silver



Regular Scale Plot, Bulk v. Fine fraction for Total Silver

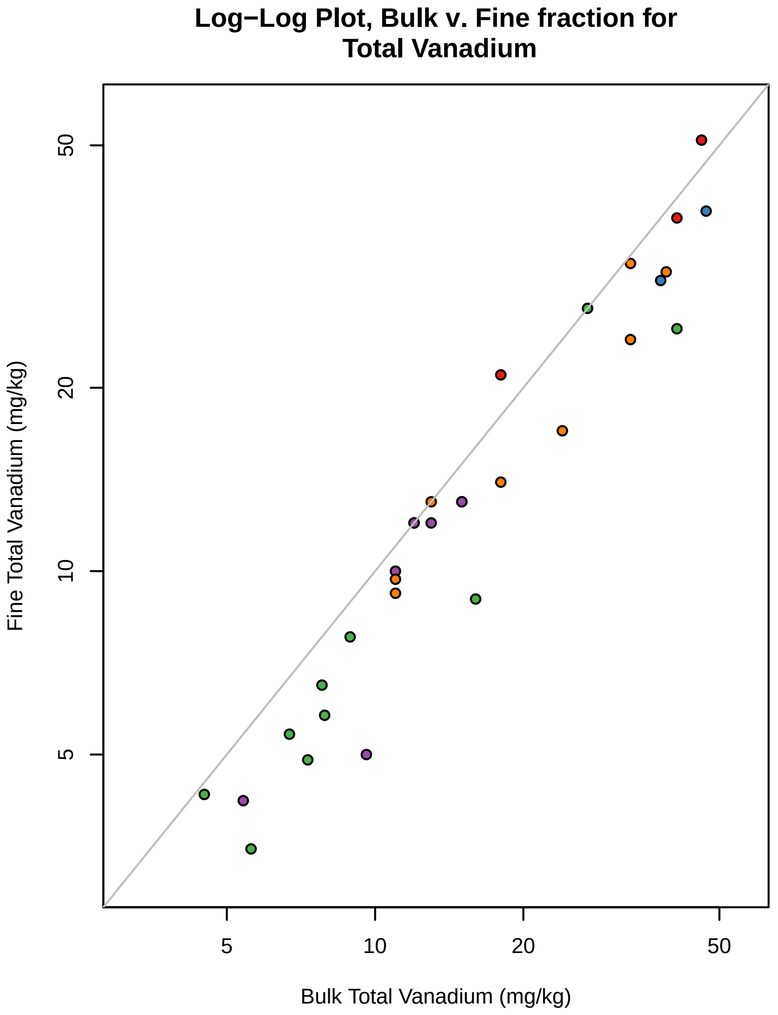

Log−Log Plot, Bulk v. Fine fraction for Total Sodium


Regular Scale Plot, Bulk v. Fine fraction for Total Sodium

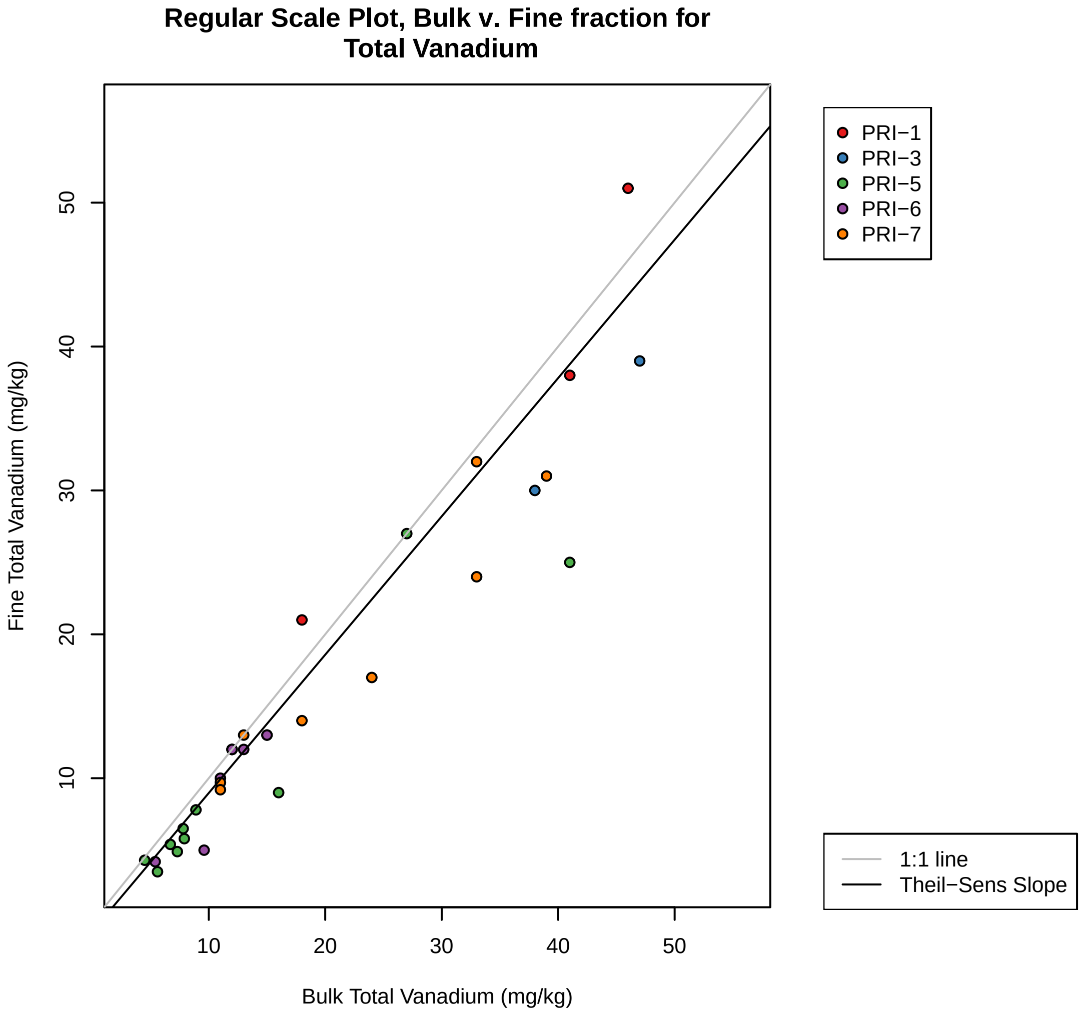


Log−Log Plot, Bulk v. Fine fraction for Total Thallium

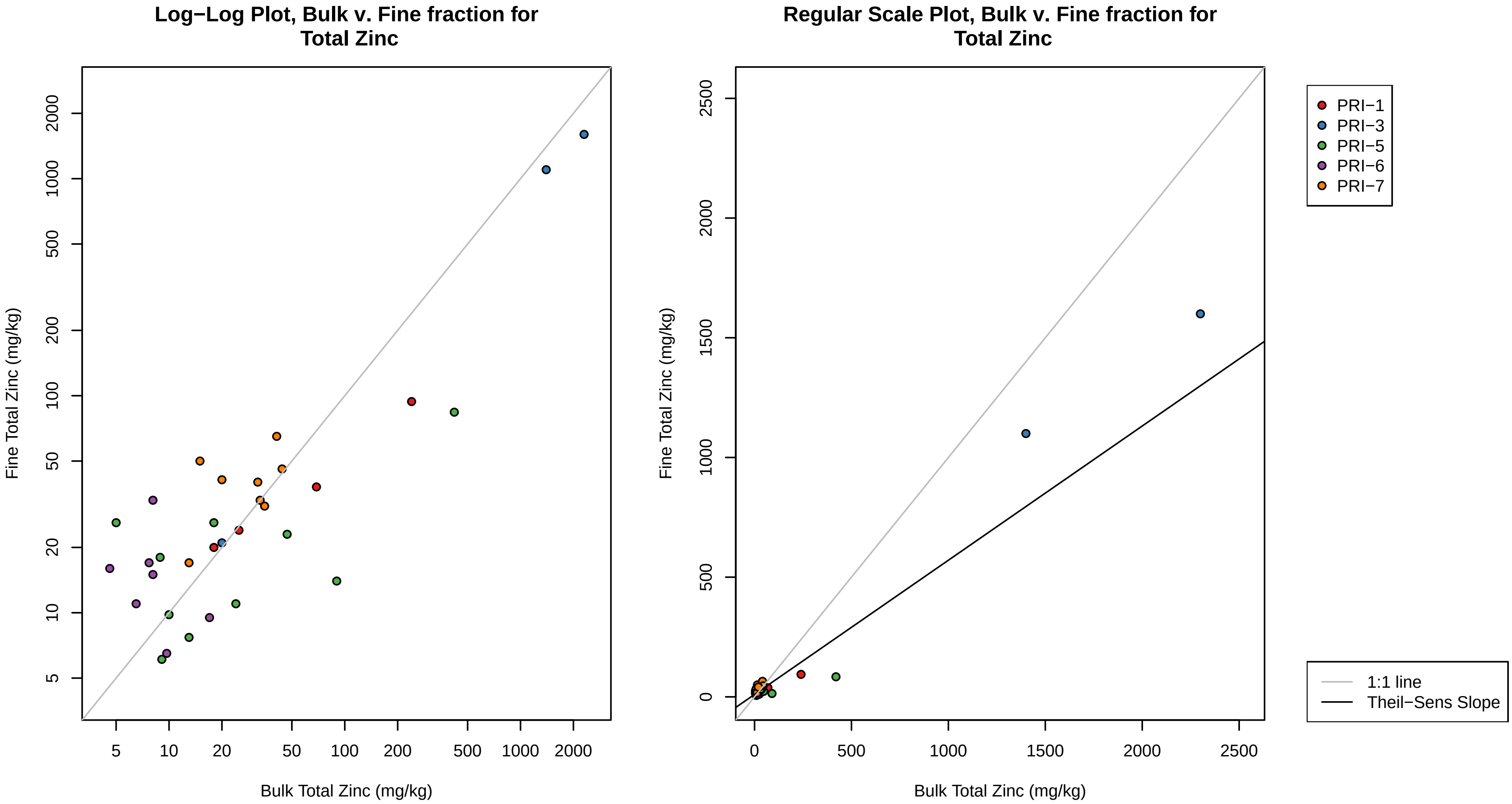
Regular Scale Plot, Bulk v. Fine fraction for Total Thallium



Log−Log Plot, Bulk v. Fine fraction for Total Vanadium



Regular Scale Plot, Bulk v. Fine fraction for Total Vanadium



Log−Log Plot, Bulk v. Fine fraction for Total Zinc

Regular Scale Plot, Bulk v. Fine fraction for Total Zinc

Appendix H
Data Usability Assessment for Inner PRI Area Samples

Technical Memorandum

Environmental
Resources
Management

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Scottsdale, AZ 85251
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(480) 998-2106 (fax)

ERM®

To: Ken Wangerud (USEPA)

From: Kevin Lundmark (ERM), David Abranovic (ERM)

Date: 20 July 2016

Subject: Phase 1A-B Inner PRI Data Usability Assessment
US Magnesium LLC, Tooele County, Utah

1.0 INTRODUCTION

This technical memorandum presents the data usability assessment for Phase 1A-B Remedial Investigation (RI) Inner Preliminary Remedial Investigation (PRI) Area samples, including comparisons to measurement quality objectives (MQOs) and an evaluation of data adequacy for selection of chemicals of potential concern (COPCs). This data usability assessment was performed as described in Worksheet #37 of the September 2015 *Final Phase 1A-B Remedial Investigation Sampling and Analysis Plan for: 1) Chemicals of Potential Concern in Soil, Sediment, and Solid Wastes in PRI Areas 1 and 3 through 7; 2) Preliminary Site Characterization Mapping of PRI Areas 1 and 3 through 7; and 3) Background Chemical Assessment of Biotic Reference Areas for Sitewide Ecological Risk Assessment* (Phase 1A-B SAP).

The objective of Phase 1A-B RI was to obtain sufficient data to support:

1. Reliable identification of COPCs for human and ecological receptors within PRI Areas 1 and 3 through 7.
2. Initial risk calculations to evaluate whether sufficient data have been collected within PRI Areas 1 and 3 through 7 to support confident risk characterization.
3. Preliminary evaluation of the nature and extent (N&E) of Site-related impacts within PRI Areas 1 and 3 through 7.
4. Estimation of background (ambient) concentrations for metals and organics, including dioxins/furans (D/Fs), total polychlorinated biphenyls (PCBs) and World Health Organization (WHO) congeners, and hexachlorobenzene (HCB).
5. Identification of suitable reference areas (i.e., non-impacted areas) for biota sampling that may be conducted during 2016 Phase 2 RI activities.

Of the three objectives relating to Inner PRI Areas (Objectives 1 through 3), the data adequacy evaluation presented in Section 3.0 of this memorandum addresses data adequacy with respect to the quantitative, i.e., statistically based, data quality objective (DQO) of reliable identification of COPCs for human and ecological receptors within PRI Areas 1 and 3 through 7. Qualitative DQOs relating to Inner PRI Areas will be or were assessed as follows:

- Initial risk calculations to evaluate whether sufficient data have been collected within PRI Areas 1 and 3 through 7 to support confident risk characterization will be performed in the Operable Unit 1 (OU-1) Screening Level Risk Assessment (SLRA); and
- Preliminary evaluation of the N&E of Site-related impacts within PRI Areas 1 and 3 through 7 is presented in the Phase 1A-B RI Data Report.

The data usability assessment for DQOs relating to evaluation of background (Objectives 4 and 5) is provided in a separate memorandum appended to the Phase 1A-B RI Data Report.

2.0 COMPARISON TO MEASUREMENT QUALITY OBJECTIVES

All Phase 1A-B RI analytical results were evaluated in accordance with precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) parameters to document the quality of the data and to ensure that the data are of sufficient quality to meet the project objectives. Of these PARCCS parameters, precision and accuracy were evaluated quantitatively by collecting quality control (QC) samples at the frequencies listed in Worksheet #12 of the Phase 1A-B SAP. Precision and accuracy MQO goals for the project are listed in Worksheet #12.

2.1 Precision

Precision was assessed by the analysis of field duplicates, laboratory duplicates, and matrix spike/matrix spike duplicate (MS/MSD) samples. Precision goals from Worksheets #12 and #28 were used to evaluate MS/MSD samples, laboratory control sample duplicates (LCSD), and field duplicates during data validation, as described in the data validation reports included as an appendix to the Phase 1A-B RI Data Report.

Data qualified based on precision-related MQOs have been summarized on a PRI Area and analyte basis. Tables 2-1 through 2-6 provide summaries of results qualified based on LCSD, MS/MSD, analytical duplicate, and field duplicate precision in each PRI Area for each analyte. The majority of the qualifiers based on MS/MSD relative percent difference (RPD) were for metals analyses. The remaining analytes with precision qualifiers had only one or two results qualified. No data were qualified based on LCSD precision.

The number of Phase 1A-B results qualified based on precision-related MQOs are summarized below.

Precision MQO	**Number of Results Qualified**	**Analytical Groups with Qualified Results**
MS/MSD RPD	Total = 27 (PRI 1 = 14, PRI 3 = 4, PRI 7 = 9)	Metals (19), perchlorate (4), calcium (4)
LCSD RPD	Total = 0	
Field Duplicate RPD	Total = 30 (PRI 1 = 18, PRI 3 = 1, PRI 4 = 9, PRI 6 = 2)	PCBs (12), volatile organic compounds (VOCs) (11), metals (3), semi- volatile organic compound (SVOC) (1), iron (1), D/F (2)
Analytical Duplicate Precision	Total = 7 (PRI 6 = 1, PRI 7 = 6)	D/F (5), total organic carbon (TOC) (1), mercury (1)

No Phase 1A-B sample results were qualified as rejected based on precision-related MQOs. Sample results qualified due to exceedances of precision-related MQOs represent less than one percent of the total Phase 1A-B sample results. Based on the results of the duplicate analyses performed for Phase 1A-B, the general level of precision appears to be high and does not appear to limit the usability of any particular analyte, method, or matrix.

2.2 *Accuracy*

Field accuracy is assessed by collecting and analyzing equipment rinsate blank and trip blank samples. Laboratory accuracy is assessed by the analysis of MS, laboratory control samples (LCS), surrogate spikes (organic methods), method blanks, calibration, and estimated maximum potential concentrations (applicable to PCBs and D/F), as well as holding times and sample temperatures. Accuracy objectives from Worksheets #12 and #28 were used to evaluate sampling results during data validation, as described in the data validation reports included as an appendix to the Phase 1A-B RI Data Report.

Data qualified based on accuracy-related MQOs are summarized on a PRI Area and analyte basis in Tables 2-1 through 2-6. These tables provide summaries of solids results qualified based on accuracy factors in each PRI Area for each analyte. A general description of accuracy-related qualifiers is provided below.

- The majority of holding time qualifiers were for VOCs and cyanide. A total of 20 VOCs in six samples were qualified for missed hold time, and the majority were due to the need to reanalyze the sample at dilution to quantify selected VOCs. Four results were rejected for PRI Area 1 sample 1-08-SB-01-5-6-120215 due to missed hold times: perchlorate, mercury, cyanide, and TOC, due to a log-in error at the laboratory.
- No data were qualified based on temperature or column difference.
- All MS percent recovery failures except for one (for perchlorate) were for metals. As noted in analytical report narratives, matrix interference is the likely cause, because associated LCS recoveries were within acceptance limits.
- There were few LCS recovery failures (45 total). Pentachlorobenzene accounts for 35 of these. The control limits for pentachlorobenzene are "not historical," according to the laboratory narrative, and should be evaluated accordingly. The results were qualified as estimated and were not rejected. One perchlorate result for method 314.0 was qualified for LCS failure, but the sample was reanalyzed by 6850, and the 314.0 result will not be used. The remaining results qualified for LCS recovery were SVOCs, mostly from the same laboratory batch. None of the results were rejected.
- High concentrations of D/F and PCBs in some samples required qualifiers for concentrations exceeding the concentration range.
- Calibration criteria issues were mainly related to PCB analyses at Alpha Analytical (8270D-SIM). A majority of these were for homolog group results, which are not used in risk assessment or N&E evaluation. Total PCB values are calculated separately from the homologs and were not qualified due to calibration criteria issues. Other analytes qualified as estimated due to calibration criteria issues were selenium and pentachlorophenol.

- Internal standard issues were mostly related to VOC results, as well as some D/F and PCBs. Results were qualified as estimated (J or UJ); none were rejected.
- Surrogate recovery qualifiers were applied mostly to VOCs and PCBs, as well as polycyclic aromatic hydrocarbon (PAH) results from one sample. The majority of the results qualified were for samples collected in PRI 1.
- Equipment blank detections resulted in qualifiers for lead, mercury, phenanthrene, naphthalene, and a number of VOCs. The VOCs most commonly detected in equipment blanks were trihalomethanes, acetone, and 2-butanone. About two-thirds of the affected results were qualified as non-detects due to equipment blank concentrations.
- Target analytes detected in laboratory blanks were most often an issue for phenanthrene, naphthalene, and acetophenone in most PRIs, but PCBs were also an issue in PRI 5 and PRI 6.
- There were a small number of metal results that were qualified based on serial dilution not meeting control criteria. This mainly affected manganese results.
- Qualifiers based on estimated maximum potential concentration (EMPC) results were relatively evenly distributed among the various D/F and PCB congeners and among the PRI Areas. Only 123 results were qualified due to EMPC out of almost 4,000 total D/F and PCB results (not including homolog group and Total PCB results, which were not subject to EMPC qualifiers).

The number of Phase 1A-B results qualified based on accuracy-related MQOs are summarized below.

Accuracy MQO	**Number of Results Qualified**	**Analytical Groups with Qualified Results**
Temperature on Receipt	Total = 0	
Holding Times/Sample Preservation	Total = 33 (PRI 1 = 25, PRI 5 = 8)	VOCs (20), cyanide (7), perchlorate (3), mercury (1), pH (1), TOC (1)
Detection > DL but < QL	Total = 1776 (PRI 1 = 463, PRI 3 = 170, PRI 4 = 167, PRI 5 = 488,	D/F (417), VOCs (404), PCBs (324), metals (239), PAHs (236), SVOCs (45), perchlorate (42), SVOC_SIM

Accuracy MQO	Number of Results Qualified	Analytical Groups with Qualified Results
	PRI 6 = 229, PRI 7 = 259)	(31), TOC (26), cyanide (10), potassium (2)
Laboratory (Method) Blanks	Total = 136 (PRI 1 = 30, PRI 3 = 12, PRI 4 = 12, PRI 5 = 47, PRI 6 = 23, PRI 7 = 24)	PAHs (43), acetophenone (35), PCBs (23), VOCs (15), cyanide (9), D/F (7), beryllium (6), TOC (6), mercury (2), potassium (2)
Field Equipment or Trip Blanks	Total = 322 (PRI 1 = 107, PRI 3 = 43, PRI 4 = 52, PRI 5 = 53, PRI 6 = 38, PRI 7 = 29)	VOCs (142), lead (89), PAHs (72), mercury (10), SVOC_SIM (3), SVOCs (2), potassium (1), perchlorate (2), PCBs (1)
LCS	Total = 49 (PRI 1 = 13, PRI 3 = 3, PRI 5 = 19, PRI 6 = 11, PRI 7 = 3)	SVOCs (44), TOC (4), perchlorate (1)
MS	Total = 309 (PRI 1 = 63, PRI 3 = 22, PRI 4 = 35, PRI 5 = 56, PRI 6 = 48, PRI 7 = 85)	Metals (289), magnesium (19), perchlorate (1)
Surrogate Spikes	Total = 278 (PRI 1 = 202, PRI 5 = 59, PRI 7 = 17)	VOCs (207), PCBs (37), PAHs (34)
Estimated Maximum Potential Concentrations	Total = 123 (PRI 1 = 27, PRI 3 = 13, PRI 4 = 12, PRI 5 = 40, PRI 6 = 18, PRI 7 = 13)	D/F (90), PCBs (33)
Concentration Exceeds Calibration Range	Total = 51 (PRI 1 = 27, PRI 3 = 11, PRI 4 = 3, PRI 5 = 6, PRI 6 = 4)	D/F (39), PCBs (12)
Calibration	Total = 251 (PRI 1 = 9, PRI 3 = 6, PRI 4 = 81, PRI 5 = 60, PRI 6 = 56, PRI 7 = 39)	PCBs (243), selenium (6), pentachlorophenol (2)
Internal Standard	Total = 360 (PRI 1 = 141, PRI 3 = 35, PRI	VOCs (288), D/F (37), PCBs (35)

Accuracy MQO	Number of Results Qualified	Analytical Groups with Qualified Results
	4 = 1, PRI 5 = 46, PRI 6 = 110, PRI 7 = 27)	
Serial Dilution	Total = 21 (PRI 1 = 2, PRI 4 = 3, PRI 6 = 10, PRI 7 = 6)	Metals (21)
Column Difference	Total = 0	

As discussed above, the majority of accuracy issues are related to sample matrix issues and high concentrations of some analytes. Many analytes were qualified more than once in a sample because of matrix and concentration issues, so the total number of qualifiers is higher than the number of results qualified. The analytical methods have been optimized to the extent possible to reduce matrix effects and minimize dilutions.

The four results qualified as rejected based on holding time exceedance were from a PRI Area 1 sample (1-08-SB-01-5-6-120215) that was initially submitted to the laboratory on-hold in association with the December 2015 re-sampling at several locations in PRI Areas 1, 5, and 7. Upon authorization to analyze the on-hold samples, this sample was inadvertently not analyzed by the laboratory, TestAmerica. By the time ERM became aware that this sample had not been analyzed, holding times had lapsed for cyanide, mercury, perchlorate, and TOC. The sample was analyzed for the full list of analytes per the Phase 1A-B SAP; however, because cyanide, mercury, perchlorate, and TOC were not detected, these four results were qualified as rejected.

2.3 *Representativeness*

As described in SAP Worksheet #37, representative data were obtained by the following means:

- Collecting samples at the locations specified in the SAP or, when necessary, at modified locations that were approved by the United States Environmental Protection Agency (USEPA);
- Analyzing samples by the analytical methods specified in the SAP;
- Collecting and handling samples to avoid interference and minimize contamination;

- Analysis of field blank QC samples (equipment blanks and trip blanks) and laboratory blanks to verify the absence of contaminants; and
- Consistent application of established field and laboratory Standard Operating Procedures (SOPs).

There are no quantitative criteria for representativeness identified in the SAP; however, validation criteria are available for field and laboratory blank samples and were referenced during data validation activities. Blank sample results are discussed in the previous section and are described in the data validation reports included as an appendix to the Phase 1A-B RI Data Report.

2.4 Completeness

Completeness is calculated as the percentage of project-specific data that are valid. The calculated completeness for the Phase 1A-B RI Inner PRI dataset is greater than 99 percent, based on 24,655 useable primary sample results out of 24,659 total primary sample results planned. The difference between usable versus planned sample results is due to the four sample results qualified as rejected based on holding time, as described in Section 2.2.

2.5 Comparability

Comparability of data was achieved by consistently following standard field and laboratory SOPs and by using standard measurement units in reporting analytical data. No quantitative MQO is available for comparability.

2.6 Sensitivity

Sensitivity is the ability of the method or instrument to detect the target analytes at the level of interest. As defined in the Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) Manual (USEPA 2005):

- “The quantitation limit (QL) is the minimum concentration of an analyte that can be routinely identified and quantified above the [Method Detection Limit] MDL by a laboratory.”
- “The MDL is a statistically derived detection limit that represents a 99 percent confidence level that the reported signal is different from a blank sample. The MDL is lower than the concentration at which the laboratory can quantitatively report.”

- Sample quantitation limits are QLs that are adjusted for dilutions, percent moisture, and cleanup procedures, sample size, or extract/ digestate volumes.

QLs are typically several times higher than the MDL to allow for matrix effects. Project QLs and MDLs shown in Worksheet #15 represent the expected sensitivity the laboratory can achieve for specific analytical methods in a typical solid matrix. Analytical methods have been selected for this project so that the QL for each target analyte is below the applicable comparison criteria wherever practical. The comparison criteria are generally risk-based screening levels/risk-based ecological screening levels (RBSLs/RBESLs), collectively referred to as "risk-based concentrations" (RBCs), as compiled in the *Final Screening-Level Risk Assessment* [SLRA] *Technical Memorandum* (ERM 2014). If a reported value was less than the QL but greater than the sample detection limit (DL), the result was reported as an estimated value. This procedure has been adopted to help ensure that analytical results can effectively be compared with comparison criteria for certain compounds if the screening criteria are near or below the QL. RBCs are calculated values and may be lower than the QL and, in some cases, also the MDL, due to the limitations of analytical technology. This reporting procedure should also help to ensure that subsequent statistical evaluations of the data will not be biased by high-value nondetect results.

Because results were reported to the DL, for this project, sensitivity is assessed based on DLs of laboratory analytical results. The sensitivity of Phase 1A-B sample results was evaluated as part of the data adequacy assessment for COPC selection, as described in the next section.

3.0 DATA ADEQUACY FOR SELECTION OF CHEMICALS OF POTENTIAL CONCERN

3.1 Protocol

The data adequacy assessment protocol for COPC selection is summarized in Figure 3-1. This protocol was agreed to in the response to comments on the Phase 1A Data Report (ERM 2015b). The number of samples to collect per PRI Area was determined as described in Phase 1A-B SAP Worksheet #11 (ERM 2015a).

Data adequacy for COPC selection is uncertain under the following conditions:

- If the mean is greater than the 80th percentile concentration, the dataset is skewed and there is uncertainty regarding adequacy for COPC selection.
- If less than 50 percent of the results are detected concentrations and the maximum DL is greater than the lowest of the RBSL/RBESLs, and:
    - The DL exceeds the lowest RBC in more than 50 percent of undiluted samples; or
    - If no undiluted samples, the DL exceeds the lowest RBC in more than 50 percent of all samples.

As shown in the flow diagram (Figure 3-1), the other condition leading to uncertainty for COPC selection is lack of an RBC for the constituent.

Samples are diluted due to either high concentration of one or more analytes and/or a challenging matrix that contains interfering compounds or would cause damage to the analytical instrument; the DL is adjusted for the dilution factor.

If the sensitivity MQO has not been met or the dataset is skewed and uncertainty remains regarding adequacy for COPC selection, the uncertainty may be resolved by:

- Selection of the analyte as a COPC and/or chemical of potential environmental concern (COPEC) in the SLRA; or
- Collection of additional data if deemed valuable.

3.2 Results

Descriptive statistics, including number of samples, number of detects, maximum concentration, and range of DLs for each dataset in each PRI Area are provided in Tables 3-1 through 3-6. The result at each decision step is shown, as well as the conclusion regarding data adequacy. The results are discussed below.

In PRI Areas 1, 3 through 7, the majority of analytes have adequate data for COPC selection in the SLRA. The uncertain datasets are described below, as summarized in Table 3-7.

- In PRI 1, there is uncertainty for datasets for 36 SVOCs based on DL comparison to the lowest RBC in non-detect results.

- In PRI 3, there is uncertainty for datasets for 35 SVOCs based on DL comparison to the lowest RBC in non-detect results.
- In PRI 4, there is uncertainty for datasets for 40 SVOCs, one PAH, and one VOC based on DL comparison to the lowest RBC in non-detect results. Additionally, there is uncertainty for lead, bromoform, and dibromochloromethane due to skewed datasets (mean is greater than 80th percentile). The maximum concentrations of lead and bromoform are approximately one-half the lowest RBC, while the maximum concentration of dibromochloromethane is an order of magnitude lower than the lowest RBC.
- In PRI 5, there is uncertainty for datasets for 32 SVOCs based on DL comparison to the lowest RBC in non-detect results.
- In PRI 6, there is uncertainty for datasets for 39 SVOCs, one VOC, and total cyanide based on DL comparison to the lowest RBC in non-detect results.
- In PRI 7, there is uncertainty for datasets for 36 SVOCs, one VOC, and total cyanide because DLs in non-detect results exceed the lowest RBC.

Note that the list of SVOCs that have uncertainty comprise a majority of the SVOCs analyzed (32 - 39 of 50 SVOC analytes). Because there are limited cleanups that can be applied to the SVOC extracts, many samples from the Site have matrix issues that require at least some dilution. A number of the SVOCs have uncertainty related to DLs greater than the lowest RBC because standard analytical methods cannot detect the low concentrations of RBCs calculated from toxicity data, even under the best of conditions.

4.0 INNER PRI DATA USABILITY

The data presented in the Phase 1A-B Data Report were collected to evaluate N&E of impacts from US Magnesium activities and for selection of COPCs in the SLRA. The data will likely also be used in baseline human health and ecological risk assessments. All data were validated by a third-party validation contractor, and the results indicate that the data are usable for N&E and risk evaluation. Although MQOs were not met for some results, all but four results are usable for the purposes they were collected for.

As discussed in detail in Section 3.0, datasets for some analytes in some PRI Areas have uncertainty for selection of COPCs in the SLRA. The RBCs for several SVOCs are lower than can be detected by standard analytical methods, resulting in uncertainty for these analytes. There are only three analytes in one PRI Area (PRI 4) that are uncertain for COPC selection due to skewed datasets: lead, bromoform, and dibromochloromethane. These will be evaluated through spatial analysis in the SLRA. The remaining datasets have adequate data to be used for selection of COPCs/COPECs in the SLRA. These include:

- 2,3,7,8-Tetrachlorodibenzo-p-dioxin toxic equivalency quotient (TCDD TEQ), total PCBs, and hexachlorobenzene in all PRI Areas; and
- All metals, VOCs, and PAHs in most PRI Areas.

5.0 REFERENCES

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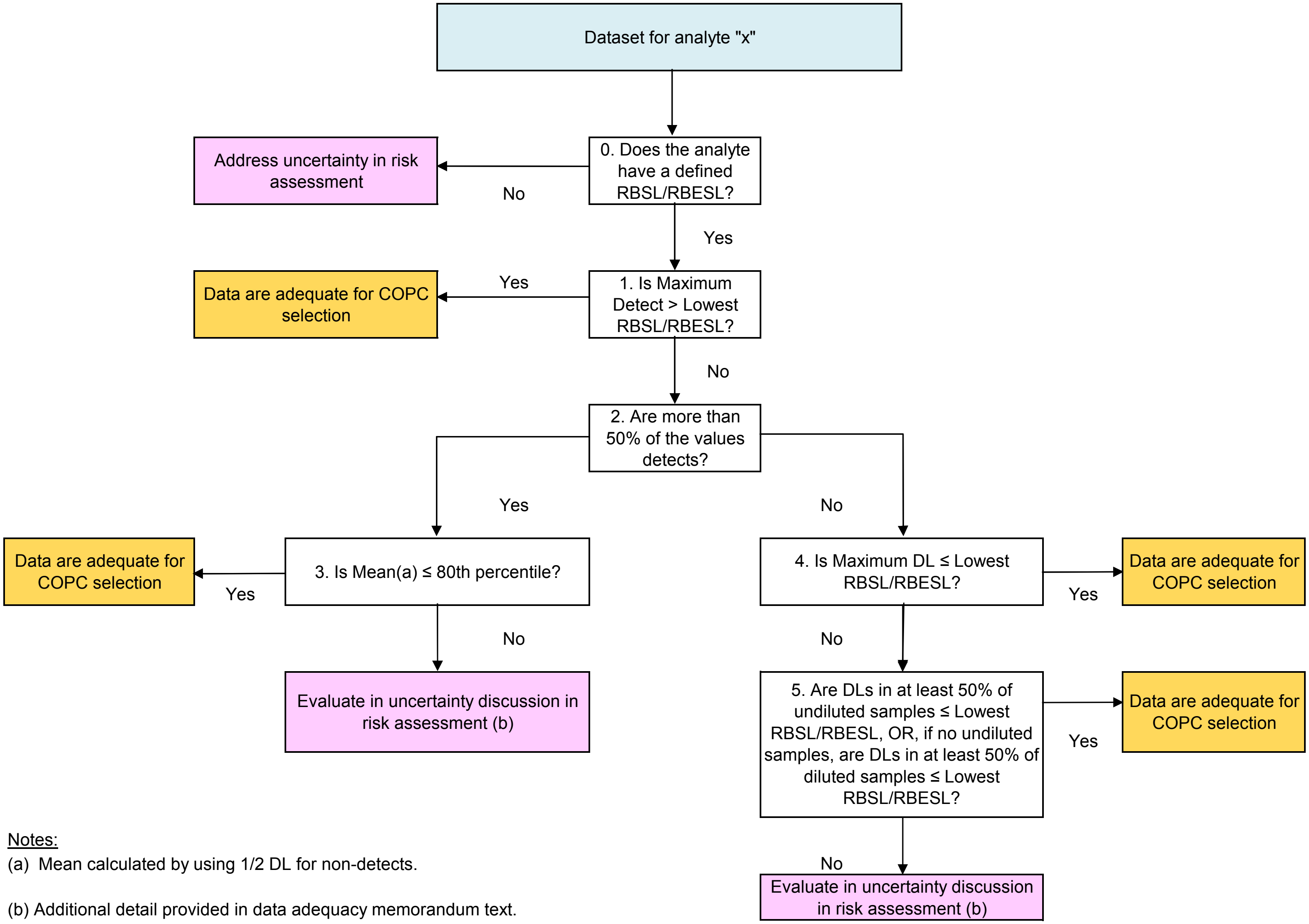
ATTACHMENTS

Figure
Tables

Figure

Figure 3-1. Data Adequacy Assessment Protocol for Phase 1A Outer PRIs



Notes:

(a) Mean calculated by using 1/2 DL for non-detects.

(b) Additional detail provided in data adequacy memorandum text.

COPC = Constituent of potential concern
DL = Detection limit
RBSL = Risk-based screening level
RBESL = Risk-based ecological screening level

Tables

Table 2-1
Summary of PRI 1 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code																
Analytical Method	**CAS #**	**Chemical Name**	**Number of Samples Analyzed**	**MS/MSD RPD**	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	**Data Precision Reason Code Sum**	**Preservation/ Holding Time**	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**Estimated Maximum Potential Conc.**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	**Other**	**Data Accuracy Reason Code Sum**
				6	**7**	**17**	**19**		**1**	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	**99**	
E1668A	2051-24-3	Decachlorobiphenyl-209	34	0	0	0	0	0	0	0	0	0	0	1	0	6	0	0	3	0	0	0	0	10
E1668A	1336-36-3	Total PCBs	34	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
E1668A	25323-68-6	Trichlorobiphenyl homologs	34	0	0	2	0	2	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	9
E1668A	25429-29-2	Pentachlorobiphenyl homologs	34	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
E1668A	25512-42-9	Dichlorobiphenyl homologs	34	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
E1668A	26601-64-9	Hexachlorobiphenyl homologs	34	0	0	0	0	0	0	0	0	0	0	3	0	0	2	0	1	0	0	0	0	6
E1668A	26914-33-0	Tetrachlorobiphenyl homologs	34	0	0	0	0	0	0	1	0	0	0	3	0	0	2	0	0	0	0	0	0	6
E1668A	27323-18-8	Monochlorobiphenyl homologs	34	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4
E1668A	28655-71-2	Heptachlorobiphenyl homologs	34	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
E1668A	31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	34	0	0	0	0	0	0	2	0	0	0	1	3	0	0	0	0	0	0	0	0	6
E1668A	32598-13-3	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	34	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0	5
E1668A	32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	34	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
E1668A	32774-16-6	Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB	34	0	0	0	0	0	0	5	0	0	0	2	2	0	0	0	0	0	0	0	0	9
E1668A	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	34	0	0	1	0	1	0	9	0	0	0	1	0	0	0	0	0	0	0	0	0	10
E1668A	53742-07-7	Nonachlorobiphenyl homologs	34	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
E1668A	55722-26-4	Octachlorobiphenyl homologs	34	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
E1668A	57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
E1668A	65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	16	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
E1668A	70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	34	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
E1668A	PCB156_157	PCB-156 & 157	16	0	0	0	0	0	0	5	0	0	0	0	2	0	0	0	0	0	0	0	0	7
E314.0	14797-73-0	Perchlorate	41	4	0	0	0	4	3	9	0	1	0	0	0	0	0	0	0	0	0	0	0	13
SW6010B	7439-95-4	Magnesium	34	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	11
SW6010B	7440-09-7	Potassium	34	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW6010B	7440-23-5	Sodium	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-70-2	Calcium	34	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7439-89-6	Iron	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7439-92-1	Lead	34	1	0	0	0	1	0	0	0	1	0	0	0	0	0	33	0	0	0	0	0	34
SW6020	7439-96-5	Manganese	34	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
SW6020	7439-98-7	Molybdenum	34	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6
SW6020	7440-02-0	Nickel	34	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6
SW6020	7440-22-4	Silver	34	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13
SW6020	7440-28-0	Thallium	34	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
SW6020	7440-36-0	Antimony	34	0	0	0	0	0	0	2	0	14	0	0	0	0	0	0	0	0	0	0	0	16
SW6020	7440-38-2	Arsenic	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-39-3	Barium	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
SW6020	7440-41-7	Beryllium	34	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-43-9	Cadmium	34	0	0	0	0	0	0	8	0	1	0	0	0	0	0	0	0	0	0	0	0	9
SW6020	7440-47-3	Chromium	34	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
SW6020	7440-48-4	Cobalt	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-50-8	Copper	34	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7440-62-2	Vanadium	34	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
SW6020	7440-66-6	Zinc	34	5	0	1	0	6	0	0	0	7	0	0	0	0	0	0	0	1	0	0	0	8
SW6020	7782-49-2	Selenium	34	0	0	0	0	0	0	5	0	5	0	0	0	0	1	0	0	0	0	0	0	11
SW6020	7429-90-5	Aluminum	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW7471A	7439-97-6	Mercury	34	0	0	0	0	0	1	6	2	0	0	0	0	0	0	8	0	0	0	0	0	17
SW8260B	100-41-4	Ethylbenzene	34	0	0	0	0	0	0	4	0	0	0	2	0	0	0	0	3	0	0	0	0	9
SW8260B	100-42-5	Styrene	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	0	4
SW8260B	10061-01-5	cis-1,3-Dichloropropene	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
SW8260B	10061-02-6	trans-1,3-Dichloropropene	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
SW8260B	106-46-7	1,4-Dichlorobenzene	34	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	7	0	0	0	0	11
SW8260B	106-93-4	Ethylene dibromide	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	0	4
SW8260B	107-06-2	1,2-Dichloroethane	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
SW8260B	108-10-1	4-Methyl-2-pentanone	34	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	1	0	0	0	0	5
SW8260B	108-88-3	Toluene	34	0	0	0	0	0	0	6	0	0	0	4	0	0	0	0	1	0	0	0	0	11
SW8260B	108-90-7	Chlorobenzene	34	0	0	0	0	0	0	5	0	0	0	3	0	0	0	0	3	0	0	0	0	11
SW8260B	110-82-7	Cyclohexane	34	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	1	0	0	0	0	4
SW8260B	120-82-1	1,2,4-Trichlorobenzene	34	0	0	0	0	0	0	6	1	0	0	2	0	0	0	0	7	0	0	0	0	16
SW8260B	123-91-1	1,4-Dioxane	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	16	0	0	0	0	17
SW8260B	124-48-1	Dibromochloromethane	34	0	0	2	0	2	3	2	0	0	0	3	0	0	0	0	2	0	0	0	0	10
SW8260B	127-18-4	Tetrachloroethene	34	0	0	2	0	2	1	7	0	0	0	5	0	0	0	0	2	0	0	0	0	15
SW8260B	156-59-2	cis-1,2-Dichloroethene	34	0	0	0	0	0	0	4	0	0	0	3	0	0	0	0	1	0	0	0	0	8
SW8260B	156-60-5	trans-1,2-Dichloroethene	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
SW8260B	1634-04-4	Methyl tert-butyl ether	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
SW8260B	179601-23-1	m,p-Xylenes	34	0	0	0	0	0	0	3	0	0	0	5	0	0	0	0	3	0	0	0	0	11

Table 2-1
Summary of PRI 1 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation/ Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
SW8260B	541-73-1	1,3-Dichlorobenzene	34	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	7	0	0	0	0	11
SW8260B	56-23-5	Carbon tetrachloride	34	0	0	2	0	2	1	5	0	0	0	5	0	0	0	0	1	0	0	0	0	12
SW8260B	591-78-6	2-Hexanone	34	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	1	0	0	0	0	4
SW8260B	67-64-1	Acetone	34	0	0	0	0	0	0	0	0	0	0	6	0	0	0	18	1	0	0	0	0	25
SW8260B	67-66-3	Chloroform	34	0	0	1	0	1	2	0	0	0	0	4	0	0	0	5	0	0	0	0	0	11
SW8260B	71-43-2	Benzene	34	0	0	0	0	0	0	10	0	0	0	4	0	0	0	0	1	0	0	0	0	15
SW8260B	71-55-6	1,1,1-Trichloroethane	34	0	0	0	0	0	0	6	0	0	0	5	0	0	0	0	1	0	0	0	0	12
SW8260B	74-83-9	Methyl bromide	34	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	1	0	0	0	0	4
SW8260B	74-87-3	Methyl chloride	34	0	0	0	0	0	0	6	0	0	0	6	0	0	0	1	1	0	0	0	0	14
SW8260B	74-97-5	Chlorobromomethane	34	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	1	0	0	0	0	9
SW8260B	75-00-3	Chloroethane	34	0	0	0	0	0	0	3	0	0	0	6	0	0	0	0	1	0	0	0	0	10
SW8260B	75-01-4	Vinyl chloride	34	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	3
SW8260B	75-09-2	Methylene chloride	34	0	0	0	0	0	0	9	0	0	0	6	0	0	0	0	1	0	0	0	0	16
SW8260B	75-15-0	Carbon disulfide	34	0	0	0	0	0	0	18	0	0	0	4	0	0	0	1	1	0	0	0	0	24
SW8260B	75-25-2	Bromoform	34	0	0	2	0	2	3	0	0	0	0	3	0	0	0	0	2	0	0	0	0	8
SW8260B	75-27-4	Bromodichloromethane	34	0	0	2	0	2	2	0	0	0	0	4	0	0	0	3	1	0	0	0	0	10
SW8260B	75-34-3	1,1-Dichloroethane	34	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	1	0	0	0	0	13
SW8260B	75-35-4	1,1-Dichloroethene	34	0	0	0	0	0	0	7	0	0	0	6	0	0	0	0	1	0	0	0	0	14
SW8260B	75-69-4	Freon 11	34	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	1	0	0	0	0	9
SW8260B	75-71-8	Freon 12	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
SW8260B	76-13-1	Freon 113	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
SW8260B	78-87-5	1,2-Dichloropropane	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
SW8260B	78-93-3	2-Butanone	34	0	0	0	0	0	0	14	0	0	0	6	0	0	0	2	1	0	0	0	0	23
SW8260B	79-00-5	1,1,2-Trichloroethane	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
SW8260B	79-01-6	Trichloroethene	34	0	0	0	0	0	0	8	0	0	0	6	0	0	0	0	1	0	0	0	0	15
SW8260B	79-34-5	1,1,2,2-Tetrachloroethane	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0	0	0	0	8
SW8260B	87-61-6	1,2,3-Trichlorobenzene	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0	0	0	0	8
SW8260B	95-47-6	o-Xylene	34	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	3	0	0	0	0	11
SW8260B	95-50-1	1,2-Dichlorobenzene	34	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	7	0	0	0	0	9
SW8260B	96-12-8	1,2-Dibromo-3-chloropropane	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0	0	0	0	8
SW8260B	98-82-8	Isopropylbenzene (Cumene)	34	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	3	0	0	0	0	11
SW8270_SIM	118-74-1	Hexachlorobenzene	34	0	0	1	0	1	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	6
SW8270_SIM	62-75-9	n-Nitrosodimethylamine	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-68-3	Hexachlorobutadiene	34	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW8270_SIM	87-86-5	Pentachlorophenol	35	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	0	0	5
SW8270_SIM	88-06-2	2,4,6-Trichlorophenol	34	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8270C	100-01-6	p-Nitroaniline	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-02-7	4-Nitrophenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-52-7	Benzaldehyde	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	101-55-3	4-Bromophenyl phenyl ether	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	105-67-9	2,4-Dimethylphenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	106-47-8	p-Chloroaniline	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-60-1	2,2-Oxybis(1-chloropropane)	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-95-2	Phenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-44-4	Dichloroethyl ether	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-91-1	Bis(2-chloroethoxy)methane	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-81-7	Bis(2-ethylhexyl)phthalate	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-84-0	Di-n-octyl phthalate	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	120-83-2	2,4-Dichlorophenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	121-14-2	2,4-Dinitrotoluene	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	131-11-3	Dimethyl phthalate	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	132-64-9	Dibenzofuran	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	15831-10-4	3 & 4 Methylphenol	34	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8270C	51-28-5	2,4-Dinitrophenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	534-52-1	Dinitro-o-cresol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	58-90-2	2,3,4,6-Tetrachlorophenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	59-50-7	4-Chloro-3-methylphenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	606-20-2	2,6-Dinitrotoluene	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	608-93-5	Pentachlorobenzene	33	0	0	0	0	0	0	16	0	0	12	0	0	0	0	0	0	0	0	0	0	28
SW8270C	621-64-7	n-Nitrosodi-n-propylamine	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	67-72-1	Hexachloroethane	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	7005-72-3	4-Chlorophenyl phenyl ether	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	77-47-4	Hexachlorocyclopentadiene	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	78-59-1	Isophorone	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-66-2	Diethyl phthalate	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-74-2	Dibutyl phthalate	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2-1
Summary of PRI 1 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation/ Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
SW8270C	85-68-7	Benzyl butyl phthalate	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-30-6	n-Nitrosodiphenylamine	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-74-8	Carbazole	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-74-4	2-Nitroaniline	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-75-5	2-Nitrophenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-58-7	2-Chloronaphthalene	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-94-1	3,3'-Dichlorobenzidine	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	92-52-4	Biphenyl	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-48-7	o-Cresol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-57-8	2-Chlorophenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-94-3	1,2,4,5-Tetrachlorobenzene	34	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8270C	95-95-4	2,4,5-Trichlorophenol	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	98-86-2	Acetophenone	34	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
SW8270C	98-95-3	Nitrobenzene	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	99-09-2	3-Nitroaniline	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	120-12-7	Anthracene	34	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
SW8270C_SIM	129-00-0	Pyrene	34	0	0	0	0	0	0	7	0	0	0	1	0	0	0	0	0	0	0	0	0	8
SW8270C_SIM	191-24-2	Benzo(g,h,i)perylene	34	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
SW8270C_SIM	193-39-5	Indeno(1,2,3-cd)pyrene	34	0	0	0	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6
SW8270C_SIM	205-99-2	Benzo(b)fluoranthene	34	0	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5
SW8270C_SIM	206-44-0	Fluoranthene	34	0	0	0	0	0	0	10	0	0	0	1	0	0	0	0	0	0	0	0	0	11
SW8270C_SIM	207-08-9	Benzo(k)fluoranthene	34	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
SW8270C_SIM	208-96-8	Acenaphthylene	34	0	0	0	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6
SW8270C_SIM	218-01-9	Chrysene	34	0	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5
SW8270C_SIM	50-32-8	Benzo(a)pyrene	34	0	0	0	0	0	0	16	0	0	0	1	0	0	0	0	0	0	0	0	0	17
SW8270C_SIM	53-70-3	Dibenzo(a,h)anthracene	34	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	56-55-3	Benzo(a)anthracene	34	0	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5
SW8270C_SIM	83-32-9	Acenaphthene	34	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
SW8270C_SIM	85-01-8	Phenanthrene	34	0	0	0	0	0	0	3	18	0	0	1	0	0	0	17	0	0	0	0	0	39
SW8270C_SIM	86-73-7	Fluorene	34	0	0	0	0	0	0	6	0	0	0	1	0	0	0	5	0	0	0	0	0	12
SW8270C_SIM	91-20-3	Naphthalene	34	0	0	0	0	0	0	1	5	0	0	1	0	0	0	12	0	0	0	0	0	19
SW8270C_SIM	91-57-6	2-Methylnaphthalene	34	0	0	0	0	0	0	15	0	0	0	1	0	0	0	0	0	0	0	0	0	16
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	34	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	0	0	5
SW8290	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	34	0	0	0	0	0	0	12	0	0	0	0	2	0	0	0	0	0	0	0	0	14
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	34	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	2	0	0	0	0	5
SW8290	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	34	0	0	1	0	1	0	5	0	0	0	0	0	1	0	0	1	0	0	0	0	7
SW8290	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	34	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	2	0	0	0	0	14
SW8290	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	34	0	0	0	0	0	0	12	0	0	0	0	6	0	0	0	0	0	0	0	0	18
SW8290	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	34	0	0	0	0	0	0	13	0	0	0	0	2	0	0	0	0	0	0	0	0	15
SW8290	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8290	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	34	0	0	0	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	0	3	8
SW8290	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	34	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	5	8
SW8290	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	34	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	5	8
SW8290	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	34	0	0	0	0	0	0	10	0	0	0	0	4	0	0	0	0	0	0	0	0	14
SW8290	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	34	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	1	0	0	0	3	9
SW8290	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	34	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	1	0	0	0	0	9
SW8290	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5	7
SW8290	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	34	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	1	0	0	0	5	10
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9012	74-90-8	Cyanide, Total	34	0	0	0	0	0	7	2	2	0	0	0	0	0	0	0	0	0	0	0	0	11
SW9045	PH25	pH at 25 deg C	34	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW9060A	TOC	Total organic carbon	34	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2540G	TSO	Total solids	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8270D-SIM/680(M)	38380-08-4	Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	18	0	0	0	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5

Table 2-1
Summary of PRI 1 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					**Data Accuracy Reason Code**															
Analytical Method	**CAS #**	**Chemical Name**	**Number of Samples Analyzed**	**MS/MSD RPD**	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	**Data Precision Reason Code Sum**	**Preservation/ Holding Time**	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**Estimated Maximum Potential Conc.**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	**Other**	**Data Accuracy Reason Code Sum**
				6	**7**	**17**	**19**		**1**	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	**99**	
8270D-SIM/680(M)	69782-90-7	Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	18	0	0	1	0	1	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5
8270D-SIM/680(M)	PCB-107/123	PCB-107/123	18	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
CALC	CALC_DX_0	Calculated TEQ (ND=0), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_0_AV	Calculated TEQ (ND=0), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2	Calculated TEQ (ND=1/2 DL), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2_Av	Calculated TEQ (ND=1/2 DL), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			SUM	14	0	18	0	32	25	463	30	63	13	202	27	27	9	107	141	2	0	0	26	1135

Notes:
DL = Detection Limit
FD = Field Duplicate
LCSD = Laboratory Control Sample
MS = Matrix Spike
MSD = Matrix Spike Duplicate
ND = Not Detected
PCB = Polychlorinated biphenyl
PRI = Preliminary Remedial Investigation
RPD = Relative Percent Difference
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
QL = Quantitation Limit

Table 2-2
Summary of PRI 3 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code															
Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision	Data Precision Reason Code Sum	Preservation / Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	Data Accuracy Reason Code Sum
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
E1668A	2051-24-3	Decachlorobiphenyl-209	16	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	4	0	0	0	0	9
E1668A	1336-36-3	Total PCBs	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	25323-68-6	Trichlorobiphenyl homologs	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	25429-29-2	Pentachlorobiphenyl homologs	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	25512-42-9	Dichlorobiphenyl homologs	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	26601-64-9	Hexachlorobiphenyl homologs	16	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
E1668A	26914-33-0	Tetrachlorobiphenyl homologs	16	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
E1668A	27323-18-8	Monochlorobiphenyl homologs	16	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
E1668A	28655-71-2	Heptachlorobiphenyl homologs	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	32598-13-3	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	16	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	3
E1668A	32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	32774-16-6	Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	16	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
E1668A	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	16	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	53742-07-7	Nonachlorobiphenyl homologs	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	55722-26-4	Octachlorobiphenyl homologs	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	13	0	0	0	0	0	0	3	0	0	0	0	2	0	0	0	0	0	0	0	0	5
E1668A	70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	16	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
E1668A	PCB156_157	PCB-156 & 157	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E314.0	14797-73-0	Perchlorate	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7439-95-4	Magnesium	16	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
SW6010B	7440-09-7	Potassium	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-23-5	Sodium	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-70-2	Calcium	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7439-89-6	Iron	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7439-92-1	Lead	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	13
SW6020	7439-96-5	Manganese	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7439-98-7	Molybdenum	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-02-0	Nickel	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-22-4	Silver	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-28-0	Thallium	16	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
SW6020	7440-36-0	Antimony	16	0	0	0	0	0	0	2	0	11	0	0	0	0	0	0	0	0	0	0	0	13
SW6020	7440-38-2	Arsenic	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-39-3	Barium	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-41-7	Beryllium	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-43-9	Cadmium	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-47-3	Chromium	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-48-4	Cobalt	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-50-8	Copper	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-62-2	Vanadium	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-66-6	Zinc	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7782-49-2	Selenium	16	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7429-90-5	Aluminum	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW7471A	7439-97-6	Mercury	16	4	0	0	0	4	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	6
SW8260B	100-41-4	Ethylbenzene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	100-42-5	Styrene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	10061-01-5	cis-1,3-Dichloropropene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	10061-02-6	trans-1,3-Dichloropropene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	106-46-7	1,4-Dichlorobenzene	16	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	4
SW8260B	106-93-4	Ethylene dibromide	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	107-06-2	1,2-Dichloroethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	108-10-1	4-Methyl-2-pentanone	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	108-88-3	Toluene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	108-90-7	Chlorobenzene	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
SW8260B	110-82-7	Cyclohexane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	120-82-1	1,2,4-Trichlorobenzene	16	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	4
SW8260B	123-91-1	1,4-Dioxane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7

Table 2-2
Summary of PRI 3 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code															
Analytical Method	**CAS #**	**Chemical Name**	**Number of Samples Analyzed**	**MS/MSD RPD**	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	**Data Precision Reason Code Sum**	**Preservation / Holding Time**	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**Estimated Maximum Potential Conc.**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	**Other**	**Data Accuracy Reason Code Sum**
				6	**7**	**17**	**19**		**1**	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	**99**	
SW8260B	124-48-1	Dibromochloromethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	127-18-4	Tetrachloroethene	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
SW8260B	156-59-2	cis-1,2-Dichloroethene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	156-60-5	trans-1,2-Dichloroethene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	1634-04-4	Methyl tert-butyl ether	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	179601-23-1	m,p-Xylenes	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	541-73-1	1,3-Dichlorobenzene	16	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	0	5
SW8260B	56-23-5	Carbon tetrachloride	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8260B	591-78-6	2-Hexanone	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	67-64-1	Acetone	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
SW8260B	67-66-3	Chloroform	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
SW8260B	71-43-2	Benzene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	71-55-6	1,1,1-Trichloroethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	74-83-9	Methyl bromide	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	74-87-3	Methyl chloride	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	74-97-5	Chlorobromomethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-00-3	Chloroethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-01-4	Vinyl chloride	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-09-2	Methylene chloride	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-15-0	Carbon disulfide	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
SW8260B	75-25-2	Bromoform	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	75-27-4	Bromodichloromethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-34-3	1,1-Dichloroethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-35-4	1,1-Dichloroethene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-69-4	Freon 11	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-71-8	Freon 12	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	76-13-1	Freon 113	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	78-87-5	1,2-Dichloropropane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	78-93-3	2-Butanone	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
SW8260B	79-00-5	1,1,2-Trichloroethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	79-01-6	Trichloroethene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	79-34-5	1,1,2,2-Tetrachloroethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	87-61-6	1,2,3-Trichlorobenzene	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0	0	0	0	4
SW8260B	95-47-6	o-Xylene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	95-50-1	1,2-Dichlorobenzene	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	96-12-8	1,2-Dibromo-3-chloropropane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	98-82-8	Isopropylbenzene (Cumene)	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8270_SIM	118-74-1	Hexachlorobenzene	16	0	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	0	0	0	0	7
SW8270_SIM	62-75-9	n-Nitrosodimethylamine	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-68-3	Hexachlorobutadiene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-86-5	Pentachlorophenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	88-06-2	2,4,6-Trichlorophenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-01-6	p-Nitroaniline	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-02-7	4-Nitrophenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-52-7	Benzaldehyde	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	101-55-3	4-Bromophenyl phenyl ether	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	105-67-9	2,4-Dimethylphenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	106-47-8	p-Chloroaniline	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-60-1	2,2-Oxybis(1-chloropropane)	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-95-2	Phenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-44-4	Dichloroethyl ether	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-91-1	Bis(2-chloroethoxy)methane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-81-7	Bis(2-ethylhexyl)phthalate	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
SW8270C	117-84-0	Di-n-octyl phthalate	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	120-83-2	2,4-Dichlorophenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	121-14-2	2,4-Dinitrotoluene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	131-11-3	Dimethyl phthalate	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	132-64-9	Dibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	15831-10-4	3 & 4 Methylphenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	51-28-5	2,4-Dinitrophenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2-2
Summary of PRI 3 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD 6	LCS RPD 7	FD RPD 17	Analytical Duplicate Precision 19		Preservation / Holding Time 1	Detection > DL but < QL 2	Laboratory Blank Detection 3	MS or MSD Recovery 4	LCS Recovery 5	Surrogate Recovery 8	Estimated Maximum Potential Conc. 9	Outside Calibration Range 11	Calibration Criteria 12	Equipment Blank 13	Internal Standard 14	Serial Dilution 15	Column Difference 16	Sample Receipt Temp 18	Other 99	
SW8270C	534-52-1	Dinitro-o-cresol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	58-90-2	2,3,4,6-Tetrachlorophenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	59-50-7	4-Chloro-3-methylphenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	606-20-2	2,6-Dinitrotoluene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	608-93-5	Pentachlorobenzene	16	0	0	0	0	0	0	4	0	0	3	0	0	0	0	0	0	0	0	0	0	7
SW8270C	621-64-7	n-Nitrosodi-n-propylamine	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	67-72-1	Hexachloroethane	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	7005-72-3	4-Chlorophenyl phenyl ether	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	77-47-4	Hexachlorocyclopentadiene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	78-59-1	Isophorone	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-66-2	Diethyl phthalate	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-74-2	Dibutyl phthalate	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	85-68-7	Benzyl butyl phthalate	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-30-6	n-Nitrosodiphenylamine	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-74-8	Carbazole	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-74-4	2-Nitroaniline	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-75-5	2-Nitrophenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-58-7	2-Chloronaphthalene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-94-1	3,3'-Dichlorobenzidine	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	92-52-4	Biphenyl	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-48-7	o-Cresol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-57-8	2-Chlorophenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-94-3	1,2,4,5-Tetrachlorobenzene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-95-4	2,4,5-Trichlorophenol	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	98-86-2	Acetophenone	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	98-95-3	Nitrobenzene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	99-09-2	3-Nitroaniline	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	120-12-7	Anthracene	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	129-00-0	Pyrene	16	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
SW8270C_SIM	191-24-2	Benzo(g,h,i)perylene	16	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW8270C_SIM	193-39-5	Indeno(1,2,3-cd)pyrene	16	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
SW8270C_SIM	205-99-2	Benzo(b)fluoranthene	16	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
SW8270C_SIM	206-44-0	Fluoranthene	16	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
SW8270C_SIM	207-08-9	Benzo(k)fluoranthene	16	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8270C_SIM	208-96-8	Acenaphthylene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	218-01-9	Chrysene	16	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11
SW8270C_SIM	50-32-8	Benzo(a)pyrene	16	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
SW8270C_SIM	53-70-3	Dibenzo(a,h)anthracene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	56-55-3	Benzo(a)anthracene	16	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
SW8270C_SIM	83-32-9	Acenaphthene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	85-01-8	Phenanthrene	16	0	0	0	0	0	0	0	8	0	0	0	0	0	0	10	0	0	0	0	0	18
SW8270C_SIM	86-73-7	Fluorene	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
SW8270C_SIM	91-20-3	Naphthalene	16	0	0	0	0	0	0	0	4	0	0	0	0	0	0	5	0	0	0	0	0	9
SW8270C_SIM	91-57-6	2-Methylnaphthalene	16	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	16	0	0	0	0	0	0	6	0	0	0	0	4	0	0	0	0	0	0	0	0	10
SW8290	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	16	0	0	0	0	0	0	6	0	0	0	0	2	0	0	0	0	0	0	0	0	8
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
SW8290	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	16	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
SW8290	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	16	0	0	0	0	0	0	8	0	0	0	0	2	0	0	0	0	0	0	0	0	10
SW8290	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SW8290	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SW8290	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SW8290	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	16	0	0	0	0	0	0	7	0	0	0	0	1	0	0	0	0	0	0	0	0	8
SW8290	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
SW8290	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SW8290	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

Table 2-2
Summary of PRI 3 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation / Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9012	74-90-8	Cyanide, Total	16	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
SW9045	PH25	pH at 25 deg C	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9060A	TOC	Total organic carbon	16	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2540G	TSO	Total solids	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8270D-SIM/680(M)	38380-08-4	Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8270D-SIM/680(M)	69782-90-7	Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8270D-SIM/680(M)	PCB-107/123	PCB-107/123	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_0	Calculated TEQ (ND=0), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_0_AV	Calculated TEQ (ND=0), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2	Calculated TEQ (ND=1/2 DL), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2_Av	Calculated TEQ (ND=1/2 DL), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			SUM	4	0	1	0	5	0	170	12	22	3	0	13	11	6	43	35	0	0	0	5	320

Notes:
DL = Detection Limit
FD = Field Duplicate
LCSD = Laboratory Control Sample
MS = Matrix Spike
MSD = Matrix Spike Duplicate
ND = Not Detected
PCB = Polychlorinated biphenyl
PRI = Preliminary Remedial Investigation
RPD = Relative Percent Difference
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
QL = Quantitation Limit

Table 2-3
Summary of PRI 4 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code															
Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision	Data Precision Reason Code Sum	Preservation / Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	Data Accuracy Reason Code Sum
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
E1668A	2051-24-3	Decachlorobiphenyl-209	18	0	0	1	0	1	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
E1668A	1336-36-3	Total PCBs	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	25323-68-6	Trichlorobiphenyl homologs	18	0	0	1	0	1	0	4	0	0	0	0	0	0	6	0	0	0	0	0	0	10
E1668A	25429-29-2	Pentachlorobiphenyl homologs	18	0	0	0	0	0	0	2	0	0	0	0	0	0	9	0	0	0	0	0	0	11
E1668A	25512-42-9	Dichlorobiphenyl homologs	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	26601-64-9	Hexachlorobiphenyl homologs	18	0	0	1	0	1	0	1	0	0	0	0	0	0	7	0	0	0	0	0	0	8
E1668A	26914-33-0	Tetrachlorobiphenyl homologs	18	0	0	1	0	1	0	3	0	0	0	0	0	0	17	0	0	0	0	0	0	20
E1668A	27323-18-8	Monochlorobiphenyl homologs	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	28655-71-2	Heptachlorobiphenyl homologs	18	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	32598-13-3	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	18	0	0	0	0	0	0	2	0	0	0	0	0	0	6	0	0	0	0	0	0	8
E1668A	32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6
E1668A	32774-16-6	Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	18	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
E1668A	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	18	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
E1668A	53742-07-7	Nonachlorobiphenyl homologs	18	0	0	1	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
E1668A	55722-26-4	Octachlorobiphenyl homologs	18	0	0	1	0	1	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6
E1668A	57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	18	0	0	0	0	0	0	1	0	0	0	0	0	0	11	0	0	0	0	0	0	12
E1668A	74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	18	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
E1668A	PCB156_157	PCB-156 & 157	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E314.0	14797-73-0	Perchlorate	32	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	21
SW6010B	7439-95-4	Magnesium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-09-7	Potassium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
SW6010B	7440-23-5	Sodium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-70-2	Calcium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7439-89-6	Iron	18	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7439-92-1	Lead	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	15
SW6020	7439-96-5	Manganese	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
SW6020	7439-98-7	Molybdenum	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-02-0	Nickel	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-22-4	Silver	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-28-0	Thallium	18	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13
SW6020	7440-36-0	Antimony	18	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
SW6020	7440-38-2	Arsenic	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-39-3	Barium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-41-7	Beryllium	18	0	0	0	0	0	0	3	1	9	0	0	0	0	0	0	0	0	0	0	0	13
SW6020	7440-43-9	Cadmium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-47-3	Chromium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-48-4	Cobalt	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-50-8	Copper	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-62-2	Vanadium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-66-6	Zinc	18	0	0	1	0	1	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	12
SW6020	7782-49-2	Selenium	18	0	0	0	0	0	0	8	0	7	0	0	0	0	2	0	0	0	0	0	0	17
SW6020	7429-90-5	Aluminum	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW7471A	7439-97-6	Mercury	18	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
SW8260B	100-41-4	Ethylbenzene	18	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
SW8260B	100-42-5	Styrene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	10061-01-5	cis-1,3-Dichloropropene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	10061-02-6	trans-1,3-Dichloropropene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	106-46-7	1,4-Dichlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	106-93-4	Ethylene dibromide	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	107-06-2	1,2-Dichloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	108-10-1	4-Methyl-2-pentanone	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	108-88-3	Toluene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	108-90-7	Chlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	110-82-7	Cyclohexane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	120-82-1	1,2,4-Trichlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	123-91-1	1,4-Dioxane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1

Table 2-3
Summary of PRI 4 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD 6	LCS RPD 7	FD RPD 17	Analytical Duplicate Precision 19		Preservation / Holding Time 1	Detection > DL but < QL 2	Laboratory Blank Detection 3	MS or MSD Recovery 4	LCS Recovery 5	Surrogate Recovery 8	Estimated Maximum Potential Conc. 9	Outside Calibration Range 11	Calibration Criteria 12	Equipment Blank 13	Internal Standard 14	Serial Dilution 15	Column Difference 16	Sample Receipt Temp 18	Other 99	
SW8260B	124-48-1	Dibromochloromethane	18	0	0	0	0	0	0	2	0	0	0	0	0	0	0	5	0	0	0	0	0	7
SW8260B	127-18-4	Tetrachloroethene	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8260B	156-59-2	cis-1,2-Dichloroethene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	156-60-5	trans-1,2-Dichloroethene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	1634-04-4	Methyl tert-butyl ether	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	179601-23-1	m,p-Xylenes	18	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
SW8260B	541-73-1	1,3-Dichlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	56-23-5	Carbon tetrachloride	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	591-78-6	2-Hexanone	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	67-64-1	Acetone	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	10
SW8260B	67-66-3	Chloroform	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
SW8260B	71-43-2	Benzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	71-55-6	1,1,1-Trichloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	74-83-9	Methyl bromide	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	74-87-3	Methyl chloride	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
SW8260B	74-97-5	Chlorobromomethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-00-3	Chloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-01-4	Vinyl chloride	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-09-2	Methylene chloride	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-15-0	Carbon disulfide	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-25-2	Bromoform	18	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW8260B	75-27-4	Bromodichloromethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9
SW8260B	75-34-3	1,1-Dichloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-35-4	1,1-Dichloroethene	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8260B	75-69-4	Freon 11	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-71-8	Freon 12	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	76-13-1	Freon 113	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	78-87-5	1,2-Dichloropropane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	78-93-3	2-Butanone	18	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	6
SW8260B	79-00-5	1,1,2-Trichloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	79-01-6	Trichloroethene	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8260B	79-34-5	1,1,2,2-Tetrachloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	87-61-6	1,2,3-Trichlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	95-47-6	o-Xylene	18	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
SW8260B	95-50-1	1,2-Dichlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	96-12-8	1,2-Dibromo-3-chloropropane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	98-82-8	Isopropylbenzene (Cumene)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	118-74-1	Hexachlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	62-75-9	n-Nitrosodimethylamine	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-68-3	Hexachlorobutadiene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-86-5	Pentachlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	88-06-2	2,4,6-Trichlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-01-6	p-Nitroaniline	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-02-7	4-Nitrophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-52-7	Benzaldehyde	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	101-55-3	4-Bromophenyl phenyl ether	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	105-67-9	2,4-Dimethylphenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	106-47-8	p-Chloroaniline	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-60-1	2,2-Oxybis(1-chloropropane)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-95-2	Phenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-44-4	Dichloroethyl ether	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-91-1	Bis(2-chloroethoxy)methane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-81-7	Bis(2-ethylhexyl)phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-84-0	Di-n-octyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	120-83-2	2,4-Dichlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	121-14-2	2,4-Dinitrotoluene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	131-11-3	Dimethyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	132-64-9	Dibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	15831-10-4	3 & 4 Methylphenol	18	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8270C	51-28-5	2,4-Dinitrophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2-3
Summary of PRI 4 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation / Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
SW8270C	534-52-1	Dinitro-o-cresol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	58-90-2	2,3,4,6-Tetrachlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	59-50-7	4-Chloro-3-methylphenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	606-20-2	2,6-Dinitrotoluene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	608-93-5	Pentachlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	621-64-7	n-Nitrosodi-n-propylamine	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	67-72-1	Hexachloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	7005-72-3	4-Chlorophenyl phenyl ether	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	77-47-4	Hexachlorocyclopentadiene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	78-59-1	Isophorone	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-66-2	Diethyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-74-2	Dibutyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	85-68-7	Benzyl butyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-30-6	n-Nitrosodiphenylamine	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-74-8	Carbazole	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-74-4	2-Nitroaniline	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-75-5	2-Nitrophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-58-7	2-Chloronaphthalene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-94-1	3,3'-Dichlorobenzidine	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	92-52-4	Biphenyl	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-48-7	o-Cresol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-57-8	2-Chlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-94-3	1,2,4,5-Tetrachlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-95-4	2,4,5-Trichlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	98-86-2	Acetophenone	18	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
SW8270C	98-95-3	Nitrobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	99-09-2	3-Nitroaniline	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	120-12-7	Anthracene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	129-00-0	Pyrene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	191-24-2	Benzo(g,h,i)perylene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	193-39-5	Indeno(1,2,3-cd)pyrene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	205-99-2	Benzo(b)fluoranthene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	206-44-0	Fluoranthene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	207-08-9	Benzo(k)fluoranthene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	208-96-8	Acenaphthylene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	218-01-9	Chrysene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	50-32-8	Benzo(a)pyrene	18	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
SW8270C_SIM	53-70-3	Dibenzo(a,h)anthracene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	56-55-3	Benzo(a)anthracene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	83-32-9	Acenaphthene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	85-01-8	Phenanthrene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	86-73-7	Fluorene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	91-20-3	Naphthalene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	91-57-6	2-Methylnaphthalene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	3	0	0	0	0	8	0	0	0	0	0	0	0	0	11
SW8290	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	5
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8290	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8290	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
SW8290	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	7	0	0	0	0	4	0	0	0	0	0	0	0	0	11
SW8290	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
SW8290	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SW8290	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SW8290	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SW8290	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	5
SW8290	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SW8290	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SW8290	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2

Table 2-3
Summary of PRI 4 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code															
Analytical Method	**CAS #**	**Chemical Name**	**Number of Samples Analyzed**	**MS/MSD RPD**	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	**Data Precision Reason Code Sum**	**Preservation / Holding Time**	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**Estimated Maximum Potential Conc.**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	**Other**	**Data Accuracy Reason Code Sum**
				6	**7**	**17**	**19**		**1**	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	**99**	
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9012	74-90-8	Cyanide, Total	18	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
SW9045	PH25	pH at 25 deg C	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9060A	TOC	Total organic carbon	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2540G	TSO	Total solids	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270D-SIM/680(	38380-08-4	Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	17	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
270D-SIM/680(	69782-90-7	Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	17	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
270D-SIM/680(	PCB-107/123	PCB-107/123	17	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
CALC	CALC_DX_0	Calculated TEQ (ND=0), Mammals	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_0_AV	Calculated TEQ (ND=0), Avian	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2	Calculated TEQ (ND=1/2 DL), Mammals	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2_Av	Calculated TEQ (ND=1/2 DL), Avian	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			SUM	0	0	9	0	9	0	167	12	35	0	0	12	3	81	52	1	3	0	0	8	374

Notes:
DL = Detection Limit
FD = Field Duplicate
LCSD = Laboratory Control Sample
MS = Matrix Spike
MSD = Matrix Spike Duplicate
ND = Not Detected
PCB = Polychlorinated biphenyl
PRI = Preliminary Remedial Investigation
RPD = Relative Percent Difference
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
QL = Quantitation Limit

Table 2-4
Summary of PRI 5 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code															
Analytical Method	**CAS #**	**Chemical Name**	**Number of Samples Analyzed**	**MS/MSD RPD**	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	**Data Precision Reason Code Sum**	**Preservation / Holding Time**	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**Estimated Maximum Potential Conc.**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	**Other**	**Data Accuracy Reason Code Sum**
				6	**7**	**17**	**19**		**1**	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	**99**	
E1668A	2051-24-3	Decachlorobiphenyl-209	28	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
E1668A	1336-36-3	Total PCBs	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	25323-68-6	Trichlorobiphenyl homologs	28	0	0	0	0	0	0	9	0	0	0	0	1	0	6	1	0	0	0	0	0	17
E1668A	25429-29-2	Pentachlorobiphenyl homologs	28	0	0	0	0	0	0	8	4	0	0	0	1	0	7	0	0	0	0	0	0	20
E1668A	25512-42-9	Dichlorobiphenyl homologs	28	0	0	0	0	0	0	10	0	0	0	0	1	0	0	0	0	0	0	0	0	11
E1668A	26601-64-9	Hexachlorobiphenyl homologs	28	0	0	0	0	0	0	7	2	0	0	0	1	0	6	0	1	0	0	0	0	17
E1668A	26914-33-0	Tetrachlorobiphenyl homologs	28	0	0	0	0	0	0	12	5	0	0	0	1	0	14	0	0	0	0	0	0	32
E1668A	27323-18-8	Monochlorobiphenyl homologs	28	0	0	0	0	0	0	10	0	0	0	0	1	0	4	0	0	0	0	0	0	15
E1668A	28655-71-2	Heptachlorobiphenyl homologs	28	0	0	0	0	0	0	7	0	0	0	0	1	0	0	0	0	0	0	0	0	8
E1668A	31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	28	0	0	0	0	0	0	6	3	0	0	0	1	0	0	0	0	0	0	0	0	10
E1668A	32598-13-3	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	28	0	0	0	0	0	0	4	0	0	0	0	0	0	6	0	0	0	0	0	0	10
E1668A	32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	28	0	0	0	0	0	0	1	2	0	0	0	1	0	6	0	0	0	0	0	0	10
E1668A	32774-16-6	Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
E1668A	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	28	0	0	0	0	0	0	4	0	0	0	0	2	0	0	0	0	0	0	0	0	6
E1668A	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	28	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	0	0	5
E1668A	53742-07-7	Nonachlorobiphenyl homologs	28	0	0	0	0	0	0	6	0	0	0	0	0	0	1	0	0	0	0	0	0	7
E1668A	55722-26-4	Octachlorobiphenyl homologs	28	0	0	0	0	0	0	6	0	0	0	0	1	0	1	0	0	0	0	0	0	8
E1668A	57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	28	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	14	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
E1668A	70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	28	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8
E1668A	74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	28	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	PCB156_157	PCB-156 & 157	14	0	0	0	0	0	0	2	2	0	0	0	3	0	0	0	0	0	0	0	0	7
E314.0	14797-73-0	Perchlorate	33	0	0	0	0	0	0	5	0	0	1	0	0	0	0	2	0	0	0	0	0	8
SW6010B	7439-95-4	Magnesium	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-09-7	Potassium	28	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6010B	7440-23-5	Sodium	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-70-2	Calcium	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7439-89-6	Iron	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7439-92-1	Lead	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	15
SW6020	7439-96-5	Manganese	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7439-98-7	Molybdenum	28	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
SW6020	7440-02-0	Nickel	28	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7440-22-4	Silver	28	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
SW6020	7440-28-0	Thallium	28	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11
SW6020	7440-36-0	Antimony	28	0	0	0	0	0	0	5	0	19	0	0	0	0	0	0	0	0	0	0	0	24
SW6020	7440-38-2	Arsenic	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-39-3	Barium	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-41-7	Beryllium	28	0	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	7
SW6020	7440-43-9	Cadmium	28	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
SW6020	7440-47-3	Chromium	28	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7440-48-4	Cobalt	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-50-8	Copper	28	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7440-62-2	Vanadium	28	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6
SW6020	7440-66-6	Zinc	28	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7782-49-2	Selenium	28	0	0	0	0	0	0	9	0	16	0	0	0	0	0	0	0	0	0	0	0	25
SW6020	7429-90-5	Aluminum	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW7471A	7439-97-6	Mercury	28	0	0	0	0	0	0	17	0	0	0	0	0	0	0	1	0	0	0	0	0	18
SW8260B	100-41-4	Ethylbenzene	28	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	1	0	0	0	0	5
SW8260B	100-42-5	Styrene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	10061-01-5	cis-1,3-Dichloropropene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	10061-02-6	trans-1,3-Dichloropropene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	106-46-7	1,4-Dichlorobenzene	28	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	4
SW8260B	106-93-4	Ethylene dibromide	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	107-06-2	1,2-Dichloroethane	28	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4
SW8260B	108-10-1	4-Methyl-2-pentanone	28	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW8260B	108-88-3	Toluene	28	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6
SW8260B	108-90-7	Chlorobenzene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SW8260B	110-82-7	Cyclohexane	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	120-82-1	1,2,4-Trichlorobenzene	28	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	123-91-1	1,4-Dioxane	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
SW8260B	124-48-1	Dibromochloromethane	28	0	0	0	0	0	2	1	0	0	0	1	0	0	0	2	0	0	0	0	0	6
SW8260B	127-18-4	Tetrachloroethene	28	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0	1	0	0	0	0	6

Table 2-4
Summary of PRI 5 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation / Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
SW8260B	156-59-2	cis-1,2-Dichloroethene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	156-60-5	trans-1,2-Dichloroethene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	1634-04-4	Methyl tert-butyl ether	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	179601-23-1	m,p-Xylenes	28	0	0	0	0	0	0	3	0	0	0	2	0	0	0	0	1	0	0	0	0	6
SW8260B	541-73-1	1,3-Dichlorobenzene	28	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	4
SW8260B	56-23-5	Carbon tetrachloride	28	0	0	0	0	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	9
SW8260B	591-78-6	2-Hexanone	28	0	0	0	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6
SW8260B	67-64-1	Acetone	28	0	0	0	0	0	1	3	0	0	0	2	0	0	0	4	0	0	0	0	0	10
SW8260B	67-66-3	Chloroform	28	0	0	0	0	0	0	1	0	0	0	3	0	0	0	8	0	0	0	0	0	12
SW8260B	71-43-2	Benzene	28	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6
SW8260B	71-55-6	1,1,1-Trichloroethane	28	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6
SW8260B	74-83-9	Methyl bromide	28	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SW8260B	74-87-3	Methyl chloride	28	0	0	0	0	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	9
SW8260B	74-97-5	Chlorobromomethane	28	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
SW8260B	75-00-3	Chloroethane	28	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6
SW8260B	75-01-4	Vinyl chloride	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-09-2	Methylene chloride	28	0	0	0	0	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	8
SW8260B	75-15-0	Carbon disulfide	28	0	0	0	0	0	0	11	0	0	0	3	0	0	0	1	0	0	0	0	0	15
SW8260B	75-25-2	Bromoform	28	0	0	0	0	0	3	4	0	0	0	0	0	0	0	1	0	0	0	0	0	8
SW8260B	75-27-4	Bromodichloromethane	28	0	0	0	0	0	2	0	0	0	0	1	0	0	0	2	0	0	0	0	0	5
SW8260B	75-34-3	1,1-Dichloroethane	28	0	0	0	0	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7
SW8260B	75-35-4	1,1-Dichloroethene	28	0	0	0	0	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6
SW8260B	75-69-4	Freon 11	28	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4
SW8260B	75-71-8	Freon 12	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	76-13-1	Freon 113	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	78-87-5	1,2-Dichloropropane	28	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
SW8260B	78-93-3	2-Butanone	28	0	0	0	0	0	0	10	4	0	0	3	0	0	0	0	0	0	0	0	0	17
SW8260B	79-00-5	1,1,2-Trichloroethane	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	79-01-6	Trichloroethene	28	0	0	0	0	0	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	9
SW8260B	79-34-5	1,1,2,2-Tetrachloroethane	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	87-61-6	1,2,3-Trichlorobenzene	28	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0	0	0	0	4
SW8260B	95-47-6	o-Xylene	28	0	0	0	0	0	0	6	0	0	0	1	0	0	0	0	1	0	0	0	0	8
SW8260B	95-50-1	1,2-Dichlorobenzene	28	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	4
SW8260B	96-12-8	1,2-Dibromo-3-chloropropane	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	98-82-8	Isopropylbenzene (Cumene)	28	0	0	0	0	0	0	5	0	0	0	2	0	0	0	0	1	0	0	0	0	8
SW8270_SIM	118-74-1	Hexachlorobenzene	29	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
SW8270_SIM	62-75-9	n-Nitrosodimethylamine	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-68-3	Hexachlorobutadiene	28	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8270_SIM	87-86-5	Pentachlorophenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	88-06-2	2,4,6-Trichlorophenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-01-6	p-Nitroaniline	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-02-7	4-Nitrophenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-52-7	Benzaldehyde	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	101-55-3	4-Bromophenyl phenyl ether	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	105-67-9	2,4-Dimethylphenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	106-47-8	p-Chloroaniline	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-60-1	2,2-Oxybis(1-chloropropane)	28	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
SW8270C	108-95-2	Phenol	28	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW8270C	111-44-4	Dichloroethyl ether	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-91-1	Bis(2-chloroethoxy)methane	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-81-7	Bis(2-ethylhexyl)phthalate	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-84-0	Di-n-octyl phthalate	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	120-83-2	2,4-Dichlorophenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	121-14-2	2,4-Dinitrotoluene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	131-11-3	Dimethyl phthalate	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	132-64-9	Dibenzofuran	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	15831-10-4	3 & 4 Methylphenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	51-28-5	2,4-Dinitrophenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	534-52-1	Dinitro-o-cresol	28	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8270C	58-90-2	2,3,4,6-Tetrachlorophenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	59-50-7	4-Chloro-3-methylphenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	606-20-2	2,6-Dinitrotoluene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2-4
Summary of PRI 5 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation / Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
SW8270C	608-93-5	Pentachlorobenzene	28	0	0	0	0	0	0	9	0	0	10	0	0	0	0	0	0	0	0	0	0	19
SW8270C	621-64-7	n-Nitrosodi-n-propylamine	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	67-72-1	Hexachloroethane	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	7005-72-3	4-Chlorophenyl phenyl ether	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	77-47-4	Hexachlorocyclopentadiene	28	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
SW8270C	78-59-1	Isophorone	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-66-2	Diethyl phthalate	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-74-2	Dibutyl phthalate	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	85-68-7	Benzyl butyl phthalate	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-30-6	n-Nitrosodiphenylamine	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-74-8	Carbazole	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-74-4	2-Nitroaniline	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-75-5	2-Nitrophenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-58-7	2-Chloronaphthalene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-94-1	3,3'-Dichlorobenzidine	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	92-52-4	Biphenyl	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-48-7	o-Cresol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-57-8	2-Chlorophenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-94-3	1,2,4,5-Tetrachlorobenzene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-95-4	2,4,5-Trichlorophenol	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	98-86-2	Acetophenone	28	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
SW8270C	98-95-3	Nitrobenzene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	99-09-2	3-Nitroaniline	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	120-12-7	Anthracene	28	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	129-00-0	Pyrene	28	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
SW8270C_SIM	191-24-2	Benzo(g,h,i)perylene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	193-39-5	Indeno(1,2,3-cd)pyrene	28	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	205-99-2	Benzo(b)fluoranthene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	206-44-0	Fluoranthene	28	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
SW8270C_SIM	207-08-9	Benzo(k)fluoranthene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	208-96-8	Acenaphthylene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	218-01-9	Chrysene	28	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8270C_SIM	50-32-8	Benzo(a)pyrene	28	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
SW8270C_SIM	53-70-3	Dibenzo(a,h)anthracene	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	56-55-3	Benzo(a)anthracene	28	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	83-32-9	Acenaphthene	28	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
SW8270C_SIM	85-01-8	Phenanthrene	28	0	0	0	0	0	0	1	0	0	0	0	0	0	0	8	0	0	0	0	0	9
SW8270C_SIM	86-73-7	Fluorene	28	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
SW8270C_SIM	91-20-3	Naphthalene	28	0	0	0	0	0	0	0	5	0	0	0	0	0	0	8	0	0	0	0	0	13
SW8270C_SIM	91-57-6	2-Methylnaphthalene	28	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	28	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	1	0	0	0	0	6
SW8290	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	28	0	0	0	0	0	0	13	1	0	0	0	0	0	0	0	0	0	0	0	0	14
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	28	0	0	0	0	0	0	9	3	0	0	0	2	0	0	0	1	0	0	0	0	15
SW8290	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	28	0	0	0	0	0	0	13	0	0	0	0	1	0	0	0	0	0	0	0	0	14
SW8290	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	28	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	5
SW8290	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	28	0	0	0	0	0	0	7	0	0	0	0	6	0	0	0	0	0	0	0	0	13
SW8290	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	28	0	0	0	0	0	0	7	0	0	0	0	4	0	0	0	0	0	0	0	0	11
SW8290	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	28	0	0	0	0	0	0	7	0	0	0	0	1	0	0	0	0	0	0	0	0	8
SW8290	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	28	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
SW8290	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	28	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
SW8290	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	28	0	0	0	0	0	0	8	0	0	0	0	1	0	0	0	3	0	0	0	0	12
SW8290	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	28	0	0	0	0	0	0	13	0	0	0	0	2	0	0	0	0	0	0	0	0	15
SW8290	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	28	0	0	0	0	0	0	10	0	0	0	0	4	0	0	0	3	0	0	0	0	17
SW8290	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	28	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
SW8290	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	28	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	3	0	0	0	0	11
SW8290	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	28	0	0	0	0	0	0	6	0	0	0	0	1	0	0	0	3	0	0	0	0	10
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	28	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	1	0	0	0	0	8
SW9012	74-90-8	Cyanide, Total	28	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW9045	PH25	pH at 25 deg C	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9060A	TOC	Total organic carbon	28	0	0	0	0	0	0	7	2	0	2	0	0	0	0	0	0	0	0	0	0	11
2540G	TSO	Total solids	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8270D-SIM/680(M)	38380-08-4	Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	14	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3

Table 2-4
Summary of PRI 5 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code															
Analytical Method	**CAS #**	**Chemical Name**	**Number of Samples Analyzed**	**MS/MSD RPD**	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	**Data Precision Reason Code Sum**	**Preservation / Holding Time**	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**Estimated Maximum Potential Conc.**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	**Other**	**Data Accuracy Reason Code Sum**
				6	**7**	**17**	**19**		**1**	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	**99**	
8270D-SIM/680(M)	69782-90-7	Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	14	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8270D-SIM/680(M)	PCB-107/123	PCB-107/123	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_0	Calculated TEQ (ND=0), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_0_AV	Calculated TEQ (ND=0), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2	Calculated TEQ (ND=1/2 DL), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2_Av	Calculated TEQ (ND=1/2 DL), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			SUM	0	0	0	0	0	8	488	47	56	19	59	40	6	60	53	46	0	0	0	0	882

Notes:
DL = Detection Limit
FD = Field Duplicate
LCSD = Laboratory Control Sample
MS = Matrix Spike
MSD = Matrix Spike Duplicate
ND = Not Detected
PCB = Polychlorinated biphenyl
PRI = Preliminary Remedial Investigation
RPD = Relative Percent Difference
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
QL = Quantitation Limit

Table 2-5
Summary of PRI 6 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation/ Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
E1668A	2051-24-3	Decachlorobiphenyl-209	19	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	4
E1668A	1336-36-3	Total PCBs	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	25323-68-6	Trichlorobiphenyl homologs	19	0	0	0	0	0	0	5	0	0	0	0	0	0	3	0	0	0	0	0	0	8
E1668A	25429-29-2	Pentachlorobiphenyl homologs	19	0	0	0	0	0	0	5	1	0	0	0	0	0	6	0	0	0	0	0	0	12
E1668A	25512-42-9	Dichlorobiphenyl homologs	19	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
E1668A	26601-64-9	Hexachlorobiphenyl homologs	19	0	0	0	0	0	0	5	1	0	0	0	0	0	5	0	0	0	0	0	0	11
E1668A	26914-33-0	Tetrachlorobiphenyl homologs	19	0	0	0	0	0	0	5	2	0	0	0	0	0	11	0	0	0	0	0	0	18
E1668A	27323-18-8	Monochlorobiphenyl homologs	19	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
E1668A	28655-71-2	Heptachlorobiphenyl homologs	19	0	0	0	0	0	0	4	0	0	0	0	0	0	2	0	0	0	0	0	0	6
E1668A	31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	19	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
E1668A	32598-13-3	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	19	0	0	0	0	0	0	2	0	0	0	0	2	0	3	0	0	0	0	0	0	7
E1668A	32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	19	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	4
E1668A	32774-16-6	Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	19	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	3
E1668A	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	19	0	0	0	0	0	0	5	0	0	0	0	0	0	2	0	0	0	0	0	0	7
E1668A	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	19	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
E1668A	53742-07-7	Nonachlorobiphenyl homologs	19	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0	0	0	0	0	0	4
E1668A	55722-26-4	Octachlorobiphenyl homologs	19	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
E1668A	57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	19	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
E1668A	65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	8	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
E1668A	70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	19	0	0	0	0	0	0	1	0	0	0	0	0	0	8	0	0	0	0	0	0	9
E1668A	74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	19	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	PCB156_157	PCB-156 & 157	8	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
E314.0	14797-73-0	Perchlorate	20	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
SW6010B	7439-95-4	Magnesium	18	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
SW6010B	7440-09-7	Potassium	18	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6010B	7440-23-5	Sodium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-70-2	Calcium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7439-89-6	Iron	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7439-92-1	Lead	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6
SW6020	7439-96-5	Manganese	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8
SW6020	7439-98-7	Molybdenum	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-02-0	Nickel	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-22-4	Silver	18	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
SW6020	7440-28-0	Thallium	18	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
SW6020	7440-36-0	Antimony	18	0	0	0	0	0	0	1	0	18	0	0	0	0	0	0	0	0	0	0	0	19
SW6020	7440-38-2	Arsenic	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-39-3	Barium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-41-7	Beryllium	18	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-43-9	Cadmium	18	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW6020	7440-47-3	Chromium	18	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-48-4	Cobalt	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-50-8	Copper	18	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	3
SW6020	7440-62-2	Vanadium	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-66-6	Zinc	18	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	11
SW6020	7782-49-2	Selenium	18	0	0	0	0	0	0	8	0	15	0	0	0	0	3	0	0	0	0	0	0	26
SW6020	7429-90-5	Aluminum	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW7471A	7439-97-6	Mercury	18	0	0	1	1	2	0	10	0	1	0	0	0	0	0	1	0	0	0	0	0	12
SW8260B	100-41-4	Ethylbenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	100-42-5	Styrene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	10061-01-5	cis-1,3-Dichloropropene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	10061-02-6	trans-1,3-Dichloropropene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	106-46-7	1,4-Dichlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	106-93-4	Ethylene dibromide	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	107-06-2	1,2-Dichloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	108-10-1	4-Methyl-2-pentanone	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	108-88-3	Toluene	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	108-90-7	Chlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	110-82-7	Cyclohexane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	120-82-1	1,2,4-Trichlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	123-91-1	1,4-Dioxane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3

Table 2-5
Summary of PRI 6 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code															
Analytical Method	**CAS #**	**Chemical Name**	**Number of Samples Analyzed**	**MS/MSD RPD 6**	**LCS RPD 7**	**FD RPD 17**	**Analytical Duplicate Precision 19**	**Data Precision Reason Code Sum**	**Preservation/ Holding Time 1**	**Detection > DL but < QL 2**	**Laboratory Blank Detection 3**	**MS or MSD Recovery 4**	**LCS Recovery 5**	**Surrogate Recovery 8**	**Estimated Maximum Potential Conc. 9**	**Outside Calibration Range 11**	**Calibration Criteria 12**	**Equipment Blank 13**	**Internal Standard 14**	**Serial Dilution 15**	**Column Difference 16**	**Sample Receipt Temp 18**	**Other 99**	**Data Accuracy Reason Code Sum**
SW8260B	124-48-1	Dibromochloromethane	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	2	0	0	0	0	7
SW8260B	127-18-4	Tetrachloroethene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	156-59-2	cis-1,2-Dichloroethene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	156-60-5	trans-1,2-Dichloroethene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	1634-04-4	Methyl tert-butyl ether	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	179601-23-1	m,p-Xylenes	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	541-73-1	1,3-Dichlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	56-23-5	Carbon tetrachloride	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	591-78-6	2-Hexanone	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	67-64-1	Acetone	18	0	0	0	0	0	0	2	0	0	0	0	0	0	0	7	2	0	0	0	0	11
SW8260B	67-66-3	Chloroform	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	2	0	0	0	0	11
SW8260B	71-43-2	Benzene	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	71-55-6	1,1,1-Trichloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	74-83-9	Methyl bromide	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	74-87-3	Methyl chloride	18	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	2	0	0	0	0	9
SW8260B	74-97-5	Chlorobromomethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	75-00-3	Chloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	75-01-4	Vinyl chloride	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	75-09-2	Methylene chloride	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	75-15-0	Carbon disulfide	18	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	2	0	0	0	0	13
SW8260B	75-25-2	Bromoform	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2	0	0	0	0	5
SW8260B	75-27-4	Bromodichloromethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	0	0	0	0	8
SW8260B	75-34-3	1,1-Dichloroethane	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	75-35-4	1,1-Dichloroethene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	75-69-4	Freon 11	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	75-71-8	Freon 12	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	76-13-1	Freon 113	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	78-87-5	1,2-Dichloropropane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	78-93-3	2-Butanone	18	0	0	0	0	0	0	9	4	0	0	0	0	0	0	0	2	0	0	0	0	15
SW8260B	79-00-5	1,1,2-Trichloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	79-01-6	Trichloroethene	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	79-34-5	1,1,2,2-Tetrachloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	87-61-6	1,2,3-Trichlorobenzene	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	3
SW8260B	95-47-6	o-Xylene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	95-50-1	1,2-Dichlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	96-12-8	1,2-Dibromo-3-chloropropane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8260B	98-82-8	Isopropylbenzene (Cumene)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW8270_SIM	118-74-1	Hexachlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	62-75-9	n-Nitrosodimethylamine	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-68-3	Hexachlorobutadiene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-86-5	Pentachlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	88-06-2	2,4,6-Trichlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-01-6	p-Nitroaniline	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-02-7	4-Nitrophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-52-7	Benzaldehyde	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	101-55-3	4-Bromophenyl phenyl ether	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	105-67-9	2,4-Dimethylphenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	106-47-8	p-Chloroaniline	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-60-1	2,2-Oxybis(1-chloropropane)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-95-2	Phenol	18	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW8270C	111-44-4	Dichloroethyl ether	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-91-1	Bis(2-chloroethoxy)methane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-81-7	Bis(2-ethylhexyl)phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-84-0	Di-n-octyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	120-83-2	2,4-Dichlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	121-14-2	2,4-Dinitrotoluene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	131-11-3	Dimethyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	132-64-9	Dibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	15831-10-4	3 & 4 Methylphenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	51-28-5	2,4-Dinitrophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2-5
Summary of PRI 6 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD 6	LCS RPD 7	FD RPD 17	Analytical Duplicate Precision 19		Preservation/ Holding Time 1	Detection > DL but < QL 2	Laboratory Blank Detection 3	MS or MSD Recovery 4	LCS Recovery 5	Surrogate Recovery 8	Estimated Maximum Potential Conc. 9	Outside Calibration Range 11	Calibration Criteria 12	Equipment Blank 13	Internal Standard 14	Serial Dilution 15	Column Difference 16	Sample Receipt Temp 18	Other 99	
SW8270C	534-52-1	Dinitro-o-cresol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	58-90-2	2,3,4,6-Tetrachlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	59-50-7	4-Chloro-3-methylphenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	606-20-2	2,6-Dinitrotoluene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	608-93-5	Pentachlorobenzene	18	0	0	0	0	0	0	2	0	0	9	0	0	0	0	0	0	0	0	0	0	11
SW8270C	621-64-7	n-Nitrosodi-n-propylamine	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	67-72-1	Hexachloroethane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	7005-72-3	4-Chlorophenyl phenyl ether	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	77-47-4	Hexachlorocyclopentadiene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	78-59-1	Isophorone	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-66-2	Diethyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-74-2	Dibutyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	85-68-7	Benzyl butyl phthalate	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-30-6	n-Nitrosodiphenylamine	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-74-8	Carbazole	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-74-4	2-Nitroaniline	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-75-5	2-Nitrophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-58-7	2-Chloronaphthalene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-94-1	3,3'-Dichlorobenzidine	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	92-52-4	Biphenyl	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-48-7	o-Cresol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-57-8	2-Chlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-94-3	1,2,4,5-Tetrachlorobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-95-4	2,4,5-Trichlorophenol	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	98-86-2	Acetophenone	18	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
SW8270C	98-95-3	Nitrobenzene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	99-09-2	3-Nitroaniline	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	120-12-7	Anthracene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	129-00-0	Pyrene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	191-24-2	Benzo(g,h,i)perylene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	193-39-5	Indeno(1,2,3-cd)pyrene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	205-99-2	Benzo(b)fluoranthene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	206-44-0	Fluoranthene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	207-08-9	Benzo(k)fluoranthene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	208-96-8	Acenaphthylene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	218-01-9	Chrysene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	50-32-8	Benzo(a)pyrene	18	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
SW8270C_SIM	53-70-3	Dibenzo(a,h)anthracene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	56-55-3	Benzo(a)anthracene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	83-32-9	Acenaphthene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	85-01-8	Phenanthrene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	86-73-7	Fluorene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	91-20-3	Naphthalene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
SW8270C_SIM	91-57-6	2-Methylnaphthalene	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	3	0	0	0	0	5	0	0	0	0	0	0	0	0	8
SW8290	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	0	1	6
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	18	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	1	0	0	0	0	6
SW8290	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0	0	0	6
SW8290	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	18	0	0	1	0	1	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	5
SW8290	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	9	0	0	0	0	3	0	0	0	0	0	0	0	1	13
SW8290	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	1	11
SW8290	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8290	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	18	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	7
SW8290	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	18	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	1	5
SW8290	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	18	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	1	0	0	0	1	5
SW8290	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	18	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	1	7
SW8290	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	18	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	5
SW8290	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	18	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	5
SW8290	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	18	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	5

Table 2-5
Summary of PRI 6 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code																
Analytical Method	**CAS #**	**Chemical Name**	**Number of Samples Analyzed**	**MS/MSD RPD**	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	**Data Precision Reason Code Sum**	**Preservation/ Holding Time**	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**Estimated Maximum Potential Conc.**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	**Other**	**Data Accuracy Reason Code Sum**
				6	**7**	**17**	**19**		**1**	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	**99**	
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	18	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	4
SW9012	74-90-8	Cyanide, Total	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9045	PH25	pH at 25 deg C	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9060A	TOC	Total organic carbon	18	0	0	0	0	0	0	8	0	0	2	0	0	0	0	0	0	0	0	0	0	10
2540G	TSO	Total solids	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8270D-SIM/680(M)	38380-08-4	Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	11	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8270D-SIM/680(M)	69782-90-7	Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	11	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8270D-SIM/680(M)	PCB-107/123	PCB-107/123	11	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
CALC	CALC_DX_0	Calculated TEQ (ND=0), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_0_AV	Calculated TEQ (ND=0), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2	Calculated TEQ (ND=1/2 DL), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_2_Av	Calculated TEQ (ND=1/2 DL), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			SUM	0	0	2	1	3	0	229	23	48	11	0	18	4	56	38	110	10	0	0	11	558

<u>Notes:</u>
DL = Detection Limit
FD = Field Duplicate
LCSD = Laboratory Control Sample
MS = Matrix Spike
MSD = Matrix Spike Duplicate
ND = Not Detected
PCB = Polychlorinated biphenyl
PRI = Preliminary Remedial Investigation
RPD = Relative Percent Difference
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
QL = Quantitation Limit

Table 2-6

Summary of PRI 7 Data Qualifiers - Precision and Accuracy

OU-1 Phase 1A-B RI Data Report

US Magnesium, LLC

Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation/ Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
E1668A	2051-24-3	Decachlorobiphenyl-209	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
E1668A	1336-36-3	Total PCBs	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
E1668A	25323-68-	Trichlorobiphenyl homologs	25	0	0	0	0	0	0	5	0	0	0	0	0	0	1	0	1	0	0	0	0	7
E1668A	25429-29-	Pentachlorobiphenyl homologs	25	0	0	0	0	0	0	3	0	0	0	0	0	0	8	0	1	0	0	0	0	12
E1668A	25512-42-	Dichlorobiphenyl homologs	25	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	1	0	0	0	0	6
E1668A	26601-64-	Hexachlorobiphenyl homologs	25	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	2	0	0	0	0	6
E1668A	26914-33-	Tetrachlorobiphenyl homologs	25	0	0	0	0	0	0	4	0	0	0	0	0	0	14	0	1	0	0	0	0	19
E1668A	27323-18-	Monochlorobiphenyl homologs	25	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	1	0	0	0	0	7
E1668A	28655-71-	Heptachlorobiphenyl homologs	25	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	5
E1668A	31508-00-	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
E1668A	32598-13-	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	20	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	4
E1668A	32598-14-	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	20	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	3
E1668A	32774-16-	Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	20	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
E1668A	39635-31-	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	20	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	1	0	0	0	0	5
E1668A	52663-72-	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	20	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	3
E1668A	53742-07-	Nonachlorobiphenyl homologs	25	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	4
E1668A	55722-26-	Octachlorobiphenyl homologs	25	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	4
E1668A	57465-28-	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
E1668A	65510-44-	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	10	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
E1668A	70362-50-	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	20	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	1	0	0	0	0	9
E1668A	74472-37-	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	20	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
E1668A	PCB156_1	PCB-156 & 157	10	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	5
E314.0	14797-73-	Perchlorate	26	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW6010B	7439-95-4	Magnesium	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-09-7	Potassium	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-23-5	Sodium	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7440-70-2	Calcium	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6010B	7439-89-6	Iron	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7439-92-1	Lead	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
SW6020	7439-96-5	Manganese	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7439-98-7	Molybdenum	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-02-0	Nickel	19	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	3	0	0	0	12
SW6020	7440-22-4	Silver	19	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
SW6020	7440-28-0	Thallium	19	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
SW6020	7440-36-0	Antimony	19	0	0	0	0	0	0	1	0	14	0	0	0	0	0	0	0	0	0	0	0	15
SW6020	7440-38-2	Arsenic	19	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7440-39-3	Barium	19	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-41-7	Beryllium	19	0	0	0	0	0	0	2	0	9	0	0	0	0	0	0	0	0	0	0	0	11
SW6020	7440-43-9	Cadmium	19	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7440-47-3	Chromium	19	3	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7440-48-4	Cobalt	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-50-8	Copper	19	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	3	0	0	0	15
SW6020	7440-62-2	Vanadium	19	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	9
SW6020	7440-66-6	Zinc	19	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	12
SW6020	7782-49-2	Selenium	19	0	0	0	0	0	0	2	0	14	0	0	0	0	0	0	0	0	0	0	0	16
SW6020	7429-90-5	Aluminum	19	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW7471A	7439-97-6	Mercury	19	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
SW8260B	100-41-4	Ethylbenzene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	100-42-5	Styrene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	10061-01-	cis-1,3-Dichloropropene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	10061-02-	trans-1,3-Dichloropropene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	106-46-7	1,4-Dichlorobenzene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	106-93-4	Ethylene dibromide	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	107-06-2	1,2-Dichloroethane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	108-10-1	4-Methyl-2-pentanone	19	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8260B	108-88-3	Toluene	19	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8260B	108-90-7	Chlorobenzene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	110-82-7	Cyclohexane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	120-82-1	1,2,4-Trichlorobenzene	19	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
SW8260B	123-91-1	1,4-Dioxane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4

Table 2-6
Summary of PRI 7 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation/ Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
SW8260B	124-48-1	Dibromochloromethane	19	0	0	0	0	0	0	4	0	0	0	0	0	0	0	3	0	0	0	0	0	7
SW8260B	127-18-4	Tetrachloroethene	19	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8260B	156-59-2	cis-1,2-Dichloroethene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	156-60-5	trans-1,2-Dichloroethene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	1634-04-4	Methyl tert-butyl ether	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	179601-23	m,p-Xylenes	19	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8260B	541-73-1	1,3-Dichlorobenzene	19	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
SW8260B	56-23-5	Carbon tetrachloride	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	591-78-6	2-Hexanone	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	67-64-1	Acetone	19	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	6
SW8260B	67-66-3	Chloroform	19	0	0	0	0	0	0	5	0	0	0	0	0	0	0	6	0	0	0	0	0	11
SW8260B	71-43-2	Benzene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	71-55-6	1,1,1-Trichloroethane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	74-83-9	Methyl bromide	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	74-87-3	Methyl chloride	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	74-97-5	Chlorobromomethane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-00-3	Chloroethane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-01-4	Vinyl chloride	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-09-2	Methylene chloride	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-15-0	Carbon disulfide	19	0	0	0	0	0	0	8	0	0	0	0	0	0	0	1	0	0	0	0	0	9
SW8260B	75-25-2	Bromoform	19	0	0	0	0	0	0	3	0	0	0	0	0	0	0	5	0	0	0	0	0	8
SW8260B	75-27-4	Bromodichloromethane	19	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	3
SW8260B	75-34-3	1,1-Dichloroethane	19	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8260B	75-35-4	1,1-Dichloroethene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-69-4	Freon 11	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	75-71-8	Freon 12	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	76-13-1	Freon 113	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	78-87-5	1,2-Dichloropropane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	78-93-3	2-Butanone	19	0	0	0	0	0	0	2	4	0	0	0	0	0	0	1	0	0	0	0	0	7
SW8260B	79-00-5	1,1,2-Trichloroethane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	79-01-6	Trichloroethene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	79-34-5	1,1,2,2-Tetrachloroethane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	87-61-6	1,2,3-Trichlorobenzene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	95-47-6	o-Xylene	19	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
SW8260B	95-50-1	1,2-Dichlorobenzene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	96-12-8	1,2-Dibromo-3-chloropropane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8260B	98-82-8	Isopropylbenzene (Cumene)	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	118-74-1	Hexachlorobenzene	19	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
SW8270_SIM	62-75-9	n-Nitrosodimethylamine	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-68-3	Hexachlorobutadiene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	87-86-5	Pentachlorophenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270_SIM	88-06-2	2,4,6-Trichlorophenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-01-6	p-Nitroaniline	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-02-7	4-Nitrophenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	100-52-7	Benzaldehyde	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	101-55-3	4-Bromophenyl phenyl ether	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	105-67-9	2,4-Dimethylphenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	106-47-8	p-Chloroaniline	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	108-60-1	2,2-Oxybis(1-chloropropane)	19	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SW8270C	108-95-2	Phenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-44-4	Dichloroethyl ether	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	111-91-1	Bis(2-chloroethoxy)methane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-81-7	Bis(2-ethylhexyl)phthalate	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	117-84-0	Di-n-octyl phthalate	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	120-83-2	2,4-Dichlorophenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	121-14-2	2,4-Dinitrotoluene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	131-11-3	Dimethyl phthalate	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	132-64-9	Dibenzofuran	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	15831-10-	3 & 4 Methylphenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	51-28-5	2,4-Dinitrophenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2-6
Summary of PRI 7 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS #	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Data Precision Reason Code Sum	Data Accuracy Reason Code															Data Accuracy Reason Code Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision		Preservation/ Holding Time	Detection > DL but < QL	Laboratory Blank Detection	MS or MSD Recovery	LCS Recovery	Surrogate Recovery	Estimated Maximum Potential Conc.	Outside Calibration Range	Calibration Criteria	Equipment Blank	Internal Standard	Serial Dilution	Column Difference	Sample Receipt Temp	Other	
				6	7	17	19		1	2	3	4	5	8	9	11	12	13	14	15	16	18	99	
SW8270C	534-52-1	Dinitro-o-cresol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	58-90-2	2,3,4,6-Tetrachlorophenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	59-50-7	4-Chloro-3-methylphenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	606-20-2	2,6-Dinitrotoluene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	608-93-5	Pentachlorobenzene	19	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
SW8270C	621-64-7	n-Nitrosodi-n-propylamine	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	67-72-1	Hexachloroethane	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	7005-72-3	4-Chlorophenyl phenyl ether	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	77-47-4	Hexachlorocyclopentadiene	19	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SW8270C	78-59-1	Isophorone	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-66-2	Diethyl phthalate	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	84-74-2	Dibutyl phthalate	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	85-68-7	Benzyl butyl phthalate	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-30-6	n-Nitrosodiphenylamine	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	86-74-8	Carbazole	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-74-4	2-Nitroaniline	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	88-75-5	2-Nitrophenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-58-7	2-Chloronaphthalene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	91-94-1	3,3'-Dichlorobenzidine	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	92-52-4	Biphenyl	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-48-7	o-Cresol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-57-8	2-Chlorophenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-94-3	1,2,4,5-Tetrachlorobenzene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	95-95-4	2,4,5-Trichlorophenol	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	98-86-2	Acetophenone	19	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	12
SW8270C	98-95-3	Nitrobenzene	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C	99-09-2	3-Nitroaniline	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8270C_SIM	120-12-7	Anthracene	19	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
SW8270C_SIM	129-00-0	Pyrene	19	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
SW8270C_SIM	191-24-2	Benzo(g,h,i)perylene	19	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	193-39-5	Indeno(1,2,3-cd)pyrene	19	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	205-99-2	Benzo(b)fluoranthene	19	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
SW8270C_SIM	206-44-0	Fluoranthene	19	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
SW8270C_SIM	207-08-9	Benzo(k)fluoranthene	19	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	208-96-8	Acenaphthylene	19	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	218-01-9	Chrysene	19	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4
SW8270C_SIM	50-32-8	Benzo(a)pyrene	19	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
SW8270C_SIM	53-70-3	Dibenzo(a,h)anthracene	19	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SW8270C_SIM	56-55-3	Benzo(a)anthracene	19	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
SW8270C_SIM	83-32-9	Acenaphthene	19	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
SW8270C_SIM	85-01-8	Phenanthrene	19	0	0	0	0	0	0	2	1	0	0	1	0	0	0	1	0	0	0	0	0	5
SW8270C_SIM	86-73-7	Fluorene	19	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
SW8270C_SIM	91-20-3	Naphthalene	19	0	0	0	0	0	0	2	2	0	0	1	0	0	0	2	0	0	0	0	0	7
SW8270C_SIM	91-57-6	2-Methylnaphthalene	19	0	0	0	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	19	0	0	0	0	0	0	6	0	0	0	0	4	0	0	0	0	0	0	0	0	10
SW8290	19408-74-	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19	0	0	0	0	0	0	14	0	0	0	0	1	0	0	0	0	0	0	0	1	16
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	19	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8290	35822-46-	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	19	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
SW8290	39001-02-	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	19	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	39227-28-	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	19	0	0	0	0	0	0	9	0	0	0	0	4	0	0	0	0	0	0	0	1	14
SW8290	40321-76-	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	19	0	0	0	0	0	0	10	0	0	0	0	2	0	0	0	0	0	0	0	0	12
SW8290	55673-89-	1,2,3,4,7,8,9-Heptachlorodibenzofuran	19	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8290	57117-31-	2,3,4,7,8-Pentachlorodibenzofuran	19	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	5
SW8290	57117-41-	1,2,3,7,8-Pentachlorodibenzofuran	19	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3
SW8290	57117-44-	1,2,3,6,7,8-Hexachlorodibenzofuran	19	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
SW8290	57653-85-	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	19	0	0	0	0	0	0	13	0	0	0	0	1	0	0	0	0	0	0	0	1	15
SW8290	60851-34-	2,3,4,6,7,8-Hexachlorodibenzofuran	19	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	4
SW8290	67562-39-	1,2,3,4,6,7,8-Heptachlorodibenzofuran	19	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	70648-26-	1,2,3,4,7,8-Hexachlorodibenzofuran	19	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
SW8290	72918-21-	1,2,3,7,8,9-Hexachlorodibenzofuran	19	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	7

Table 2-6
Summary of PRI 7 Data Qualifiers - Precision and Accuracy
OU-1 Phase 1A-B RI Data Report
US Magnesium, LLC
Tooele County, Utah

				Data Precision Reason Code					Data Accuracy Reason Code															
Analytical Method	**CAS #**	**Chemical Name**	**Number of Samples Analyzed**	**MS/MSD RPD**	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	**Data Precision Reason Code Sum**	**Preservation/ Holding Time**	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**Estimated Maximum Potential Conc.**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	**Other**	**Data Accuracy Reason Code Sum**
				6	**7**	**17**	**19**		**1**	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	**99**	
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	19	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
SW9012	74-90-8	Cyanide, Total	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9045	PH25	pH at 25 deg C	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW9060A	TOC	Total organic carbon	19	0	0	0	1	1	0	6	4	0	0	0	0	0	0	0	0	0	0	0	0	10
2540G	TSO	Total solids	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8270D-SIM/680(	38380-08-	Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8270D-SIM/680(	69782-90-	Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	10	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8270D-SIM/680(	PCB-107/1	PCB-107/123	10	0	0	0	0	0	0	1	0	0	0	0	0	0	5	0	0	0	0	0	0	6
CALC	CALC_DX_	Calculated TEQ (ND=0), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_	Calculated TEQ (ND=0), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_	Calculated TEQ (ND=1/2 DL), Mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CALC	CALC_DX_	Calculated TEQ (ND=1/2 DL), Avian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			SUM	9	0	0	6	15	0	259	24	85	3	17	13	0	39	29	27	6	0	0	10	512

<u>Notes:</u>
DL = Detection Limit
FD = Field Duplicate
LCSD = Laboratory Control Sample
MS = Matrix Spike
MSD = Matrix Spike Duplicate
ND = Not Detected
PCB = Polychlorinated biphenyl
PRI = Preliminary Remedial Investigation
RPD = Relative Percent Difference
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
QL = Quantitation Limit

Table 3-1
PRI 1 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Minimum RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	34	34	430000	2.6			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Mammal	CALC_DX_2	pg/g	34	34	430000	2.7			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	34	34	56000000	14			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	34	34	56000000	360			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total PCBs	1336-36-3	mg/kg	34	34	172	0.0028			YES	0.000332	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Aluminum	7429-90-5	mg/kg	34	34	20000	190			YES	5	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Antimony	7440-36-0	mg/kg	34	31	23	0.12	0.11	0.12	YES	0.27	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Arsenic	7440-38-2	mg/kg	34	34	210	4.8			YES	3	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Barium	7440-39-3	mg/kg	34	34	1200	35			YES	20	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Beryllium	7440-41-7	mg/kg	34	33	1	0.077	0.12	0.12	YES	21	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cadmium	7440-43-9	mg/kg	34	27	0.58	0.045	0.035	0.066	YES	0.36	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Calcium	7440-70-2	mg/kg	34	34	270000	8500			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Chromium	7440-47-3	mg/kg	34	34	90	2.8			YES	26	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cobalt	7440-48-4	mg/kg	34	34	11	0.78			YES	10	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Copper	7440-50-8	mg/kg	34	34	150	1.3			YES	28	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Iron	7439-89-6	mg/kg	34	34	230000	2500			YES	20000	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Lead	7439-92-1	mg/kg	34	34	57	1.1			YES	11	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Magnesium	7439-95-4	mg/kg	34	34	54000	3400			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Manganese	7439-96-5	mg/kg	34	34	540	24			YES	220	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Mercury	7439-97-6	mg/kg	33	16	0.21	0.013	0.01	0.049	YES	0.00051	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Total Molybdenum	7439-98-7	mg/kg	34	34	110	0.38			YES	2	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Nickel	7440-02-0	mg/kg	34	34	52	2.3			YES	20.9	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Potassium	7440-09-7	mg/kg	34	34	5600	38			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Selenium	7782-49-2	mg/kg	34	28	1.7	0.12	0.11	0.13	YES	0.1	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Silver	7440-22-4	mg/kg	34	17	0.2	0.035	0.021	0.047	YES	0.5	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Sodium	7440-23-5	mg/kg	34	34	23000	370			NO	NSV	N/A, NSV	YES	NO-UNCERTAIN	UNCERTAIN	N/A, NSV	--	--	UNCERTAIN
Total Thallium	7440-28-0	mg/kg	34	31	0.52	0.04	0.057	0.066	YES	0.01	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Vanadium	7440-62-2	mg/kg	34	34	440	11			YES	7.8	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Zinc	7440-66-6	mg/kg	34	34	420	3.7			YES	46	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
1,1'-Biphenyl	92-52-4	mg/kg	34	0			1.8	300	YES	20	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	34	2	0.54	0.4	0.28	48	YES	1.252	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	34	0			0.89	150	YES	0.129	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,5-Trichlorophenol	95-95-4	mg/kg	34	0			0.9	150	YES	0.003	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,6-Trichlorophenol	88-06-2	mg/kg	34	1	0.72	0.72	0.048	4.8	YES	0.006	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	34	0			0.86	150	YES	19.9	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
2,4-Dichlorophenol	120-83-2	mg/kg	34	0			0.96	160	YES	0.0002083	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dimethylphenol	105-67-9	mg/kg	34	0			1.8	310	YES	0.01	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrophenol	51-28-5	mg/kg	34	0			2.3	390	YES	0.00621	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrotoluene	121-14-2	mg/kg	34	0			0.96	160	YES	0.0144	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,6-Dinitrotoluene	606-20-2	mg/kg	34	0			1.1	180	YES	0.0328	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chloronaphthalene	91-58-7	mg/kg	34	0			0.88	150	YES	0.0122	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chlorophenol	95-57-8	mg/kg	34	0			0.95	160	YES	0.000333	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylphenol	95-48-7	mg/kg	34	0			0.63	110	YES	0.008	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Nitroaniline	88-74-4	mg/kg	34	0			0.91	150	YES	74.1	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
2-Nitrophenol	88-75-5	mg/kg	34	0			0.89	150	YES	1.6	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
3,3'-Dichlorobenzidine	91-94-1	mg/kg	34	0			1	170	YES	0.127	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
3-Nitroaniline	99-09-2	mg/kg	34	0			1.8	310	YES	3.16	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	34	0			0.88	150	YES	0.104	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Bromophenyl-phenylether	101-55-3	mg/kg	34	0			0.92	160	YES	1.55	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chloro-3-methylphenol	59-50-7	mg/kg	34	0			1	170	YES	0.388	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chloroaniline	106-47-8	mg/kg	34	0			0.63	110	YES	0.146	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	34	0			1	170	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
3 & 4 Methylphenol	15831-10-4	mg/kg	34	1	56	56	3.6	610	YES	0.0202	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
4-Nitroaniline	100-01-6	mg/kg	34	0			0.95	160	YES	21.9	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
4-Nitrophenol	100-02-7	mg/kg	34	0			3	520	YES	0.0133	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Acetophenone	98-86-2	mg/kg	34	1	5.6	5.6	0.27	46	YES	300	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzaldehyde	100-52-7	mg/kg	34	0			1.8	300	YES	820	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzylbutylphthalate	85-68-7	mg/kg	34	0			1	180	YES	0.063	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	34	0			0.95	160	YES	0.302	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
bis(2-Chloroethyl) ether	111-44-4	mg/kg	34	0			0.88	150	YES	1	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	34	0			1.1	180	YES	0.182	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Carbazole	86-74-8	mg/kg	34	0			1	180	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
Dibenzofuran	132-64-9	mg/kg	34	0			0.93	160	YES	0.11	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Diethyl phthalate	84-66-2	mg/kg	34	0			0.98	170	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Dimethylphthalate	131-11-3	mg/kg	34	0			0.94	160	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Di-n-butylphthalate	84-74-2	mg/kg	34	0			1.1	180	YES	0.15	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN

Table 3-1
PRI 1 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Minimum RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Di-n-octylphthalate	117-84-0	mg/kg	34	0			1.1	180	YES	0.58	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachlorobenzene	118-74-1	mg/kg	34	31	5500	0.035	0.069	2	YES	0.006	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Hexachlorobutadiene	87-68-3	mg/kg	34	8	27	0.9	0.04	0.65	YES	0.0013	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Hexachlorocyclopentadiene	77-47-4	mg/kg	34	0			0.67	110	YES	0.0266	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachloroethane	67-72-1	mg/kg	34	0			0.88	150	YES	0.073	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Isophorone	78-59-1	mg/kg	34	0			1	170	YES	0.432	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Nitrobenzene	98-95-3	mg/kg	34	0			0.82	140	YES	0.021	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodimethylamine	62-75-9	mg/kg	34	0			1	110	YES	0.0000321	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	34	0			0.91	150	YES	0.33	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodiphenylamine	86-30-6	mg/kg	34	0			0.93	160	YES	0.028	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Pentachlorobenzene	608-93-5	mg/kg	34	18	260	0.29	0.14	2.3	YES	93	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Pentachlorophenol	87-86-5	mg/kg	34	4	10	0.34	0.26	26	YES	0.017	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Phenol	108-95-2	mg/kg	34	0			0.9	150	YES	0.0491	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylnaphthalene	91-57-6	mg/kg	34	27	10	0.0008	0.00048	0.04	YES	0.0202	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Acenaphthene	83-32-9	mg/kg	34	3	0.15	0.015	0.00053	0.23	YES	0.00671	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Acenaphthylene	208-96-8	mg/kg	34	5	0.5	0.0029	0.00037	0.16	YES	0.00587	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Anthracene	120-12-7	mg/kg	34	2	0.13	0.12	0.00045	0.19	YES	0.0572	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzo(a)anthracene	56-55-3	mg/kg	34	4	0.13	0.0016	0.00034	0.15	YES	0.108	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzo(a)pyrene	50-32-8	mg/kg	34	22	0.98	0.0012	0.00045	0.052	YES	0.15	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Benzo(b)fluoranthene	205-99-2	mg/kg	34	4	0.13	0.0026	0.00057	0.25	YES	0.037	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzo(g,h,i)perylene	191-24-2	mg/kg	34	2	0.028	0.0025	0.0011	0.49	YES	0.17	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzo(k)fluoranthene	207-08-9	mg/kg	34	1	0.0065	0.0065	0.00086	0.37	YES	0.037	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Chrysene	218-01-9	mg/kg	34	5	0.14	0.00083	0.00039	0.17	YES	0.166	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Dibenzo(a,h)anthracene	53-70-3	mg/kg	34	0			0.0014	0.58	YES	0.033	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Fluoranthene	206-44-0	mg/kg	34	12	0.49	0.00033	0.00033	0.14	YES	0.423	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Fluorene	86-73-7	mg/kg	34	8	0.34	0.018	0.00055	0.49	YES	0.019	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	34	5	0.073	0.0012	0.00054	0.23	YES	0.03	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Naphthalene	91-20-3	mg/kg	34	7	2.8	0.02	0.00039	0.36	YES	0.16	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Phenanthrene	85-01-8	mg/kg	34	6	0.71	0.038	0.00057	0.29	YES	0.204	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Pyrene	129-00-0	mg/kg	34	8	0.4	0.0012	0.00039	0.17	YES	0.195	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dioxane	123-91-1	mg/kg	34	0			0.037	0.25	YES	0.119	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,1-Dichloroethane	75-34-3	mg/kg	34	7	0.013	0.00066	0.00027	0.0013	YES	0.000575	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,1-Dichloroethene	75-35-4	mg/kg	34	7	0.007	0.00061	0.00024	0.0012	YES	0.0194	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	34	0			0.00083	0.0056	YES	0.0352	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromoethane	106-93-4	mg/kg	34	0			0.00025	0.0017	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichlorobenzene	95-50-1	mg/kg	34	1	0.002	0.002	0.0006	0.0041	YES	0.013	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloroethane	107-06-2	mg/kg	34	0			0.00069	0.0047	YES	0.26	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,2-Dichloroethene	156-59-2	mg/kg	34	4	0.0065	0.003	0.00084	0.0057	YES	230	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,2-Dichloroethene	156-60-5	mg/kg	34	0			0.00036	0.0024	YES	0.654	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloropropane	78-87-5	mg/kg	34	0			0.00056	0.0038	YES	0.333	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,3-Dichlorobenzene	541-73-1	mg/kg	34	3	0.0049	0.00061	0.00028	0.0019	YES	1.315	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,3-Dichloropropene	10061-01-5	mg/kg	34	0			0.0006	0.0041	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,3-Dichloropropene	10061-02-6	mg/kg	34	0			0.00071	0.0048	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dichlorobenzene	106-46-7	mg/kg	34	3	0.31	0.0028	0.00073	0.005	YES	0.11	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,1-Trichloroethane	71-55-6	mg/kg	34	6	0.011	0.00097	0.00034	0.0016	YES	0.213	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloroethane	79-00-5	mg/kg	34	0			0.00041	0.0028	YES	0.518	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloro-1,2,2-trifluoroethane (F	76-13-1	mg/kg	34	0			0.00078	0.0053	YES	17000	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,3-Trichlorobenzene	87-61-6	mg/kg	34	1	0.0078	0.0078	0.00071	0.0048	YES	20	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,4-Trichlorobenzene	120-82-1	mg/kg	34	10	0.041	0.0013	0.00071	0.0048	YES	0.0048	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	34	0			0.00064	0.0043	YES	0.127	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Butanone	78-93-3	mg/kg	34	22	0.096	0.0025	0.0013	0.011	YES	0.0424	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
2-Hexanone	591-78-6	mg/kg	34	2	0.014	0.0069	0.0007	0.0047	YES	0.0582	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Methyl-2-pentanone	108-10-1	mg/kg	34	4	0.043	0.0057	0.00087	0.0059	YES	0.0251	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acetone	67-64-1	mg/kg	34	12	0.24	0.023	0.0015	0.054	YES	0.0099	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzene	71-43-2	mg/kg	34	10	0.0033	0.00044	0.00024	0.0017	YES	0.142	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromochloromethane	74-97-5	mg/kg	34	5	0.016	0.0033	0.00088	0.006	YES	63	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromodichloromethane	75-27-4	mg/kg	34	14	7.9	0.013	0.0005	0.0064	YES	0.54	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromoform	75-25-2	mg/kg	34	15	37	0.0092	0.00038	0.00088	YES	0.492	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromomethane	74-83-9	mg/kg	34	1	0.0028	0.0028	0.00081	0.0055	YES	0.00137	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Carbon disulfide	75-15-0	mg/kg	34	22	0.035	0.0011	0.00046	0.0031	YES	0.0239	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Carbon tetrachloride	56-23-5	mg/kg	34	14	1.8	0.0016	0.0005	0.0014	YES	1.45	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chlorobenzene	108-90-7	mg/kg	34	6	0.022	0.00066	0.00027	0.0018	YES	0.291	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Cyclohexane	110-82-7	mg/kg	34	2	0.047	0.0044	0.0025	0.017	YES	2700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibromochloromethane	124-48-1	mg/kg	34	17	20	0.0011	0.0002	0.00046	YES	2.05	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Chloroethane	75-00-3	mg/kg	34	7	0.042	0.0036	0.00042	0.002	YES	5700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloroform	67-66-3	mg/kg	34	16	3.5	0.012	0.00024	0.017	YES	0.0594	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE

Table 3-1
PRI 1 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Minimum RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Chloromethane	74-87-3	mg/kg	34	9	0.029	0.0026	0.00047	0.0048	YES	10.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichlorodifluoromethane (Freon-12)	75-71-8	mg/kg	34	0			0.00084	0.0057	YES	37	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Ethyl benzene	100-41-4	mg/kg	34	10	0.16	0.00065	0.00032	0.0022	YES	0.004	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Isopropylbenzene	98-82-8	mg/kg	34	12	0.14	0.0015	0.00049	0.0033	YES	990	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Methyl tertbutyl ether (MTBE)	1634-04-4	mg/kg	34	0			0.00056	0.0038	YES	210	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichloromethane (Methylene chloride)	75-09-2	mg/kg	34	12	0.068	0.0018	0.00079	0.0037	YES	0.159	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Styrene	100-42-5	mg/kg	34	0			0.00029	0.002	YES	0.254	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Tetrachloroethene	127-18-4	mg/kg	34	17	1.6	0.0014	0.00057	0.0016	YES	0.057	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Toluene	108-88-3	mg/kg	34	11	0.099	0.0011	0.00057	0.0039	YES	1.22	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichloroethene	79-01-6	mg/kg	34	12	0.048	0.0012	0.00056	0.0027	YES	0.112	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichlorofluoromethane (Freon-11)	75-69-4	mg/kg	34	4	0.0036	0.00083	0.00032	0.0015	YES	16.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Vinyl chloride	75-01-4	mg/kg	34	1	0.0012	0.0012	0.00034	0.0023	YES	0.202	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
o-Xylene	95-47-6	mg/kg	34	13	0.53	0.0016	0.00031	0.0021	YES	0.004	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
m,p Xylenes	179601-23-1	mg/kg	34	13	1.3	0.0018	0.00076	0.0052	YES	0.004	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Perchlorate	14797-73-0	mg/kg	33	7	0.0021	0.00028	0.021	0.072	YES	82	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Organic Carbon	TOC	mg/kg	33	25	260000	420	1700	1700	NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
pH	PH25	pH units	34	34	9.79	1.57			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Cyanide, Total	74-90-8	mg/kg	33	4	1.5	0.4	0.23	0.53	YES	0.119	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Percent finer than 0.25 mm	%<0.25mm	%	34	34	99.1	30.3			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN

Notes:
-- = No relevant results
mg/kg = milligrams per kilogram
pg/g = picograms per gram
Empty cells = No results
Det = Detects
NA = Not Applicable
ND = Not Detected
NSV = No Screening Value
PCB = Polychlorinated biphenyl
pH = pH units
PRI = Preliminary Remedial Investigation
RBESL = Risk-based ecological screening level
RBSL = Risk-based screening level
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
USEPA = United States Environmental Protection Agency

Table 3-2
PRI 3 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	16	16	48000	46			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Mammal	CALC_DX_2	pg/g	16	16	48000	47			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	16	16	6900000	70			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	16	16	6900000	500			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total PCBs	1336-36-3	mg/kg	16	16	48.5	0.072			YES	0.000332	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Aluminum	7429-90-5	mg/kg	16	16	18000	3000			YES	5	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Antimony	7440-36-0	mg/kg	16	16	5.5	0.12			YES	0.27	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Arsenic	7440-38-2	mg/kg	16	16	19	4.2			YES	3	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Barium	7440-39-3	mg/kg	16	16	560	100			YES	20	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Beryllium	7440-41-7	mg/kg	16	16	1.4	0.15			YES	21	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cadmium	7440-43-9	mg/kg	16	16	3.4	0.12			YES	0.36	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Calcium	7440-70-2	mg/kg	16	16	190000	16000			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Chromium	7440-47-3	mg/kg	16	16	210	5.1			YES	26	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cobalt	7440-48-4	mg/kg	16	16	7.8	1.4			YES	10	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Copper	7440-50-8	mg/kg	16	16	870	9.2			YES	28	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Iron	7439-89-6	mg/kg	16	16	45000	3800			YES	20000	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Lead	7439-92-1	mg/kg	16	16	130	4.1			YES	11	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Magnesium	7439-95-4	mg/kg	16	16	19000	8800			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Manganese	7439-96-5	mg/kg	16	16	480	79			YES	220	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Mercury	7439-97-6	mg/kg	16	16	7.6	0.031			YES	0.00051	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Molybdenum	7439-98-7	mg/kg	16	16	14	0.55			YES	2	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Nickel	7440-02-0	mg/kg	16	16	63	4.7			YES	20.9	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Potassium	7440-09-7	mg/kg	16	16	5400	1100			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Selenium	7782-49-2	mg/kg	16	16	4.2	0.12			YES	0.1	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Silver	7440-22-4	mg/kg	16	16	31	0.043			YES	0.5	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Sodium	7440-23-5	mg/kg	16	16	5100	1200			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Thallium	7440-28-0	mg/kg	16	13	0.24	0.063	0.051	0.19	YES	0.01	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Vanadium	7440-62-2	mg/kg	16	16	79	12			YES	7.8	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Zinc	7440-66-6	mg/kg	16	16	2300	20			YES	46	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
1,1'-Biphenyl	92-52-4	mg/kg	16	0			1.7	36	YES	20	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	16	0			0.27	5.6	YES	1.252	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	16	0			0.84	18	YES	0.129	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,5-Trichlorophenol	95-95-4	mg/kg	16	0			0.85	18	YES	0.003	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,6-Trichlorophenol	88-06-2	mg/kg	16	0			0.045	0.74	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	16	0			0.81	17	YES	19.9	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2,4-Dichlorophenol	120-83-2	mg/kg	16	0			0.91	19	YES	0.0002083	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dimethylphenol	105-67-9	mg/kg	16	0			1.7	36	YES	0.01	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrophenol	51-28-5	mg/kg	16	0			2.2	46	YES	0.00621	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrotoluene	121-14-2	mg/kg	16	0			0.91	19	YES	0.0144	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,6-Dinitrotoluene	606-20-2	mg/kg	16	0			1	21	YES	0.0328	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chloronaphthalene	91-58-7	mg/kg	16	0			0.83	17	YES	0.0122	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chlorophenol	95-57-8	mg/kg	16	0			0.9	19	YES	0.000333	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylphenol	95-48-7	mg/kg	16	0			0.6	12	YES	0.008	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Nitroaniline	88-74-4	mg/kg	16	0			0.86	18	YES	74.1	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Nitrophenol	88-75-5	mg/kg	16	0			0.84	18	YES	1.6	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
3,3'-Dichlorobenzidine	91-94-1	mg/kg	16	0			0.97	20	YES	0.127	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
3-Nitroaniline	99-09-2	mg/kg	16	0			1.7	36	YES	3.16	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	16	0			0.83	17	YES	0.104	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Bromophenyl-phenylether	101-55-3	mg/kg	16	0			0.87	18	YES	1.55	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
4-Chloro-3-methylphenol	59-50-7	mg/kg	16	0			0.95	20	YES	0.388	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chloroaniline	106-47-8	mg/kg	16	0			0.6	12	YES	0.146	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	16	0			0.96	20	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
3 & 4 Methylphenol	15831-10-4	mg/kg	16	0			3.4	71	YES	0.0202	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Nitroaniline	100-01-6	mg/kg	16	0			0.9	19	YES	21.9	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Nitrophenol	100-02-7	mg/kg	16	0			2.9	60	YES	0.0133	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Acetophenone	98-86-2	mg/kg	16	0			0.26	5.4	YES	300	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzaldehyde	100-52-7	mg/kg	16	0			1.7	36	YES	820	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzylbutylphthalate	85-68-7	mg/kg	16	0			0.98	20	YES	0.063	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	16	0			0.9	19	YES	0.302	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
bis(2-Chloroethyl) ether	111-44-4	mg/kg	16	0			0.83	17	YES	1	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	16	2	28	13	1	21	YES	0.182	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Carbazole	86-74-8	mg/kg	16	0			0.98	20	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
Dibenzofuran	132-64-9	mg/kg	16	0			0.88	19	YES	0.11	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Diethyl phthalate	84-66-2	mg/kg	16	0			0.92	19	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Dimethylphthalate	131-11-3	mg/kg	16	0			0.89	19	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Di-n-butylphthalate	84-74-2	mg/kg	16	0			1	21	YES	0.15	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN

Table 3-2
PRI 3 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	**CAS #**	**Units**	**Number of Samples**	**Number of Detections**	**Maximum Detection**	**Minimum Detection**	**Minimum Detection Limit**	**Maximum Detection Limit**	**Decision 0**		**Decision 1**	**Decision 2**	***Pre-Decision 3***	**Decision 3**	**Decision 4**	***Pre-Decision 5***	**Decision 5**	
									RBSL or RBESL available?	**Min RBSL/RBESL**	**Maximum Detect > Lowest RBSL/RBESL?**	**Are there at least 50% detected values?**	**Is Mean ≤ 80th Percentile?**	**Datasets with ≥ 50% Detects Adequacy**	**Maximum DL ≤ Lowest RBSL/RBESL?**	**Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?**	**Datasets with < 50% Detects Adequacy**	**Final Adequacy Determination**
Di-n-octylphthalate	117-84-0	mg/kg	16	0			1	21	YES	0.58	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachlorobenzene	118-74-1	mg/kg	16	15	680	0.039	0.15	0.15	YES	0.006	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Hexachlorobutadiene	87-68-3	mg/kg	16	0			0.038	0.62	YES	0.0013	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachlorocyclopentadiene	77-47-4	mg/kg	16	0			0.64	13	YES	0.0266	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachloroethane	67-72-1	mg/kg	16	0			0.83	17	YES	0.073	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Isophorone	78-59-1	mg/kg	16	0			0.96	20	YES	0.432	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Nitrobenzene	98-95-3	mg/kg	16	0			0.78	16	YES	0.021	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodimethylamine	62-75-9	mg/kg	16	0			0.99	16	YES	0.0000321	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	16	0			0.86	18	YES	0.33	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodiphenylamine	86-30-6	mg/kg	16	0			0.88	19	YES	0.028	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Pentachlorobenzene	608-93-5	mg/kg	16	4	53	0.76	0.15	1.5	YES	93	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pentachlorophenol	87-86-5	mg/kg	16	0			0.25	4	YES	0.017	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Phenol	108-95-2	mg/kg	16	0			0.85	18	YES	0.0491	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylnaphthalene	91-57-6	mg/kg	16	5	0.015	0.00072	0.00062	0.083	YES	0.0202	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Acenaphthene	83-32-9	mg/kg	16	0			0.00059	0.09	YES	0.00671	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Acenaphthylene	208-96-8	mg/kg	16	0			0.00042	0.063	YES	0.00587	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Anthracene	120-12-7	mg/kg	16	1	0.001	0.001	0.0005	0.076	YES	0.0572	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzo(a)anthracene	56-55-3	mg/kg	16	10	0.11	0.00046	0.00044	0.021	YES	0.108	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Benzo(a)pyrene	50-32-8	mg/kg	16	10	0.28	0.00056	0.00057	0.014	YES	0.15	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Benzo(b)fluoranthene	205-99-2	mg/kg	16	7	0.15	0.00081	0.00064	0.034	YES	0.037	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(g,h,i)perylene	191-24-2	mg/kg	16	3	0.055	0.0018	0.0013	0.19	YES	0.17	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzo(k)fluoranthene	207-08-9	mg/kg	16	2	0.027	0.0012	0.00096	0.15	YES	0.037	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Chrysene	218-01-9	mg/kg	16	11	0.18	0.00079	0.0018	0.024	YES	0.166	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Dibenzo(a,h)anthracene	53-70-3	mg/kg	16	0			0.0015	0.23	YES	0.033	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Fluoranthene	206-44-0	mg/kg	16	10	0.12	0.00058	0.00043	0.02	YES	0.423	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Fluorene	86-73-7	mg/kg	16	0			0.00062	0.094	YES	0.019	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	16	6	0.096	0.00078	0.00061	0.033	YES	0.03	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Naphthalene	91-20-3	mg/kg	16	0			0.00044	0.059	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Phenanthrene	85-01-8	mg/kg	16	0			0.00068	0.08	YES	0.204	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pyrene	129-00-0	mg/kg	16	9	0.13	0.00053	0.00051	0.024	YES	0.195	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
1,4-Dioxane	123-91-1	mg/kg	16	0			0.045	0.36	YES	0.119	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,1-Dichloroethane	75-34-3	mg/kg	16	0			0.00033	0.0026	YES	0.000575	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,1-Dichloroethene	75-35-4	mg/kg	16	0			0.0003	0.0024	YES	0.0194	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	16	0			0.001	0.008	YES	0.0352	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromoethane	106-93-4	mg/kg	16	0			0.00031	0.0025	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichlorobenzene	95-50-1	mg/kg	16	1	0.0044	0.0044	0.00073	0.0058	YES	0.013	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloroethane	107-06-2	mg/kg	16	0			0.00084	0.0067	YES	0.26	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,2-Dichloroethene	156-59-2	mg/kg	16	0			0.001	0.0081	YES	230	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,2-Dichloroethene	156-60-5	mg/kg	16	0			0.00044	0.0035	YES	0.654	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloropropane	78-87-5	mg/kg	16	0			0.00069	0.0055	YES	0.333	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,3-Dichlorobenzene	541-73-1	mg/kg	16	3	0.015	0.0087	0.00034	0.0027	YES	1.315	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,3-Dichloropropene	10061-01-5	mg/kg	16	0			0.00073	0.0058	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,3-Dichloropropene	10061-02-6	mg/kg	16	0			0.00086	0.0068	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dichlorobenzene	106-46-7	mg/kg	16	4	0.074	0.0023	0.00089	0.0071	YES	0.11	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,1-Trichloroethane	71-55-6	mg/kg	16	0			0.00041	0.0033	YES	0.213	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloroethane	79-00-5	mg/kg	16	0			0.0005	0.004	YES	0.518	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloro-1,2,2-trifluoroethane (F	76-13-1	mg/kg	16	0			0.00095	0.0076	YES	17000	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,3-Trichlorobenzene	87-61-6	mg/kg	16	1	0.0064	0.0064	0.00086	0.0068	YES	20	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,4-Trichlorobenzene	120-82-1	mg/kg	16	4	0.053	0.0089	0.00086	0.0014	YES	0.0048	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	16	0			0.00078	0.0062	YES	0.127	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Butanone	78-93-3	mg/kg	16	1	0.0049	0.0049	0.0016	0.013	YES	0.0424	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Hexanone	591-78-6	mg/kg	16	0			0.00085	0.0067	YES	0.0582	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Methyl-2-pentanone	108-10-1	mg/kg	16	0			0.0011	0.0084	YES	0.0251	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acetone	67-64-1	mg/kg	16	0			0.0018	0.026	YES	0.0099	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzene	71-43-2	mg/kg	16	0			0.0003	0.0024	YES	0.142	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromochloromethane	74-97-5	mg/kg	16	0			0.0011	0.0086	YES	63	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromodichloromethane	75-27-4	mg/kg	16	0			0.00061	0.0048	YES	0.54	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromoform	75-25-2	mg/kg	16	0			0.00046	0.0036	YES	0.492	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromomethane	74-83-9	mg/kg	16	0			0.00099	0.0078	YES	0.00137	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Carbon disulfide	75-15-0	mg/kg	16	0			0.00056	0.0045	YES	0.0239	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Carbon tetrachloride	56-23-5	mg/kg	16	1	0.0058	0.0058	0.00061	0.0048	YES	1.45	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chlorobenzene	108-90-7	mg/kg	16	1	0.0039	0.0039	0.00033	0.0026	YES	0.291	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Cyclohexane	110-82-7	mg/kg	16	0			0.003	0.024	YES	2700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibromochloromethane	124-48-1	mg/kg	16	0			0.00024	0.0019	YES	2.05	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloroethane	75-00-3	mg/kg	16	0			0.00052	0.0041	YES	5700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloroform	67-66-3	mg/kg	16	0			0.0003	0.0027	YES	0.0594	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE

Table 3-2
PRI 3 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	**Min RBSL/RBESL**	**Maximum Detect > Lowest RBSL/RBESL?**	**Are there at least 50% detected values?**	**Is Mean ≤ 80th Percentile?**	**Datasets with ≥ 50% Detects Adequacy**	**Maximum DL ≤ Lowest RBSL/RBESL?**	**Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?**	**Datasets with < 50% Detects Adequacy**	**Final Adequacy Determination**
Chloromethane	74-87-3	mg/kg	16	0			0.00057	0.0046	YES	10.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichlorodifluoromethane (Freon-12)	75-71-8	mg/kg	16	0			0.001	0.0081	YES	37	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Ethyl benzene	100-41-4	mg/kg	16	0			0.00039	0.0031	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Isopropylbenzene	98-82-8	mg/kg	16	0			0.0006	0.0047	YES	990	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Methyl tertbutyl ether (MTBE)	1634-04-4	mg/kg	16	0			0.00069	0.0055	YES	210	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichloromethane (Methylene chloride)	75-09-2	mg/kg	16	0			0.00096	0.0077	YES	0.159	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Styrene	100-42-5	mg/kg	16	0			0.00036	0.0028	YES	0.254	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Tetrachloroethene	127-18-4	mg/kg	16	1	0.005	0.005	0.0007	0.0056	YES	0.057	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Toluene	108-88-3	mg/kg	16	0			0.0007	0.0056	YES	1.22	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichloroethene	79-01-6	mg/kg	16	0			0.00069	0.0055	YES	0.112	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichlorofluoromethane (Freon-11)	75-69-4	mg/kg	16	0			0.00039	0.0031	YES	16.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Vinyl chloride	75-01-4	mg/kg	16	0			0.00041	0.0033	YES	0.202	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
o-Xylene	95-47-6	mg/kg	16	0			0.00038	0.003	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
m,p Xylenes	179601-23-1	mg/kg	16	0			0.00093	0.0074	YES	0.004	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Perchlorate	14797-73-0	mg/kg	16	0			0.021	0.077	YES	82	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Organic Carbon	TOC	mg/kg	16	16	240000	3200			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
pH	PH25	pH units	16	16	8.69	7.24			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Cyanide, Total	74-90-8	mg/kg	16	7	2.2	0.28	0.23	0.31	YES	0.119	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Percent finer than 0.25 mm	%<0.25mm	%	16	16	98.1	47.8			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN

Notes:
-- = No relevant results
mg/kg = milligrams per kilogram
pg/g = picograms per gram
Empty cells = No results
Det = Detects
NA = Not Applicable
ND = Not Detected
NSV = No Screening Value
PCB = Polychlorinated biphenyl
pH = pH units
PRI = Preliminary Remedial Investigation
RBESL = Risk-based ecological screening level
RBSL = Risk-based screening level
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
USEPA = United States Environmental Protection Agency

Table 3-3
PRI 4 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	18	18	9300	14			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Mammal	CALC_DX_2	pg/g	18	18	9300	14			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	18	18	770000	1100			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	18	18	770000	1100			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total PCBs	1336-36-3	mg/kg	18	18	3.14	0.0074			YES	0.000332	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Aluminum	7429-90-5	mg/kg	18	18	5800	330			YES	5	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Antimony	7440-36-0	mg/kg	18	18	8.5	0.25			YES	0.27	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Arsenic	7440-38-2	mg/kg	18	18	30	6.1			YES	3	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Barium	7440-39-3	mg/kg	18	18	270	32			YES	20	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Beryllium	7440-41-7	mg/kg	18	17	0.23	0.08	0.099	0.099	YES	21	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cadmium	7440-43-9	mg/kg	18	1	0.13	0.13	0.035	0.084	YES	0.36	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Calcium	7440-70-2	mg/kg	18	18	300000	110000			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Chromium	7440-47-3	mg/kg	18	18	13	3.6			YES	26	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cobalt	7440-48-4	mg/kg	18	18	2.2	0.73			YES	10	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Copper	7440-50-8	mg/kg	18	18	5.1	1.4			YES	28	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Iron	7439-89-6	mg/kg	18	18	54000	6100			YES	20000	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Lead	7439-92-1	mg/kg	18	18	5.3	0.66			YES	11	NO	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	UNCERTAIN
Total Magnesium	7439-95-4	mg/kg	18	18	29000	7400			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Manganese	7439-96-5	mg/kg	18	18	480	59			YES	220	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Mercury	7439-97-6	mg/kg	18	18	0.24	0.019			YES	0.00051	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Molybdenum	7439-98-7	mg/kg	18	18	4.6	0.26			YES	2	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Nickel	7440-02-0	mg/kg	18	18	13	3			YES	20.9	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Potassium	7440-09-7	mg/kg	18	17	2200	260	110	110	NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Selenium	7782-49-2	mg/kg	18	10	0.18	0.082	0.069	0.15	YES	0.1	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Silver	7440-22-4	mg/kg	18	1	0.042	0.042	0.021	0.05	YES	0.5	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Sodium	7440-23-5	mg/kg	18	18	4200	330			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Thallium	7440-28-0	mg/kg	18	14	0.087	0.041	0.054	0.084	YES	0.01	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Vanadium	7440-62-2	mg/kg	18	18	89	14			YES	7.8	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Zinc	7440-66-6	mg/kg	18	18	15	3.5			YES	46	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
1,1'-Biphenyl	92-52-4	mg/kg	18	0			0.92	27	YES	20	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	0			0.14	4.3	YES	1.252	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	18	0			0.46	14	YES	0.129	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,5-Trichlorophenol	95-95-4	mg/kg	18	0			0.46	14	YES	0.003	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,6-Trichlorophenol	88-06-2	mg/kg	18	0			0.024	0.73	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	18	0			0.44	13	YES	19.9	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2,4-Dichlorophenol	120-83-2	mg/kg	18	0			0.49	15	YES	0.0002083	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dimethylphenol	105-67-9	mg/kg	18	0			0.93	28	YES	0.01	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrophenol	51-28-5	mg/kg	18	0			1.2	36	YES	0.00621	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrotoluene	121-14-2	mg/kg	18	0			0.49	15	YES	0.0144	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,6-Dinitrotoluene	606-20-2	mg/kg	18	0			0.55	16	YES	0.0328	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chloronaphthalene	91-58-7	mg/kg	18	0			0.45	13	YES	0.0122	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chlorophenol	95-57-8	mg/kg	18	0			0.49	15	YES	0.000333	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylphenol	95-48-7	mg/kg	18	0			0.32	9.6	YES	0.008	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Nitroaniline	88-74-4	mg/kg	18	0			0.47	14	YES	74.1	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Nitrophenol	88-75-5	mg/kg	18	0			0.46	14	YES	1.6	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
3,3'-Dichlorobenzidine	91-94-1	mg/kg	18	0			0.52	16	YES	0.127	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
3-Nitroaniline	99-09-2	mg/kg	18	0			0.93	28	YES	3.16	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	18	0			0.45	13	YES	0.104	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Bromophenyl-phenylether	101-55-3	mg/kg	18	0			0.47	14	YES	1.55	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chloro-3-methylphenol	59-50-7	mg/kg	18	0			0.51	15	YES	0.388	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chloroaniline	106-47-8	mg/kg	18	0			0.32	9.6	YES	0.146	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	18	0			0.52	15	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
3 & 4 Methylphenol	15831-10-4	mg/kg	18	2	77	54	1.8	55	YES	0.0202	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
4-Nitroaniline	100-01-6	mg/kg	18	0			0.49	15	YES	21.9	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Nitrophenol	100-02-7	mg/kg	18	0			1.6	46	YES	0.0133	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Acetophenone	98-86-2	mg/kg	18	0			0.14	5.4	YES	300	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzaldehyde	100-52-7	mg/kg	18	0			0.92	27	YES	820	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzylbutylphthalate	85-68-7	mg/kg	18	0			0.53	16	YES	0.063	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	18	0			0.49	15	YES	0.302	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
bis(2-Chloroethyl) ether	111-44-4	mg/kg	18	0			0.45	13	YES	1	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	18	0			0.54	16	YES	0.182	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Carbazole	86-74-8	mg/kg	18	0			0.53	16	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
Dibenzofuran	132-64-9	mg/kg	18	0			0.48	14	YES	0.11	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Diethyl phthalate	84-66-2	mg/kg	18	0			0.5	15	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Dimethylphthalate	131-11-3	mg/kg	18	0			0.48	14	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN

Table 3-3
PRI 4 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	**Min RBSL/RBESL**	**Maximum Detect > Lowest RBSL/RBESL?**	**Are there at least 50% detected values?**	**Is Mean ≤ 80th Percentile?**	**Datasets with ≥ 50% Detects Adequacy**	**Maximum DL ≤ Lowest RBSL/RBESL?**	**Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?**	**Datasets with < 50% Detects Adequacy**	**Final Adequacy Determination**
Di-n-butylphthalate	84-74-2	mg/kg	18	0			0.54	16	YES	0.15	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Di-n-octylphthalate	117-84-0	mg/kg	18	0			0.54	16	YES	0.58	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachlorobenzene	118-74-1	mg/kg	18	18	76	0.11			YES	0.006	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Hexachlorobutadiene	87-68-3	mg/kg	18	0			0.021	0.61	YES	0.0013	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachlorocyclopentadiene	77-47-4	mg/kg	18	0			0.34	10	YES	0.0266	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachloroethane	67-72-1	mg/kg	18	0			0.45	13	YES	0.073	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Isophorone	78-59-1	mg/kg	18	0			0.52	15	YES	0.432	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Nitrobenzene	98-95-3	mg/kg	18	0			0.42	13	YES	0.021	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodimethylamine	62-75-9	mg/kg	18	0			0.53	16	YES	0.0000321	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	18	0			0.47	14	YES	0.33	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodiphenylamine	86-30-6	mg/kg	18	0			0.48	14	YES	0.028	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Pentachlorobenzene	608-93-5	mg/kg	18	0			0.072	2.2	YES	93	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pentachlorophenol	87-86-5	mg/kg	18	0			0.13	4	YES	0.017	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Phenol	108-95-2	mg/kg	18	0			0.46	14	YES	0.0491	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylnaphthalene	91-57-6	mg/kg	18	0			0.0023	0.0072	YES	0.0202	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acenaphthene	83-32-9	mg/kg	18	0			0.0025	0.0079	YES	0.00671	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Acenaphthylene	208-96-8	mg/kg	18	0			0.0018	0.0055	YES	0.00587	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Anthracene	120-12-7	mg/kg	18	0			0.0021	0.0066	YES	0.0572	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(a)anthracene	56-55-3	mg/kg	18	0			0.0016	0.0051	YES	0.108	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(a)pyrene	50-32-8	mg/kg	18	6	0.012	0.0044	0.0022	0.0065	YES	0.15	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(b)fluoranthene	205-99-2	mg/kg	18	0			0.0027	0.0085	YES	0.037	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(g,h,i)perylene	191-24-2	mg/kg	18	0			0.0054	0.017	YES	0.17	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(k)fluoranthene	207-08-9	mg/kg	18	0			0.0041	0.013	YES	0.037	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chrysene	218-01-9	mg/kg	18	0			0.0019	0.0058	YES	0.166	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibenzo(a,h)anthracene	53-70-3	mg/kg	18	0			0.0065	0.02	YES	0.033	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Fluoranthene	206-44-0	mg/kg	18	0			0.0016	0.0049	YES	0.423	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Fluorene	86-73-7	mg/kg	18	0			0.0027	0.0082	YES	0.019	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	18	0			0.0026	0.008	YES	0.03	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Naphthalene	91-20-3	mg/kg	18	0			0.0017	0.0051	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Phenanthrene	85-01-8	mg/kg	18	0			0.0019	0.0059	YES	0.204	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pyrene	129-00-0	mg/kg	18	0			0.0019	0.0059	YES	0.195	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dioxane	123-91-1	mg/kg	18	0			0.045	0.098	YES	0.119	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1-Dichloroethane	75-34-3	mg/kg	18	0			0.00033	0.00073	YES	0.000575	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,1-Dichloroethene	75-35-4	mg/kg	18	1	0.00082	0.00082	0.0003	0.00064	YES	0.0194	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	18	0			0.001	0.0022	YES	0.0352	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromoethane	106-93-4	mg/kg	18	0			0.00031	0.00068	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichlorobenzene	95-50-1	mg/kg	18	0			0.00073	0.0016	YES	0.013	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloroethane	107-06-2	mg/kg	18	0			0.00083	0.0018	YES	0.26	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,2-Dichloroethene	156-59-2	mg/kg	18	0			0.001	0.0022	YES	230	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,2-Dichloroethene	156-60-5	mg/kg	18	0			0.00043	0.00095	YES	0.654	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloropropane	78-87-5	mg/kg	18	0			0.00068	0.0015	YES	0.333	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,3-Dichlorobenzene	541-73-1	mg/kg	18	0			0.00034	0.00075	YES	1.315	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,3-Dichloropropene	10061-01-5	mg/kg	18	0			0.00073	0.0016	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,3-Dichloropropene	10061-02-6	mg/kg	18	0			0.00086	0.0019	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dichlorobenzene	106-46-7	mg/kg	18	0			0.00089	0.002	YES	0.11	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,1-Trichloroethane	71-55-6	mg/kg	18	0			0.00041	0.0009	YES	0.213	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloroethane	79-00-5	mg/kg	18	0			0.0005	0.0011	YES	0.518	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloro-1,2,2-trifluoroethane (F	76-13-1	mg/kg	18	0			0.00095	0.0021	YES	17000	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,3-Trichlorobenzene	87-61-6	mg/kg	18	0			0.00086	0.0019	YES	20	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,4-Trichlorobenzene	120-82-1	mg/kg	18	0			0.00086	0.0019	YES	0.0048	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	18	0			0.00078	0.0017	YES	0.127	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Butanone	78-93-3	mg/kg	18	4	0.011	0.0045	0.0016	0.0053	YES	0.0424	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Hexanone	591-78-6	mg/kg	18	0			0.00084	0.0019	YES	0.0582	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Methyl-2-pentanone	108-10-1	mg/kg	18	0			0.0011	0.0023	YES	0.0251	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acetone	67-64-1	mg/kg	18	2	0.092	0.061	0.0017	0.024	YES	0.0099	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzene	71-43-2	mg/kg	18	0			0.0003	0.00065	YES	0.142	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromochloromethane	74-97-5	mg/kg	18	0			0.0011	0.0024	YES	63	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromodichloromethane	75-27-4	mg/kg	18	3	0.16	0.018	0.00064	0.0064	YES	0.54	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromoform	75-25-2	mg/kg	18	16	0.27	0.00064	0.00048	0.00066	YES	0.492	NO	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	UNCERTAIN
Bromomethane	74-83-9	mg/kg	18	0			0.00098	0.0022	YES	0.00137	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Carbon disulfide	75-15-0	mg/kg	18	0			0.00056	0.0012	YES	0.0239	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Carbon tetrachloride	56-23-5	mg/kg	18	0			0.0006	0.0013	YES	1.45	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chlorobenzene	108-90-7	mg/kg	18	0			0.00033	0.00073	YES	0.291	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Cyclohexane	110-82-7	mg/kg	18	0			0.003	0.0066	YES	2700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibromochloromethane	124-48-1	mg/kg	18	10	0.19	0.0042	0.00025	0.0039	YES	2.05	NO	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	UNCERTAIN

Table 3-3
PRI 4 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Chloroethane	75-00-3	mg/kg	18	0			0.00051	0.0011	YES	5700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloroform	67-66-3	mg/kg	18	3	0.082	0.013	0.0003	0.0057	YES	0.0594	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloromethane	74-87-3	mg/kg	18	0			0.00057	0.0025	YES	10.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichlorodifluoromethane (Freon-12)	75-71-8	mg/kg	18	0			0.001	0.0022	YES	37	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Ethyl benzene	100-41-4	mg/kg	18	5	0.001	0.00056	0.00039	0.00085	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Isopropylbenzene	98-82-8	mg/kg	18	0			0.00059	0.0013	YES	990	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Methyl tertbutyl ether (MTBE)	1634-04-4	mg/kg	18	0			0.00068	0.0015	YES	210	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichloromethane (Methylene chloride)	75-09-2	mg/kg	18	0			0.00096	0.0021	YES	0.159	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Styrene	100-42-5	mg/kg	18	0			0.00035	0.00078	YES	0.254	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Tetrachloroethene	127-18-4	mg/kg	18	1	0.0072	0.0072	0.0007	0.0015	YES	0.057	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Toluene	108-88-3	mg/kg	18	0			0.0007	0.0015	YES	1.22	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichloroethene	79-01-6	mg/kg	18	1	0.0032	0.0032	0.00068	0.0015	YES	0.112	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichlorofluoromethane (Freon-11)	75-69-4	mg/kg	18	0			0.00039	0.00085	YES	16.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Vinyl chloride	75-01-4	mg/kg	18	0			0.00041	0.0009	YES	0.202	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
o-Xylene	95-47-6	mg/kg	18	8	0.0016	0.00059	0.00038	0.00083	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
m,p Xylenes	179601-23-1	mg/kg	18	9	0.0046	0.0017	0.00092	0.002	YES	0.004	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Perchlorate	14797-73-0	mg/kg	18	15	0.042	0.00047	0.021	0.056	YES	82	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Organic Carbon	TOC	mg/kg	18	3	7700	1900	1700	1700	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
pH	PH25	pH units	18	18	7.65	6.11			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Cyanide, Total	74-90-8	mg/kg	18	1	0.99	0.99	0.24	0.57	YES	0.119	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Percent finer than 0.25 mm	%<0.25mm	%	18	18	99.8	78			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN

Notes:
-- = No relevant results
mg/kg = milligrams per kilogram
pg/g = picograms per gram
Empty cells = No results
Det = Detects
NA = Not Applicable
ND = Not Detected
NSV = No Screening Value
PCB = Polychlorinated biphenyl
pH = pH units
PRI = Preliminary Remedial Investigation
RBESL = Risk-based ecological screening level
RBSL = Risk-based screening level
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
USEPA = United States Environmental Protection Agency

Table 3-4
PRI 5 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	**Min RBSL/RBESL**	**Maximum Detect > Lowest RBSL/RBESL?**	**Are there at least 50% detected values?**	**Is Mean ≤ 80th Percentile?**	**Datasets with ≥ 50% Detects Adequacy**	**Maximum DL ≤ Lowest RBSL/RBESL?**	**Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?**	**Datasets with < 50% Detects Adequacy**	**Final Adequacy Determination**
Calculated TEQ (ND=0), Mammalian	CALC DX 0	pg/g	28	28	200000	0.11			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Mamma	CALC DX 2	pg/g	28	28	200000	0.19			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=0), Avian	CALC DX 0 AV	pg/g	28	28	31000000	0.29			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Avian	CALC DX 2 Av	pg/g	28	28	31000000	63			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total PCBs	1336-36-3	mg/kg	28	28	99.6	0.00019			YES	0.000332	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Aluminum	7429-90-5	mg/kg	28	28	19000	1700			YES	5	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Antimony	7440-36-0	mg/kg	28	24	11	0.11	0.086	0.1	YES	0.27	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Arsenic	7440-38-2	mg/kg	28	28	130	2.6			YES	3	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Barium	7440-39-3	mg/kg	28	28	1900	120			YES	20	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Beryllium	7440-41-7	mg/kg	28	25	0.88	0.092	0.084	0.096	YES	21	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cadmium	7440-43-9	mg/kg	28	19	1	0.045	0.047	0.074	YES	0.36	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Calcium	7440-70-2	mg/kg	28	28	310000	3600			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Chromium	7440-47-3	mg/kg	28	28	110	2			YES	26	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cobalt	7440-48-4	mg/kg	28	28	8.5	0.32			YES	10	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Copper	7440-50-8	mg/kg	28	28	20	1.7			YES	28	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Iron	7439-89-6	mg/kg	28	28	160000	1200			YES	20000	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Lead	7439-92-1	mg/kg	28	28	12	1.9			YES	11	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Magnesium	7439-95-4	mg/kg	28	28	42000	2400			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Manganese	7439-96-5	mg/kg	28	28	360	13			YES	220	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Mercury	7439-97-6	mg/kg	28	18	0.078	0.015	0.008	0.047	YES	0.00051	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Molybdenum	7439-98-7	mg/kg	28	28	160	0.078			YES	2	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Nickel	7440-02-0	mg/kg	28	28	24	1.1			YES	20.9	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Potassium	7440-09-7	mg/kg	28	27	9100	1100	820	820	NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Selenium	7782-49-2	mg/kg	28	22	5.3	0.12	0.086	0.13	YES	0.1	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Silver	7440-22-4	mg/kg	28	6	0.47	0.02	0.026	0.044	YES	0.5	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Sodium	7440-23-5	mg/kg	28	28	11000	1300			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Thallium	7440-28-0	mg/kg	28	20	1.3	0.043	0.049	0.074	YES	0.01	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Vanadium	7440-62-2	mg/kg	28	28	190	4.5			YES	7.8	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Zinc	7440-66-6	mg/kg	28	28	420	2.6			YES	46	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
1,1'-Biphenyl	92-52-4	mg/kg	28	0			0.17	130	YES	20	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	28	0			0.027	21	YES	1.252	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	28	0			0.087	66	YES	0.129	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,5-Trichlorophenol	95-95-4	mg/kg	28	0			0.088	67	YES	0.003	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,6-Trichlorophenol	88-06-2	mg/kg	28	0			0.0047	3.6	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	28	0			0.084	64	YES	19.9	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
2,4-Dichlorophenol	120-83-2	mg/kg	28	0			0.094	72	YES	0.0002083	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dimethylphenol	105-67-9	mg/kg	28	0			0.18	130	YES	0.01	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrophenol	51-28-5	mg/kg	28	0			0.23	170	YES	0.00621	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrotoluene	121-14-2	mg/kg	28	0			0.094	72	YES	0.0144	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,6-Dinitrotoluene	606-20-2	mg/kg	28	0			0.1	80	YES	0.0328	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chloronaphthalene	91-58-7	mg/kg	28	0			0.086	65	YES	0.0122	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chlorophenol	95-57-8	mg/kg	28	0			0.093	71	YES	0.000333	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylphenol	95-48-7	mg/kg	28	0			0.061	47	YES	0.008	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Nitroaniline	88-74-4	mg/kg	28	0			0.089	68	YES	74.1	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Nitrophenol	88-75-5	mg/kg	28	0			0.087	66	YES	1.6	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
3,3'-Dichlorobenzidine	91-94-1	mg/kg	28	0			0.099	76	YES	0.127	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
3-Nitroaniline	99-09-2	mg/kg	28	0			0.18	130	YES	3.16	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	28	1	85	85	0.086	43	YES	0.104	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
4-Bromophenyl-phenylether	101-55-3	mg/kg	28	0			0.09	69	YES	1.55	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
4-Chloro-3-methylphenol	59-50-7	mg/kg	28	0			0.097	74	YES	0.388	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chloroaniline	106-47-8	mg/kg	28	0			0.061	47	YES	0.146	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	28	0			0.098	75	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
3 & 4 Methylphenol	15831-10-4	mg/kg	28	0			0.35	270	YES	0.0202	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Nitroaniline	100-01-6	mg/kg	28	0			0.093	71	YES	21.9	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
4-Nitrophenol	100-02-7	mg/kg	28	0			0.3	230	YES	0.0133	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Acetophenone	98-86-2	mg/kg	28	4	240	0.35	0.032	36	YES	300	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzaldehyde	100-52-7	mg/kg	28	0			0.17	130	YES	820	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzylbutylphthalate	85-68-7	mg/kg	28	0			0.1	77	YES	0.063	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	28	0			0.093	71	YES	0.302	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
bis(2-Chloroethyl) ether	111-44-4	mg/kg	28	0			0.086	65	YES	1	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	28	0			0.1	79	YES	0.182	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Carbazole	86-74-8	mg/kg	28	0			0.1	77	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
Dibenzofuran	132-64-9	mg/kg	28	0			0.091	69	YES	0.11	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Diethyl phthalate	84-66-2	mg/kg	28	0			0.095	73	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Dimethylphthalate	131-11-3	mg/kg	28	0			0.092	70	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Di-n-butylphthalate	84-74-2	mg/kg	28	0			0.1	78	YES	0.15	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Di-n-octylphthalate	117-84-0	mg/kg	28	0			0.1	78	YES	0.58	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN

Table 3-4
PRI 5 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Hexachlorobenzene	118-74-1	mg/kg	28	24	3100	0.0069	0.012	0.024	YES	0.006	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Hexachlorobutadiene	87-68-3	mg/kg	28	3	15	0.75	0.0039	2	YES	0.0013	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Hexachlorocyclopentadiene	77-47-4	mg/kg	28	0			0.066	50	YES	0.0266	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachloroethane	67-72-1	mg/kg	28	0			0.086	65	YES	0.073	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Isophorone	78-59-1	mg/kg	28	0			0.098	75	YES	0.432	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Nitrobenzene	98-95-3	mg/kg	28	0			0.08	61	YES	0.021	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodimethylamine	62-75-9	mg/kg	28	0			0.1	78	YES	0.0000321	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	28	0			0.089	68	YES	0.33	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodiphenylamine	86-30-6	mg/kg	28	0			0.091	69	YES	0.028	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Pentachlorobenzene	608-93-5	mg/kg	28	9	200	0.28	0.014	2.9	YES	93	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pentachlorophenol	87-86-5	mg/kg	28	0			0.025	19	YES	0.017	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Phenol	108-95-2	mg/kg	28	6	210	17	0.088	67	YES	0.0491	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
2-Methylnaphthalene	91-57-6	mg/kg	28	8	1	0.0014	0.00041	0.011	YES	0.0202	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acenaphthene	83-32-9	mg/kg	28	5	0.062	0.009	0.00045	0.012	YES	0.00671	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Acenaphthylene	208-96-8	mg/kg	28	1	0.52	0.52	0.00032	0.0089	YES	0.00587	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Anthracene	120-12-7	mg/kg	28	1	0.057	0.057	0.00038	0.011	YES	0.0572	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(a)anthracene	56-55-3	mg/kg	28	1	0.016	0.016	0.00029	0.0075	YES	0.108	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(a)pyrene	50-32-8	mg/kg	28	10	0.85	0.0012	0.00038	0.0075	YES	0.15	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(b)fluoranthene	205-99-2	mg/kg	28	0			0.00049	0.014	YES	0.037	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(g,h,i)perylene	191-24-2	mg/kg	28	0			0.00096	0.027	YES	0.17	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(k)fluoranthene	207-08-9	mg/kg	28	0			0.00073	0.02	YES	0.037	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chrysene	218-01-9	mg/kg	28	2	0.032	0.00046	0.00033	0.0086	YES	0.166	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibenzo(a,h)anthracene	53-70-3	mg/kg	28	0			0.0012	0.032	YES	0.033	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Fluoranthene	206-44-0	mg/kg	28	7	0.015	0.00034	0.00028	0.0073	YES	0.423	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Fluorene	86-73-7	mg/kg	28	5	0.09	0.0088	0.00047	0.012	YES	0.019	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	28	1	0.013	0.013	0.00046	0.013	YES	0.03	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Naphthalene	91-20-3	mg/kg	28	1	0.21	0.21	0.0003	0.073	YES	0.16	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Phenanthrene	85-01-8	mg/kg	28	3	0.22	0.00064	0.00034	0.12	YES	0.204	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pyrene	129-00-0	mg/kg	28	6	0.021	0.00038	0.00034	0.0087	YES	0.195	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dioxane	123-91-1	mg/kg	28	0			0.026	0.14	YES	0.119	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,1-Dichloroethane	75-34-3	mg/kg	28	4	0.014	0.00053	0.0002	0.00099	YES	0.000575	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,1-Dichloroethene	75-35-4	mg/kg	28	4	0.005	0.0011	0.00018	0.00089	YES	0.0194	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	28	0			0.0006	0.0032	YES	0.0352	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromoethane	106-93-4	mg/kg	28	0			0.00018	0.00098	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichlorobenzene	95-50-1	mg/kg	28	2	0.009	0.0046	0.00043	0.0023	YES	0.013	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloroethane	107-06-2	mg/kg	28	2	0.0055	0.0025	0.00049	0.0025	YES	0.26	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,2-Dichloroethene	156-59-2	mg/kg	28	0			0.0006	0.0032	YES	230	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,2-Dichloroethene	156-60-5	mg/kg	28	0			0.00026	0.0014	YES	0.654	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloropropane	78-87-5	mg/kg	28	1	0.0061	0.0061	0.00041	0.0021	YES	0.333	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,3-Dichlorobenzene	541-73-1	mg/kg	28	2	0.0071	0.0039	0.0002	0.0011	YES	1.315	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,3-Dichloropropene	10061-01-5	mg/kg	28	0			0.00043	0.0023	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,3-Dichloropropene	10061-02-6	mg/kg	28	0			0.00051	0.0027	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dichlorobenzene	106-46-7	mg/kg	28	2	0.0044	0.0025	0.00053	0.0028	YES	0.11	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,1-Trichloroethane	71-55-6	mg/kg	28	3	0.0065	0.0013	0.00024	0.0012	YES	0.213	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloroethane	79-00-5	mg/kg	28	0			0.0003	0.0016	YES	0.518	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloro-1,2,2-trifluoroethane (F	76-13-1	mg/kg	28	0			0.00056	0.003	YES	17000	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,3-Trichlorobenzene	87-61-6	mg/kg	28	3	0.046	0.01	0.00051	0.0027	YES	20	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,4-Trichlorobenzene	120-82-1	mg/kg	28	3	0.17	0.041	0.00051	0.0027	YES	0.0048	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	28	0			0.00046	0.0025	YES	0.127	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Butanone	78-93-3	mg/kg	28	18	0.15	0.0032	0.0014	0.0069	YES	0.0424	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
2-Hexanone	591-78-6	mg/kg	28	5	0.013	0.0015	0.0005	0.0027	YES	0.0582	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Methyl-2-pentanone	108-10-1	mg/kg	28	3	0.0096	0.0019	0.00062	0.0033	YES	0.0251	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acetone	67-64-1	mg/kg	28	18	1.4	0.0048	0.00095	0.026	YES	0.0099	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Benzene	71-43-2	mg/kg	28	3	0.0017	0.00086	0.00018	0.00089	YES	0.142	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromochloromethane	74-97-5	mg/kg	28	2	0.0077	0.0045	0.00064	0.0034	YES	63	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromodichloromethane	75-27-4	mg/kg	28	13	2.1	0.0087	0.00036	0.0024	YES	0.54	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromoform	75-25-2	mg/kg	28	18	10	0.00066	0.00027	0.004	YES	0.492	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Bromomethane	74-83-9	mg/kg	28	1	0.011	0.011	0.00058	0.0031	YES	0.00137	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Carbon disulfide	75-15-0	mg/kg	28	11	0.024	0.0011	0.00033	0.0025	YES	0.0239	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Carbon tetrachloride	56-23-5	mg/kg	28	9	0.4	0.0013	0.00036	0.0017	YES	1.45	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chlorobenzene	108-90-7	mg/kg	28	0			0.0002	0.0011	YES	0.291	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Cyclohexane	110-82-7	mg/kg	28	0			0.0018	0.0096	YES	2700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibromochloromethane	124-48-1	mg/kg	28	15	4.4	0.00068	0.00014	0.0018	YES	2.05	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Chloroethane	75-00-3	mg/kg	28	5	0.044	0.0016	0.0003	0.0015	YES	5700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloroform	67-66-3	mg/kg	28	10	0.96	0.005	0.00018	0.012	YES	0.0594	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloromethane	74-87-3	mg/kg	28	11	0.059	0.003	0.00034	0.0011	YES	10.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichlorodifluoromethane (Freon-12)	75-71-8	mg/kg	28	0			0.0006	0.0032	YES	37	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE

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US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Ethyl benzene	100-41-4	mg/kg	28	3	0.0036	0.0022	0.00023	0.0012	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Isopropylbenzene	98-82-8	mg/kg	28	5	0.0079	0.0015	0.00035	0.0018	YES	990	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Methyl tertbutyl ether (MTBE)	1634-04-4	mg/kg	28	0			0.00041	0.0022	YES	210	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichloromethane (Methylene chloride)	75-09-2	mg/kg	28	7	0.085	0.0022	0.00057	0.0029	YES	0.159	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Styrene	100-42-5	mg/kg	28	0			0.00021	0.0011	YES	0.254	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Tetrachloroethene	127-18-4	mg/kg	28	8	0.37	0.00088	0.00041	0.0021	YES	0.057	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Toluene	108-88-3	mg/kg	28	3	0.0027	0.0021	0.00041	0.0021	YES	1.22	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichloroethene	79-01-6	mg/kg	28	7	0.014	0.0016	0.00041	0.0021	YES	0.112	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichlorofluoromethane (Freon-11)	75-69-4	mg/kg	28	2	0.0027	0.0025	0.00023	0.0012	YES	16.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Vinyl chloride	75-01-4	mg/kg	28	0			0.00024	0.0013	YES	0.202	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
o-Xylene	95-47-6	mg/kg	28	6	0.015	0.0015	0.00022	0.0012	YES	0.004	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
m,p Xylenes	179601-23-1	mg/kg	28	7	0.033	0.0042	0.00055	0.0028	YES	0.004	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Perchlorate	14797-73-0	mg/kg	28	5	0.0018	0.00019	0.00018	0.05	YES	82	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Organic Carbon	TOC	mg/kg	28	19	44000	1700	1700	3000	NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
pH	PH25	pH units	28	28	9.34	1.06			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Cyanide, Total	74-90-8	mg/kg	28	4	1.4	0.26	0.21	0.53	YES	0.119	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
Percent finer than 0.25 mm	%<0.25mm	%	28	28	98.1	5.7			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN

Notes:
-- = No relevant results
mg/kg = milligrams per kilogram
pg/g = picograms per gram
Empty cells = No results
Det = Detects
NA = Not Applicable
ND = Not Detected
NSV = No Screening Value
PCB = Polychlorinated biphenyl
pH = pH units
PRI = Preliminary Remedial Investigation
RBESL = Risk-based ecological screening level
RBSL = Risk-based screening level
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
USEPA = United States Environmental Protection Agency

Table 3-5
PRI 6 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	18	18	10000	0.3			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Mamma	CALC_DX_2	pg/g	18	18	10000	0.48			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	18	18	2200000	0.64			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	18	18	2200000	13			YES	0.00000012	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total PCBs	1336-36-3	mg/kg	18	18	7.47	0.00041			YES	0.000332	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Aluminum	7429-90-5	mg/kg	18	18	20000	880			YES	5	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Antimony	7440-36-0	mg/kg	18	18	8	0.11			YES	0.27	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Arsenic	7440-38-2	mg/kg	18	18	31	4.2			YES	3	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Barium	7440-39-3	mg/kg	18	18	840	140			YES	20	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Beryllium	7440-41-7	mg/kg	18	17	0.95	0.14	0.1	0.1	YES	21	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cadmium	7440-43-9	mg/kg	18	8	0.37	0.045	0.044	0.088	YES	0.36	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Calcium	7440-70-2	mg/kg	18	18	300000	4400			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Chromium	7440-47-3	mg/kg	18	18	37	2.3			YES	26	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cobalt	7440-48-4	mg/kg	18	18	6	0.45			YES	10	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Copper	7440-50-8	mg/kg	18	18	28	2			YES	28	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Iron	7439-89-6	mg/kg	18	18	53000	2400			YES	20000	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Lead	7439-92-1	mg/kg	18	18	18	1.2			YES	11	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Magnesium	7439-95-4	mg/kg	18	18	29000	3300			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Manganese	7439-96-5	mg/kg	18	18	410	17			YES	220	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Mercury	7439-97-6	mg/kg	18	14	0.22	0.016	0.0082	0.053	YES	0.00051	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Molybdenum	7439-98-7	mg/kg	18	18	26	0.063			YES	2	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Nickel	7440-02-0	mg/kg	18	18	17	1.8			YES	20.9	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Potassium	7440-09-7	mg/kg	18	17	7900	930	960	960	NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Selenium	7782-49-2	mg/kg	18	14	0.38	0.11	0.087	0.18	YES	0.1	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Silver	7440-22-4	mg/kg	18	5	0.081	0.031	0.025	0.053	YES	0.5	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Sodium	7440-23-5	mg/kg	18	18	3700	1800			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Thallium	7440-28-0	mg/kg	18	16	0.2	0.052	0.055	0.088	YES	0.01	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Vanadium	7440-62-2	mg/kg	18	18	72	5.4			YES	7.8	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Zinc	7440-66-6	mg/kg	18	18	64	4.6			YES	46	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
1,1'-Biphenyl	92-52-4	mg/kg	18	0			0.17	31	YES	20	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	0			0.027	4.9	YES	1.252	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	18	0			0.086	15	YES	0.129	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,5-Trichlorophenol	95-95-4	mg/kg	18	0			0.088	16	YES	0.003	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,6-Trichlorophenol	88-06-2	mg/kg	18	0			0.0046	0.83	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	18	0			0.083	15	YES	19.9	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2,4-Dichlorophenol	120-83-2	mg/kg	18	0			0.094	17	YES	0.0002083	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dimethylphenol	105-67-9	mg/kg	18	0			0.18	32	YES	0.01	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrophenol	51-28-5	mg/kg	18	0			0.23	40	YES	0.00621	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrotoluene	121-14-2	mg/kg	18	0			0.094	17	YES	0.0144	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,6-Dinitrotoluene	606-20-2	mg/kg	18	0			0.1	19	YES	0.0328	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chloronaphthalene	91-58-7	mg/kg	18	0			0.085	15	YES	0.0122	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chlorophenol	95-57-8	mg/kg	18	0			0.093	17	YES	0.000333	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylphenol	95-48-7	mg/kg	18	0			0.061	11	YES	0.008	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Nitroaniline	88-74-4	mg/kg	18	0			0.089	16	YES	74.1	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Nitrophenol	88-75-5	mg/kg	18	0			0.086	15	YES	1.6	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
3,3'-Dichlorobenzidine	91-94-1	mg/kg	18	0			0.099	18	YES	0.127	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
3-Nitroaniline	99-09-2	mg/kg	18	0			0.18	32	YES	3.16	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	18	0			0.085	15	YES	0.104	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Bromophenyl-phenylether	101-55-3	mg/kg	18	0			0.09	16	YES	1.55	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chloro-3-methylphenol	59-50-7	mg/kg	18	0			0.097	17	YES	0.388	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chloroaniline	106-47-8	mg/kg	18	0			0.061	11	YES	0.146	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	18	0			0.098	18	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
3 & 4 Methylphenol	15831-10-4	mg/kg	18	0			0.35	62	YES	0.0202	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Nitroaniline	100-01-6	mg/kg	18	0			0.093	17	YES	21.9	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Nitrophenol	100-02-7	mg/kg	18	0			0.3	53	YES	0.0133	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Acetophenone	98-86-2	mg/kg	18	0			0.028	18	YES	300	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzaldehyde	100-52-7	mg/kg	18	0			0.17	31	YES	820	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzylbutylphthalate	85-68-7	mg/kg	18	0			0.1	18	YES	0.063	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	18	0			0.093	17	YES	0.302	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
bis(2-Chloroethyl) ether	111-44-4	mg/kg	18	0			0.085	15	YES	1	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	18	0			0.1	18	YES	0.182	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Carbazole	86-74-8	mg/kg	18	0			0.1	18	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
Dibenzofuran	132-64-9	mg/kg	18	0			0.091	16	YES	0.11	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Diethyl phthalate	84-66-2	mg/kg	18	0			0.095	17	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Dimethylphthalate	131-11-3	mg/kg	18	0			0.092	16	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Di-n-butylphthalate	84-74-2	mg/kg	18	0			0.1	18	YES	0.15	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Di-n-octylphthalate	117-84-0	mg/kg	18	0			0.1	18	YES	0.58	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachlorobenzene	118-74-1	mg/kg	18	15	220	0.024	0.0024	0.26	YES	0.006	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Hexachlorobutadiene	87-68-3	mg/kg	18	0			0.0039	0.7	YES	0.0013	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN

Table 3-5
PRI 6 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Hexachlorocyclopentadiene	77-47-4	mg/kg	18	0			0.065	12	YES	0.0266	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachloroethane	67-72-1	mg/kg	18	0			0.085	15	YES	0.073	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Isophorone	78-59-1	mg/kg	18	0			0.098	18	YES	0.432	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Nitrobenzene	98-95-3	mg/kg	18	0			0.08	14	YES	0.021	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodimethylamine	62-75-9	mg/kg	18	0			0.1	18	YES	0.0000321	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	18	0			0.089	16	YES	0.33	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodiphenylamine	86-30-6	mg/kg	18	0			0.091	16	YES	0.028	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Pentachlorobenzene	608-93-5	mg/kg	18	2	5.6	3.5	0.014	2.3	YES	93	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pentachlorophenol	87-86-5	mg/kg	18	0			0.025	4.5	YES	0.017	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Phenol	108-95-2	mg/kg	18	3	22	14	0.088	16	YES	0.0491	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	ADEQUATE
2-Methylnaphthalene	91-57-6	mg/kg	18	0			0.00043	0.0094	YES	0.0202	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acenaphthene	83-32-9	mg/kg	18	0			0.00047	0.01	YES	0.00671	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Acenaphthylene	208-96-8	mg/kg	18	0			0.00033	0.0072	YES	0.00587	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Anthracene	120-12-7	mg/kg	18	0			0.0004	0.0087	YES	0.0572	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(a)anthracene	56-55-3	mg/kg	18	0			0.00031	0.0066	YES	0.108	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(a)pyrene	50-32-8	mg/kg	18	9	0.076	0.0018	0.0004	0.0069	YES	0.15	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Benzo(b)fluoranthene	205-99-2	mg/kg	18	0			0.00051	0.011	YES	0.037	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(g,h,i)perylene	191-24-2	mg/kg	18	0			0.001	0.022	YES	0.17	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(k)fluoranthene	207-08-9	mg/kg	18	0			0.00077	0.017	YES	0.037	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chrysene	218-01-9	mg/kg	18	0			0.00035	0.0076	YES	0.166	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibenzo(a,h)anthracene	53-70-3	mg/kg	18	0			0.0012	0.026	YES	0.033	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Fluoranthene	206-44-0	mg/kg	18	0			0.0003	0.0064	YES	0.423	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Fluorene	86-73-7	mg/kg	18	0			0.00049	0.011	YES	0.019	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	18	0			0.00048	0.011	YES	0.03	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Naphthalene	91-20-3	mg/kg	18	0			0.00033	0.0067	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Phenanthrene	85-01-8	mg/kg	18	0			0.00035	0.0077	YES	0.204	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pyrene	129-00-0	mg/kg	18	0			0.00035	0.0077	YES	0.195	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dioxane	123-91-1	mg/kg	18	0			0.041	0.11	YES	0.119	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1-Dichloroethane	75-34-3	mg/kg	18	1	0.00095	0.00095	0.00031	0.00083	YES	0.000575	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,1-Dichloroethene	75-35-4	mg/kg	18	0			0.00027	0.00075	YES	0.0194	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	18	0			0.00093	0.0025	YES	0.0352	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromoethane	106-93-4	mg/kg	18	0			0.00028	0.00078	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichlorobenzene	95-50-1	mg/kg	18	0			0.00067	0.0018	YES	0.013	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloroethane	107-06-2	mg/kg	18	0			0.00077	0.0021	YES	0.26	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,2-Dichloroethene	156-59-2	mg/kg	18	0			0.00094	0.0026	YES	230	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,2-Dichloroethene	156-60-5	mg/kg	18	0			0.0004	0.0011	YES	0.654	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloropropane	78-87-5	mg/kg	18	0			0.00063	0.0017	YES	0.333	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,3-Dichlorobenzene	541-73-1	mg/kg	18	0			0.00032	0.00086	YES	1.315	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,3-Dichloropropene	10061-01-5	mg/kg	18	0			0.00067	0.0018	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,3-Dichloropropene	10061-02-6	mg/kg	18	0			0.00079	0.0022	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dichlorobenzene	106-46-7	mg/kg	18	0			0.00082	0.0022	YES	0.11	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,1-Trichloroethane	71-55-6	mg/kg	18	0			0.00038	0.001	YES	0.213	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloroethane	79-00-5	mg/kg	18	0			0.00046	0.0013	YES	0.518	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloro-1,2,2-trifluoroethane (F	76-13-1	mg/kg	18	0			0.00087	0.0024	YES	17000	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,3-Trichlorobenzene	87-61-6	mg/kg	18	1	0.0032	0.0032	0.00079	0.0022	YES	20	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,4-Trichlorobenzene	120-82-1	mg/kg	18	0			0.00079	0.0022	YES	0.0048	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	18	0			0.00072	0.002	YES	0.127	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Butanone	78-93-3	mg/kg	18	12	0.034	0.0073	0.0022	0.01	YES	0.0424	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
2-Hexanone	591-78-6	mg/kg	18	1	0.0029	0.0029	0.00078	0.0021	YES	0.0582	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Methyl-2-pentanone	108-10-1	mg/kg	18	1	0.0014	0.0014	0.00097	0.0026	YES	0.0251	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acetone	67-64-1	mg/kg	18	8	0.12	0.0056	0.0015	0.051	YES	0.0099	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Benzene	71-43-2	mg/kg	18	1	0.00048	0.00048	0.00027	0.00075	YES	0.142	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromochloromethane	74-97-5	mg/kg	18	0			0.00099	0.0027	YES	63	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromodichloromethane	75-27-4	mg/kg	18	5	0.05	0.019	0.00056	0.013	YES	0.54	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromoform	75-25-2	mg/kg	18	11	0.27	0.0017	0.00042	0.0028	YES	0.492	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Bromomethane	74-83-9	mg/kg	18	0			0.0009	0.0025	YES	0.00137	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Carbon disulfide	75-15-0	mg/kg	18	11	0.008	0.0013	0.00052	0.00078	YES	0.0239	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Carbon tetrachloride	56-23-5	mg/kg	18	1	0.002	0.002	0.00056	0.0014	YES	1.45	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chlorobenzene	108-90-7	mg/kg	18	0			0.00031	0.00083	YES	0.291	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Cyclohexane	110-82-7	mg/kg	18	0			0.0028	0.0076	YES	2700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibromochloromethane	124-48-1	mg/kg	18	9	0.15	0.0092	0.00022	0.004	YES	2.05	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Chloroethane	75-00-3	mg/kg	18	0			0.00047	0.0013	YES	5700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloroform	67-66-3	mg/kg	18	5	0.023	0.01	0.00027	0.0092	YES	0.0594	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloromethane	74-87-3	mg/kg	18	7	0.01	0.0011	0.00053	0.0014	YES	10.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichlorodifluoromethane (Freon-12)	75-71-8	mg/kg	18	0			0.00094	0.0026	YES	37	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Ethyl benzene	100-41-4	mg/kg	18	0			0.00036	0.00098	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Isopropylbenzene	98-82-8	mg/kg	18	0			0.00055	0.0015	YES	990	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Methyl tertbutyl ether (MTBE)	1634-04-4	mg/kg	18	0			0.00063	0.0017	YES	210	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichloromethane (Methylene chloride)	75-09-2	mg/kg	18	0			0.00088	0.0024	YES	0.159	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE

Table 3-5
PRI 6 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Styrene	100-42-5	mg/kg	18	0			0.00033	0.00089	YES	0.254	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Tetrachloroethene	127-18-4	mg/kg	18	0			0.00064	0.0018	YES	0.057	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Toluene	108-88-3	mg/kg	18	1	0.00098	0.00098	0.00064	0.0018	YES	1.22	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichloroethene	79-01-6	mg/kg	18	1	0.0012	0.0012	0.00063	0.0017	YES	0.112	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichlorofluoromethane (Freon-11)	75-69-4	mg/kg	18	0			0.00036	0.00098	YES	16.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Vinyl chloride	75-01-4	mg/kg	18	0			0.00038	0.001	YES	0.202	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
o-Xylene	95-47-6	mg/kg	18	0			0.00035	0.00095	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
m,p Xylenes	179601-23-1	mg/kg	18	0			0.00085	0.0023	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Perchlorate	14797-73-0	mg/kg	18	2	0.0014	0.0011	0.021	0.038	YES	82	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Organic Carbon	TOC	mg/kg	18	13	9800	2900	1700	1700	NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
pH	PH25	pH units	18	18	9.17	1.06			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Cyanide, Total	74-90-8	mg/kg	18	0			0.21	0.42	YES	0.119	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Percent finer than 0.25 mm	%<0.25mm	%	18	18	99.5	2.4			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN

Notes:
-- = No relevant results
mg/kg = milligrams per kilogram
pg/g = picograms per gram
Empty cells = No results
Det = Detects
NA = Not Applicable
ND = Not Detected
NSV = No Screening Value
PCB = Polychlorinated biphenyl
pH = pH units
PRI = Preliminary Remedial Investigation
RBESL = Risk-based ecological screening level
RBSL = Risk-based screening level
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
USEPA = United States Environmental Protection Agency

Table 3-6
PRI 7 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Calculated TEQ (ND=0), Mammalian	CALC_DX_0	pg/g	19	19	27000	1.2			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Mamma	CALC_DX_2	pg/g	19	19	27000	1.3			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Calculated TEQ (ND=0), Avian	CALC_DX_0_AV	pg/g	19	19	2600000	2.7			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Calculated TEQ (ND=1/2 DL), Avian	CALC_DX_2_Av	pg/g	19	19	2600000	74			YES	0.00000012	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total PCBs	1336-36-3	mg/kg	19	19	11.8	0.0018			YES	0.000332	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Total Aluminum	7429-90-5	mg/kg	19	19	14000	1700			YES	5	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Antimony	7440-36-0	mg/kg	19	18	1.5	0.18	0.096	0.096	YES	0.27	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Arsenic	7440-38-2	mg/kg	19	19	34	5.7			YES	3	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Barium	7440-39-3	mg/kg	19	19	480	120			YES	20	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Beryllium	7440-41-7	mg/kg	19	19	0.58	0.089			YES	21	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cadmium	7440-43-9	mg/kg	19	18	0.24	0.056	0.053	0.053	YES	0.36	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Calcium	7440-70-2	mg/kg	19	19	230000	96000			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Chromium	7440-47-3	mg/kg	19	19	64	3.3			YES	26	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Cobalt	7440-48-4	mg/kg	19	19	5.3	1.4			YES	10	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Copper	7440-50-8	mg/kg	19	19	16	3.9			YES	28	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Iron	7439-89-6	mg/kg	19	19	39000	2400			YES	20000	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Lead	7439-92-1	mg/kg	19	19	14	3.5			YES	11	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Magnesium	7439-95-4	mg/kg	19	19	44000	10000			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Manganese	7439-96-5	mg/kg	19	19	520	60			YES	220	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Mercury	7439-97-6	mg/kg	19	18	0.11	0.014	0.01	0.01	YES	0.00051	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Molybdenum	7439-98-7	mg/kg	19	19	16	0.33			YES	2	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Nickel	7440-02-0	mg/kg	19	19	20	3.6			YES	20.9	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Potassium	7440-09-7	mg/kg	19	19	7300	1000			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Selenium	7782-49-2	mg/kg	19	19	1.3	0.16			YES	0.1	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Silver	7440-22-4	mg/kg	19	11	0.18	0.031	0.019	0.044	YES	0.5	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Sodium	7440-23-5	mg/kg	19	19	33000	2600			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Total Thallium	7440-28-0	mg/kg	19	18	0.21	0.037	0.053	0.053	YES	0.01	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Vanadium	7440-62-2	mg/kg	19	19	40	6.8			YES	7.8	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Total Zinc	7440-66-6	mg/kg	19	19	46	11			YES	46	NO	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
1,1'-Biphenyl	92-52-4	mg/kg	19	0			0.21	24	YES	20	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	19	0			0.032	3.8	YES	1.252	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	19	0			0.1	12	YES	0.129	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,5-Trichlorophenol	95-95-4	mg/kg	19	0			0.1	12	YES	0.003	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4,6-Trichlorophenol	88-06-2	mg/kg	19	0			0.0055	0.64	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,2-Oxybis(1-chloropropane)	108-60-1	mg/kg	19	0			0.098	11	YES	19.9	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2,4-Dichlorophenol	120-83-2	mg/kg	19	0			0.11	13	YES	0.0002083	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dimethylphenol	105-67-9	mg/kg	19	0			0.21	24	YES	0.01	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrophenol	51-28-5	mg/kg	19	0			0.27	31	YES	0.00621	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,4-Dinitrotoluene	121-14-2	mg/kg	19	0			0.11	13	YES	0.0144	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2,6-Dinitrotoluene	606-20-2	mg/kg	19	0			0.12	14	YES	0.0328	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chloronaphthalene	91-58-7	mg/kg	19	0			0.1	12	YES	0.0122	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Chlorophenol	95-57-8	mg/kg	19	0			0.11	13	YES	0.000333	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylphenol	95-48-7	mg/kg	19	0			0.072	8.4	YES	0.008	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Nitroaniline	88-74-4	mg/kg	19	0			0.1	12	YES	74.1	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Nitrophenol	88-75-5	mg/kg	19	0			0.1	12	YES	1.6	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
3,3'-Dichlorobenzidine	91-94-1	mg/kg	19	0			0.12	14	YES	0.127	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
3-Nitroaniline	99-09-2	mg/kg	19	0			0.21	24	YES	3.16	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	19	0			0.1	12	YES	0.104	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Bromophenyl-phenylether	101-55-3	mg/kg	19	0			0.11	12	YES	1.55	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
4-Chloro-3-methylphenol	59-50-7	mg/kg	19	0			0.11	13	YES	0.388	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chloroaniline	106-47-8	mg/kg	19	0			0.072	8.4	YES	0.146	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	19	0			0.12	13	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
3 & 4 Methylphenol	15831-10-4	mg/kg	19	0			0.41	48	YES	0.0202	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
4-Nitroaniline	100-01-6	mg/kg	19	0			0.11	13	YES	21.9	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Nitrophenol	100-02-7	mg/kg	19	0			0.35	41	YES	0.0133	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Acetophenone	98-86-2	mg/kg	19	0			0.083	3.6	YES	300	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzaldehyde	100-52-7	mg/kg	19	0			0.21	24	YES	820	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzylbutylphthalate	85-68-7	mg/kg	19	0			0.12	14	YES	0.063	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	19	0			0.11	13	YES	0.302	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
bis(2-Chloroethyl) ether	111-44-4	mg/kg	19	0			0.1	12	YES	1	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	19	0			0.12	14	YES	0.182	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Carbazole	86-74-8	mg/kg	19	0			0.12	14	NO	NSV	N/A, NSV	NO	N/A, <50% Det	--	N/A, NSV	NO	UNCERTAIN	UNCERTAIN
Dibenzofuran	132-64-9	mg/kg	19	0			0.11	12	YES	0.11	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Diethyl phthalate	84-66-2	mg/kg	19	0			0.11	13	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Dimethylphthalate	131-11-3	mg/kg	19	0			0.11	13	YES	0.006	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Di-n-butylphthalate	84-74-2	mg/kg	19	0			0.12	14	YES	0.15	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Di-n-octylphthalate	117-84-0	mg/kg	19	0			0.12	14	YES	0.58	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN

Table 3-6
PRI 7 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Hexachlorobenzene	118-74-1	mg/kg	19	16	260	0.021	0.0033	0.095	YES	0.006	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Hexachlorobutadiene	87-68-3	mg/kg	19	0			0.0046	0.54	YES	0.0013	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachlorocyclopentadiene	77-47-4	mg/kg	19	0			0.077	9	YES	0.0266	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Hexachloroethane	67-72-1	mg/kg	19	0			0.1	12	YES	0.073	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Isophorone	78-59-1	mg/kg	19	0			0.12	13	YES	0.432	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Nitrobenzene	98-95-3	mg/kg	19	0			0.094	11	YES	0.021	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodimethylamine	62-75-9	mg/kg	19	0			0.12	14	YES	0.0000321	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	19	0			0.1	12	YES	0.33	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
N-Nitrosodiphenylamine	86-30-6	mg/kg	19	0			0.11	12	YES	0.028	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Pentachlorobenzene	608-93-5	mg/kg	19	2	7	5.6	0.016	0.92	YES	93	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pentachlorophenol	87-86-5	mg/kg	19	0			0.03	3.5	YES	0.017	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Phenol	108-95-2	mg/kg	19	0			0.1	12	YES	0.0491	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
2-Methylnaphthalene	91-57-6	mg/kg	19	5	0.058	0.0018	0.00052	0.0069	YES	0.0202	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acenaphthene	83-32-9	mg/kg	19	2	0.0022	0.00099	0.00057	0.0089	YES	0.00671	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Acenaphthylene	208-96-8	mg/kg	19	0			0.0004	0.0062	YES	0.00587	NO	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
Anthracene	120-12-7	mg/kg	19	1	0.0027	0.0027	0.00048	0.0074	YES	0.0572	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(a)anthracene	56-55-3	mg/kg	19	2	0.0033	0.00073	0.00037	0.0057	YES	0.108	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(a)pyrene	50-32-8	mg/kg	19	2	0.041	0.0011	0.00048	0.0071	YES	0.15	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(b)fluoranthene	205-99-2	mg/kg	19	1	0.0024	0.0024	0.00061	0.0095	YES	0.037	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(g,h,i)perylene	191-24-2	mg/kg	19	0			0.0012	0.019	YES	0.17	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Benzo(k)fluoranthene	207-08-9	mg/kg	19	0			0.00092	0.014	YES	0.037	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chrysene	218-01-9	mg/kg	19	3	0.0073	0.0009	0.00042	0.0062	YES	0.166	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibenzo(a,h)anthracene	53-70-3	mg/kg	19	0			0.0015	0.023	YES	0.033	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Fluoranthene	206-44-0	mg/kg	19	2	0.0028	0.00048	0.00036	0.0055	YES	0.423	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Fluorene	86-73-7	mg/kg	19	2	0.0023	0.0013	0.00059	0.0092	YES	0.019	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	19	0			0.00058	0.009	YES	0.03	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Naphthalene	91-20-3	mg/kg	19	2	0.0023	0.00075	0.00037	0.0089	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Phenanthrene	85-01-8	mg/kg	19	3	0.02	0.00056	0.00042	0.05	YES	0.204	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Pyrene	129-00-0	mg/kg	19	2	0.015	0.002	0.00042	0.0066	YES	0.195	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dioxane	123-91-1	mg/kg	19	0			0.051	0.11	YES	0.119	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1-Dichloroethane	75-34-3	mg/kg	19	1	0.00092	0.00092	0.00038	0.00084	YES	0.000575	YES-ADEQUATE	NO	N/A, <50% Det	--	NO	YES	ADEQUATE	ADEQUATE
1,1-Dichloroethene	75-35-4	mg/kg	19	0			0.00034	0.00076	YES	0.0194	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	19	0			0.0012	0.0026	YES	0.0352	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dibromoethane	106-93-4	mg/kg	19	0			0.00035	0.00079	YES	0.16	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichlorobenzene	95-50-1	mg/kg	19	0			0.00084	0.0019	YES	0.013	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloroethane	107-06-2	mg/kg	19	0			0.00096	0.0021	YES	0.26	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,2-Dichloroethene	156-59-2	mg/kg	19	0			0.0012	0.0026	YES	230	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,2-Dichloroethene	156-60-5	mg/kg	19	0			0.0005	0.0011	YES	0.654	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2-Dichloropropane	78-87-5	mg/kg	19	0			0.00079	0.0017	YES	0.333	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,3-Dichlorobenzene	541-73-1	mg/kg	19	4	0.0041	0.00077	0.00039	0.00087	YES	1.315	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
cis-1,3-Dichloropropene	10061-01-5	mg/kg	19	0			0.00084	0.0019	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
trans-1,3-Dichloropropene	10061-02-6	mg/kg	19	0			0.00099	0.0022	YES	0.398	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,4-Dichlorobenzene	106-46-7	mg/kg	19	0			0.001	0.0023	YES	0.11	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,1-Trichloroethane	71-55-6	mg/kg	19	0			0.00047	0.001	YES	0.213	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloroethane	79-00-5	mg/kg	19	0			0.00058	0.0013	YES	0.518	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2-Trichloro-1,2,2-trifluoroethane (F	76-13-1	mg/kg	19	0			0.0011	0.0024	YES	17000	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,3-Trichlorobenzene	87-61-6	mg/kg	19	0			0.00099	0.0022	YES	20	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,2,4-Trichlorobenzene	120-82-1	mg/kg	19	7	0.1	0.002	0.00099	0.0022	YES	0.0048	YES-ADEQUATE	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	19	0			0.00089	0.002	YES	0.127	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
2-Butanone	78-93-3	mg/kg	19	13	0.085	0.0034	0.0039	0.011	YES	0.0424	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
2-Hexanone	591-78-6	mg/kg	19	0			0.00097	0.0022	YES	0.0582	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
4-Methyl-2-pentanone	108-10-1	mg/kg	19	1	0.0035	0.0035	0.0012	0.0027	YES	0.0251	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Acetone	67-64-1	mg/kg	19	16	0.37	0.011	0.0024	0.031	YES	0.0099	YES-ADEQUATE	YES	YES-ADEQUATE	ADEQUATE	--	--	--	ADEQUATE
Benzene	71-43-2	mg/kg	19	0			0.00034	0.00076	YES	0.142	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromochloromethane	74-97-5	mg/kg	19	0			0.0012	0.0027	YES	63	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromodichloromethane	75-27-4	mg/kg	19	2	0.0076	0.0017	0.0007	0.0016	YES	0.54	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromoform	75-25-2	mg/kg	19	5	0.018	0.0019	0.00053	0.0044	YES	0.492	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Bromomethane	74-83-9	mg/kg	19	0			0.0011	0.0025	YES	0.00137	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Carbon disulfide	75-15-0	mg/kg	19	12	0.17	0.0011	0.00068	0.002	YES	0.0239	YES-ADEQUATE	YES	NO-UNCERTAIN	UNCERTAIN	--	--	--	ADEQUATE
Carbon tetrachloride	56-23-5	mg/kg	19	0			0.0007	0.0015	YES	1.45	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chlorobenzene	108-90-7	mg/kg	19	0			0.00038	0.00084	YES	0.291	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Cyclohexane	110-82-7	mg/kg	19	0			0.0035	0.0077	YES	2700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dibromochloromethane	124-48-1	mg/kg	19	5	0.015	0.001	0.00028	0.0026	YES	2.05	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloroethane	75-00-3	mg/kg	19	0			0.00059	0.0013	YES	5700	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloroform	67-66-3	mg/kg	19	7	0.016	0.0011	0.00036	0.0057	YES	0.0594	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Chloromethane	74-87-3	mg/kg	19	0			0.00066	0.0015	YES	10.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichlorodifluoromethane (Freon-12)	75-71-8	mg/kg	19	0			0.0012	0.0026	YES	37	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE

Table 3-6
PRI 7 Data Adequacy Evaluation
US Magnesium, LLC
Tooele County, Utah

Chemical Name	CAS #	Units	Number of Samples	Number of Detections	Maximum Detection	Minimum Detection	Minimum Detection Limit	Maximum Detection Limit	Decision 0		Decision 1	Decision 2	*Pre-Decision 3*	Decision 3	Decision 4	*Pre-Decision 5*	Decision 5	
									RBSL or RBESL available?	Min RBSL/RBESL	Maximum Detect > Lowest RBSL/RBESL?	Are there at least 50% detected values?	Is Mean ≤ 80th Percentile?	Datasets with ≥ 50% Detects Adequacy	Maximum DL ≤ Lowest RBSL/RBESL?	Are DLs in at least 50% of undiluted samples ≤ Lowest RBSL/RBESL, OR, if no undiluted samples, are DLs in at least 50% of diluted samples ≤ Lowest RBSL/RBESL?	Datasets with < 50% Detects Adequacy	Final Adequacy Determination
Ethyl benzene	100-41-4	mg/kg	19	0			0.00045	0.00099	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Isopropylbenzene	98-82-8	mg/kg	19	0			0.00068	0.0015	YES	990	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Methyl tertbutyl ether (MTBE)	1634-04-4	mg/kg	19	0			0.00079	0.0017	YES	210	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Dichloromethane (Methylene chloride)	75-09-2	mg/kg	19	0			0.0011	0.0024	YES	0.159	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Styrene	100-42-5	mg/kg	19	0			0.00041	0.0009	YES	0.254	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Tetrachloroethene	127-18-4	mg/kg	19	2	0.0028	0.0022	0.0008	0.0018	YES	0.057	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Toluene	108-88-3	mg/kg	19	1	0.0027	0.0027	0.0008	0.0018	YES	1.22	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichloroethene	79-01-6	mg/kg	19	0			0.00079	0.0017	YES	0.112	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Trichlorofluoromethane (Freon-11)	75-69-4	mg/kg	19	0			0.00045	0.00099	YES	16.4	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Vinyl chloride	75-01-4	mg/kg	19	0			0.00047	0.001	YES	0.202	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
o-Xylene	95-47-6	mg/kg	19	3	0.0017	0.00095	0.00043	0.00096	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
m,p Xylenes	179601-23-1	mg/kg	19	2	0.0032	0.0021	0.0011	0.0024	YES	0.004	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Perchlorate	14797-73-0	mg/kg	19	0			0.0002	0.073	YES	82	NO	NO	N/A, <50% Det	--	YES-ADEQUATE	--	ADEQUATE	ADEQUATE
Total Organic Carbon	TOC	mg/kg	19	14	24000	2300	1700	3700	NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
pH	PH25	pH units	19	19	7.59	6.51			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN
Cyanide, Total	74-90-8	mg/kg	19	0			0.26	0.46	YES	0.119	NO	NO	N/A, <50% Det	--	NO	NO	UNCERTAIN	UNCERTAIN
Percent finer than 0.25 mm	%<0.25mm	%	19	19	96.9	33.3			NO	NSV	N/A, NSV	YES	YES-ADEQUATE	ADEQUATE	N/A, NSV	--	--	UNCERTAIN

Notes:
-- = No relevant results
mg/kg = milligrams per kilogram
pg/g = picograms per gram
Empty cells = No results
Det = Detects
NA = Not Applicable
ND = Not Detected
NSV = No Screening Value
PCB = Polychlorinated biphenyl
pH = pH units
PRI = Preliminary Remedial Investigation
RBESL = Risk-based ecological screening level
RBSL = Risk-based screening level
SIM = Selected ion monitoring
TEQ = Toxicity equivalence
USEPA = United States Environmental Protection Agency

Table 3-7
Summary of Inner PRI Data Adequacy Results
US Magnesium, LLC
Tooele County, Utah

PRI	Analytes with Uncertainty	Notes	Conclusion
1	1,2,4,5-Tetrachlorobenzene; 2,3,4,6-Tetrachlorophenol; 2,4,5-Trichlorophenol; 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2,4-Dinitrophenol; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; 2-Chloronaphthalene; 2-Chlorophenol; 2-Methylphenol; 2-Nitrophenol; 3,3'Dichlorobenzidine; 3-Nitroaniline; 4,6-Dinitro-2-methylphenol; 4-Bromophenyl-phenylether; 4-Chloro-3-methylphenol; 4-Chloroaniline; 4-Nitrophenol; Benzylbutylphthalate; Bis(2-chloroethoxy)methane; Bis(2-chloroethyl)ether; Bis(2-ethylhexyl)phthalate; Dibenzofuran, Diethyl phthalate; Dimethylphthalate; Di-n-butylphthalate; Di-n-octylphthalate; Hexachlorocyclopentadiene; Hexachloroethane; Isophorone; Nitrobenzene; N-Nitrosodimethylamine; N-Nitroso-di-n-propylamine; N-Nitrosodiphenylamine; Phenol	Less than 50% detected; detection limits exceed lowest RBC	Uncertain for COPC and/or COPEC selection
3	2,3,4,6-Tetrachlorophenol; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2,4-Dinitrophenol; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; 2-Chloronaphthalene; 2-Chlorophenol; 2-Methylphenol; 3,3'Dichlorobenzidine; 4,6-Dinitro-2-methylphenol; 4-Chloro-3-methylphenol; 4-Chloroaniline; 3&4 Methylphenol; 4-Nitrophenol; Benzylbutylphthalate; Bis(2-chloroethoxy)methane; Bis(2-chloroethyl)ether; Dibenzofuran, Diethyl phthalate; Dimethylphthalate; Di-n-butylphthalate; Di-n-octylphthalate; Hexachlorobutadiene; Hexachlorocyclopentadiene; Hexachloroethane; Isophorone; Nitrobenzene; N-Nitrosodimethylamine; N-Nitroso-di-n-propylamine; N-Nitrosodiphenylamine; Pentachlorophenol; Phenol	All ND; no undiluted samples and detection limits exceed lowest RBC	Uncertain for COPC and/or COPEC selection
4	1,1'Biphenyl; 1,2,4,5-Tetrachlorobenzene; 2,3,4,6-Tetrachlorophenol; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2,4-Dinitrophenol; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; 2-Chloronaphthalene; 2-Chlorophenol; 2-Methylphenol; 2-Nitrophenol; 3,3'Dichlorobenzidine; 3-Nitroaniline; 4,6-Dinitro-2-methylphenol; 4-Bromophenyl-phenylether; 4-Chloro-3-methylphenol; 4-Chloroaniline; 4-Nitrophenol; Benzylbutylphthalate; Bis(2-chloroethoxy)methane; Bis(2-chloroethyl)ether; Bis(2-ethylhexyl)phthalate; Dibenzofuran; Diethyl phthalate; Dimethylphthalate; Di-n-butylphthalate; Di-n-octylphthalate; Hexachlorobutadiene; Hexachlorocyclopentadiene; Hexachloroethane; Isophorone; Nitrobenzene; N-Nitrosodimethylamine; N-Nitroso-di-n-propylamine; N-Nitrosodiphenylamine; Pentachlorophenol; Phenol; Acenaphthene; Bromomethane	All ND; no undiluted samples and detection limits exceed lowest RBC	Uncertain for COPC and/or COPEC selection
4	Lead, Bromoform, Dibromochloromethane	Mean exceeds 80th percentile	Uncertain for COPC and/or COPEC selection
5	2,3,4,6-Tetrachlorophenol; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2,4-Dinitrophenol; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; 2-Chloronaphthalene; 2-Chlorophenol; 2-Methylphenol; 3,3'Dichlorobenzidine; 4-Chloro-3-methylphenol; 4-Chloroaniline; 3&4 Methylphenol; 4-Nitrophenol; Benzylbutylphthalate; Bis(2-chloroethoxy)methane; Bis(2-ethylhexyl)phthalate; Dibenzofuran, Diethyl phthalate; Dimethylphthalate; Di-n-butylphthalate; Di-n-octylphthalate; Hexachlorocyclopentadiene; Hexachloroethane; Isophorone; Nitrobenzene; N-Nitrosodimethylamine; N-Nitroso-di-n-propylamine; N-Nitrosodiphenylamine; Pentachlorophenol	All ND; no undiluted samples and detection limits exceed lowest RBC.	Uncertain for COPC and/or COPEC selection

Table 3-7
Summary of Inner PRI Data Adequacy Results
US Magnesium, LLC
Tooele County, Utah

PRI	Analytes with Uncertainty	Notes	Conclusion
6	1,2,4,5-Tetrachlorobenzene; 2,3,4,6-Tetrachlorophenol; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2,4-Dinitrophenol; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; 2-Chloronaphthalene; 2-Chlorophenol; 2-Methylphenol; 2-Nitrophenol; 3,3'Dichlorobenzidine; 3-Nitroaniline; 4,6-Dinitro-2-methylphenol; 4-Bromophenyl-phenylether; 4-Chloro-3-methylphenol; 4-Chloroaniline; 3&4 Methylphenol; 4-Nitrophenol; Benzylbutylphthalate; Bis(2-chloroethoxy)methane; Bis(2-chloroethyl)ether; Bis(2-ethylhexyl)phthalate; Dibenzofuran, Diethyl phthalate; Dimethylphthalate; Di-n-butylphthalate; Di-n-octylphthalate; Hexachlorobutadiene; Hexachlorocyclopentadiene; Hexachloroethane; Isophorone; Nitrobenzene; N-Nitrosodimethylamine; N-Nitroso-di-n-propylamine; N-Nitrosodiphenylamine; Pentachlorophenol	All ND; no undiluted samples and detection limits exceed lowest RBC	Uncertain for COPC and/or COPEC selection
6, 7	Bromomethane, Cyanide	All ND; greater than 50% of undiluted detection limits exceed lowest RBC	Uncertain for COPC and/or COPEC selection
7	2,3,4,6-Tetrachlorophenol; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2,4-Dinitrophenol; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; 2-Chloronaphthalene; 2-Chlorophenol; 2-Methylphenol; 3,3'Dichlorobenzidine; 4,6-Dinitro-2-methylphenol; 4-Chloro-3-methylphenol; 4-Chloroaniline; 3&4 Methylphenol; 4-Nitrophenol; Benzylbutylphthalate; Bis(2-chloroethoxy)methane; Bis(2-chloroethyl)ether; Bis(2-ethylhexyl)phthalate; Dibenzofuran, Diethyl phthalate; Dimethylphthalate; Di-n-butylphthalate; Di-n-octylphthalate; Hexachlorobutadiene; Hexachlorocyclopentadiene; Hexachloroethane; Isophorone; Nitrobenzene; N-Nitrosodimethylamine; N-Nitroso-di-n-propylamine; N-Nitrosodiphenylamine; Pentachlorophenol;	All ND; no undiluted samples and detection limits exceed lowest RBC	Uncertain for COPC and/or COPEC selection

<u>Notes:</u>
Constituents lacking an RBC are not shown on this list.
COPC = Constituent of potential concern (human health)
COPEC = Constituent of potential ecological concern.
DL = Detection limit
ND = Not detected
RBC = Risk-based concentration (human health or ecological)

Appendix I
Data Usability Assessment for Background/Reference Samples

Technical Memorandum

Environmental
Resources
Management

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(480) 424-1818 (fax)

To: Ken Wangerud, USEPA

From: David Abranovic, ERM
Natasha Hausmann, ERM
George Weber, ERM

Date: 20 July 2016

Subject: Background Data Usability Assessment Technical Memorandum
US Magnesium LLC, Tooele County, Utah

1.0 INTRODUCTION

This technical memorandum (TM) describes the methods and results of the evaluations used to develop the background dataset that will be used in the Remedial Investigation and Feasibility Study (RI/FS) and supporting risk assessments. The dataset developed in this report follows the data quality objectives (DQOs) established in the Phase 1A-B RI Sampling and Analysis Plan (SAP) for: 1) Chemicals of Potential Concern in Soil, Sediment, and Solid Wastes in Preliminary Remediation Investigation (PRI) Areas 1 and 3 through 7; 2) Preliminary Site Characterization Mapping of PRI Areas 1 and 3 through 7; and 3) Background Chemical Assessment of Biotic Reference Areas for Site-wide Ecological Risk Assessment (Phase 1A-B SAP or "the SAP") presented in 2015 (ERM-West, Inc. [ERM] 2015).

1.1 ROLE OF BACKGROUND DATASET

A necessary component of the RI/FS is to define "background" concentrations of chemicals in solid media. For the purposes of this evaluation, both naturally occurring and anthropogenic ambient will be defined as "background." The purpose of characterizing background is to support scientifically defensible Site-to-background comparisons such that Site-related constituents can be identified. Two classifications of compounds are relevant to characterizing background for the US Magnesium (US Mag) RI/FS: metals and organics. Organic compounds include dioxins and furans (D/F), total polychlorinated biphenyls (PCBs), and hexachlorobenzene (HCB).

1.2 LAKE BED, UPLAND, AND BEAR RIVER BACKGROUND POPULATIONS

Background concentrations of naturally occurring metals in soils and sediments are influenced by the underlying soil types and lithology. Understanding the influence of soil and lithology on metals concentrations was a critical aspect in the sample design used to collect background data. The DQO evaluation in the SAP determined that two, independent populations are present within the US Mag property. These populations differ significantly in soil type and lithology composition enough to necessitate the development of two background datasets to support comparisons to Site soils. These two population types, designated "Upland" and "Lake Bed," were central to the sample design, which is discussed further below.

Background samples were collected from locations representative of Upland and Lake Bed soil conditions. Upland and Lake Bed locations consisted of three sub-locations (Figure 1.1). Detailed maps of each location are presented in Figures 1.2 through 1.5. The Upland metals data are considered an independent population from Lake Bed. Organics data collected from Upland and Lake Bed locations were evaluated to determine if they should be pooled or segregated like the metals populations (see Section 4.0). Background samples carried through the evaluation in the following section were collected from 0 to 2 inches below ground surface.

In addition to collecting samples from Upland and Lake Bed locations, a set of samples was collected from the Bear River Migratory Bird Refuge (BRMBR), shown in Figures 1.1 and 1.6. BRMBR was identified in the SAP as a contingency reference area for tissue collection that may be utilized for tissue collection in the event that biological data cannot be collected from the six candidate reference locations described above (either from the absence of sufficient biological tissue or impacts traceable to the Site). The samples from BRMBR were collected to confirm that they do not contain elevated concentrations of metals or organics. The contingency reference location will only be utilized if insufficient reference tissue data can be collected from the candidate Lake Bed reference locations.

Some soil sampling at depth was also performed at the Upland, Lake Bed, and BRMBR reference locations. At each Sampling Area, including BRMBR, a subsurface sample was collected to provide some Site-specific evidence to help confirm that subsurface soil at reference locations does not contain anthropogenic contamination that is not present in surface soil (e.g., due to waste dumping or burial). Subsurface surface samples were collected from 2 inches to 36 inches below ground surface and were co-located with surface samples. Please refer to Section 7.0 for results and discussion of subsurface samples.

1.3 OBJECTIVES OF THE DATA QUALITY EVALUATION

The objective of this data quality evaluation is twofold:

1. To confirm the background data collected during Phase 1A-B is representative of regional, naturally occurring metals concentrations and ambient organic concentrations; and
2. To confirm that sufficient data were collected to perform comparisons between those data and data collected from the Site.

This assessment includes the following components:

- Summary of procedures and tasks followed during the investigation;
- Comparison to measurement quality objectives (MQOs);
- Description of the background data;
- Identification of organic background subpopulations;
- Establishment of the background datasets for metals and organics separately; and
- Determination of sample size adequacy.

These components were performed in accordance with the SAP (ERM 2015) and USEPA guidance:

- USEPA (1995) *Determination of Background Concentrations of Inorganics in Soils and Sediments at Hazardous Waste Sites*;
- USEPA (2013) *ProUCL Version 5.0.00 Technical Guide*;
- USEPA (2014) *Extracting a Site-Specific Background Dataset for a Constituent from a Broader Dataset Consisting of Onsite Constituent Concentrations & Estimating Background Level Constituent Concentrations;* and
- USEPA (2009) *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance.*

Additional technical documents consulted include:

- US Navy (2002) *Guidance for Environmental Background Analysis, Volume I: Soil;*
- US Navy (2004) *Guidance for Environmental Background Analysis, Volume III: Groundwater;*
- Gilbert (1987) *Statistical Methods for Environmental Pollution Monitoring;*
- Sokal and Rohlf (1995) *Biometry*; and
- Zar (1999) *Biostatistical Analysis*.

1.4 ANALYTES

Soil was collected and analyzed from Upland and Lake Bed background locations in 2016. All background samples were analyzed for pH and the following metals:

- Aluminum
- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Iron
- Lead
- Manganese
- Mercury
- Molybdenum
- Nickel
- Selenium
- Silver
- Thallium
- Vanadium
- Zinc

Soil samples from a subset of the sample locations were analyzed for organics:

- Calculated toxicity equivalency (TEQ) (non-detect [ND]=0), Mammals
- HCB
- Total PCBs
- Total organic carbon (TOC)

Soil pH and TOC data were collected to provide context for subsequent risk assessment characterizations. These analytes are not included in the metals and organics background data evaluations presented in Sections 3.0 through 8.0 of this TM.

Consistent with the SAP, the Calculated Mammalian TEQ (ND=0) was selected for D/F because the Avian TEQ incorporates HCB as a component constituent. HCB is evaluated independently in the data quality assessment (DQA). Furthermore, the ND = 0 substitution was preferred so that differences among sample concentrations were not a result of variable detection limits (DLs) on the component constituents.

2.0 COMPARISON TO MEASUREMENT QUALITY OBJECTIVES

Data usability is evaluated through review of the MQOs specified in Worksheet #37 of the SAP. The following subsections assess precision, accuracy, representativeness, completeness, comparability, and sensitivity for the Phase 1A-B background dataset. The background dataset included for these comparisons to MQOs does not include field duplicate quality control (QC) samples or subsurface screening samples. Field duplicate and subsurface sample results were omitted in the background DQA in order to be consistent with data handling elsewhere in this report.

2.1 PRECISION

Precision was assessed by the analysis of field duplicates, laboratory duplicates, and matrix spike/matrix spike duplicate (MS/MSD) samples. Precision goals from Worksheets #12 and #28 were used to evaluate MS/MSD samples, laboratory control sample duplicates, laboratory duplicates, and field duplicates during data validation. Each data validation qualifier assigned during validation is accompanied by a Reason Code in the Project (EQuIS) database, as described in the Data Management Plan (ERM 2013) and Worksheet #36 for the Phase 1A-B SAP. Reason codes related to precision include:

Reason Code	Reason Code Definition
6	The MS/MSD relative percent difference (RPD) was outside of control limits.
7	The laboratory control samples (LCS) RPD was outside of control limits.
17	Field duplicate did not meet the RPD control criteria.
19	Laboratory duplicate precision did not meet control criteria.

Phase 1A-B background data qualified based on precision-related MQOs for each analyte are shown in Table 2-1 and summarized below.

Precision MQO	Number of Results Qualified	Analyte(s) with Qualified Results
MS/MSD RPD	15	Antimony
LCS RPD	0	None
Field Duplicate RPD	3	Barium (1), zinc (2)
Analytical Duplicate RPD	7	TOC

Phase 1A-B background soil sample results qualified due to exceedances of precision-related MQOs represent 0.8 percent of the Phase 1A-B background dataset, and no results were qualified as rejected based on precision. Based on the results of the duplicate analyses performed for Phase 1A-B background soil samples, the general level of precision is high and does not limit the usability of any particular analyte or method.

2.2 ACCURACY

Field accuracy is assessed by collecting and analyzing field duplicate and equipment rinsate blank QC samples. Laboratory accuracy is assessed by the analysis of MS, LCS, surrogate spikes (organic methods), method blanks, and calibration check standards and the use of internal standards (organic methods). Estimated maximum potential concentrations (applicable to PCBs and D/F), as well as holding times and sample temperatures are also used to assess accuracy.

Accuracy objectives from Worksheets #12 and #28 were used to evaluate sampling results during data validation. Data validation qualifier reason codes related to accuracy include the following:

Reason Code	Reason Code Definition
1	The sample preparation and/or analytical holding time was exceeded.
2	The analyte was detected below the quantitation limit but above the detection limit.
3	The analyte was detected in an associated laboratory blank sample.
4	The MS/MSD recovery was outside of control limits.
5	The LCS recovery was outside of control limits.
8	The surrogate recovery was outside of control limits.
9	Result identified as an estimated maximum potential concentration (EMPC).
10	The sample chromatogram did not resemble the standard hydrocarbon pattern.
11	The sample concentration was greater than the instrument's calibration range.

Reason Code	Reason Code Definition
12	Calibration criteria not met.
13	The analyte was detected in field blank, rinsate blank, and/or trip blank sample.
14	The internal standards did not meet control criteria.
15	The serial dilution did not meet control criteria.
16	The difference between columns did not meet control criteria.
18	Sample receipt temperature exceeded the acceptable range of from 4 to 6 °C.

Data qualified based on accuracy-related MQOs are summarized on an analyte basis in Table 2-2. A general description of accuracy-related qualifiers is provided below:

Accuracy MQO	Number of Qualified Results	Analyte(s) or Analyte Group(s) with Qualified Results
Preservation/ Holding Time	34	HCB
Detection < QL	1,018	Metals (166), PCB (439), D/F (396), HCB (3), TOC (14)
Laboratory Blank Detection	34	PCB homologs (17), DF congeners (17)
MS or MSD Recovery	276	Metals (276)
LCS Recovery	0	None
Surrogate Recovery	0	None
EMPC	140	PCB congeners (60), D/F congeners (80)
Outside Calibration Range	0	None
Calibration Criteria	1	Thallium (1)
Equipment Blank	63	Potassium (7), Sodium (20), Lead (30), Trichlorobiphenyl homologs (3), D/F congeners (3)
Internal Standard	109	PCB homologs (6), PCB congeners (10), D/F congeners (92)
Serial Dilution	64	Iron (15), Potassium (8), Calcium (15), Aluminum (15), Copper (11)
Column Difference	0	None
Sample Receipt Temperature	0	None

- No Phase 1A-B background sample results were qualified as rejected based on accuracy MQOs.
- Results qualified based on holding were limited to 32 samples which required re-analysis for HCB. For these samples, the laboratory

initially analyzed sample extracts at dilution based on the color or odor of the extract. These sample extracts were subsequently re-analyzed without dilution but outside of holding time.

- Analytes qualified based on laboratory blank contamination were limited to trichlorobiphenyl homologs, tetrachlorobiphenyl homologs, 1,2,3,7,8,9-hexachlorodibenzo-p-dioxin, Octachlorodibenzo-p-dioxin, and 1,2,3,4,7,8,9-Heptachlorodibenzofuran.
- Metals qualified based on MS or MSD recoveries included antimony (66 results) and selenium (55 results), magnesium (15 results), lead (11 results), nickel (11 results), cobalt (11 results), copper (41 results), zinc (49 results), and mercury (12 results).
- Qualifiers based on EMPC results were distributed among the various D/F and PCB congeners; however, PCB 77, PCB 167, PCB-156/157, 1,2,3,7,8-pentachlorodibenzofuran,1,2,3,6,7,8-hexachlorodibenzofuran, and 2,3,4,6,7,8-hexachlorodibenzofuran had the highest number of EMPC results, with 11 or more results qualified as EMPCs.
- Internal standard qualifiers were generally evenly distributed across PCB homolog, PCB congener, and D/F congener ranges.

Many analytes were qualified more than once in a sample because of matrix and concentration issues, so the total number of qualifiers is higher than the number of results qualified. The total number of results qualified based on one or more accuracy MQO is 1,739, which is 53 percent of the Phase 1A-B background results. The frequency of qualification for the Phase 1A-B background dataset based on accuracy-related MQOs is attributed mostly to the generally low concentrations of target analytes in the samples. If results that were qualified based only on detections below the quantification limit (QL) are excluded, then the total number of results qualified based on accuracy MQOs is 721, or 22 percent of the dataset.

2.3 REPRESENTATIVENESS

As described in SAP Worksheet #37, representative data were obtained by the following means:

- Collecting samples at the locations specified in the SAP or, when necessary, at modified locations that were approved by the United States Environmental Protection Agency (USEPA);
- Analyzing samples by the analytical methods specified in the SAP;

- Collecting and handling samples to avoid interference and minimize contamination;
- Analyzing equipment blank and laboratory blank QC samples to verify the absence of contaminants; and
- Consistently applying established field and laboratory standard operating procedures.

There are no quantitative criteria for representativeness identified in the SAP; however, validation criteria are available for field and laboratory blank samples and were referenced during data validation activities. Results qualified based on blank sample results are discussed in the previous section.

2.4 COMPARABILITY

Comparability of data was achieved by consistently following standard field and laboratory standard operating procedures and by using standard measurement units in reporting analytical data. No quantitative MQO is available for comparability.

2.5 COMPLETENESS

Completeness is calculated as the percentage of project-specific data that are valid. As described in SAP Worksheet #37, valid data are obtained when samples are collected and analyzed in accordance with QC procedures outlined in the SAP, and when results are found to be usable (with or without qualification) based on comparison to QC criteria. Because all planned Phase 1A-B background samples were collected and no results were rejected based on QC criteria, the completeness of the Phase 1A-B background dataset is 100 percent.

SAP Worksheet #37 specifies that completeness will also be evaluated as part of the DQA process to help determine whether any limitations are associated with the decisions to be made based on the data obtained. As described below in the section on sensitivity, most of the Phase 1A-B samples were initially analyzed for HCB using a dilution factor ranging from 5 to 20. The impact of these HCB analyses at dilution and associated corrective actions are discussed in the sensitivity section.

2.6 SENSITIVITY

Sensitivity is the ability of the method or instrument to detect the target analytes at the level of interest. The project QLs and method detection limits (MDLs) shown in Worksheet #15 represent the expected sensitivity the laboratory can achieve for specific analytical methods in a typical solid matrix. Sample QLs and DLs are adjusted for dilutions, percent moisture, cleanup procedures, sample size, or extract/digestate volumes. SAP Worksheet #37 specifies that because results will be reported to the DL, for this project, sensitivity will be assessed based on DLs of laboratory analytical results.

A summary of DLs for ND results for HCB, PCB, D/F, and metals in the Phase 1A-B background dataset, including a comparison to project MDLs from SAP Worksheet #15, is provided in Table 2-3. To help evaluate whether variation in sensitivity may impact comparisons of results from different settings (Upland and Lake Bed), the sensitivity summary in Table 2-3 is subdivided by setting. Table 2-3 includes a sensitivity summary for subsurface screening samples; however, because these samples will not be used for defining background concentrations of chemicals in solids media, the discussion below focusses only on surface samples. Results of the comparison to Worksheet #15 MDLs for HCB, PCB, D/F, and metals are as follows:

- HCB was not detected in all Upland and BMBR samples and most Lake Bed samples. HCB sample DLs were greater than project MDLs for all ND results at Upland and BRMBR areas and for most ND results at Lake Bed areas. Sample DLs exceeded project MDLs by a factor of 1.45 or less.
- PCB congeners not detected in one of more background samples include PCB 81, PCB 114, PCB 123, PCB 126, PCB 156/157, PCB 167, PCB 169, and PCB 189. Multiple PCB congeners were not detected in any Upland samples and most Lake Bed samples. ND results where sample DLs were greater the project MDLs were evenly distributed between areas, considering the number of samples analyzed for organics from each setting. Sample DLs exceeding project MDLs ranged from 3 to 6.3 times the MDL.
- PCB homologs not detected in one or background samples were limited to mono-, di-, tri-, and nonachlorobiphenyl homolog groups. The homolog groups with ND samples varied by setting, and each setting had one or more results where the sample DL exceeded the project MDL. Sample DLs exceeding project MDLs ranged from 1.5 to

3 times the MDL. There were no ND results for total PCBs, calculated as the sum of mono- through nonadecachloro-biphenyl congener groups and decachlorobiphenyl (PCB 209).

- Fourteen out of 17 D/F congeners were not detected in one or more background samples. All sample DLs for non-detected D/F congeners were less than project MDLs except for two Octachlorodibenzo-p-dioxin results from the Lake Bed setting, where sample DLs were up to 1.9 times greater than project MDL.
- All metals were detected in every sample from Upland settings. For the Lake Bed samples, all metals were detected in every sample except for cadmium, selenium, silver, thallium, and mercury, which had between 1 and 5 ND results. Sample DLs for ND metals results were less than or equal to 1.1 times the MDL.
- Overall, the DLs for ND results for HCB, PCB, D/F, and metals in the Phase 1A-B background dataset are comparable to project MDLs, and there are no significant differences in the sensitivity achieved for sample results from different settings that would confound inter-setting comparisons.

3.0 STATISTICAL AND GRAPHICAL DATA SUMMARY

The following sections detail the methods for statistical and visual data descriptions and the handling of ND data.

3.1 DESCRIPTION OF DATA

Characterization of the data helps to inform which subsequent analyses are appropriate to establish background datasets (US Navy 2002). For each analyte in the Lake Bed and Upland areas, the following descriptive techniques were performed:

- Descriptive statistics
- Test for normality
- Data visualization

3.1.1 Descriptive Statistics

Descriptive statistics are used to summarize or describe a collection of data. For each analyte and background area, descriptive statistics were calculated and included (Table 3.1):

- Sample size
- Number of NDs
- Minimum
- Maximum
- Median
- Mean
- Standard Deviation
- Coefficient of variation (CV)[1]

The following results can be highlighted from the descriptive statistics:

- Sample sizes in the Uplands and Lake Bed were 30 for metals and 18 for organics.
- Metals in the Uplands were detected in 100 percent of samples. Metals in the Lake Bed ranged from 67 to 100 percent detection rates.

3.1.2 Test for Normality

In addition to basic descriptive statistics, determining the underlying distribution of the data is a fundamental step in selecting appropriate analyses. USEPA Guidance (2013) suggests a number of tests for normality depending on the sample sizes being tested. The Shapiro-Wilk's goodness-of-fit test (available in the ProUCL software) was used to determine the distribution of the data. The results of the normality tests are listed in Table 3.1.

Below is a summary of the number of analytes that follow each distribution type in the Uplands and Lake Bed:

Area	**Analytes**	**Normal**	**Lognormal**	**NDD**
Lake Bed	Metals	1	4	15
Uplands	Metals	14	3	3
Lake Bed	Organics	0	1	2
Uplands	Organics	0	2	2

NDD = No discernible distribution

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[1] CV is a measure of standardized variability in the data and is calculated by dividing the standard deviation by the mean.

3.1.3 *Data Visualizations*

Plotting the data is a helpful diagnostic tool to visualize the underlying data distribution. These visualization tools facilitate the identification of multimodal and skewed distributions as well as identification of points that may be possible outliers. In addition, these tools can assist in identifying potential useful transformations that may be applied so that the data conform to the requirements of parametric statistical tests.

Initial visual characterization of the data was done using boxplots (also called box and whisker plots). Boxplots are schematic representations that are useful for visualizing the shape and distribution of a dataset. Boxplots are particularly helpful when comparing distributions among several datasets (USEPA 2006). They contain visual representations of the following information:

- 25th percentile – the bottom of the box;
- 50th percentile (median) – the horizontal line dividing the box into two sections;
- 75th percentile – the top of the box;
- Interquartile range – the distance from the bottom to the top of the box;
- "Whiskers" (the lines extending from the bottom and top of the box) – extend to the highest and lowest datum within 1.5 times the interquartile range from either end of the box; and
- Potential outliers – can be plotted as points beyond the ends of the whiskers.

Boxplots are particularly helpful in identifying potential visual outliers and discerning the general shape of the distribution of data. Boxplots of all the analytes in this study are included in Attachment A[2]. In order to identify when multiple DLs were present, boxplots were generated with NDs equal to the DL.

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[2] For example, if the upper box and whisker are longer than the lower box and whisker, then the data are right-skewed. On the other hand, if the upper box and whisker are shorter than the lower box and whisker, then the data are left-skewed. Finally, if the upper box and whisker are approximately the same length as the lower box and whisker, then the data are distributed symmetrically.

3.2 HANDLING OF NON-DETECTED DATA

USEPA (2006) notes that no general procedures exist for the statistical analyses of censored datasets. If a dataset is comprised of more than 50 percent ND values, the loss of information is considered too great for descriptive statistics to provide insight with regard to the location and shape of the underlying distribution (USEPA 2006).

ND data may be handled differently in different contexts. For example, geochemical analyses require that only detected data be used (US Navy 2002), whereas for comparison of medians (e.g., Kruskal-Wallis test), using a substituted constant for NDs that is below the lowest detected value may be appropriate (Helsel and Hirsch 2002). None of these approaches to handling NDs, however, provides a perfect solution for left-censored data. In each section below, a brief explanation is included on how NDs were handled for each test.

4.0 IDENTIFY SUBPOPULATIONS IN THE BACKGROUND DATASET FOR ORGANICS

Organics are anthropogenically derived and are not expected to be influenced by soil type (Section 11.3.7.2, ERM 2015). Organics collected from the Upland and Lake Bed areas may thus represent a single population of concentrations that can be pooled across background locations. According to the SAP (Section 37.4, ERM 2015), a Wilcoxon Rank Sum (WRS) test should be performed to compare the organics concentrations between Uplands and Lake Bed.

Boxplots were generated to compare Upland and Lake Bed concentrations for total PCBs, TEQs (Mammalian, ND=0), and HCB (Figures 4.1, 4.2, and 4.3; Attachment A). WRS tests were also performed to determine whether visual differences were statistically significant at $\alpha = 0.05$ (Table 4.1). Although the DL was used in place of NDs in the boxplots, NDs were set to zero for the WRS tests. This allows all ND values to be “tied” below the lowest detected value and prevents multiple DLs from skewing the results (Helsel and Hirsch 2002).

4.1 SUMMARY OF RESULTS

Total PCBs had similar concentrations between Lake Bed and Upland areas ($p = 0.229$). Mammalian TEQs (ND = 0) were significantly higher in the Lake Bed compared to the Upland areas (p = 0.024), though concentrations were within the same order of magnitude for both areas (Table 4.1). HCB was predominantly non-detected, and a marginally significant difference (p = 0.075) was found with the Lake Bed slightly elevated over the Upland which was 100 percent ND.

4.2 HANDLING OF ORGANIC SUBPOPULATIONS

According to the SAP (Section 37.4, ERM 2015), all of the organics should be equivalent between the Upland and Lake Bed areas before these datasets can be pooled. Since the TEQs were significantly higher in the Lake Bed compared to the Upland, and HCB was marginally higher in the Lake Bed, the organics will be handled as two separate background populations.

5.0 ESTABLISHING THE BACKGROUND DATASET

Establishing background data is a multi-step process that includes:

- Statistical and visual evaluation of the dataset; and
- Execution of a hierarchical decision framework to identify anomalous data.

5.1 STATISTICAL TOOLS FOR ESTABLISHING BACKGROUND DATASET

A number of statistical and graphical tools are available to aid with decision making about data retention for a background dataset. These include:

- Statistical outlier tests
- Q-Q plots
- Geochemical analyses
- Chemical fingerprinting

These techniques are not used in isolation, but rather are part of a hierarchical decision framework to determine data retention for the background dataset. Details about the decision framework follow the SAP (Section 37.4, ERM 2015) and are discussed in greater detail in Section 5.2.

5.1.1 Outlier Tests

Statistical outliers are extreme (large or small) values within a dataset that numerically deviate a significant amount from the rest of the values, and are not representative of the population from which they were drawn (USEPA 2006). The presence of outliers distorts most statistics if used in calculations. Outliers may represent real extremes or can result from (i) inconsistent or erroneous sampling and analytical methods, or (ii) transcription errors (USEPA 2006).

Statistical outlier tests were performed in ProUCL 5.0 to identify potentially anomalous data, using tests appropriate for the size of the dataset (USEPA 2013). Dixon's test was used for those analytes with fewer than 25 data points (i.e., all the organics). For larger datasets (n > 25, i.e., the metals), Rosner's outlier test was used. Rosner's test has the advantage of identifying up to five statistical outliers at once. In contrast, Dixon's test only identifies one outlier at a time, so an iterative process was performed in which statistical outliers were removed and the test was re-run to identify additional outliers that may have been masked by the highest value.

Both the Dixon and Rosner's tests assume that the data in question is normally distributed. Departures from normality can result in the spurious identification of a statistical outlier (USEPA 2013). Consistent with the SAP (Section 37.4.1.1, ERM 2015), if the distribution test (Section 3.1.2, Table 3.1) showed that the data follow a lognormal distribution, the data was log-transformed before the outlier test was performed. ND data were included using half the DL as recommended by the ProUCL technical guidance (USEPA 2013).

5.1.2 Q-Q Plots

A quantile-quantile[3] (Q-Q) plot is a key visualization tool for identifying multiple populations in a dataset and/or extreme, potentially anomalous data points in a background dataset (USEPA 2014; US Navy 2002). A Q-Q plot displays the entire distribution of the data, ranging from the lowest value to the highest value. The vertical axis for the Q-Q plot is the quantile for the measured concentration distribution, and the horizontal axis is the

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[3] A quantile is the point below which a given fraction (or percent) of points in a distribution lies.

quantile for a known statistical distribution (e.g., normal distribution). If the data fall along a straight line, then the data are considered likely to have been collected from a single background population. If the data followed a lognormal distribution, a Q-Q plot with the log-transformed data was used.

Q-Q plots were generated for each analyte (Attachment B). ND values were replaced with the DL so multiple DLs could be visualized when they occurred. For all Q-Q plots, a 95 percent confidence envelope was plotted around the 1:1 line (dashed red lines). These dashed lines are a visual guide to identifying potential outliers. Points falling outside the envelope, if they also occur after a discontinuity in the data, should be examined further as potential outliers. However, since the dashed lines represent a confidence interval around the slope and not an upper tolerance limit or UPL, they should not be interpreted as a firm decision point for outliers.

5.1.3 Geochemical Analysis

Trace elements naturally associate with specific soil-forming minerals, and the natural enrichment of a sample with these minerals will result in naturally elevated trace element concentrations (US Navy 2004; Myers and Thorbjornsen 2004; Thorbjornsen and Meyers 2007; 2008). Based on geological and geochemical principles and observation, some soil types are naturally high in these minerals, and are naturally expected to have higher concentrations of trace elements (see Myers and Thorbjernsen 2004). For example, a sample with a high aluminum (reference metal) concentration is likely to have a high concentration of the suspected chemical of potential concern metal because the degree of sorption onto clay particles (aluminosilicates) controls the concentration of the suspected chemical of potential concern metal (US Navy 2002).

High trace metal concentrations may be explained by these naturally occurring associations. However, anthropogenically impacted locations are likely to have trace metal concentrations that deviate from this naturally-occurring relationship. The geochemical association analysis capitalizes on these natural relationships and examines the association relationship between two metals: (i) metal of interest or trace metal and (ii) reference metal. Additional background on geochemical association analysis can be found in the SAP (Section 11.3.5.2 and Section 37.4.1.3, ERM 2015).

Aluminum, iron, calcium, and manganese are common reference metals in a variety of parent rock (Myers and Thorbjernsen 2004, US Navy 2002). These reference metals were evaluated as reference metals for the trace metals in the background dataset. In addition, cobalt was used as a reference metal for nickel (US Navy 2002). For all metals of interest, bivariate scatterplots were constructed with the reference metal concentration on the x-axis and the trace metal of interest on the y-axis. Consistent with guidance (US Navy 2002), both axes are plotted on the log-log scale and only detected values are plotted (Attachment C).

A least squares regression line was drawn on the scatterplot to illustrate the linear trend exhibited between reference and trace metal for the background dataset (US Navy 2002). A 95 percent prediction interval on the regression was drawn to visualize the range within which the trace metal concentration value (y-axis value) is expected to fall (with 95 percent confidence) based on the corresponding reference metal concentration (x-axis value). Consistent with US Navy (2002) guidance for geochemical evaluations, the geochemical relationship for a given trace metal was selected for outlier analysis if the following criteria were met:

1. The least squares regression between the trace metal and reference metal was significant at $\alpha = 0.05$.
2. The slope of the least squares regression was positive to show an associative relationship.
3. The R2 of the least squares regression was the highest of the significant regressions for all the reference metals plotted.

For the geochemical relationship of interest, samples that fell above the upper 95 percent prediction interval line were potential outliers.

5.1.4 Fingerprinting

Fingerprinting analyses can help to identify outliers in an organic dataset when results from statistical and visual outlier testing are ambiguous. Chemical fingerprinting examines a suite of related analytes simultaneously to determine if the relative composition of those analytes differs systematically from one sample to the next. Locations that have been impacted by anthropogenic activities often have a distinct signature or fingerprint that only emerges when all analytes are examined together. In this way, fingerprinting can help identify whether potential outliers are distinct and should be considered for removal or whether they are more similar to other background samples.

A number of graphical and statistical techniques are available for chemical fingerprinting analysis. Barplots were selected for fingerprinting because of their simplicity and ease of implementation and interpretation. Barplots are a graphical technique for expressing composition data. Barplots are constructed by calculating the relative percent[4] of each analyte in an analytical suite (e.g., PCB homologs). The relative percent is then plotted as the height of the bars with each bar representing a different analyte in the suite. As a whole, the bars represent a "fingerprint" for a sample. These fingerprints can be subjectively compared across samples and constituents that contribute to unique fingerprints can readily be identified. Barplots have been successfully used for comparing chemical fingerprinting profiles (USEPA 2002b).

Fingerprinting profiles of potential outliers in the background were compared to the average unimpacted fingerprint from BRMBR and to the average impacted fingerprint from the gypsum pile at the US Mag Site (PRI Area 4)[5,6]. Fingerprinting analysis was pursued for PCB homologs and D/F congeners for all outliers identified.

5.2 DECISION FRAMEWORKS

The statistical tools above were integrated to decide which data, if any, should be excluded from the background datasets. Sections 5.2.1 and 5.2.2 describe the framework for metals and organics, respectively. These frameworks were presented in Worksheet #37 in the approved Phase 1 A-B SAP (ERM 2015).

The decision framework for both metals and organics differs slightly based on the distribution of a given analyte. Note that for analytes that are

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[4] Relative percent for each analyte is calculated by summing the concentrations for all analytes in the suite for that sample and then dividing each analyte by the sum total for that sample.

[5] Average profiles were determined by first calculating the relative percent of each constituent for each sample. The relative percent of each constituent was then averaged across all samples in the population. The average relative percent plus the standard error is shown in the barplots.

[6] Results from the gypsum pile (PRI Area 4) were used to illustrate impacts from waste management areas at the US Mag site for simplicity and because the signature from the gypsum pile appears similar to the signature from wastewater ditches (PRI Area 1) and ponded waste lagoons (PRI Areas 5, 6, and 7).

normally distributed, the raw, untransformed data was used for statistical outlier testing and Q-Q plot generation. If the analyte followed a lognormal distribution, the data was log-transformed before performing the statistical outlier testing and generating the Q-Q plot. If the analyte did not follow a normal or lognormal distribution, the datum was considered to be a potential outlier if it was identified either with the raw or log-transformed data in the statistical outlier testing or Q-Q plot.

5.2.1 Metals

Statistical tools above will inform which results should be considered for exclusion from the background dataset for metals. Figure 5.1 presents the decision framework that summarizes how data retention decision making was performed for metals. The approach was applied on a metal-by-metal basis, independently for Lake Bed and Upland background datasets. The decision framework followed a hierarchical, stepwise approach.

1. Potential outliers were identified statistically with the Rosner's test (Section 5.1.1). If statistical outliers were identified, the data point moved to Step 2 of the DQA.
2. A Q-Q plot with a 95 percent Upper Confidence Envelope (UCE) was generated for the metal for the potential outlier (Section 5.1.2). If the potential outlier was above the 95 percent UCE, the potential outlier moved to Step 3.
3. Geochemical relationships were established for each metal (Section 5.1.4). If a significant, positive correlation between the reference and trace metal was found, the potential outlier moved to Step 4. If no significant, positive geochemical correlation was found for any of the reference metals, the datum was declared an outlier.
4. If a significant, positive geochemical relationship was found between the trace metal and a reference metal, the relationship with the highest R2 was examined. If the potential outlier was within the 95 percent prediction interval for the relationship, it was retained. If the potential outlier fell above of the 95 percent prediction interval for the relationship, it was considered to be an outlier.

The results from applying this decision framework to Phase 1A-B data to establish the background dataset for metals are presented in Section 6.1.

5.2.2 *Organics*

Statistical tools above will inform which results should be considered for exclusion from the background dataset for organics (Figure 5.2). Organics differ from the metals, however, because geochemical association plots are not applicable for organics. If outlier determination was not resolved with statistical and visual outlier testing, chemical fingerprinting was used to make a final outlier determination. The decision framework was applied on an analyte-by-analyte basis, independently for Lake Bed and Upland datasets. The details of the hierarchical, decision framework for organics can be found below.

1. Potential outliers were identified statistically with a Dixon's test (Section 5.1.1). If statistical outliers were identified, the data point moved to Step 2 of the DQA.
2. Potential outlier concentrations were compared statistically to regional reference concentrations. If the potential outlier was above regional reference concentrations or if regional reference concentrations were unavailable, the data point moved to Step 3 of the DQA.
3. A Q-Q plot with a 95 percent UCE was generated for the analyte[7] for the potential outlier (Section 5.1.2). If the potential outlier was above the 95 percent UCE, the potential outlier moved to Step 4.
4. Chemical fingerprints (barplots) were generated for the class of analytes relevant for the potential outlier. If the fingerprint for the potential outlier closely resembled the fingerprint of Phase 1A-B samples from the BRMBR reference area, the datum was retained in the dataset. If the potential outlier had a profile that closely resembled Site impacted locations, the datum was considered to be an outlier.

The results from applying this decision framework to Phase 1A-B data to establish the background dataset for organics are presented in Section 6.2.

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[7] The DQA requires a Q-Q plot only for metals since Q-Q plots may be biased when executed on summed or calculated data. However, for the sake of completeness, Q-Q plots are provided for visual outlier testing for PCBs and TEQs in addition to metals.

6.0 RESULTS

Outliers in the dataset were identified by following the decision framework for each analyte in the Uplands and Lake Bed separately. Sections 6.1 and 6.2 detail which outliers were identified and the evidence used to support their removal from the background dataset.

6.1 METALS

Significant statistical outliers for metals are reported in Table 6.1. Q-Q plots for the metals are shown in Figure 6.1.1 through 6.1.4. Geochemical association plots with the maximum R2 are shown in Figure 6.1.5 through 6.1.8 and the least squared regression results are presented in Table 6.2. All outlier results are summarized in Table 6.1. Details on the results for each of the background datasets are provided in the following sections.

6.1.1 Lake Bed

Two molybdenum results were identified as outliers in the Lake Bed dataset (LBB-09 and LBSE-10). These data points were identified as statistical outliers with the untransformed data, visual outliers in the untransformed Q-Q Plot, and geochemical outliers in the geochemical association plots between iron and molybdenum.

6.1.2 Uplands

Four results were identified as statistical outliers in the Uplands dataset:

- Two lead results (UPSE-01, UPSE-02) for untransformed data;
- One molybdenum result (UPN-10) for log-transformed data; and
- One thallium result (UPSE-01) for untransformed data.

All four data points were confirmed as visual outliers with the Q-Q plots. However, only molybdenum appeared to be a geochemical outlier when plotted against manganese in the geochemical plots. None of the other metals in the Uplands were geochemical outliers.

6.1.3 Final Determination for Metals

Two molybdenum samples in the Lake Bed background dataset are considered to be statistical, visual, and geochemical outliers and will be removed from the dataset:

- LBB-09
- LBSE-10

One molybdenum sample (UPN-10) from the Upland background dataset was considered a statistical, visual, and geochemical outlier and will be removed from the dataset. The other potential statistical outliers (two lead data points and one thallium data points) were not geochemical outliers, so they were retained as per the decision framework set up in Section 5.2.1. Note that US Mag is not a known source for molybdenum.

6.2 ORGANICS

Significant statistical outliers for organics are reported in Table 6.3. Each of these sample locations was compared to regional background concentrations where data was available. The USEPA Front Range Study (USEPA 2002b) reported the 95th percentile for Mammalian TEQs (ND = 0) but not for total PCBs. Because no regional data for total PCB concentrations were identified the TEQs were used as a proxy for total PCB concentration comparisons. Relevant comparisons are reported in Table 6.4.

Q-Q plots for the organics are shown in Figure 6.2.1, 6.2.2, and 6.2.3. Chemical fingerprinting results are shown in the following figures:

- Figure 6.2.4: Barplot for Lake Bed PCB homologs; and
- Figure 6.2.5: Barplot for Lake Bed D/F congeners.

All outlier results are summarized in Table 6.3. Details on the results and final outlier determination for each of the background dataset are provided in the following sections.

6.2.1 Lake Bed

Three total PCB results in the Lake Bed were identified as statistical and visual outliers (Figure 6.2.1):

- LBSE-05
- LBSE-07
- LBSE-10

These locations are presented in Figure 1.3. No regional background concentrations were available for total PCBs. These background sample locations located in a Lake Bed Background Area (SA013) closest to the 5-mile radius border, east of Buffer Area 14 (Figure 1.1).

Given that concentrations of total PCBs were elevated relative to other Lake Bed background values, chemical fingerprinting was conducted to determine whether there was evidence to suggest retaining these values. The relative composition of PCB homologs for these samples was similar to each other. Notably, the fingerprint was characterized by a high relative concentration (greater than 75 percent of the total PCBs) for deca-polychlorinated biphenyl (Figure 6.2.4). Although the absolute concentrations of these three outliers were several orders of magnitude lower than the Site data, this signature (based on relative concentration) resembles the PCB fingerprint for PRI Area 4.

To further corroborate the forensic findings, fingerprinting for D/F (another organic) was also conducted for these three samples. The absolute TEQ concentrations for these three samples were lower than regional background concentrations (with the exception of LBSE-07). However, the fingerprints for D/F congeners based on relative concentration were similar among these three samples and to PRI Area 4. Notably, the fingerprint was characterized by a strong ‘peak’ for 1,2,3,4,6,7,8,9−Octachlorodibenzofuran (Figure 6.2.5). Given this evidence, TEQ and total PCB results for these three samples (LBSE-05, LBSE-07, and LBSE-10; Figure 1.3) were not included in the background dataset.

HCB was detected in three samples in the Lake Bed (LBSE-07, LBB-01, and LBB-05; Figure 1.3), and all three of these samples were also identified as statistical outliers in the Dixon’s Test. However, the LBB-05 sample was near the detection limit for HCB and not a visual outlier in the HCB QQ plots (Figure 6.2.3). Thus, it was retained in the Lake Bed background dataset. The two other samples (LBSE-07 and LBB-01) both plotted outside of the 95 UCE in the QQ plots and were thus removed from the Lake Bed background dataset (Figure 6.2.3). No regional background data was available for HCB, and as a single analyte, chemical fingerprinting is not viable.

6.2.2 Uplands

No statistical outliers were identified for the Uplands dataset. For reference, the maximum TEQ concentration measured in the Uplands dataset was compared to the 95th percentile from a regional background dataset (USEPA 2002b) and was found to be below regional background levels.

6.2.3 Final Determination

Two Lake Bed HCB samples (LBSE-07 and LBB-01) were statistical and visual outliers. Three Lake Bed samples (LBSE-05, LBSE-07, and LBSE-10) were statistical and visual outliers for PCBs. Additionally, their PCB chemical profile more closely resembled impacted profiles than background profiles.

LBSE-05, LBSE-07, and LBSE-10 were also examined for D/F because high concentrations were evident in the boxplots (Figures 4.1 and 4.2), though they were not statistical outliers. Since the D/F congener chemical profiles based on relative concentrations had a strong ‘peak’ for 1,2,3,4,6,7,8,9-octachlorodibenzofuran, the D/F results for these three samples were also removed from the background dataset. All the remaining concentrations were well below regional background concentrations for TEQs.

In sum, the following samples were removed from the final background dataset:

- LBSE-05 (total PCBs, TEQs)
- LBSE-07 (total PCBs, TEQs, HCB)
- LBSE-10 (total PCBs, TEQs)
- LBB-01 (HCB)

All other chemicals in these samples were retained in the background dataset.

7.0 IDENTIFICATION OF NON-IMPACTED LOCATIONS

This TM reviews the background dataset collected from the Lake Bed and Uplands background areas surrounding the US Mag facility. Impacted locations were identified for the surface and subsurface samples.

7.1 EVALUATION OF POTENTIAL IMPACTS IN SURFACE SOIL

The following sample locations and analytes were removed from the surface background dataset because their concentrations suggested that they had been impacted by the Site or by other anthropogenic activity in the area.

7.1.1 Upland

- Molybdenum, sample UPN-10

7.1.2 Lake Bed

- Molybdenum, samples LBB-09 and LBSE-10
- Total PCBs, samples LBSE-05, LBSE-07, LBSE-10
- Calculated TEQ, Mammalian, (ND=0), samples LBSE-05, LBSE-07, LBSE-10
- HCB samples LBSE-07, LBB-01

All other analytes in the samples above and every analyte in samples not listed above had concentrations within regional background concentrations for organics or within expected geochemical ratios for naturally occurring metals. These locations were assumed to represent non-impacted locations and were retained in the final background dataset.

The final background dataset of non-impacted locations is available in Attachment D. Descriptive statistics were calculated for the final dataset (Table 7.1).

7.2 EVALUATION OF POTENTIAL IMPACTS IN SUBSURFACE SOIL

In addition to the surface samples used in the background dataset, one soil sample was collected at depth from each reference location. As described in the SAP, these samples were collected solely to evaluate presence of subsurface contamination. The results from these samples are not included in the background dataset.

The subsurface samples were screened against the surface concentrations in the surface background dataset. Tables 7.2 and 7.3 present the results of subsurface samples compared to the range of analyte concentrations observed in the background dataset. Concentrations of the subsurface samples are within two fold of the surface sample concentrations. This appears to be within the range of analytical variability and suggests that subsurface impacts from the Site or other anthropogenic sources are not present in subsurface soil.

8.0 BACKGROUND DATASET SAMPLE SIZE

The final step in the background DQA was to test whether that adequate power under a Form II hypothesis is achievable by the background dataset sample size (USEPA 2002a). Form II was the preferred hypothesis testing approach by the USEPA because it is more conservative than Form I. Although Form II is less powerful that Form I, the test error tends to result in the inclusion of constituents when, in fact they should be excluded (i.e., in fact, it is not elevated).

8.1 SAMPLE SIZE DETERMINATION APPROACH

This evaluation was conducted on the final Phase 1A-B background dataset, following the elimination of outlier metal and organic results (Section 5.0). This DQA step utilized the following procedure:

1. The standard deviation and mean was calculated for each metal and organic for the Uplands and Lake Bed in the final dataset.
2. The "DQO-based Sample Sizes for Hypothesis Testing" module in ProUCL v5 was used to calculate sample sizes using the following assumptions:
    a. Samples do not follow a normal distribution
    b. Alpha = 0.1
    c. Beta = 0.2
    d. S (detectable difference) = 50 percent of the mean of background data

If the calculated sample size is less than or equal to the sample size of the Phase 1A-B background dataset, then the Phase 1A-B background dataset is assumed to have adequate power with respect to a Type II error. If the calculated samples size is greater than the sample size of the Phase 1A-B dataset, then there may be reduced power to reject a false null hypothesis and an increased probability of committing a Type II error.

8.2 REQUIRED SAMPLES SIZES

Tables 8.1 and 8.2 present the results of the sample size evaluation for Upland and Lake Bed background datasets. The evaluation determined the following analytes had fewer samples than may be necessary for hypothesis testing.

8.2.2 Upland

- TEQ (short one sample)

8.2.3 Lake Bed

- TEQ (short eight samples)
- Total PCBs (short nine samples)
- Total Mercury (short three samples)
- Total Molybdenum (short 17 samples)

Based on these results, the sample sizes for metals are adequate in Upland data and nearly adequate in Lake Bed data, with mercury and molybdenum having a shortfall of three and 17 samples, respectively. Only the TEQ data had a shortfall in the Upland dataset. However, the shortfall was only one sample, thus unlikely to affect hypothesis testing appreciatively. The Lake Bed background datasets for TEQ and Total PCBs are potentially inadequate, with shortfalls of eight and nine samples, respectively.

None of the shortfalls presented above represent substantial deficiencies. However, these shortfalls may potentially introduce uncertainty when used for hypothesis testing between Site and background results.

9.0 CONCLUSIONS

This TM describes the results of the data quality evaluation for the background data collected during Phase 1A-B. As part of that procedure, data were compared to MQOs. Dilution of samples resulted in sensitivity issues (i.e., high DLs) for HCB. ERM has requested that the lab re-analyze these results. The data quality evaluation will be provided for HCB in a subsequent submittal. No other results were rejected because of data quality issues.

Data was collected from two background areas (Lake Bed and Uplands) because of differences in lithology at the Site. All metals were evaluated separately for these two areas. Concentrations of organics (Calculated TEQs, HCB, total PCBs) were compared between the Lake Bed and Upland areas. Because these areas differed significantly in TEQ concentrations and were marginally different for HCB, Lake Bed and Upland results were examined separately for all organics in the background data quality evaluation.

Lake Bed and Upland datasets were carefully examined for outliers and results that may be representative of anthropogenic or Site impacts. A hierarchical framework was followed to support decision making about the retention or rejection of each data point in the background dataset. These decision frameworks included statistical outlier testing (Rosner's or Dixon's test), visual outlier testing (examination of Q-Q plots), and either geochemical analysis in the case of metals or chemical fingerprinting in the case of organics. Potential outliers identified in the organics datasets were also compared to regional background concentrations.

Based on the results of the above, a total of three molybdenum samples were removed from the background datasets (LBB-09, LBSE-10, and UPN-10). Three sample locations had potentially impacted concentrations of organics as well (LBSE-05, LBSE-07, and LBSE-10). These sample locations were thus removed from the TEQ and total PCB Lake Bed datasets. Two samples were removed from the HCB dataset (LBSE-07 and LBB-01). The final background dataset for Uplands and Lake Bed is provided in an attachment to this report (Attachment D). All results in this final background dataset are considered to be representative of non-impacted locations.

The final background dataset was tested to confirm that sufficient samples were collected to provide adequate power under Form II hypothesis for future comparisons between Site and background results. This evaluation concluded that the Upland dataset has an adequate sample size for conducting hypothesis testing for all analytes. In the Lake Bed dataset, shortfalls were noted for TEQs, total PCBs, mercury, and molybdenum. While not large, these shortfalls may potentially introduce uncertainty (i.e., including a constituent, when in fact it should be excluded as a chemical of potential ecological concern) when used for hypothesis testing between Site and background results.

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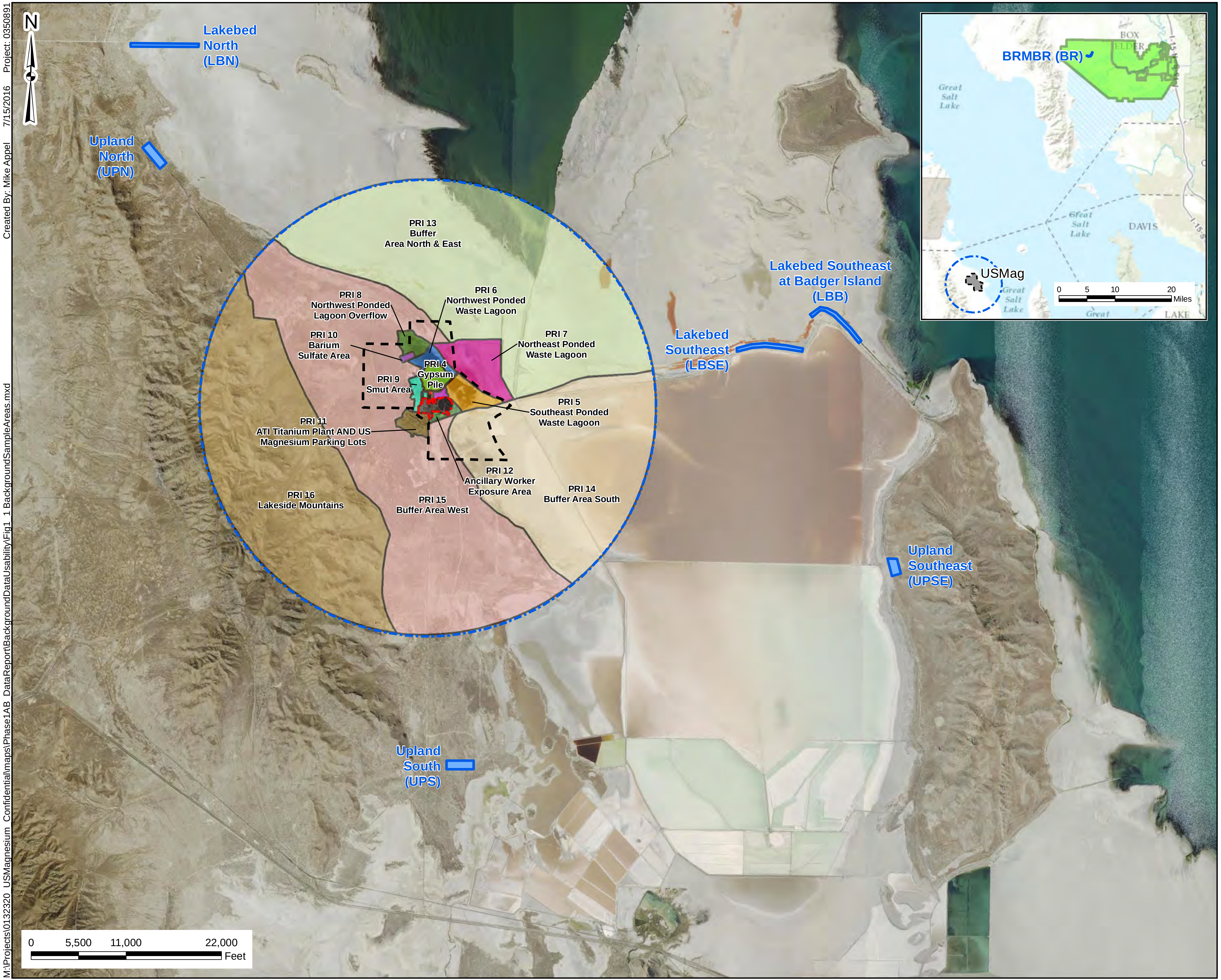
ATTACHMENTS

Figures
Tables

Attachment A	Boxplots Comparing Upland and Lake Bed for All Analytes
Attachment B	Q-Q Plots for All Analytes
Attachment C	Geotechnical Association Plots for All Metals
Attachment D	Final Datasheet

Figures

M:\Projects\0132320 USMagnesium Confidential\maps\Phase1AB DataReport\BackgroundDataUsability\Fig1 1 BackgroundSampleAreas.mxd Created By: Mike Appel 7/15/2016 Project: 0350891



Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD83 UTM zone 12N

Legend

- 🟦 Background Sampling Area
- ▨ Operating Facility
- ⌜⌟ US Magnesium Property
- ⬚ RI/FS Study Area
- 🟩 Bear River Migratory Bird Refuge

Preliminary Remedial Investigation Areas

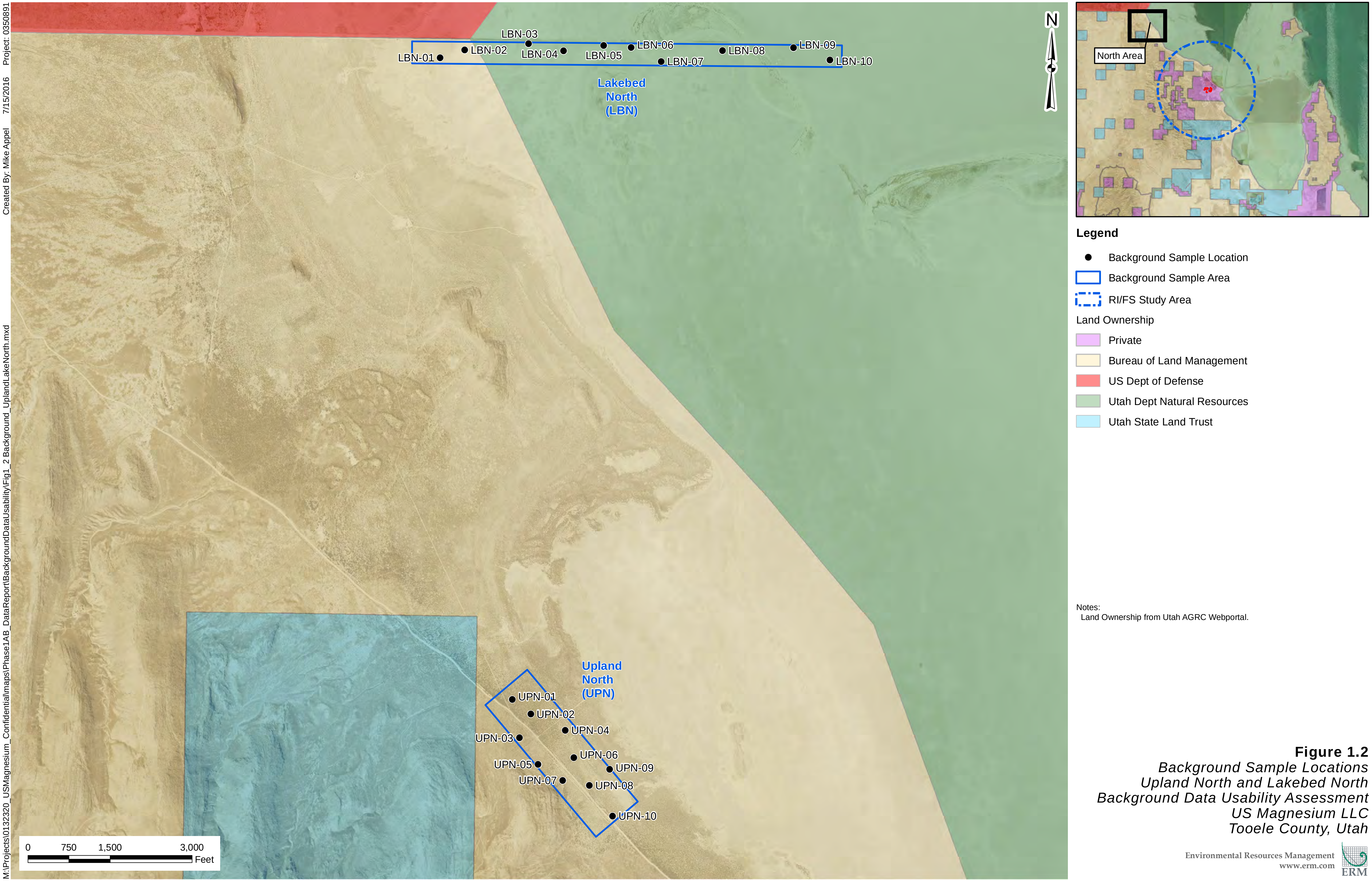
- 🟥 PRI 1: Ditches
- 🟪 PRI 2: Landfill
- 🟨 PRI 3: Sanitary Lagoon
- 🟩 PRI 4: Gypsum Pile
- 🟧 PRI 5: Southeast Ponded Waste Lagoon
- 🟦 PRI 6: Northwest Ponded Waste Lagoon
- 🟪 PRI 7: Northeast Ponded Waste Lagoon
- 🟩 PRI 8: Northwest Ponded Waste Lagoon Overflow
- 🟦 PRI 9: Smut Area
- 🟪 PRI 10: Barium Sulfate Area
- 🟫 PRI 11: ATI Titanium Plant and US Magnesium Parking Lots
- 🟩 PRI 12: Ancillary Worker Exposure Areas
- ⬜ PRI 13: Buffer Area North & East
- ⬜ PRI 14: Buffer Area South
- ⬜ PRI 15: Buffer Area West
- 🟫 PRI 16: Lakeside Mountains Buffer Area

Notes:
PRI boundaries approximate, provided by EPA.

Figure 1.1
Background Sample Areas
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

Environmental Resources Management
www.erm.com
ERM

M:\Projects\0132320_USMagnesium_Confidential\maps\Phase1AB_DataReport\BackgroundDataUsability\Fig1_2 Background_UplandLakeNorth.mxd Created By: Mike Appel 7/15/2016 Project: 0350891



Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

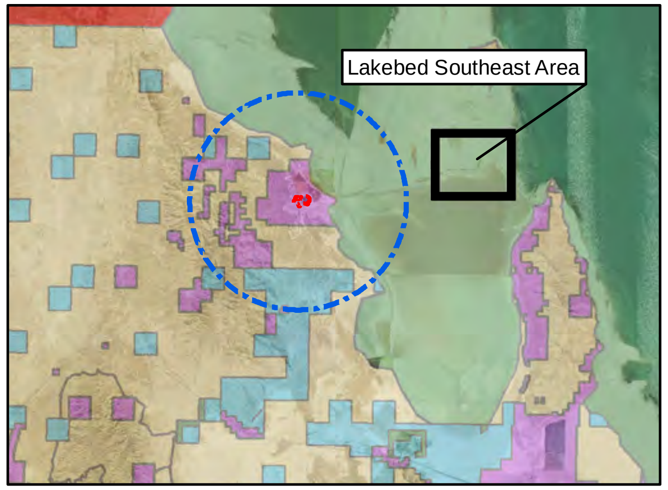
Notes:
Land Ownership from Utah AGRC Webportal.

Figure 1.2
Background Sample Locations
Upland North and Lakebed North
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

Environmental Resources Management
www.erm.com
ERM

M:\Projects\0132320 USMagnesium Confidential\maps\Phase1AB DataReport\BackgroundDataUsability\Fig1 3 Background LakebedSoutheast.mxd Created By: Mike Appel 7/15/2016 Project: 0350891

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet



Legend

- ● Background Sample Location
- ▭ Background Sample Area
- ▭ RI/FS Study Area

Land Ownership

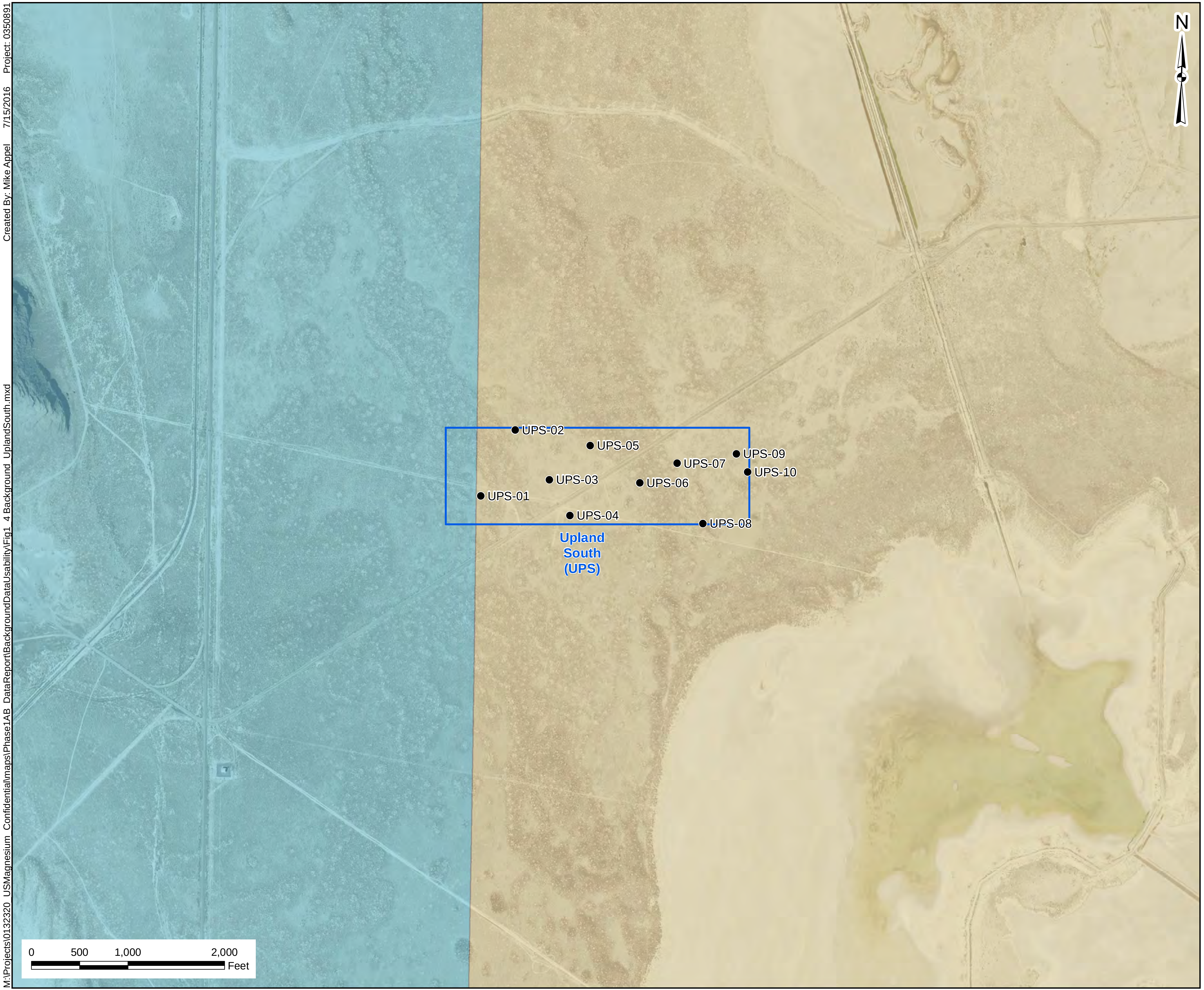
- 🟪 Private
- 🟨 Bureau of Land Management
- 🟥 US Dept of Defense
- 🟩 Utah Dept Natural Resources
- 🟦 Utah State Land Trust

Notes:
Land Ownership from Utah AGRC Webportal.

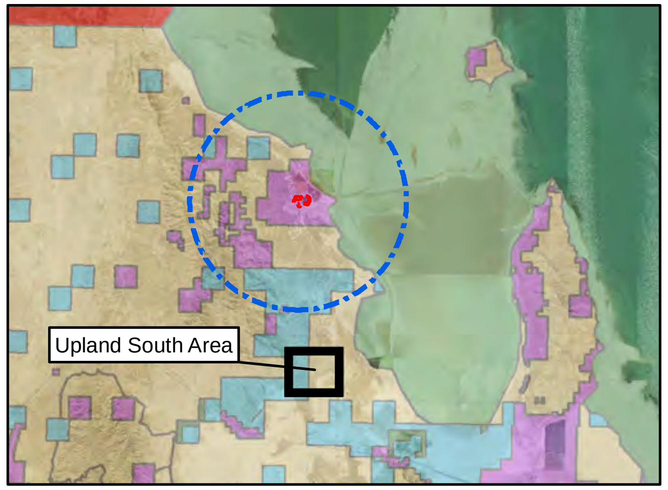
Figure 1.3

Background Sample Locations
Lakebed Southeast
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

Environmental Resources Management
www.erm.com
ERM



Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet



Legend

- ● Background Sample Location
- ▭ Background Sample Area
- ▭ RI/FS Study Area

Land Ownership

- 🟪 Private
- 🟨 Bureau of Land Management
- 🟥 US Dept of Defense
- 🟩 Utah Dept Natural Resources
- 🟦 Utah State Land Trust

Notes:
Land Ownership from Utah AGRC Webportal.

Figure 1.4
Background Sample Locations
Upland South
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

Environmental Resources Management
www.erm.com
ERM

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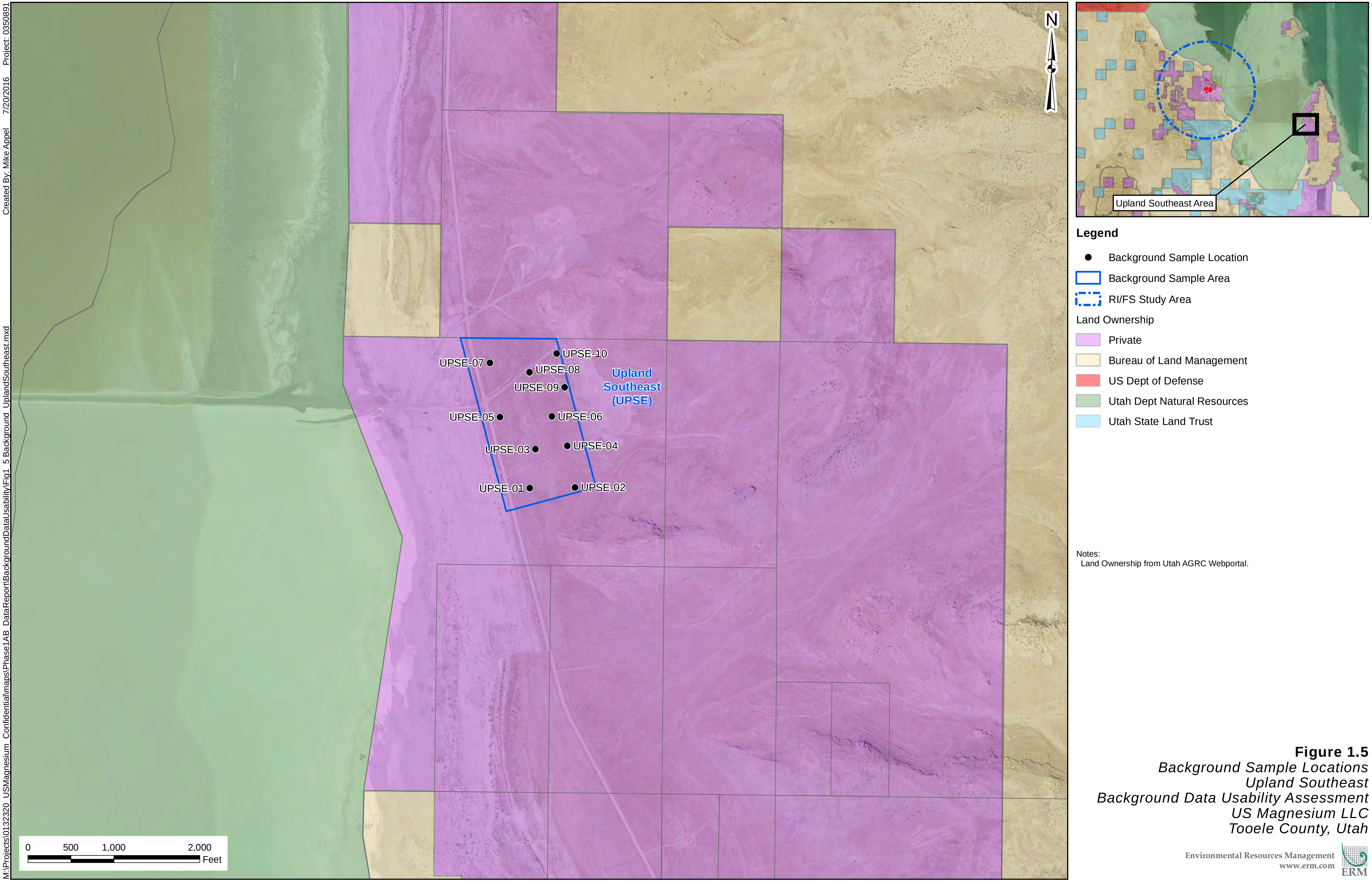

Legend

● Background Sample Location

▭ Background Sample Area

⬚ RI/FS Study Area

Land Ownership

🟪 Private

🟨 Bureau of Land Management

🟥 US Dept of Defense

🟩 Utah Dept Natural Resources

🟦 Utah State Land Trust

Notes:
Land Ownership from Utah AGRC Webportal.

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet

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Figure 1.5
Background Sample Locations
Upland Southeast
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

Environmental Resources Management
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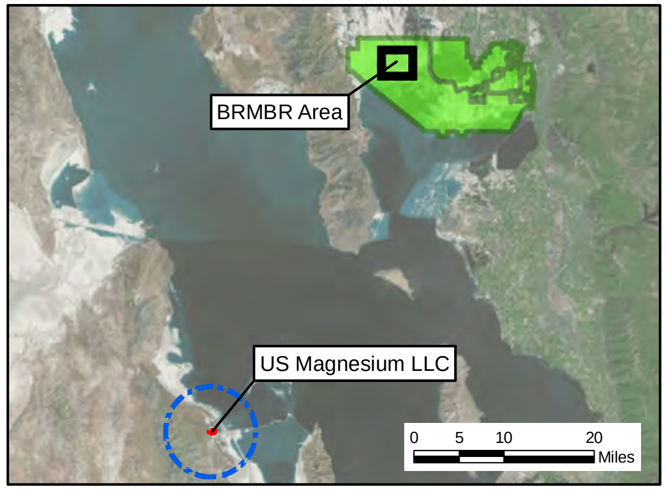
ERM

M:\Projects\0132320 USMagnesium Confidential\maps\Phase1AB DataReport\BackgroundDataUsability\Fig1 6 Background BRMBR.mxd Created By: Mike Appel 7/15/2016 Project: 0350891

Source: Utah AGRC (NAIP) June 30, 2014 1 pixel per meter NAD 1983 StatePlane Utah Central FIPS 4302 Feet



Legend

- ● Background Sample Location
- ▭ Background Sample Area
- 🟩 Bear River Migratory Bird Refuge
- ⬚ RI/FS Study Area

Notes:
Bear River Migratory Bird Refuge layer provided by United States Fish and Wildlife Service.

Figure 1.6
Background Sample Locations
Bear River Migratory Bird Refuge
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

Environmental Resources Management
www.erm.com
ERM

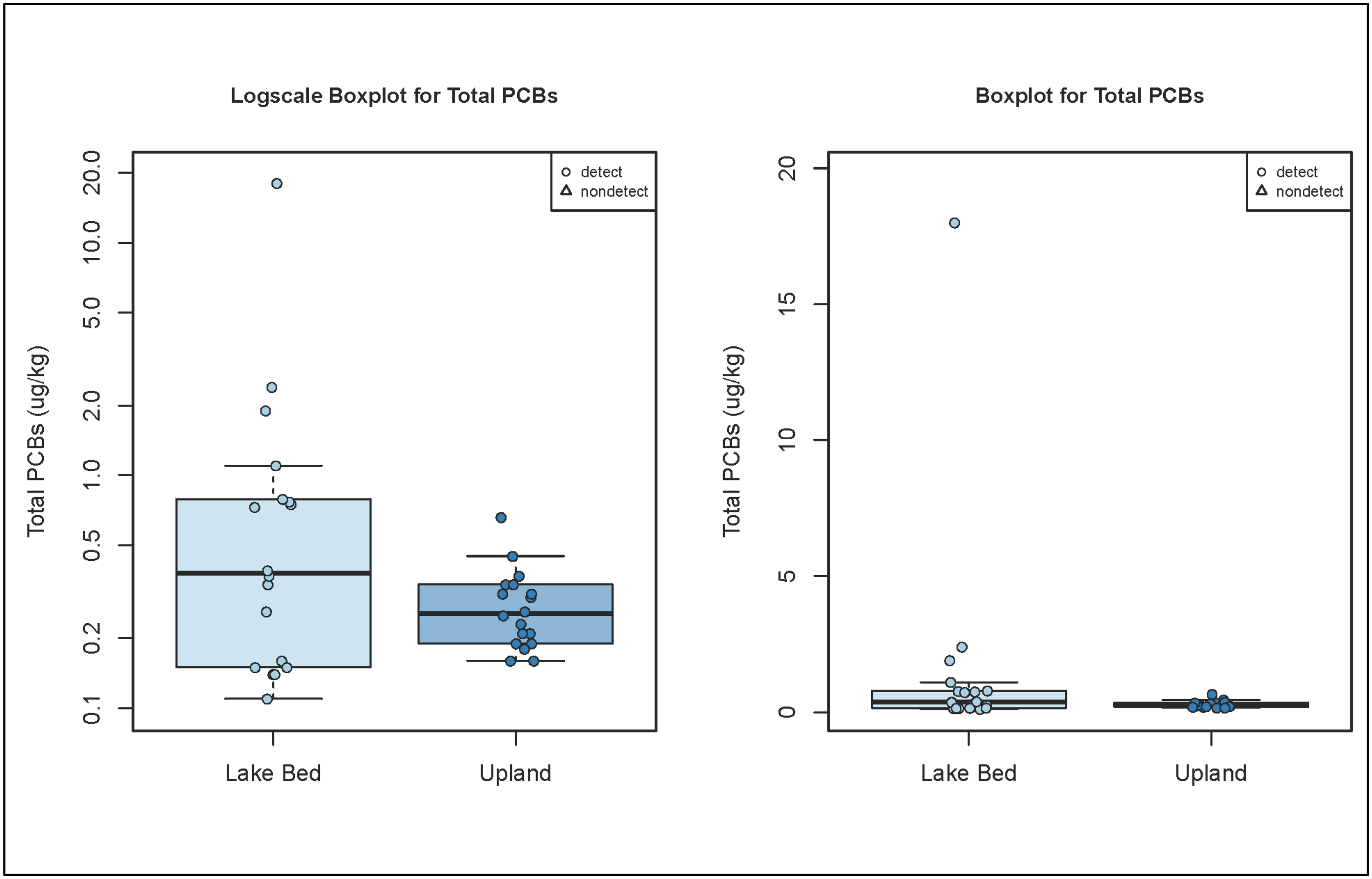


Figure 4.1
Upland and Lakebed Boxplots for Total PCBs
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

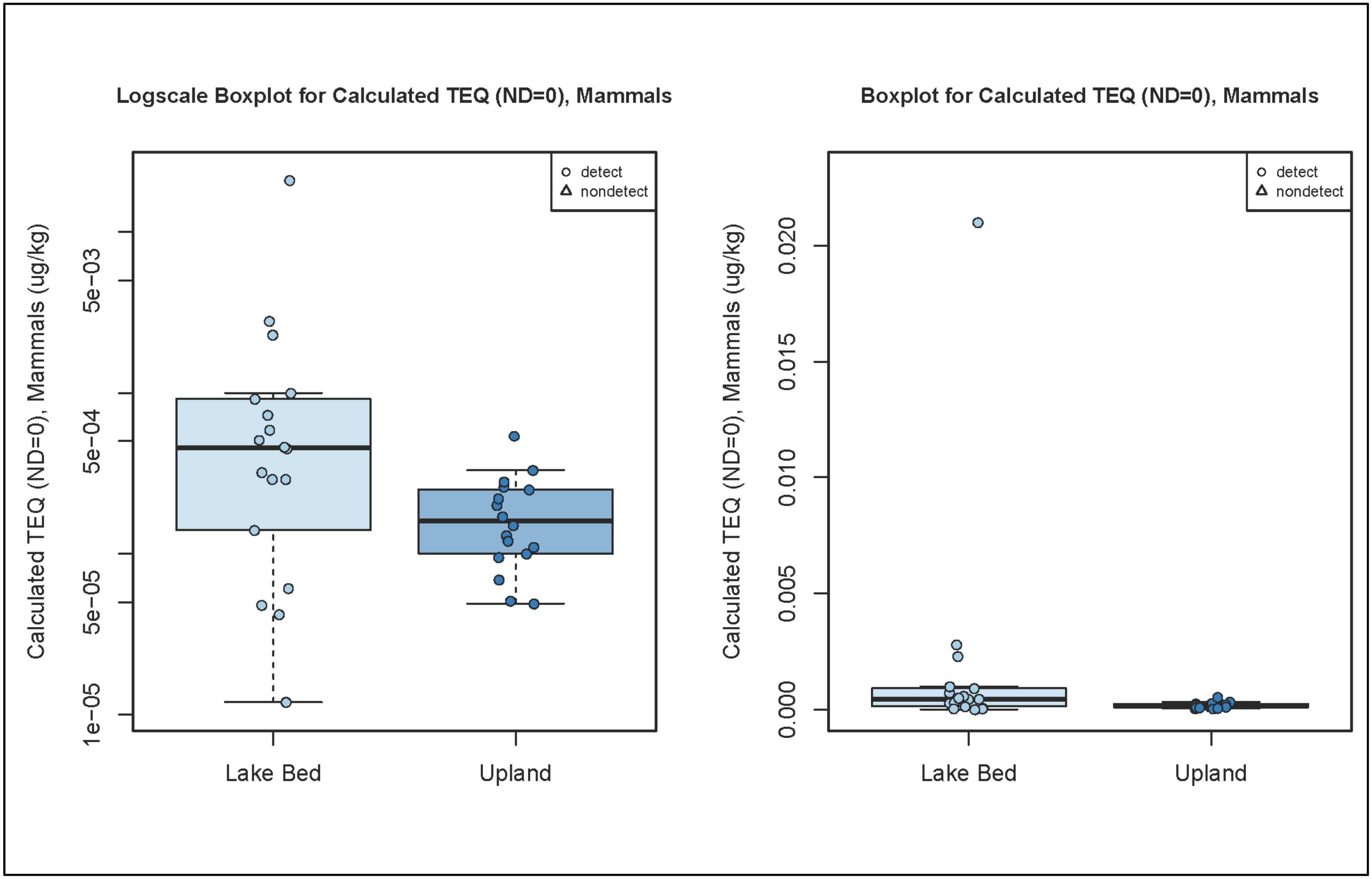


Figure 4.2

Upland and Lakebed Boxplots for Calculated TEQ (Mammalian, ND = 0)

Background Data Usability Assessment

US Magnesium LLC

Tooele County, Utah

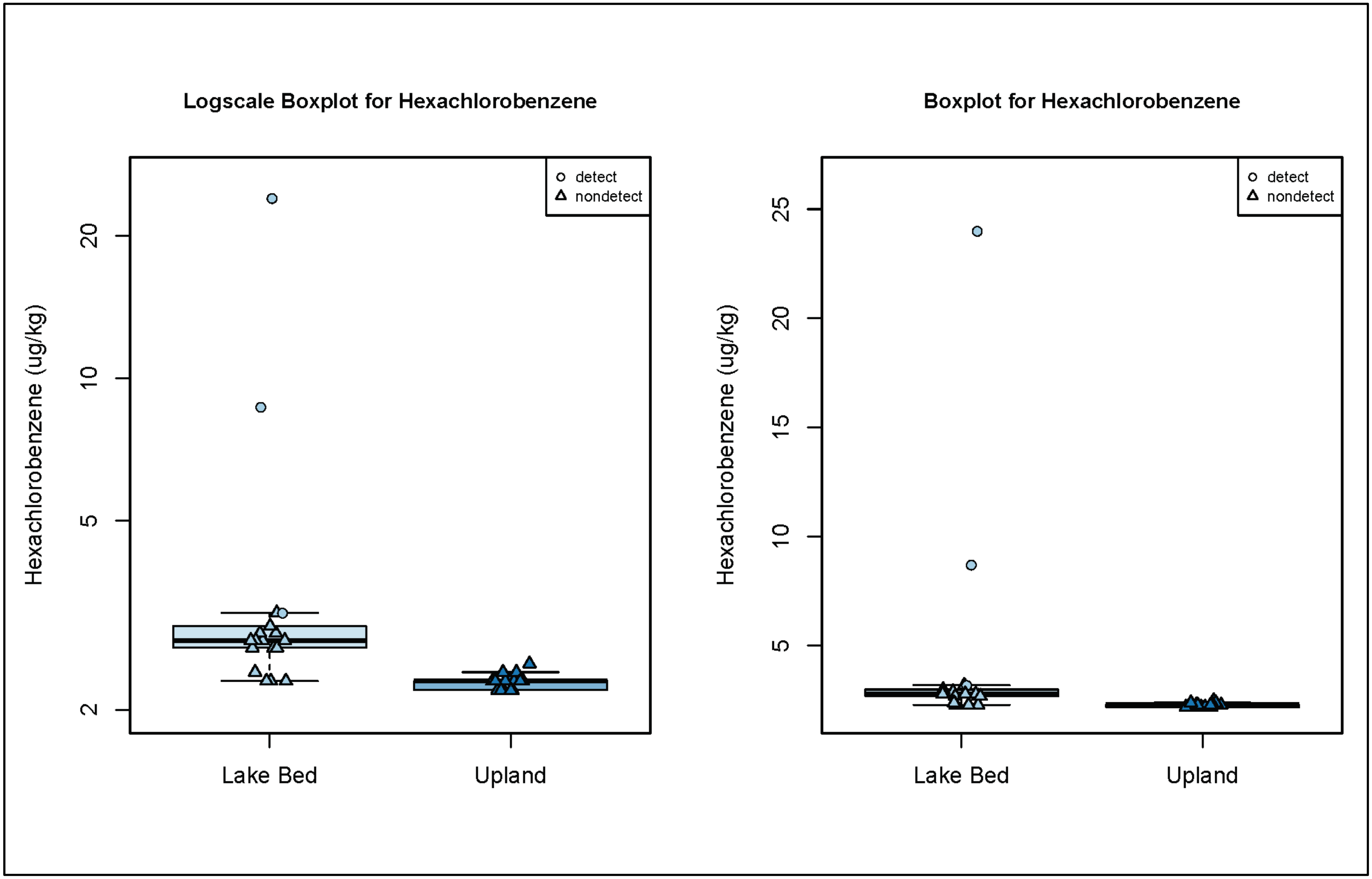
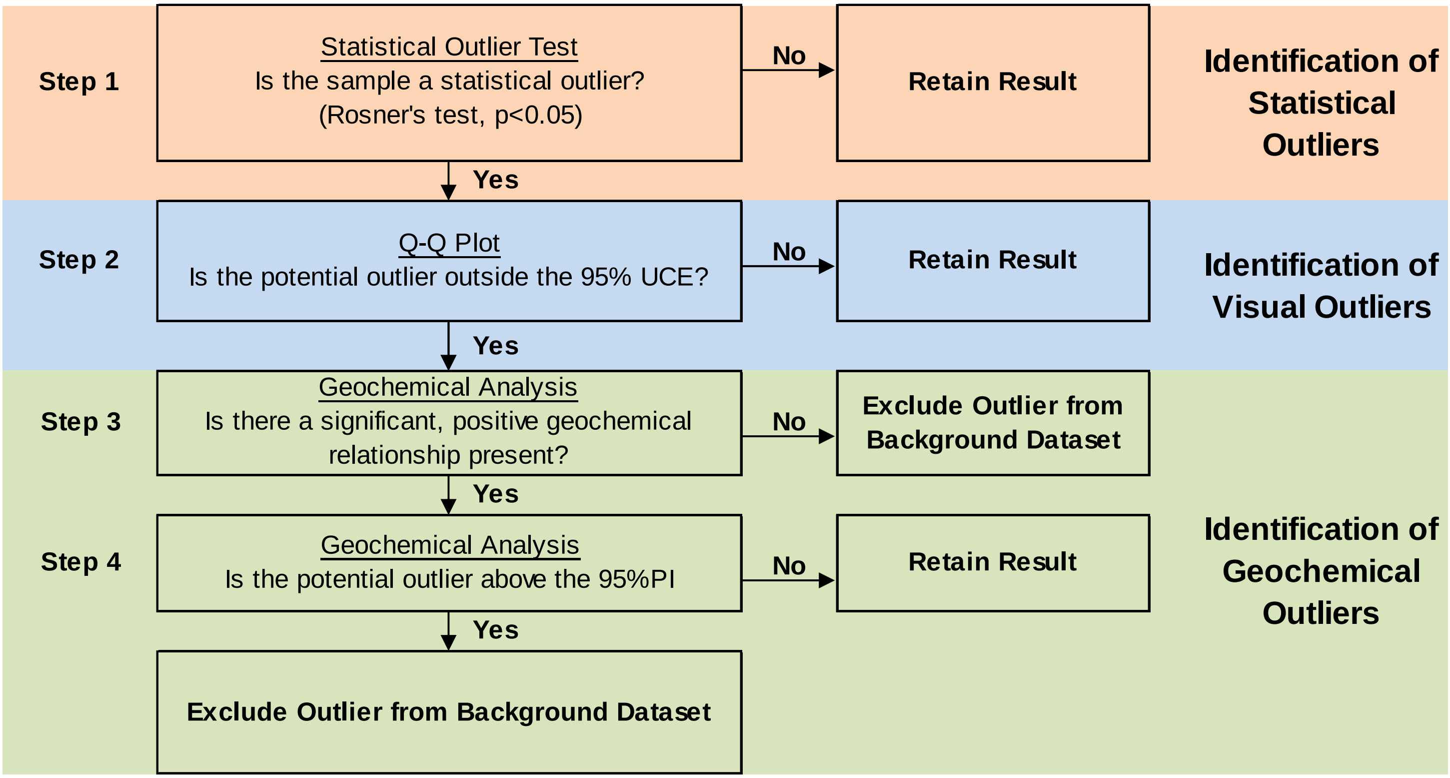


Figure 4.3
Upland and Lakebed Boxplots for Hexachlorobenzene
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah



Notes

(a) An initial data review of background data was conducted to confirm anomalous or high results are not the result of transcription or other error.

(b) Data points that fall outside the 95% upper confidence envelope (UCE) are considered visual outliers

(c) Geochemical relationships examine the log-log least squares regression (see WS#11) between the metal of interest and a reference metal (aluminum, calcium, iron, or manganese)

(d) Data points are considered to be geochemical outliers if the datum falls above the 95% Upper Prediction Interval (PI)

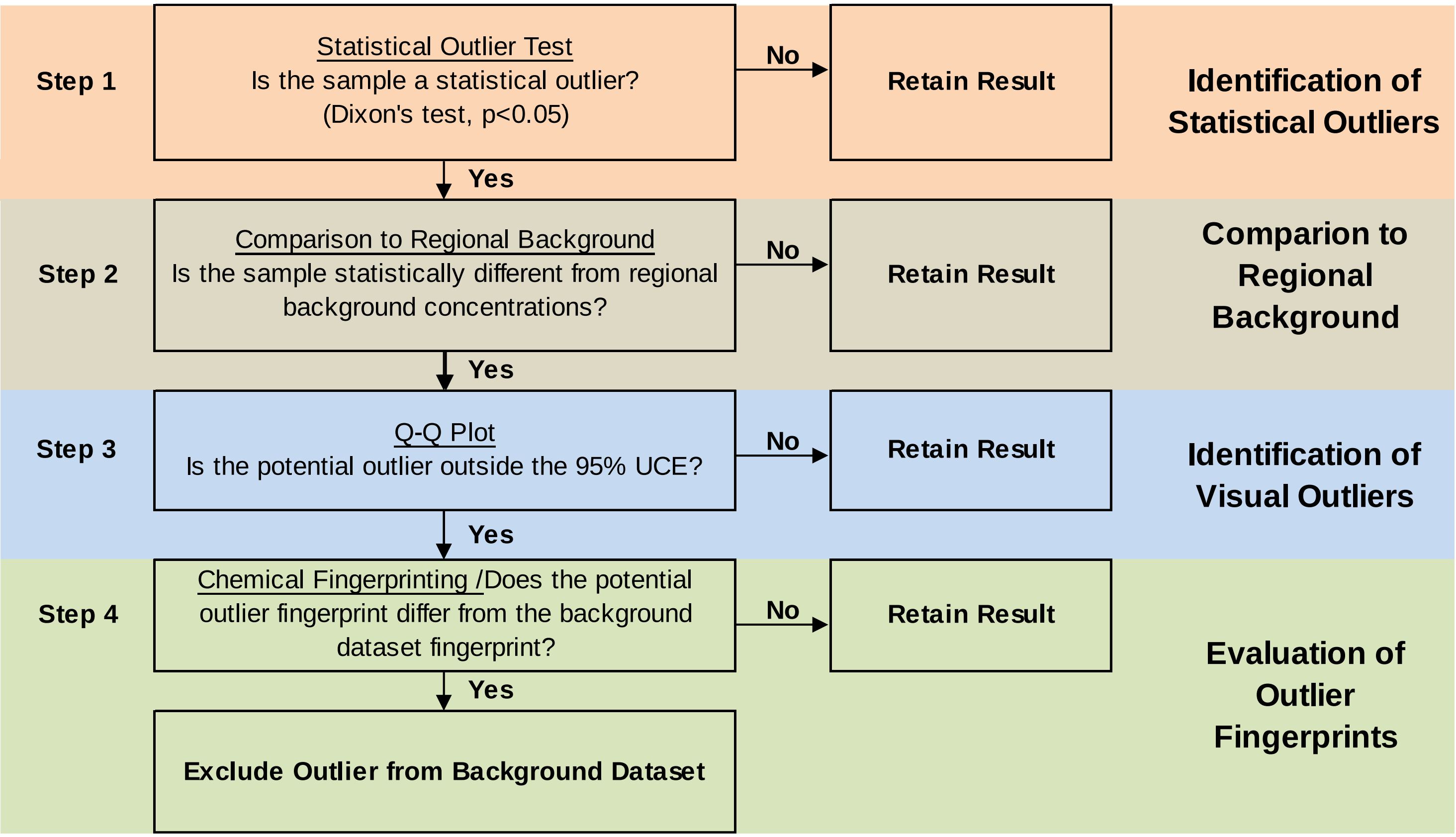
Figure 5.1

Decision Framework for Metals Data Retention in the Background Dataset

Background Data Usability Assessment

US Magnesium LLC

Tooele County, Utah



Notes

(a) An initial data review of background data was conducted to confirm anomalous or high results are not the result of transcription or other error.

(b) Data points that fall outside the 95% upper confidence envelope (UCE) were considered visual outliers

(c) Chemical fingerprinting was performed with barplots and NMDS ordinations

(d) Visual outliers were only considered for decision making for hexachlorobenzene per the SAP (Figure 37-3, ERM 2015)

(e) Regional background data was unavailable to evaluate Step 2.
According to the SAP (Figure 37-3, ERM 2015), this step can be skipped if regional background data is unavailable

Figure 5.2
Decision Framework for Organics Data Retention in the Background Dataset
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

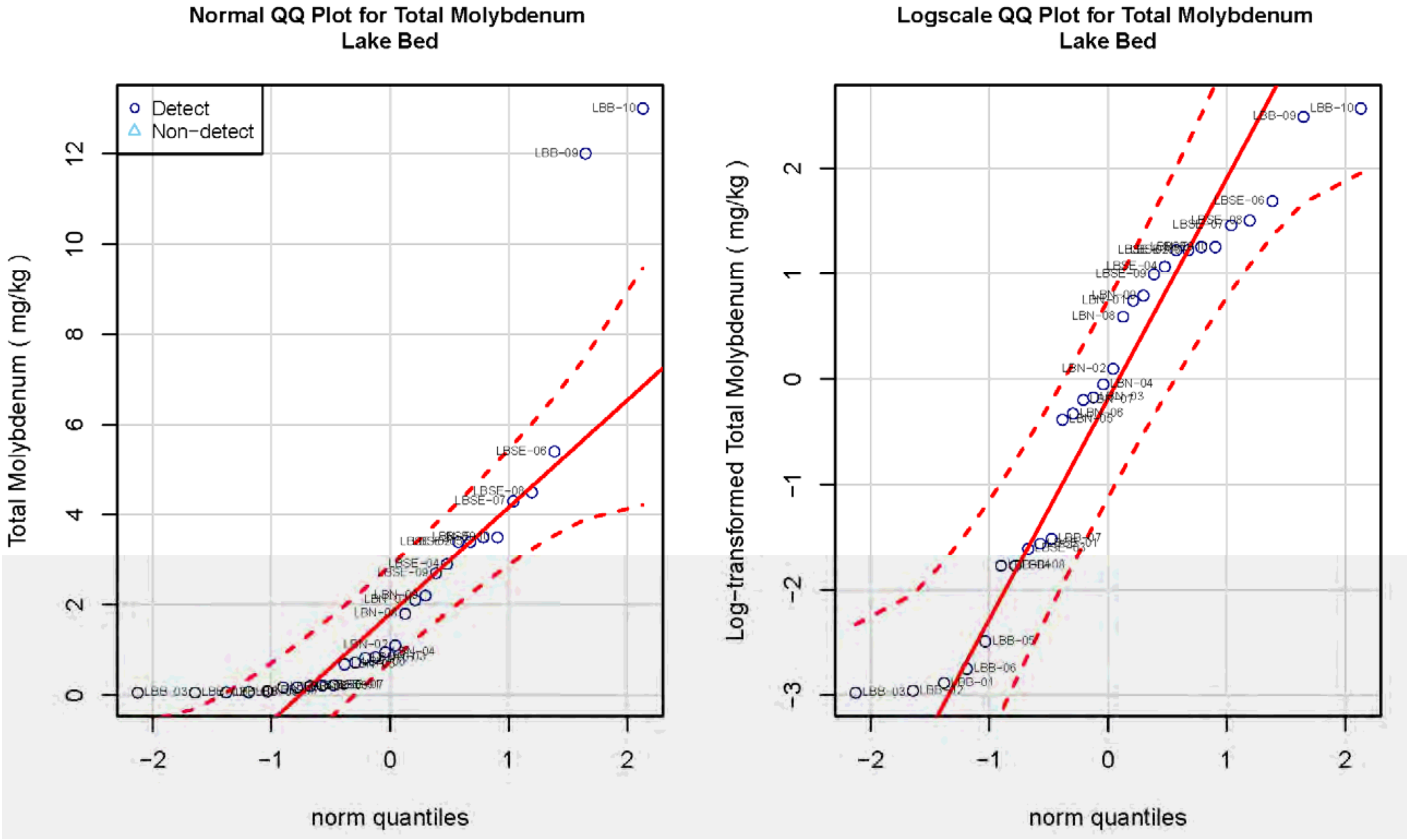


Figure 6.1.1

QQ Plots for Lake Bed Molybdenum

Background Data Usability Assessment

US Magnesium LLC

Tooele County, Utah

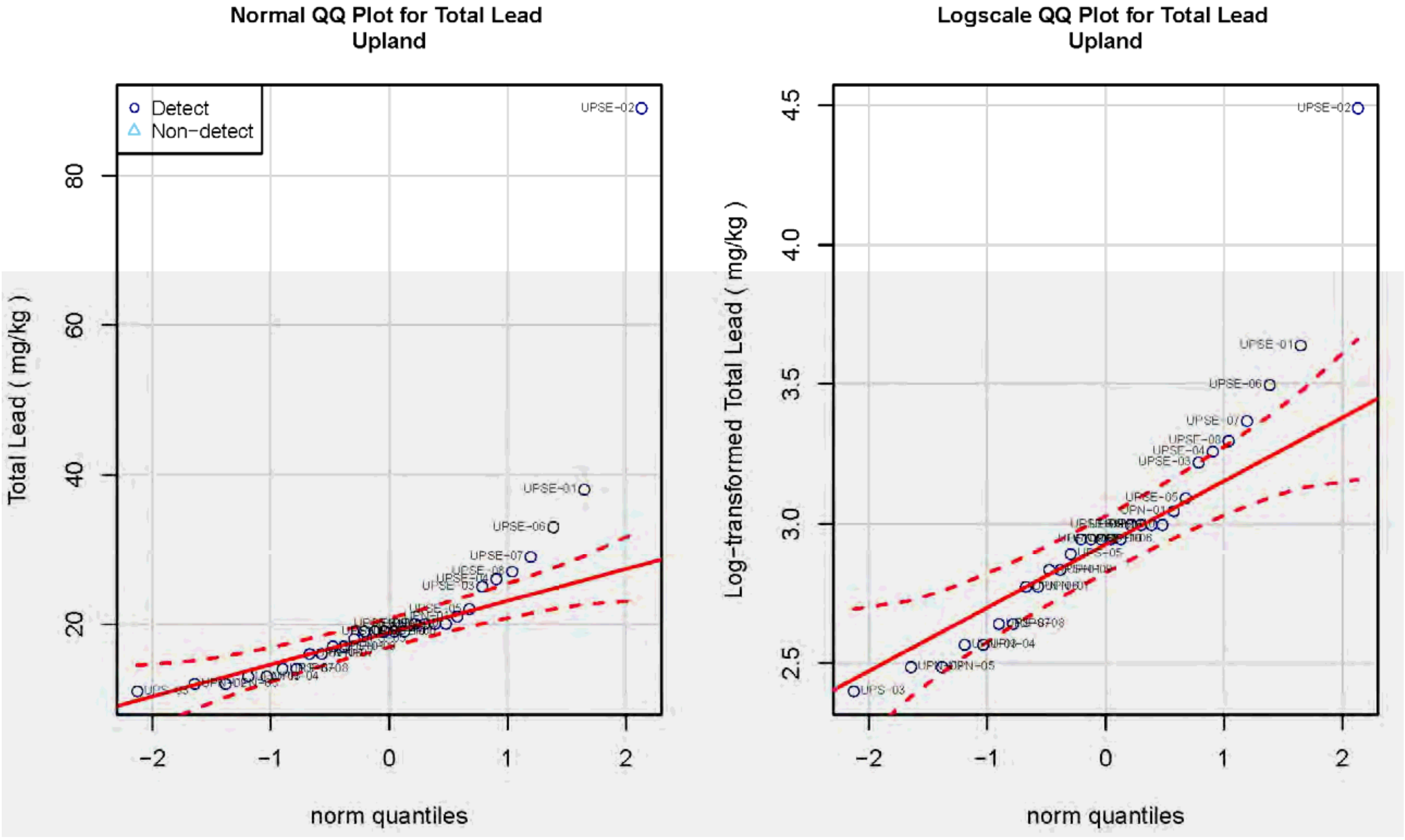


Figure 6.1.2
QQ Plots for Upland Lead
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

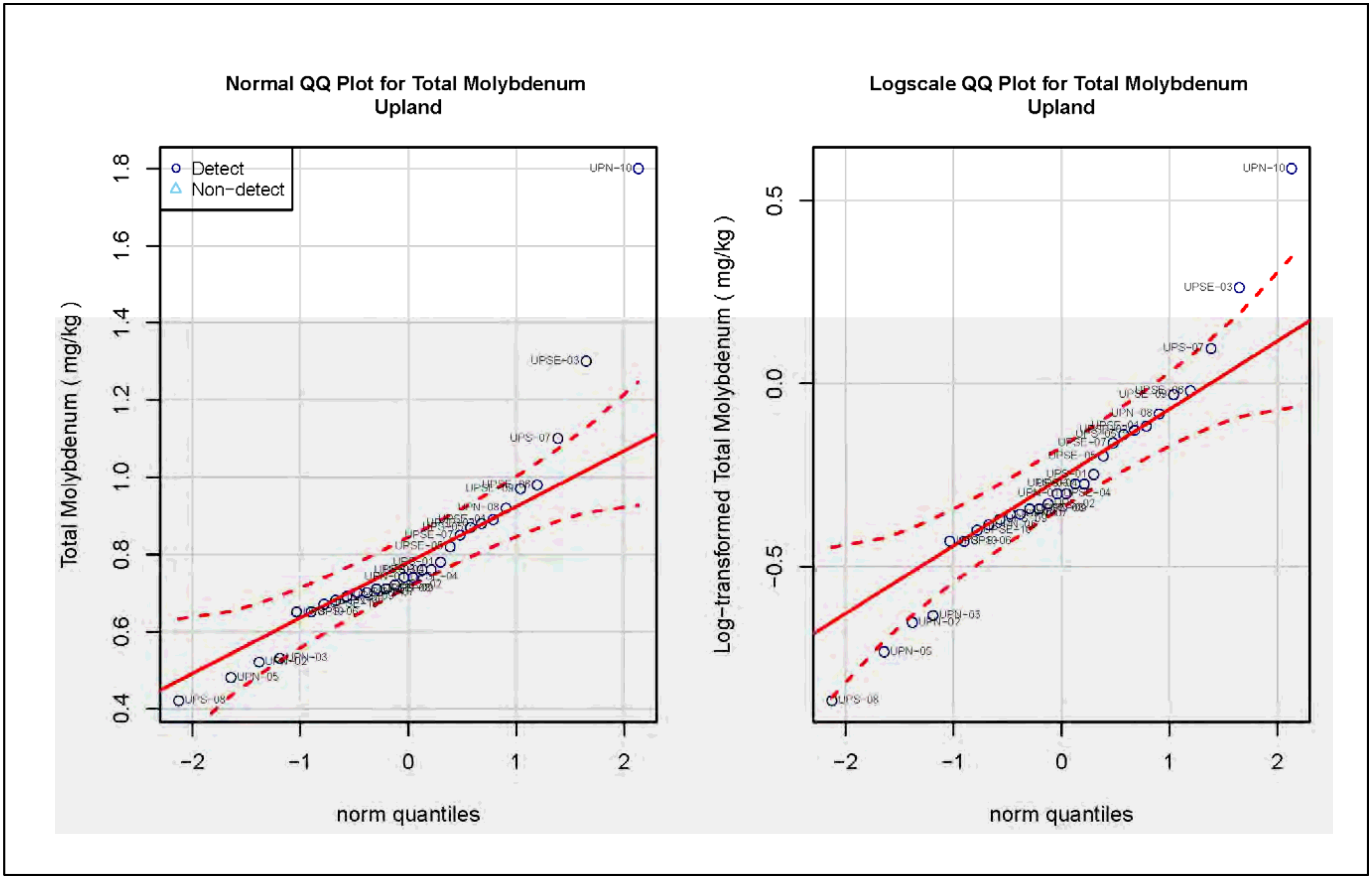


Figure 6.1.3

QQ Plots for Upland Molybdenum
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

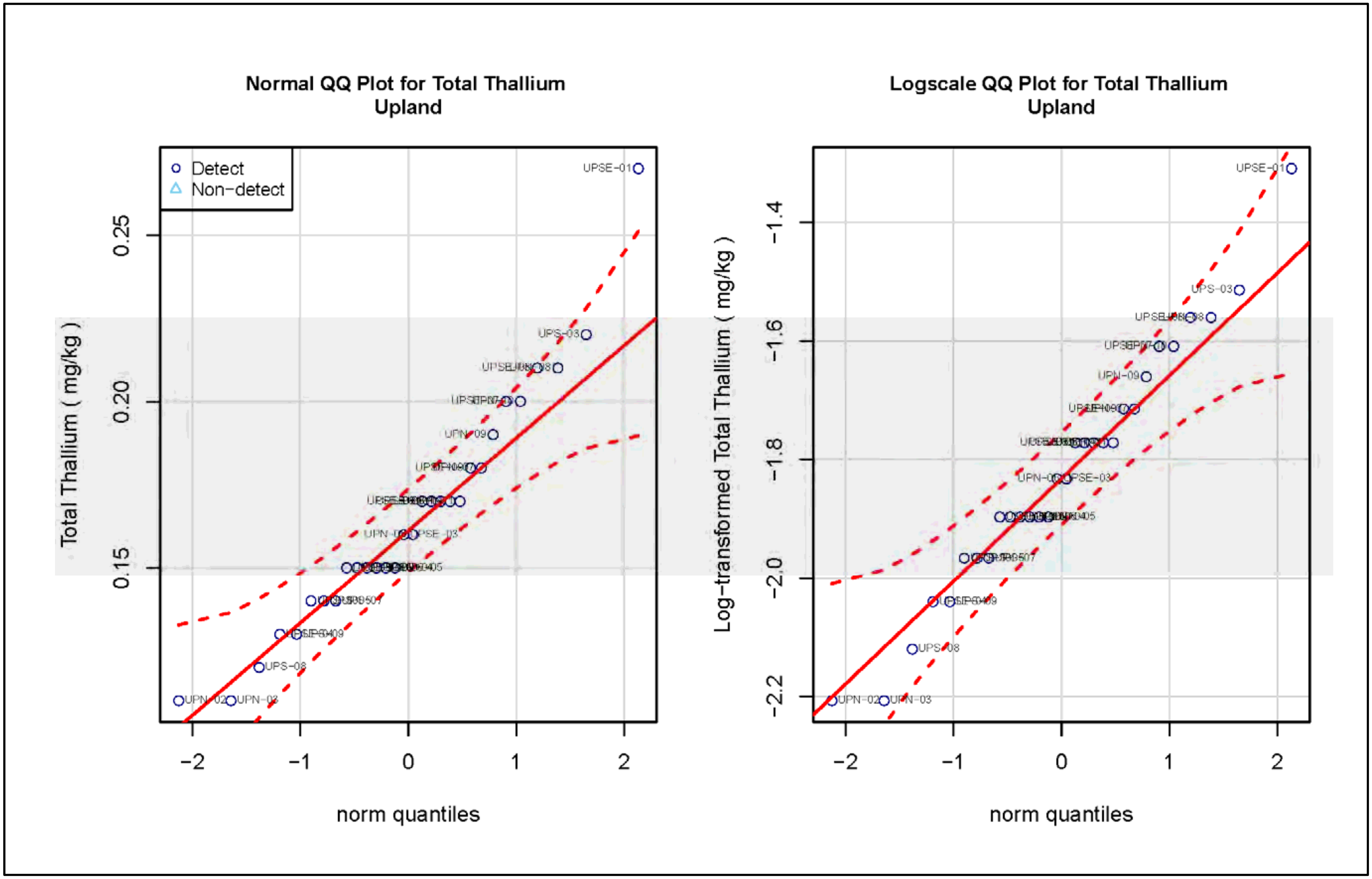


Figure 6.1.4
QQ Plots for Upland Thallium
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

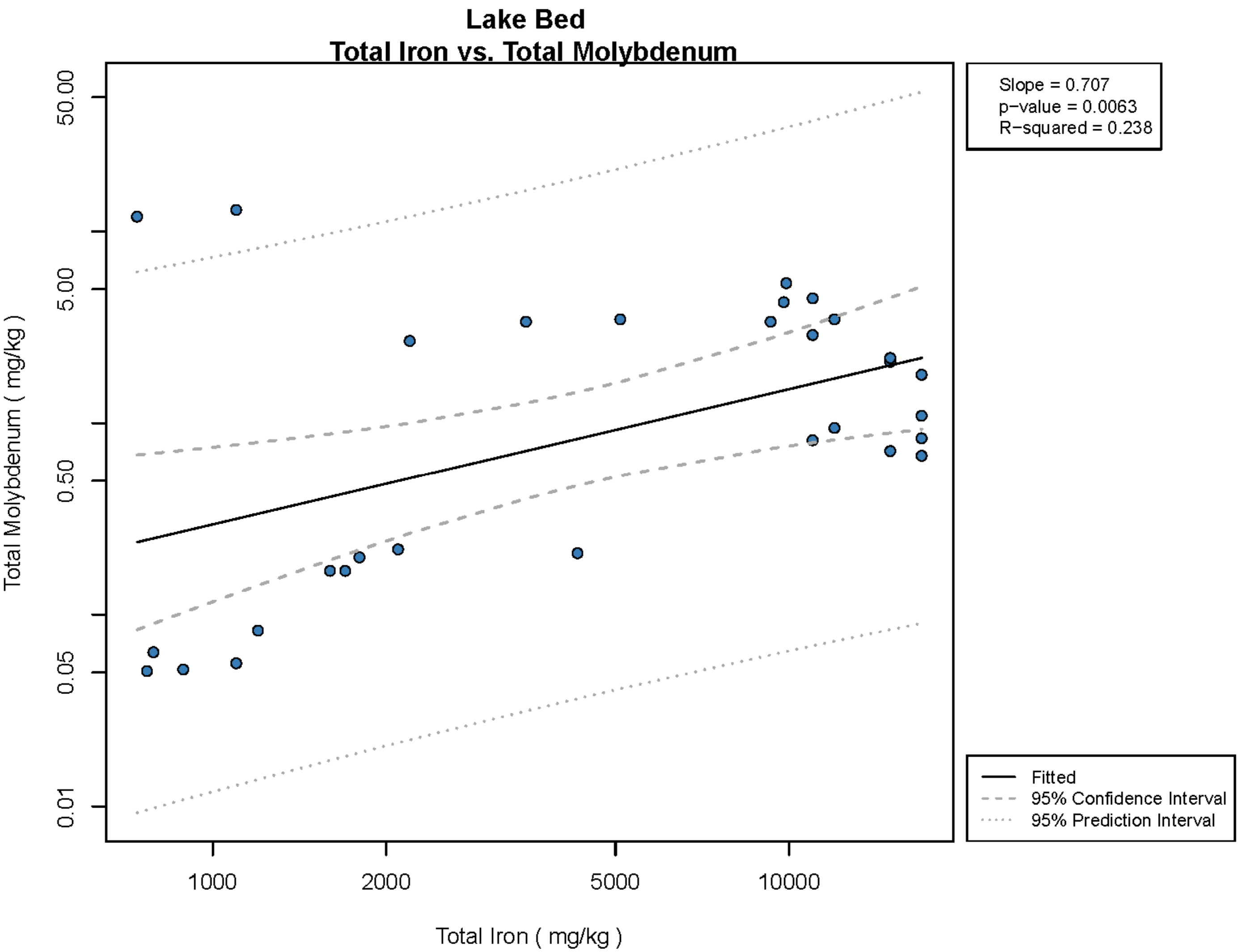


Figure 6.1.5

Geochemical Association Plot for Lake Bed Molybdenum
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

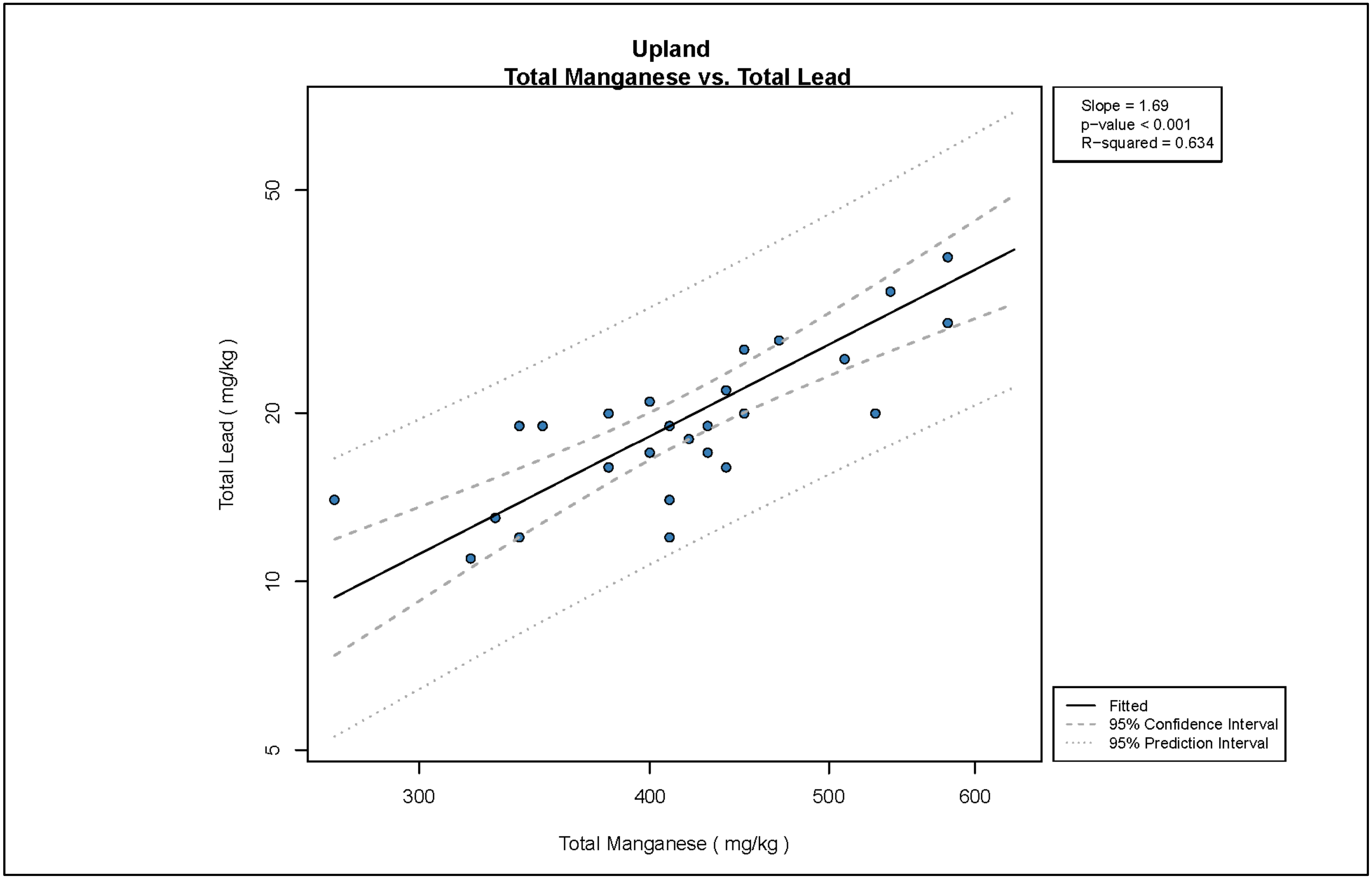


Figure 6.1.6

Geochemical Association Plot for Upland Lead
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

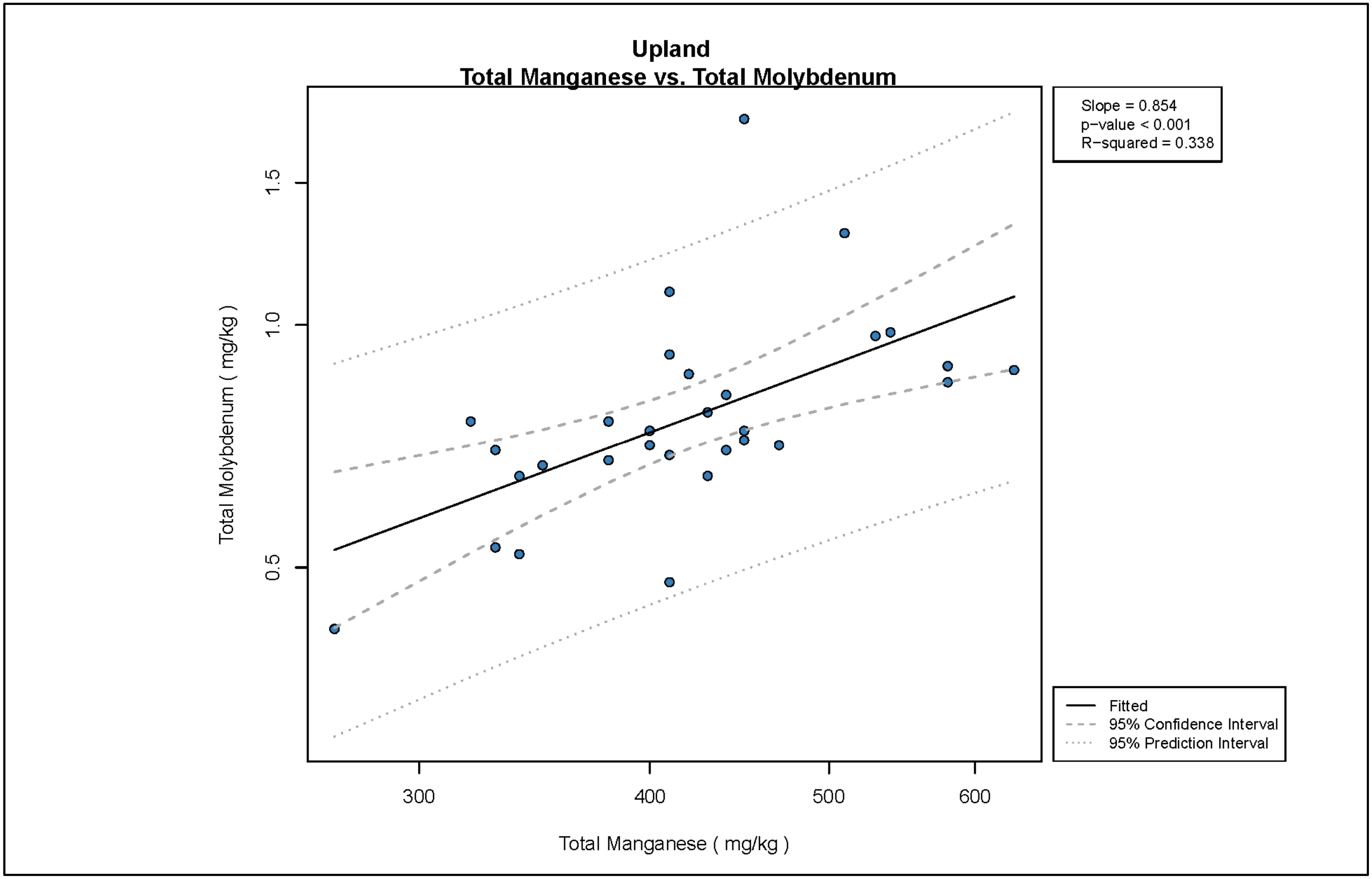


Figure 6.1.7
Geochemical Association Plot for Upland Molybdenum
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

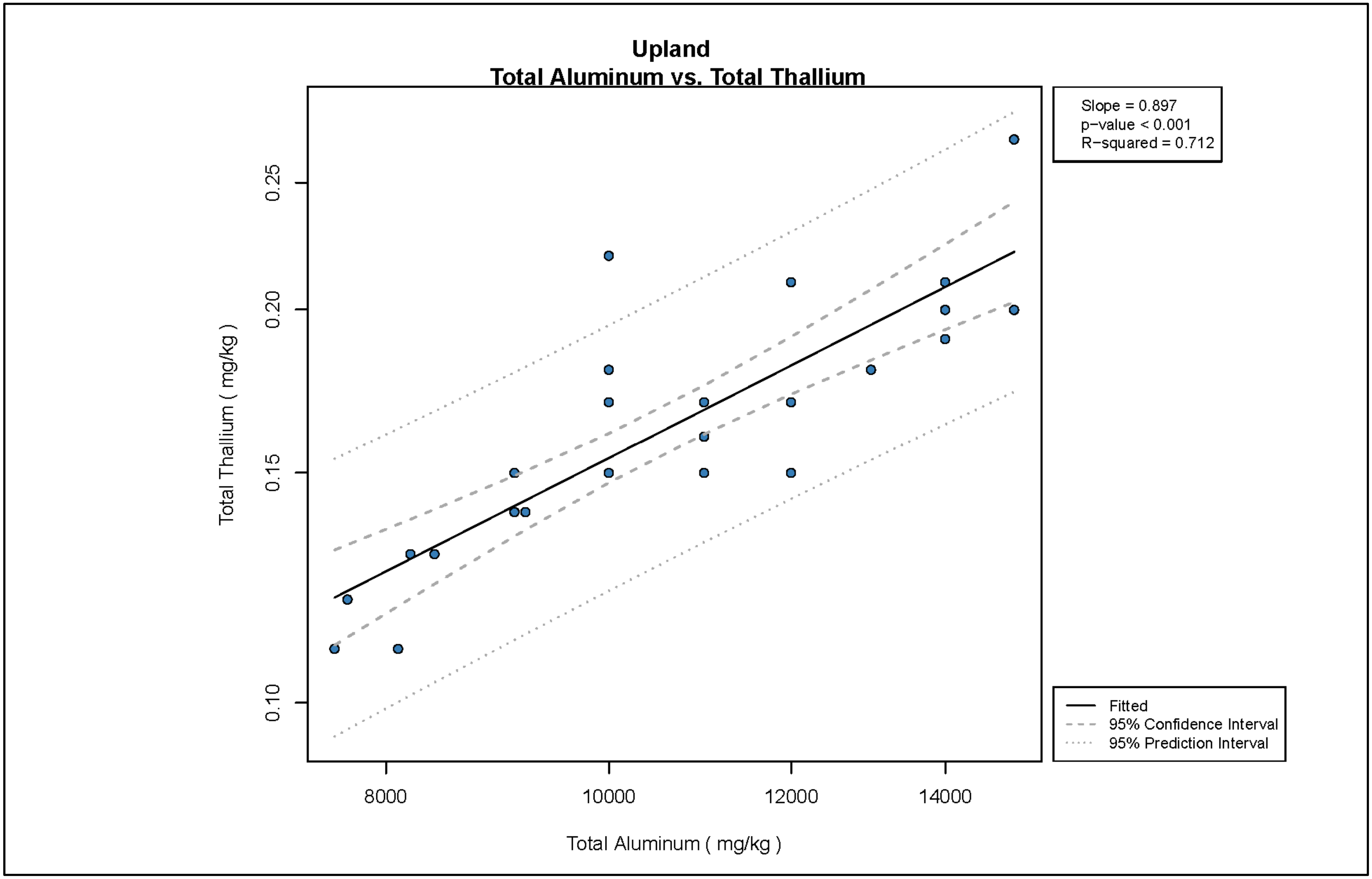


Figure 6.1.8

Geochemical Association Plot for Upland Thallium
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

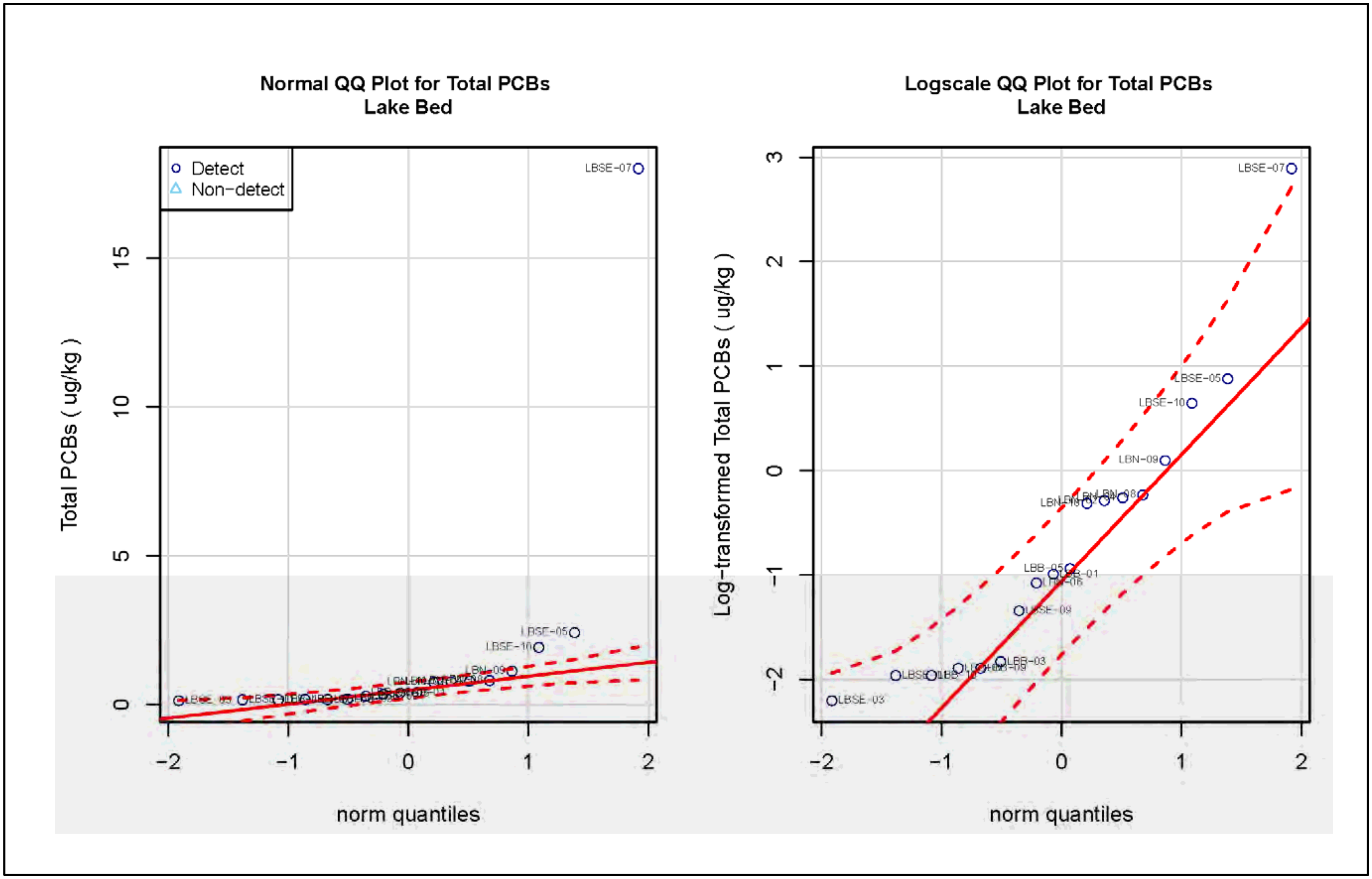


Figure 6.2.1

QQ Plots for Lake Bed Total PCBs
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

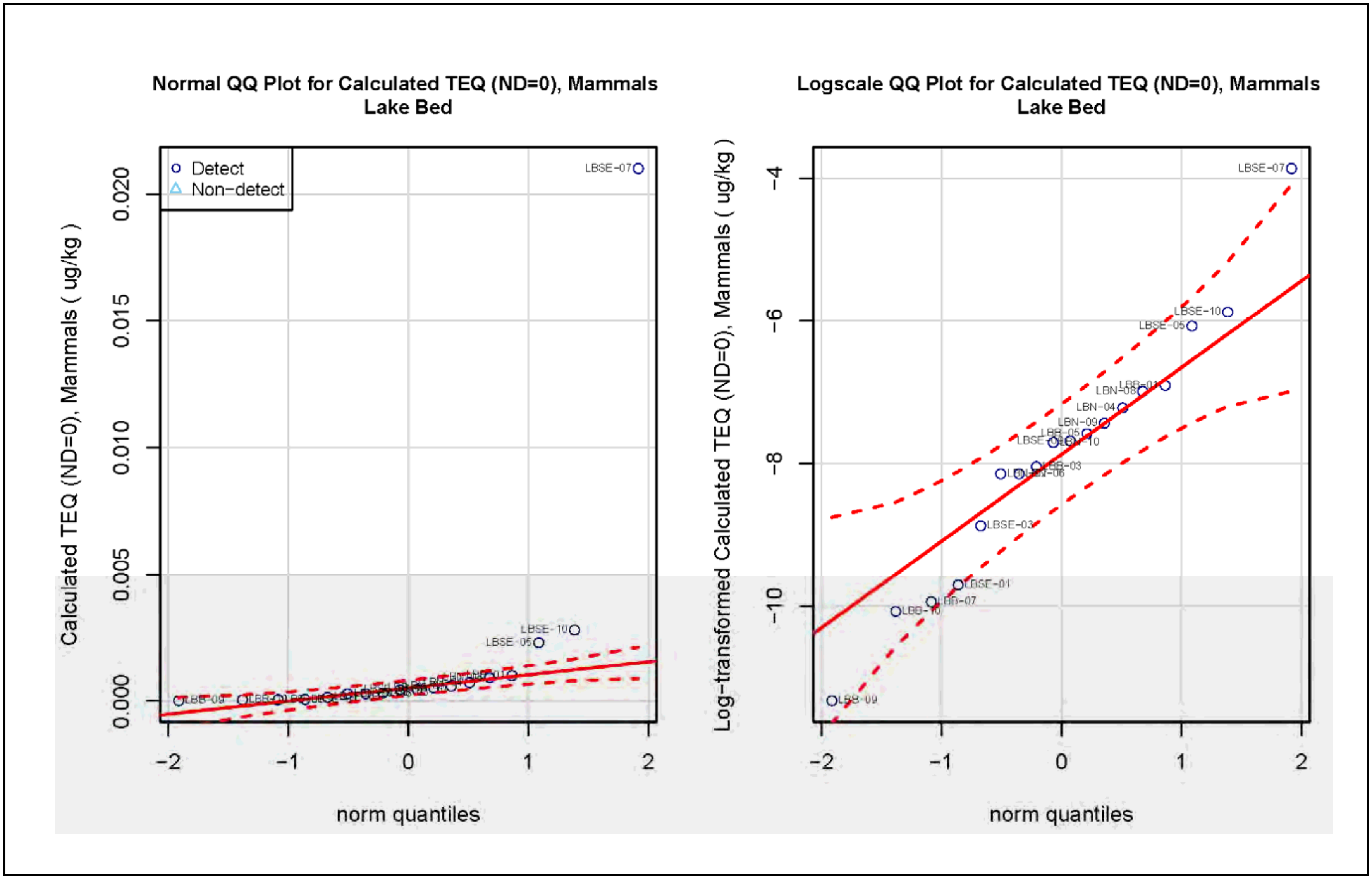


Figure 6.2.2

QQ Plots for Lake Bed Calculated TEQ (Mammalian, ND = 0)
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

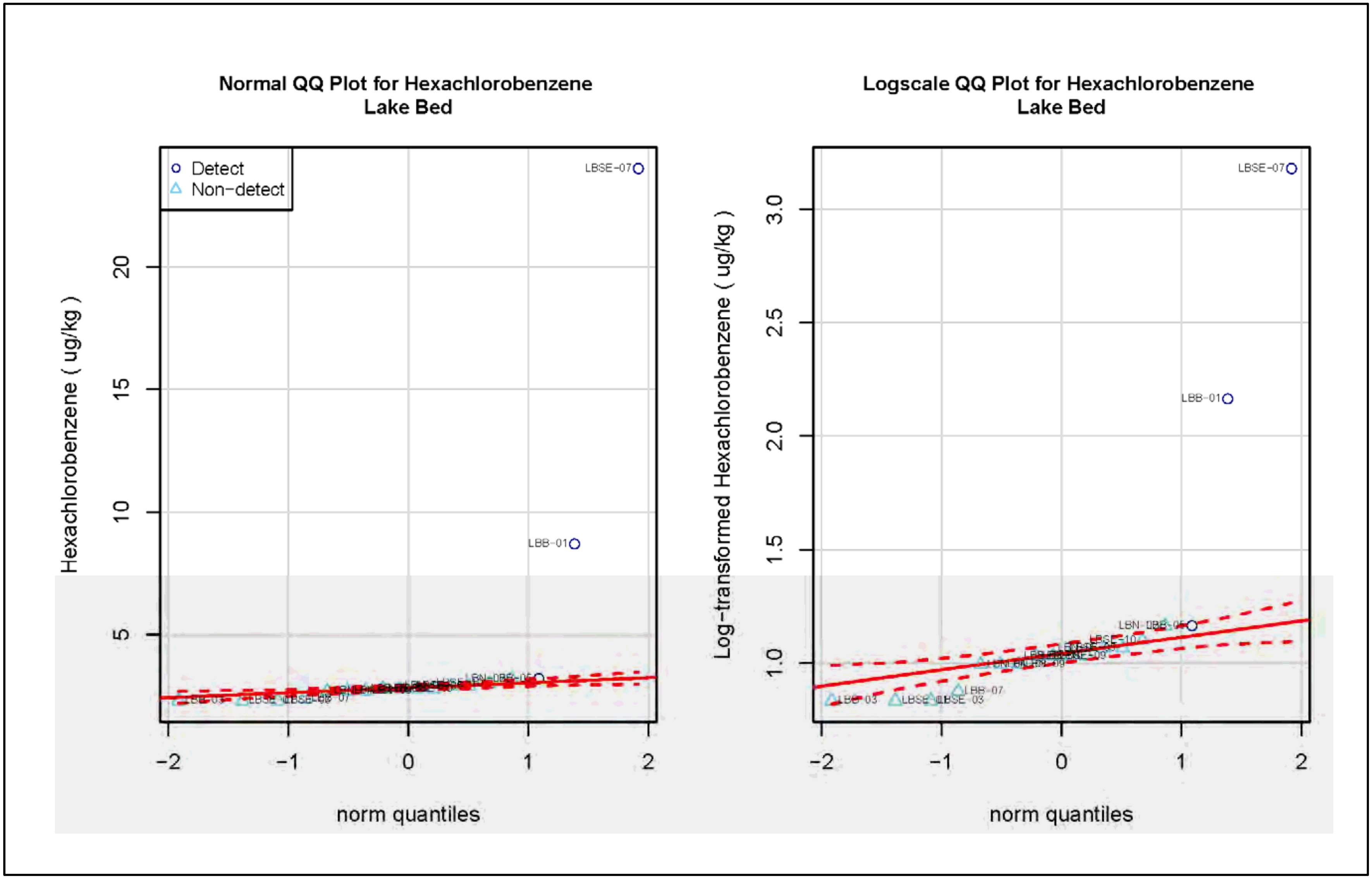


Figure 6.2.3
QQ Plots for Lake Bed Hexachlorobenzene
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

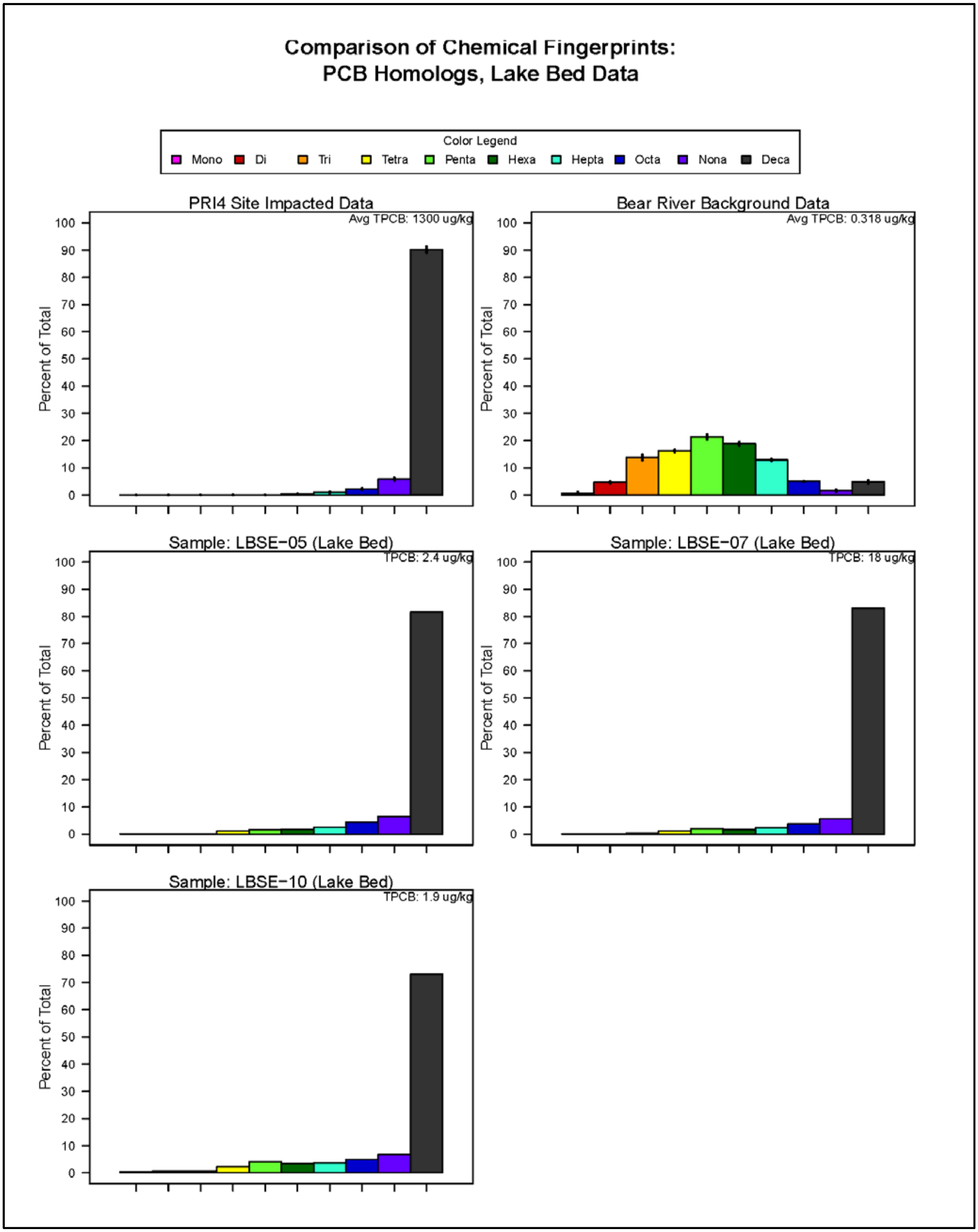


Figure 6.2.4

Percent Composition Barplots for Lake Bed PCB Homologs
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

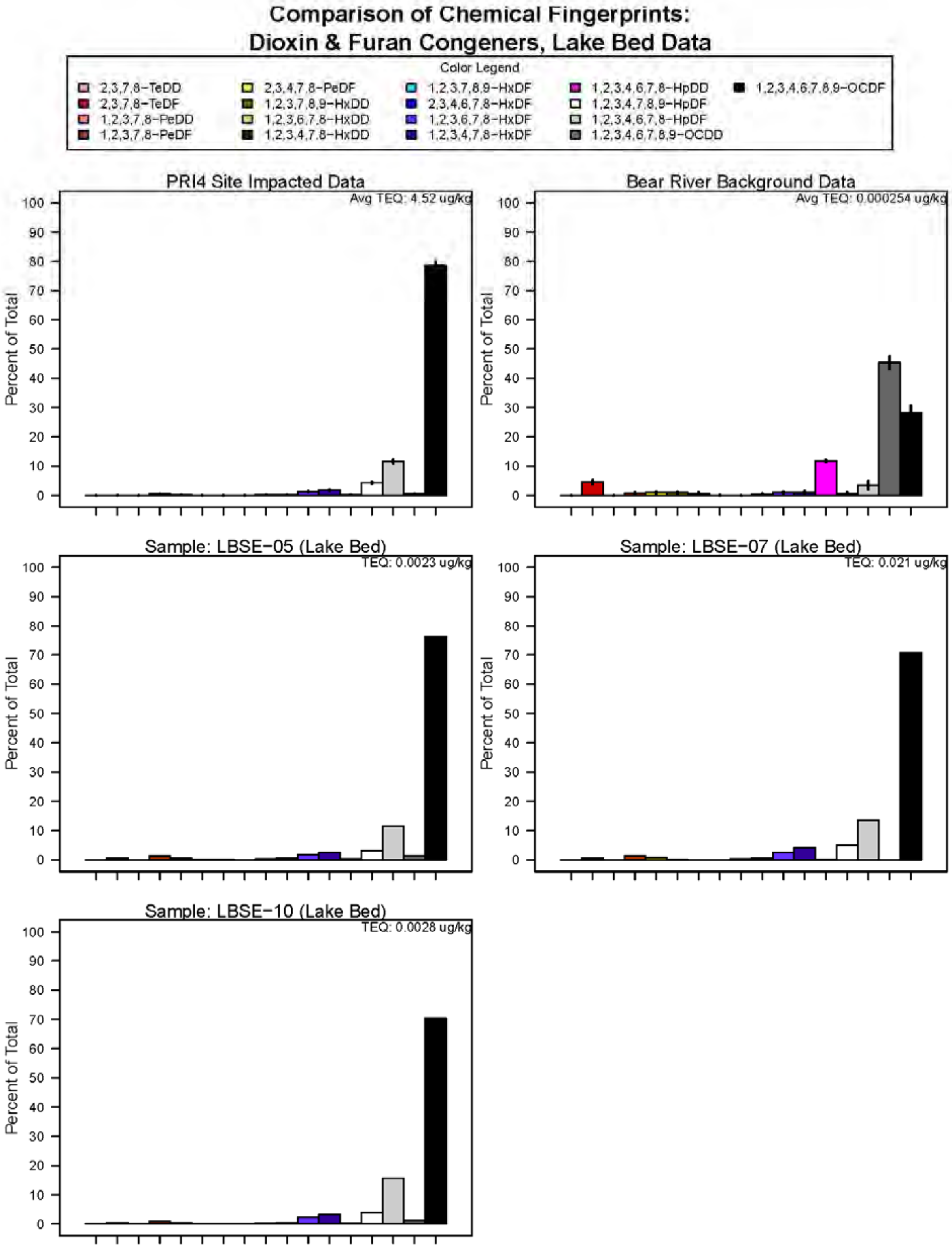


Figure 6.2.5

Percent Composition Barplots for Lake Bed Dioxin and Furan Congeners
Background Data Usability Assessment
US Magnesium LLC
Tooele County, Utah

Tables

Table 2-1
Summary of Background Soil/Sediment Data Qualifiers - Precision
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analytical Method	**CAS**	**Chemical Name**	**Number of Samples Analyzed**	**Data Precision Reason Code**				**Sum**
				MS/MSD RPD	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	
				6	**7**	**17**	**19**	
Background/Reference Area Surface Solids Samples								
SW6010B	7439-89-6	Iron	65	0	0	0	0	0
SW6010B	7439-95-4	Magnesium	65	0	0	0	0	0
SW6010B	7440-09-7	Potassium	65	0	0	0	0	0
SW6010B	7440-23-5	Sodium	65	0	0	0	0	0
SW6010B	7440-70-2	Calcium	65	0	0	0	0	0
SW6020	7429-90-5	Aluminum	65	0	0	0	0	0
SW6020	7439-92-1	Lead	65	0	0	0	0	0
SW6020	7439-98-7	Molybdenum	65	0	0	0	0	0
SW6020	7440-02-0	Nickel	65	0	0	0	0	0
SW6020	7440-22-4	Silver	65	0	0	0	0	0
SW6020	7440-28-0	Thallium	65	0	0	0	0	0
SW6020	7440-36-0	Antimony	65	14	0	0	0	14
SW6020	7440-39-3	Barium	65	0	0	1	0	1
SW6020	7440-41-7	Beryllium	65	0	0	0	0	0
SW6020	7440-43-9	Cadmium	65	0	0	0	0	0
SW6020	7440-48-4	Cobalt	65	0	0	0	0	0
SW6020	7440-50-8	Copper	65	0	0	0	0	0
SW6020	7440-66-6	Zinc	65	0	0	2	0	2
SW6020	7782-49-2	Selenium	65	0	0	0	0	0
SW7471A	7439-97-6	Mercury	65	0	0	0	0	0
E1668A	2051-24-3	Decachlorobiphenyl-209	41	0	0	0	0	0
E1668A	25323-68-6	Trichlorobiphenyl homologs	41	0	0	0	0	0
E1668A	25429-29-2	Pentachlorobiphenyl homologs	41	0	0	0	0	0
E1668A	25512-42-9	Dichlorobiphenyl homologs	41	0	0	0	0	0
E1668A	26601-64-9	Hexachlorobiphenyl homologs	41	0	0	0	0	0
E1668A	26914-33-0	Tetrachlorobiphenyl homologs	41	0	0	0	0	0
E1668A	27323-18-8	Monochlorobiphenyl homologs	41	0	0	0	0	0
E1668A	28655-71-2	Heptachlorobiphenyl homologs	41	0	0	0	0	0
E1668A	31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	41	0	0	0	0	0
E1668A	32598-13-3	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	41	0	0	0	0	0
E1668A	32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	41	0	0	0	0	0
E1668A	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	41	0	0	0	0	0
E1668A	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	41	0	0	0	0	0
E1668A	53742-07-7	Nonachlorobiphenyl homologs	41	0	0	0	0	0
E1668A	55722-26-4	Octachlorobiphenyl homologs	41	0	0	0	0	0
E1668A	57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	41	0	0	0	0	0

Table 2-1
Summary of Background Soil/Sediment Data Qualifiers - Precision
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analytical Method	**CAS**	**Chemical Name**	**Number of Samples Analyzed**	**Data Precision Reason Code**				**Sum**
				MS/MSD RPD	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	
				6	**7**	**17**	**19**	
E1668A	65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	41	0	0	0	0	0
E1668A	70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	41	0	0	0	0	0
E1668A	74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	41	0	0	0	0	0
E1668A	PCB156_157	PCB-156 & 157	41	0	0	0	0	0
SW8270_SIM	118-74-1	Hexachlorobenzene	41	0	0	0	0	0
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	41	0	0	0	0	0
SW8290	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	41	0	0	0	0	0
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	41	0	0	0	0	0
SW8290	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	41	0	0	0	0	0
SW8290	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	41	0	0	0	0	0
SW8290	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	41	0	0	0	0	0
SW8290	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	41	0	0	0	0	0
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	41	0	0	0	0	0
SW8290	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	41	0	0	0	0	0
SW8290	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	41	0	0	0	0	0
SW8290	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	41	0	0	0	0	0
SW8290	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	41	0	0	0	0	0
SW8290	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	41	0	0	0	0	0
SW8290	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	41	0	0	0	0	0
SW8290	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	41	0	0	0	0	0
SW8290	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	41	0	0	0	0	0
SW8290	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	41	0	0	0	0	0
SW9060A	TOC	Total organic carbon	41	0	0	0	6	6
			Sum	14	0	3	6	23
Background/Reference Area Subsurface Solids Samples								
SW6010B	7439-89-6	Iron	7	0	0	0	0	0
SW6010B	7439-95-4	Magnesium	7	0	0	0	0	0
SW6010B	7440-09-7	Potassium	7	0	0	0	0	0
SW6010B	7440-23-5	Sodium	7	0	0	0	0	0
SW6010B	7440-70-2	Calcium	7	0	0	0	0	0
SW6020	7429-90-5	Aluminum	7	0	0	0	0	0
SW6020	7439-92-1	Lead	7	0	0	0	0	0
SW6020	7439-98-7	Molybdenum	7	0	0	0	0	0
SW6020	7440-02-0	Nickel	7	0	0	0	0	0
SW6020	7440-22-4	Silver	7	0	0	0	0	0
SW6020	7440-28-0	Thallium	7	0	0	0	0	0
SW6020	7440-36-0	Antimony	7	1	0	0	0	1

Table 2-1
Summary of Background Soil/Sediment Data Qualifiers - Precision
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analytical Method	**CAS**	**Chemical Name**	**Number of Samples Analyzed**	**Data Precision Reason Code**				**Sum**
				MS/MSD RPD	**LCS RPD**	**FD RPD**	**Analytical Duplicate Precision**	
				6	**7**	**17**	**19**	
SW6020	7440-39-3	Barium	7	0	0	0	0	0
SW6020	7440-41-7	Beryllium	7	0	0	0	0	0
SW6020	7440-43-9	Cadmium	7	0	0	0	0	0
SW6020	7440-48-4	Cobalt	7	0	0	0	0	0
SW6020	7440-50-8	Copper	7	0	0	0	0	0
SW6020	7440-66-6	Zinc	7	0	0	0	0	0
SW6020	7782-49-2	Selenium	7	0	0	0	0	0
SW7471A	7439-97-6	Mercury	7	0	0	0	0	0
E1668A	2051-24-3	Decachlorobiphenyl-209	7	0	0	0	0	0
E1668A	25323-68-6	Trichlorobiphenyl homologs	7	0	0	0	0	0
E1668A	25429-29-2	Pentachlorobiphenyl homologs	7	0	0	0	0	0
E1668A	25512-42-9	Dichlorobiphenyl homologs	7	0	0	0	0	0
E1668A	26601-64-9	Hexachlorobiphenyl homologs	7	0	0	0	0	0
E1668A	26914-33-0	Tetrachlorobiphenyl homologs	7	0	0	0	0	0
E1668A	27323-18-8	Monochlorobiphenyl homologs	7	0	0	0	0	0
E1668A	28655-71-2	Heptachlorobiphenyl homologs	7	0	0	0	0	0
E1668A	31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	7	0	0	0	0	0
E1668A	32598-13-3	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	7	0	0	0	0	0
E1668A	32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	7	0	0	0	0	0
E1668A	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	7	0	0	0	0	0
E1668A	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	7	0	0	0	0	0
E1668A	53742-07-7	Nonachlorobiphenyl homologs	7	0	0	0	0	0
E1668A	55722-26-4	Octachlorobiphenyl homologs	7	0	0	0	0	0
E1668A	57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	7	0	0	0	0	0
E1668A	65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	7	0	0	0	0	0
E1668A	70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	7	0	0	0	0	0
E1668A	74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	7	0	0	0	0	0
E1668A	PCB156_157	PCB-156 & 157	7	0	0	0	0	0
SW8270_SIM	118-74-1	Hexachlorobenzene	7	0	0	0	0	0
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	7	0	0	0	0	0
SW8290	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	7	0	0	0	0	0
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	7	0	0	0	0	0
SW8290	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	7	0	0	0	0	0
SW8290	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	7	0	0	0	0	0
SW8290	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	7	0	0	0	0	0
SW8290	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	7	0	0	0	0	0
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	7	0	0	0	0	0

Table 2-1
Summary of Background Soil/Sediment Data Qualifiers - Precision
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS	Chemical Name	Number of Samples Analyzed	Data Precision Reason Code				Sum
				MS/MSD RPD	LCS RPD	FD RPD	Analytical Duplicate Precision	
				6	7	17	19	
SW8290	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	7	0	0	0	0	0
SW8290	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	7	0	0	0	0	0
SW8290	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	7	0	0	0	0	0
SW8290	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	7	0	0	0	0	0
SW8290	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	7	0	0	0	0	0
SW8290	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	7	0	0	0	0	0
SW8290	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	7	0	0	0	0	0
SW8290	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	7	0	0	0	0	0
SW8290	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	7	0	0	0	0	0
SW9060A	TOC	Total organic carbon	7	0	0	0	1	1
			Sum	1	0	0	1	2

Notes:
FD = Field Duplicate
LCSD = Laboratory Control Sample
MS = Matrix Spike
MSD = Matrix Spike Duplicate
ND = Not Detected
PCB = Polychlorinated biphenyl
RPD = Relative Percent Difference

Table 2-2
Summary of Background Surface Soil/Sediment Data Qualifiers - Accuracy
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analytical Method	**CAS**	**Chemical Name**	**Number of Samples Analyzed**	**Criteria**														**Sum**
				Preservation/ Holding Time 1	**Detection > DL but < QL 2**	**Laboratory Blank Detection 3**	**MS or MSD Recovery 4**	**LCS Recovery 5**	**Surrogate Recovery 8**	**EMPC 9**	**Outside Calibration Range 11**	**Calibration Criteria 12**	**Equipment Blank 13**	**Internal Standard 14**	**Serial Dilution 15**	**Column Difference 16**	**Sample Receipt Temp 18**	
Background/Reference Area Surface Solids Samples																		
SW6010B	7439-89-6	Iron	65	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14
SW6010B	7439-95-4	Magnesium	65	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14
SW6010B	7440-09-7	Potassium	65	0	0	0	0	0	0	0	0	0	7	0	7	0	0	14
SW6010B	7440-23-5	Sodium	65	0	0	0	0	0	0	0	0	0	18	0	0	0	0	18
SW6010B	7440-70-2	Calcium	65	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14
SW6020	7429-90-5	Aluminum	65	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14
SW6020	7439-92-1	Lead	65	0	0	0	10	0	0	0	0	0	25	0	0	0	0	35
SW6020	7439-98-7	Molybdenum	65	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
SW6020	7440-02-0	Nickel	65	0	0	0	10	0	0	0	0	0	0	0	0	0	0	10
SW6020	7440-22-4	Silver	65	0	53	0	0	0	0	0	0	0	0	0	0	0	0	53
SW6020	7440-28-0	Thallium	65	0	3	0	0	0	0	0	0	1	0	0	0	0	0	4
SW6020	7440-36-0	Antimony	65	0	17	0	60	0	0	0	0	0	0	0	0	0	0	77
SW6020	7440-39-3	Barium	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-41-7	Beryllium	65	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
SW6020	7440-43-9	Cadmium	65	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
SW6020	7440-48-4	Cobalt	65	0	0	0	10	0	0	0	0	0	0	0	0	0	0	10
SW6020	7440-50-8	Copper	65	0	0	0	38	0	0	0	0	0	0	0	10	0	0	48
SW6020	7440-66-6	Zinc	65	0	0	0	45	0	0	0	0	0	0	0	0	0	0	45
SW6020	7782-49-2	Selenium	65	0	8	0	50	0	0	0	0	0	0	0	0	0	0	58
SW7471A	7439-97-6	Mercury	65	0	52	0	15	0	0	0	0	0	0	0	0	0	0	67
E1668A	2051-24-3	Decachlorobiphenyl-209	41	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
E1668A	25323-68-6	Trichlorobiphenyl homologs	41	0	32	2	0	0	0	0	0	0	1	1	0	0	0	36
E1668A	25429-29-2	Pentachlorobiphenyl homologs	41	0	35	0	0	0	0	0	0	0	0	1	0	0	0	36
E1668A	25512-42-9	Dichlorobiphenyl homologs	41	0	15	0	0	0	0	0	0	0	0	0	0	0	0	15
E1668A	26601-64-9	Hexachlorobiphenyl homologs	41	0	35	0	0	0	0	0	0	0	0	1	0	0	0	36
E1668A	26914-33-0	Tetrachlorobiphenyl homologs	41	0	36	4	0	0	0	0	0	0	0	1	0	0	0	41
E1668A	27323-18-8	Monochlorobiphenyl homologs	41	0	30	0	0	0	0	0	0	0	0	0	0	0	0	30
E1668A	28655-71-2	Heptachlorobiphenyl homologs	41	0	35	0	0	0	0	0	0	0	0	2	0	0	0	37
E1668A	31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	41	0	2	0	0	0	0	0	0	0	0	1	0	0	0	3
E1668A	32598-13-3	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	41	0	9	0	0	0	0	14	0	0	0	1	0	0	0	24
E1668A	32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	41	0	13	0	0	0	0	2	0	0	0	0	0	0	0	15
E1668A	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	41	0	7	0	0	0	0	5	0	0	0	1	0	0	0	13
E1668A	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	41	0	22	0	0	0	0	15	0	0	0	0	0	0	0	37
E1668A	53742-07-7	Nonachlorobiphenyl homologs	41	0	39	0	0	0	0	0	0	0	0	2	0	0	0	41
E1668A	55722-26-4	Octachlorobiphenyl homologs	41	0	40	0	0	0	0	0	0	0	0	2	0	0	0	42
E1668A	57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	41	0	3	0	0	0	0	3	0	0	0	0	0	0	0	6
E1668A	65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	41	0	6	0	0	0	0	0	0	0	0	1	0	0	0	7
E1668A	70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	41	0	1	0	0	0	0	3	0	0	0	1	0	0	0	5
E1668A	74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	41	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2
E1668A	PCB156_157	PCB-156 & 157	41	0	24	0	0	0	0	13	0	0	0	0	0	0	0	37
SW8270_SIM	118-74-1	Hexachlorobenzene	41	32	3	0	0	0	0	0	0	0	0	1	0	0	0	36
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	41	0	1	0	0	0	0	0	0	0	0	3	0	0	0	4
SW8290	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	41	0	21	3	0	0	0	1	0	0	0	4	0	0	0	29
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	41	0	32	6	0	0	0	1	0	0	0	3	0	0	0	42
SW8290	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	41	0	39	0	0	0	0	2	0	0	0	4	0	0	0	45
SW8290	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	41	0	19	0	0	0	0	0	0	0	0	3	0	0	0	22

Table 2-2
Summary of Background Surface Soil/Sediment Data Qualifiers - Accuracy
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS	Chemical Name	Number of Samples Analyzed	Criteria														Sum
				Preservation/ Holding Time	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**EMPC**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	
				1	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	
SW8290	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	41	0	7	0	0	0	0	4	0	0	0	4	0	0	0	15
SW8290	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	41	0	2	0	0	0	0	5	0	0	0	4	0	0	0	11
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	41	0	36	0	0	0	0	3	0	0	0	6	0	0	0	45
SW8290	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	41	0	31	3	0	0	0	3	0	0	0	4	0	0	0	41
SW8290	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	41	0	26	0	0	0	0	2	0	0	0	4	0	0	0	32
SW8290	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	41	0	21	0	0	0	0	11	0	0	0	4	0	0	0	36
SW8290	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	41	0	26	0	0	0	0	12	0	0	0	9	0	0	0	47
SW8290	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	41	0	15	0	0	0	0	6	0	0	0	4	0	0	0	25
SW8290	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	41	0	26	0	0	0	0	11	0	0	0	9	0	0	0	46
SW8290	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	41	0	28	0	0	0	0	2	0	0	0	4	0	0	0	34
SW8290	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	41	0	32	0	0	0	0	4	0	0	0	9	0	0	0	45
SW8290	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	41	0	8	0	0	0	0	4	0	0	0	9	0	0	0	21
SW9060A	TOC	Total organic carbon	41	0	11	0	0	0	0	0	0	0	0	0	0	0	0	11
			Sum	32	928	18	252	0	0	126	0	1	51	104	59	0	0	1571
Background/Reference Area Subsurface Solids Samples																		
SW6010B	7439-89-6	Iron	7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
SW6010B	7439-95-4	Magnesium	7	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SW6010B	7440-09-7	Potassium	7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
SW6010B	7440-23-5	Sodium	7	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
SW6010B	7440-70-2	Calcium	7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
SW6020	7429-90-5	Aluminum	7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
SW6020	7439-92-1	Lead	7	0	0	0	1	0	0	0	0	0	5	0	0	0	0	6
SW6020	7439-98-7	Molybdenum	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-02-0	Nickel	7	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-22-4	Silver	7	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
SW6020	7440-28-0	Thallium	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-36-0	Antimony	7	0	1	0	6	0	0	0	0	0	0	0	0	0	0	7
SW6020	7440-39-3	Barium	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW6020	7440-41-7	Beryllium	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-43-9	Cadmium	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-48-4	Cobalt	7	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SW6020	7440-50-8	Copper	7	0	0	0	3	0	0	0	0	0	0	0	1	0	0	4
SW6020	7440-66-6	Zinc	7	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
SW6020	7782-49-2	Selenium	7	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
SW7471A	7439-97-6	Mercury	7	0	6	0	2	0	0	0	0	0	0	0	0	0	0	8
E1668A	2051-24-3	Decachlorobiphenyl-209	7	0	3	2	0	0	0	1	0	0	0	0	0	0	0	6
E1668A	25323-68-6	Trichlorobiphenyl homologs	7	0	6	0	0	0	0	0	0	0	2	0	0	0	0	8
E1668A	25429-29-2	Pentachlorobiphenyl homologs	7	0	6	3	0	0	0	0	0	0	0	0	0	0	0	9
E1668A	25512-42-9	Dichlorobiphenyl homologs	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	26601-64-9	Hexachlorobiphenyl homologs	7	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
E1668A	26914-33-0	Tetrachlorobiphenyl homologs	7	0	6	4	0	0	0	0	0	0	0	0	0	0	0	10
E1668A	27323-18-8	Monochlorobiphenyl homologs	7	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
E1668A	28655-71-2	Heptachlorobiphenyl homologs	7	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
E1668A	31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	7	0	5	0	0	0	0	1	0	0	0	0	0	0	0	6
E1668A	32598-13-3	Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	7	0	1	0	0	0	0	2	0	0	0	0	0	0	0	3
E1668A	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
E1668A	53742-07-7	Nonachlorobiphenyl homologs	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
E1668A	55722-26-4	Octachlorobiphenyl homologs	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1

Table 2-2
Summary of Background Surface Soil/Sediment Data Qualifiers - Accuracy
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analytical Method	CAS	Chemical Name	Number of Samples Analyzed	Criteria														Sum
				Preservation/ Holding Time	**Detection > DL but < QL**	**Laboratory Blank Detection**	**MS or MSD Recovery**	**LCS Recovery**	**Surrogate Recovery**	**EMPC**	**Outside Calibration Range**	**Calibration Criteria**	**Equipment Blank**	**Internal Standard**	**Serial Dilution**	**Column Difference**	**Sample Receipt Temp**	
				1	**2**	**3**	**4**	**5**	**8**	**9**	**11**	**12**	**13**	**14**	**15**	**16**	**18**	
E1668A	57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1668A	PCB156_157	PCB-156 & 157	7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
SW8270_SIM	118-74-1	Hexachlorobenzene	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8290	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	19408-74-3	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	3268-87-9	1,2,3,4,6,7,8,9-Octachlorodibenzo-P-Dioxin	7	0	3	3	0	0	0	1	0	0	0	0	0	0	0	7
SW8290	35822-46-9	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	7	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
SW8290	39001-02-0	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	7	0	4	0	0	0	0	1	0	0	1	0	0	0	0	6
SW8290	39227-28-6	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	40321-76-4	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	7	0	4	0	0	0	0	1	0	0	0	1	0	0	0	6
SW8290	55673-89-7	1,2,3,4,7,8,9-Heptachlorodibenzofuran	7	0	1	0	0	0	0	1	0	0	0	0	0	0	0	2
SW8290	57117-31-4	2,3,4,7,8-Pentachlorodibenzofuran	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SW8290	57117-41-6	1,2,3,7,8-Pentachlorodibenzofuran	7	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
SW8290	57117-44-9	1,2,3,6,7,8-Hexachlorodibenzofuran	7	0	2	0	0	0	0	1	0	0	1	1	0	0	0	5
SW8290	57653-85-7	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SW8290	60851-34-5	2,3,4,6,7,8-Hexachlorodibenzofuran	7	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2
SW8290	67562-39-4	1,2,3,4,6,7,8-Heptachlorodibenzofuran	7	0	1	0	0	0	0	3	0	0	1	0	0	0	0	5
SW8290	70648-26-9	1,2,3,4,7,8-Hexachlorodibenzofuran	7	0	2	0	0	0	0	1	0	0	0	1	0	0	0	4
SW8290	72918-21-9	1,2,3,7,8,9-Hexachlorodibenzofuran	7	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2
SW9060A	TOC	Total organic carbon	7	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
			Sum	2	90	16	24	0	0	14	0	0	12	5	5	0	0	168

Notes:
EMPC = Estimated maximum potential concentration
LCS = Laboratory Control Sample
MS = Matrix Spike
MSD = Matrix Spike Duplicate
QL = Quantitation Limit

Table 2-3
Summary of Detection Limits for Non-detected HCB, PCB, D/F, and Metals Results
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Units	Number of ND Results				Range of DLs for ND Results												SAP WS#15 MDL
						Upland - Surface			Lakebed - Surface			Bear River - Surface			All Subsurface			
		Upland Surface	Lakebed Surface	Bear River Surface	All Sub-Surface	Min	Max	# ND Results w/DL > SAP WS#15 MDL	Min	Max	# ND Results w/DL > SAP WS#15 MDL	Min	Max	# ND Results w/DL > SAP WS#15 MDL	Min	Max	# ND Results w/DL > SAP WS#15 MDL	
Hexachlorobenzene	µg/kg	18	15	5	7	2.2	2.5	13	2.3	3.2	15	2.6	3	5	2.4	3.6	7	2.2
2,3,7,8-TCDD	pg/g	18	17	5	7	0.024	0.08	0	0.026	0.087	0	0.03	0.04	0	0.028	0.049	0	0.15
2,3,7,8-TCDF	pg/g	0	1	0	2	--	--	--	0.037	0.037	0	--	--	--	0.021	0.022	0	0.11
1,2,3,7,8-PeCDD	pg/g	17	15	2	7	0.035	0.13	0	0.029	0.12	0	0.047	0.053	0	0.031	0.066	0	0.3
1,2,3,7,8-PeCDF	pg/g	6	2	0	5	0.037	0.14	0	0.025	0.044	0	--	--	--	0.025	0.11	0	0.27
2,3,4,7,8-PeCDF	pg/g	8	4	0	6	0.038	0.11	0	0.027	0.047	0	--	--	--	0.026	0.058	0	0.29
1,2,3,4,7,8-HxCDD	pg/g	11	18	1	7	0.029	0.28	0	0.029	0.29	0	0.043	0.043	0	0.029	0.072	0	0.71
1,2,3,6,7,8-HxCDD	pg/g	8	12	0	7	0.034	0.2	0	0.029	0.29	0	--	--	--	0.029	0.07	0	0.58
1,2,3,7,8,9,-HxCDD	pg/g	7	11	1	7	0.032	0.21	0	0.025	0.16	0	0.035	0.035	0	0.025	0.062	0	0.58
1,2,3,4,7,8-HxCDF	pg/g	2	1	0	4	0.073	0.21	0	0.068	0.068	0	--	--	--	0.029	0.086	0	0.3
1,2,3,6,7,8,-HxCDF	pg/g	2	0	0	4	0.046	0.31	0	--	--	--	--	--	--	0.026	0.096	0	0.38
1,2,3,7,8,9,-HxCDF	pg/g	14	10	5	6	0.031	0.098	0	0.024	0.25	0	0.043	0.065	0	0.021	0.061	0	0.43
2,3,4,6,7,8,-HxCDF	pg/g	2	1	0	6	0.073	0.13	0	0.066	0.066	0	--	--	--	0.019	0.046	0	0.3
1,2,3,4,6,7,8-HpCDD	pg/g	0	0	0	3	--	--	--	--	--	--	--	--	--	0.12	0.16	0	0.46
1,2,3,4,6,7,8-HpCDF	pg/g	0	0	0	2	--	--	--	--	--	--	--	--	--	0.14	0.42	1	0.38
1,2,3,4,7,8,9-HpCDF	pg/g	4	0	0	5	0.07	0.2	0	--	--	--	--	--	--	0.017	0.058	0	0.65
OCDF	pg/g	0	0	0	1	--	--	--	--	--	--	--	--	--	2.1	2.1	1	1.2
OCDD	pg/g	0	6	0	3	--	--	--	0.95	2.8	2	--	--	--	0.34	0.71	0	1.5
PCB 77	pg/g	0	0	0	6	--	--	--	--	--	--	--	--	--	0.28	0.51	0	
PCB 81	pg/g	17	15	5	7	0.26	1.5	17	0.22	0.85	12	0.4	0.49	5	0.26	0.48	7	0.24
PCB 105	pg/g	0	0	0	6	--	--	--	--	--	--	--	--	--	0.17	0.24	0	
PCB 114	pg/g	18	16	5	7	0.24	1.3	8	0.2	1.1	8	0.44	0.72	5	0.18	0.64	1	0.34
PCB 123	pg/g	17	12	5	7	0.24	1.4	2	0.2	0.99	5	0.43	0.7	4	0.17	0.67	1	0.44
PCB 126	pg/g	18	11	5	7	0.28	1.8	11	0.24	1.5	6	0.56	0.89	5	0.21	0.65	1	0.37
PCB 156 & 157	pg/g	0	3	0	6	--	--	--	0.21	0.33	0	--	--	--	0.18	0.3	0	0.76
PCB 167	pg/g	0	2	0	6	--	--	--	0.15	0.17	0	--	--	--	0.13	0.23	0	0.31
PCB 169	pg/g	18	18	5	7	0.14	1	3	0.13	1.5	3	0.2	0.3	0	0.16	0.29	0	0.31
PCB 189	pg/g	16	7	5	4	0.17	1.4	1	0.15	0.29	0	0.22	0.35	0	0.22	0.28	0	0.46
Monochlorobiphenyl homologs	pg/g	8	0	3	4	0.15	0.63	0	--	--	--	5	5	3	0.14	5	1	2.0
Dichlorobiphenyl homologs	pg/g	16	10	0	6	1.3	5.2	11	1.9	6	9	--	--	--	2	10	5	2.0
Trichlorobiphenyl homologs	pg/g	0	4	0	1	--	--	--	0.44	2.9	1	--	--	--	1.7	1.7	0	2.0
Tetrachlorobiphenyl homologs	pg/g	0	0	0	1	--	--	--	--	--	--	--	--	--	5	5	0	
Pentachlorobiphenyl homologs	pg/g	0	0	0	1	--	--	--	--	--	--	--	--	--	5	5	0	
Hexachlorobiphenyl homologs	pg/g	0	0	0	1	--	--	--	--	--	--	--	--	--	5	5	0	
Heptachlorobiphenyl homologs	pg/g	0	0	0	2	--	--	--	--	--	--	--	--	--	0.27	5	0	
Octachlorobiphenyl homologs	pg/g	0	0	0	6	--	--	--	--	--	--	--	--	--	0.23	5	0	
Nonachlorobiphenyl homologs	pg/g	0	0	1	5	--	--	--	--	--	--	5	5	1	0.23	5	1	2.0
Decachlorobiphenyl-209	pg/g	0	0	0	2	--	--	--	--	--	--	--	--	--	2.2	7.3	0	
Cadmium	mg/kg	0	8	0	0	--	--	--	0.033	0.054	4	--	--	--	--	--	--	0.05
Selenium	mg/kg	0	4	0	0	--	--	--	0.098	0.1	0	--	--	--	--	--	--	0.1
Silver	mg/kg	0	10	0	2	--	--	--	0.019	0.033	5	--	--	--	--	--	0	0.03
Thallium	mg/kg	0	8	0	0	--	--	--	0.049	0.054	5	--	--	--	--	--	--	0.05
Mercury	mg/kg	0	1	0	0	--	--	--	0.0092	0.0092	1	--	--	--	--	--	--	0.0086

Notes:
Project DLs shown in SAP WS #15 represent the expected sensitivity the laboratory can achieve for specific analytical methods in a typical solid matrix.
Sample DLs are adjusted for dilutions, percent moisture, cleanup procedures, sample size, or extract /digestate volumes.
Gray Shading Gray shading denotes min or max sample DL is greater than project DL specified in SAP WS#15.
DL = Detection Limit
MDL = Method detection limit
mg/kg = milligrams per kilogram
ND = Not Detected
pg/g = picograms per gram
ug/kg = micrograms/kilograms

Table 2-4

Summary of Dilutions for Initial HCB Analyses

Phase 1A-B Background Data Quality Assessment

US Magnesium, LLC

Tooele County, Utah

Area	**Location**	**HCB Dilution Factor**	**HCB Result (µg/kg)**
Bear River	BR-04	5	< 13
Bear River	BR-01	1	< 2.6
Bear River	BR-02	1	< 3.0
Bear River	BR-03	1	< 2.8
Bear River	BR-05	1	< 2.7
Lakebed	LBB-09	20	< 56
Lakebed	LBB-10	20	< 55
Lakebed	LBB-07	10	< 24
Lakebed	LBN-02	10	< 32
Lakebed	LBN-08	10	< 27
Lakebed	LBN-09	10	< 27
Lakebed	LBN-10	10	< 28
Lakebed	LBSE-01	10	< 23
Lakebed	LBSE-03	10	< 23
Lakebed	LBSE-05	10	< 29
Lakebed	LBSE-07	10	< 33
Lakebed	LBB-05	5	< 11
Lakebed	LBN-04	5	< 14
Lakebed	LBSE-09	5	< 14
Lakebed	LBSE-10	5	< 15
Lakebed	LBB-01	1	8.7
Lakebed	LBB-03	1	< 2.3
Lakebed	LBN-06	1	< 2.9
Upland	UPN-06	10	< 24
Upland	UPN-07	10	< 23
Upland	UPN-09	10	< 23
Upland	UPS-01	10	< 23
Upland	UPS-02	10	< 23
Upland	UPS-04	10	< 23
Upland	UPS-06	10	< 23
Upland	UPS-08	10	< 22
Upland	UPS-09	10	< 23
Upland	UPSE-01	10	< 23
Upland	UPSE-03	10	< 22
Upland	UPSE-05	10	< 22
Upland	UPSE-06	10	< 23
Upland	UPSE-08	10	< 22
Upland	UPSE-10	10	< 22
Upland	UPN-04	5	< 12
Upland	UPN-02	1	< 2.3
Upland	UPN-10	1	< 2.5

Notes:
Per SAP WS#15, the MDL for HCB by 8270-SIM is 2.2 µg/kg.
HCB = hexachlorobenzene
ug/kg = micrograms/kilograms

Table 3.1
Descriptive Statistics, US Magnesium Background Dataset
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Area	Unit	Sample Size (n)	Number Detect	Percent Detected	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
Calculated TEQ (ND=0), Mammals	Lake Bed	ug/kg	18	18	100%	--	--	1.20E-05	0.000455	0.001776	0.021	0.004857	273%	Lognormal
Hexachlorobenzene	Lake Bed	ug/kg	18	3	17%	2.3	3.2	3.2	1.4	3.122	24	5.5	176%	NDD
Total Aluminum	Lake Bed	mg/kg	30	30	100%	--	--	860	6750	7771	17000	6225	80%	NDD
Total Antimony	Lake Bed	mg/kg	30	30	100%	--	--	0.085	0.375	0.4057	1.1	0.2524	62%	Lognormal
Total Arsenic	Lake Bed	mg/kg	30	30	100%	--	--	4.9	9.2	10.44	23	4.091	39%	Lognormal
Total Barium	Lake Bed	mg/kg	30	30	100%	--	--	130	215	239.3	480	88.2	37%	Lognormal
Total Beryllium	Lake Bed	mg/kg	30	30	100%	--	--	0.04	0.33	0.3779	0.87	0.2978	79%	NDD
Total Cadmium	Lake Bed	mg/kg	30	22	73%	0.033	0.054	0.056	0.17	0.1608	0.35	0.1169	73%	NDD
Total Chromium	Lake Bed	mg/kg	30	30	100%	--	--	1.2	9.15	9.603	20	7.327	76%	NDD
Total Cobalt	Lake Bed	mg/kg	30	30	100%	--	--	0.54	3.25	3.16	6.4	2.202	70%	NDD
Total Copper	Lake Bed	mg/kg	30	30	100%	--	--	2.4	11	10.25	22	6.266	61%	NDD
Total Iron	Lake Bed	mg/kg	30	30	100%	--	--	740	7200	7596	17000	6194	82%	NDD
Total Lead	Lake Bed	mg/kg	30	30	100%	--	--	5.9	10	10.92	18	3.223	30%	Normal
Total Manganese	Lake Bed	mg/kg	30	30	100%	--	--	22	195	181.7	360	126.7	70%	NDD
Total Mercury	Lake Bed	mg/kg	30	29	97%	0.0092	0.0092	0.011	0.0255	0.03705	0.16	0.03234	87%	Lognormal
Total Molybdenum	Lake Bed	mg/kg	30	30	100%	--	--	0.051	1.025	2.37	13	3.178	134%	NDD
Total Nickel	Lake Bed	mg/kg	30	30	100%	--	--	1.1	8.05	8.167	17	5.993	73%	NDD
Total PCBs	Lake Bed	ug/kg	18	18	100%	--	--	0.11	0.38	1.592	18	4.144	260%	NDD
Total Selenium	Lake Bed	mg/kg	30	26	87%	0.098	0.1	0.092	0.365	0.3944	1.1	0.2899	74%	NDD
Total Silver	Lake Bed	mg/kg	30	20	67%	0.019	0.033	0.024	0.0405	0.04365	0.094	0.02769	63%	NDD
Total Thallium	Lake Bed	mg/kg	30	22	73%	0.049	0.054	0.034	0.13	0.1252	0.24	0.08206	66%	NDD
Total Vanadium	Lake Bed	mg/kg	30	30	100%	--	--	4.5	16	18.91	41	13.42	71%	NDD
Total Zinc	Lake Bed	mg/kg	30	30	100%	--	--	6.5	28	28.57	81	18.68	65%	NDD
Calculated TEQ (ND=0), Mammals	Upland	ug/kg	18	18	100%	--	--	4.90E-05	0.00016	0.000183	0.00054	0.0001206	66%	Lognormal
Hexachlorobenzene	Upland	ug/kg	18	0	0%	2.2	2.5	--	1.15	1.147	--	0.04012	4%	NDD
Total Aluminum	Upland	mg/kg	30	30	100%	--	--	7600	10000	10750	15000	2120	20%	Normal
Total Antimony	Upland	mg/kg	30	30	100%	--	--	0.1	0.24	0.236	0.37	0.0819	35%	Normal
Total Arsenic	Upland	mg/kg	30	30	100%	--	--	4.1	5.55	5.953	10	1.549	26%	NDD
Total Barium	Upland	mg/kg	30	30	100%	--	--	120	220	213.3	280	44.28	21%	Normal
Total Beryllium	Upland	mg/kg	30	30	100%	--	--	0.35	0.475	0.4973	0.75	0.1042	21%	Normal
Total Cadmium	Upland	mg/kg	30	30	100%	--	--	0.29	0.42	0.4293	0.65	0.07978	19%	Normal
Total Chromium	Upland	mg/kg	30	30	100%	--	--	7.7	11	11.09	15	1.839	17%	Normal
Total Cobalt	Upland	mg/kg	30	30	100%	--	--	2.6	3.65	3.823	5.8	0.7846	21%	Normal
Total Copper	Upland	mg/kg	30	30	100%	--	--	9.4	14	14.63	23	3.684	25%	Normal
Total Iron	Upland	mg/kg	30	30	100%	--	--	8400	11000	12110	19000	3018	25%	NDD
Total Lead	Upland	mg/kg	30	30	100%	--	--	11	19	21.93	89	14.11	64%	NDD
Total Manganese	Upland	mg/kg	30	30	100%	--	--	270	415	427.7	630	84.11	20%	Normal
Total Mercury	Upland	mg/kg	30	30	100%	--	--	0.019	0.032	0.03357	0.071	0.01031	31%	Lognormal
Total Molybdenum	Upland	mg/kg	30	30	100%	--	--	0.42	0.74	0.7997	1.8	0.2612	33%	Lognormal
Total Nickel	Upland	mg/kg	30	30	100%	--	--	5.9	8.75	8.86	12	1.616	18%	Normal
Total PCBs	Upland	ug/kg	18	18	100%	--	--	0.16	0.255	0.2844	0.66	0.1234	43%	Lognormal
Total Selenium	Upland	mg/kg	30	30	100%	--	--	0.18	0.25	0.256	0.32	0.03747	15%	Normal

Table 3.1
Descriptive Statistics, US Magnesium Background Dataset
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Area	Unit	Sample Size (n)	Number Detect	Percent Detected	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
Total Silver	Upland	mg/kg	30	30	100%	--	--	0.039	0.068	0.0704	0.12	0.01919	27%	Normal
Total Thallium	Upland	mg/kg	30	30	100%	--	--	0.11	0.16	0.165	0.27	0.03501	21%	Normal
Total Vanadium	Upland	mg/kg	30	30	100%	--	--	12	17.5	17.73	24	2.947	17%	Normal
Total Zinc	Upland	mg/kg	30	30	100%	--	--	26	38	40.83	73	11.2	27%	Lognormal

Notes:
ug/kg = micrograms/kilograms
mg/kg = milligrams/kilograms
CV = Coefficient of variation
ND = non-detect

Table 4.1
Wilcoxon Rank Sum Test Results Comparing Upland and Lake Bed organic datasets
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	**χ^2**	**DF**	**p-value**	**Significant**
Calculated TEQ (ND=0), Mammals	5.34	1	0.0209	Yes
Hexachlorobenzene	3.17	1	0.075	No
Total PCBs	1.45	1	0.229	No

Notes:

Non-detects were set to zero so that they were all tied below the lowest detected value

Lake Bed and Upland background datasets were considered significantly different from each other when $p < 0.05$

χ^2 = chi-square

DF = degrees of freedom

ND = non-detect

Table 6.1
Outlier summary table for metals
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Area	Sample Name	Concentration (mg/kg)	Data Distribution	Rosner's outlier test[1]	QQ plot[2]	Reference Metal	Geochemical outlier	Final Decision
Molybdenum	Lake Bed	LBB-09	12	NDD	Raw	Raw	Iron	Yes	Remove
Molybdenum	Lake Bed	LBSE-10	13	NDD	Raw	Raw	Iron	Yes	Remove
Lead	Upland	UPSE-01	38	NDD	Raw	Raw & Log	Manganese	No	Retain
Lead	Upland	UPSE-02	89	NDD	Raw & Log	Raw & Log	Manganese	No	Retain
Molybdenum	Upland	UPN-10	1.8	Lognormal	Log	Log	Manganese	Yes	Remove
Thallium	Upland	UPSE-01	0.27	Normal	Raw	Raw	Aluminum	No	Retain

Notes:

[1] Indicates whether the test was performed on the raw data or the log-transformed data

[2] Indicates whether the outlier was found in the QQ plot with the raw data or the log-transformed data

All potential outliers were detects.

All data points that were identified as significant statistical outliers were carried through with QQ plot analysis and geochemical analysis.
mg/kg = milligrams per kilogram
NDD = No discernable distribution

Table 6.2
Linear model results for Geochemical Relationships for US Mag Background datasets
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Group	X-variable	Y-variable	Slope	p-value	R-squared	Direction	Significant
Lake Bed	Cobalt	Nickel	1.09	< 0.001	0.996	Positive	Yes
Lake Bed	Iron	Aluminum	0.934	< 0.001	0.993	Positive	Yes
Lake Bed	Iron	Manganese	0.824	< 0.001	0.971	Positive	Yes
Lake Bed	Iron	Molybdenum	0.707	0.0063	0.238	Positive	Yes
Lake Bed	Manganese	Antimony	0.623	< 0.001	0.817	Positive	Yes
Lake Bed	Manganese	Barium	0.309	< 0.001	0.696	Positive	Yes
Lake Bed	Manganese	Cadmium	0.726	< 0.001	0.86	Positive	Yes
Lake Bed	Manganese	Mercury	0.355	0.00665	0.243	Positive	Yes
Lake Bed	Manganese	Selenium	0.791	< 0.001	0.876	Positive	Yes
Lake Bed	Manganese	Silver	0.552	< 0.001	0.48	Positive	Yes
Lake Bed	Manganese	Thallium	0.633	< 0.001	0.915	Positive	Yes
Lake Bed	Aluminum	Arsenic	0.295	< 0.001	0.739	Positive	Yes
Lake Bed	Aluminum	Beryllium	1.01	< 0.001	0.995	Positive	Yes
Lake Bed	Aluminum	Chromium	0.955	< 0.001	0.993	Positive	Yes
Lake Bed	Aluminum	Copper	0.647	< 0.001	0.906	Positive	Yes
Lake Bed	Aluminum	Iron	1.06	< 0.001	0.993	Positive	Yes
Lake Bed	Aluminum	Lead	0.0671	0.201	0.0577	Positive	NS
Lake Bed	Aluminum	Vanadium	0.74	< 0.001	0.982	Positive	Yes
Lake Bed	Aluminum	Zinc	0.641	< 0.001	0.886	Positive	Yes
Upland	Cobalt	Nickel	0.897	< 0.001	0.949	Positive	Yes
Upland	Iron	Arsenic	0.897	< 0.001	0.743	Positive	Yes
Upland	Iron	Copper	0.744	< 0.001	0.507	Positive	Yes
Upland	Iron	Manganese	0.612	< 0.001	0.553	Positive	Yes
Upland	Iron	Silver	0.734	< 0.001	0.419	Positive	Yes
Upland	Calcium	Mercury	-0.51	0.0144	0.196	Negative	Yes
Upland	Manganese	Aluminum	0.479	0.00702	0.232	Positive	Yes
Upland	Manganese	Barium	0.458	0.0333	0.152	Positive	Yes
Upland	Manganese	Iron	0.904	< 0.001	0.553	Positive	Yes
Upland	Manganese	Lead	1.69	< 0.001	0.634	Positive	Yes
Upland	Manganese	Molybdenum	0.854	< 0.001	0.338	Positive	Yes
Upland	Manganese	Zinc	1.04	< 0.001	0.642	Positive	Yes
Upland	Aluminum	Antimony	1.44	< 0.001	0.492	Positive	Yes
Upland	Aluminum	Beryllium	0.941	< 0.001	0.812	Positive	Yes
Upland	Aluminum	Cadmium	0.463	0.00669	0.235	Positive	Yes
Upland	Aluminum	Chromium	0.824	< 0.001	0.914	Positive	Yes
Upland	Aluminum	Selenium	0.483	< 0.001	0.387	Positive	Yes
Upland	Aluminum	Thallium	0.897	< 0.001	0.712	Positive	Yes
Upland	Aluminum	Vanadium	0.779	< 0.001	0.814	Positive	Yes

Notes:

- Trace metals were plotted against all reference metals (Aluminum, Iron, Manganese, and Calcium)
- A log-log least squared regression was run to determine whether there was a significant positive relationship between each reference and trace metal
- The significant, positive geochemical relationships with the highest R^2 are reported here

Table 6.3
Outlier summary table for organics
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Area	Sample Name	Concentration (ug/kg)	Detect	Data Distribution	Dixon's outlier test[1]	QQ plot[2]	Chemical Fingerprint result	Decision	Note
Hexachlorobenzene	Lake Bed	LBSE-07	24	Detect	NDD	Raw & Log	Raw & Log	NA	Remove	
Hexachlorobenzene	Lake Bed	LBB-01	8.7	Detect	NDD	Raw & Log	Raw & Log	NA	Remove	
Hexachlorobenzene	Lake Bed	LBB-05	3.2	Detect	NDD	Raw & Log	None	NA	Retain	
Total PCBs	Lake Bed	LBSE-05	2.4	Detect	NDD	Raw	Raw	Resembles impacted profile	Remove	TEQ result for this sample will also be removed
Total PCBs	Lake Bed	LBSE-07	18	Detect	NDD	Raw	Raw & Log	Resembles impacted profile	Remove	TEQ result for this sample will also be removed
Total PCBs	Lake Bed	LBSE-10	1.9	Detect	NDD	Raw	Raw	Resembles impacted profile	Remove	TEQ result for this sample will also be removed

Notes:

[1] Indicates whether the test was performed on the raw data or the log-transformed data

[2] Indicates whether the outlier was found in the QQ plot with the raw data or the log-transformed data

All data points that were identified as significant statistical outliers were carried through with QQ plot and fingerprinting analyses.

NA = not applicable
ND = non-detect
NDD = no discernable distribution
PCB = Polychlorinated biphenyl
TEQ = Toxicity equivalence
ug/kg = micrograms/kilograms

Table 6.4
Comparisons to Regional Background D/F
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Area	Sample Name	Concentration (ug/kg)	Front range 95th fines[1]	Sample > Regional
Calculated TEQ (ND=0), Mammals	Lake Bed	LBSE-05	0.0023	0.0069	No
Calculated TEQ (ND=0), Mammals	Lake Bed	LBSE-07	0.021	0.0069	Yes
Calculated TEQ (ND=0), Mammals	Lake Bed	LBSE-10	0.0028	0.0069	No

Notes:

[1] U.S. Environmental Protection Agency. 2002. Denver Front Range Study of Dioxins in Surface Soil. Summary Report July 2002

TEQ = Toxicity equivalence

ug/kg = micrograms/kilograms

Table 7.1
Descriptive Statistics, US Magnesium Final Background Dataset
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Area	Unit	Sample Size (n)	Number Detect	Percent Detected	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
Calculated TEQ (ND=0), Mammals	Lake Bed	ug/kg	14	14	100%	--	--	1.20E-05	0.000385	0.0004158	0.001	0.0003135	75%	Normal
Hexachlorobenzene	Lake Bed	ug/kg	16	1	6%	2.3	3.2	3.20E+00	1.4	1.469	3.2	0.4799	33%	NDD
Total Aluminum	Lake Bed	mg/kg	30	30	100%	--	--	8.60E+02	6750	7771	17000	6225	80%	NDD
Total Antimony	Lake Bed	mg/kg	30	30	100%	--	--	8.50E-02	0.375	0.4057	1.1	0.2524	62%	Lognormal
Total Arsenic	Lake Bed	mg/kg	30	30	100%	--	--	4.90E+00	9.2	10.44	23	4.091	39%	Lognormal
Total Barium	Lake Bed	mg/kg	30	30	100%	--	--	1.30E+02	215	239.3	480	88.2	37%	Lognormal
Total Beryllium	Lake Bed	mg/kg	30	30	100%	--	--	4.00E-02	0.33	0.3779	0.87	0.2978	79%	NDD
Total Cadmium	Lake Bed	mg/kg	30	22	73%	0.033	0.054	5.60E-02	0.17	0.1608	0.35	0.1169	73%	NDD
Total Chromium	Lake Bed	mg/kg	30	30	100%	--	--	1.20E+00	9.15	9.603	20	7.327	76%	NDD
Total Cobalt	Lake Bed	mg/kg	30	30	100%	--	--	5.40E-01	3.25	3.16	6.4	2.202	70%	NDD
Total Copper	Lake Bed	mg/kg	30	30	100%	--	--	2.40E+00	11	10.25	22	6.266	61%	NDD
Total Iron	Lake Bed	mg/kg	30	30	100%	--	--	7.40E+02	7200	7596	17000	6194	82%	NDD
Total Lead	Lake Bed	mg/kg	30	30	100%	--	--	5.90E+00	10	10.92	18	3.223	30%	Normal
Total Manganese	Lake Bed	mg/kg	30	30	100%	--	--	2.20E+01	195	181.7	360	126.7	70%	NDD
Total Mercury	Lake Bed	mg/kg	30	29	97%	0.0092	0.0092	1.10E-02	0.0255	0.03705	0.16	0.03234	87%	Lognormal
Total Molybdenum	Lake Bed	mg/kg	27	27	100%	--	--	5.10E-02	0.84	1.577	5.4	1.629	103%	NDD
Total Nickel	Lake Bed	mg/kg	30	30	100%	--	--	1.10E+00	8.05	8.167	17	5.993	73%	NDD
Total PCBs	Lake Bed	ug/kg	14	14	100%	--	--	1.10E-01	0.355	0.4436	1.1	0.3213	72%	Lognormal
Total Selenium	Lake Bed	mg/kg	30	26	87%	0.098	0.1	9.20E-02	0.365	0.3944	1.1	0.2899	74%	NDD
Total Silver	Lake Bed	mg/kg	30	20	67%	0.019	0.033	2.40E-02	0.0405	0.04365	0.094	0.02769	63%	NDD
Total Thallium	Lake Bed	mg/kg	30	22	73%	0.049	0.054	3.40E-02	0.13	0.1252	0.24	0.08206	66%	NDD
Total Vanadium	Lake Bed	mg/kg	30	30	100%	--	--	4.50E+00	16	18.91	41	13.42	71%	NDD
Total Zinc	Lake Bed	mg/kg	30	30	100%	--	--	6.50E+00	28	28.57	81	18.68	65%	NDD
Calculated TEQ (ND=0), Mammals	Upland	ug/kg	18	18	100%	--	--	4.90E-05	0.00016	0.000183	0.00054	0.0001206	66%	Lognormal
Hexachlorobenzene	Upland	ug/kg	18	0	0%	2.2	2.5	--	1.15	1.147	--	0.04012	4%	NDD
Total Aluminum	Upland	mg/kg	30	30	100%	--	--	7.60E+03	10000	10750	15000	2120	20%	Normal
Total Antimony	Upland	mg/kg	30	30	100%	--	--	1.00E-01	0.24	0.236	0.37	0.0819	35%	Normal
Total Arsenic	Upland	mg/kg	30	30	100%	--	--	4.10E+00	5.55	5.953	10	1.549	26%	NDD
Total Barium	Upland	mg/kg	30	30	100%	--	--	1.20E+02	220	213.3	280	44.28	21%	Normal
Total Beryllium	Upland	mg/kg	30	30	100%	--	--	3.50E-01	0.475	0.4973	0.75	0.1042	21%	Normal
Total Cadmium	Upland	mg/kg	30	30	100%	--	--	2.90E-01	0.42	0.4293	0.65	0.07978	19%	Normal
Total Chromium	Upland	mg/kg	30	30	100%	--	--	7.70E+00	11	11.09	15	1.839	17%	Normal
Total Cobalt	Upland	mg/kg	30	30	100%	--	--	2.60E+00	3.65	3.823	5.8	0.7846	21%	Normal
Total Copper	Upland	mg/kg	30	30	100%	--	--	9.40E+00	14	14.63	23	3.684	25%	Normal
Total Iron	Upland	mg/kg	30	30	100%	--	--	8.40E+03	11000	12110	19000	3018	25%	NDD
Total Lead	Upland	mg/kg	30	30	100%	--	--	1.10E+01	19	21.93	89	14.11	64%	NDD
Total Manganese	Upland	mg/kg	30	30	100%	--	--	2.70E+02	415	427.7	630	84.11	20%	Normal
Total Mercury	Upland	mg/kg	30	30	100%	--	--	1.90E-02	0.032	0.03357	0.071	0.01031	31%	Lognormal

Table 7.1
Descriptive Statistics, US Magnesium Final Background Dataset
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Area	Unit	Sample Size (n)	Number Detect	Percent Detected	Min ND	Max ND	Min Detect	Median	Mean	Max Detect	Standard Deviation	CV	Distribution
Total Molybdenum	Upland	mg/kg	29	29	100%	--	--	4.20E-01	0.74	0.7652	1.3	0.1835	24%	Normal
Total Nickel	Upland	mg/kg	30	30	100%	--	--	5.90E+00	8.75	8.86	12	1.616	18%	Normal
Total PCBs	Upland	ug/kg	18	18	100%	--	--	1.60E-01	0.255	0.2844	0.66	0.1234	43%	Lognormal
Total Selenium	Upland	mg/kg	30	30	100%	--	--	1.80E-01	0.25	0.256	0.32	0.03747	15%	Normal
Total Silver	Upland	mg/kg	30	30	100%	--	--	3.90E-02	0.068	0.0704	0.12	0.01919	27%	Normal
Total Thallium	Upland	mg/kg	30	30	100%	--	--	1.10E-01	0.16	0.165	0.27	0.03501	21%	Normal
Total Vanadium	Upland	mg/kg	30	30	100%	--	--	1.20E+01	17.5	17.73	24	2.947	17%	Normal
Total Zinc	Upland	mg/kg	30	30	100%	--	--	2.60E+01	38	40.83	73	11.2	27%	Lognormal

Notes:
CV = Coefficient of variation
mg/kg = milligrams per kilogram
ND = Not Detected
NDD = No discernable distribution
PCB = Polychlorinated biphenyl
TEQ = Toxicity equivalence
ug/kg = micrograms/kilograms

Table 7.2
Evaluation of Lake Bed Background Samples Collected at Depth
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

			Surface Samples				Subsurface Samples		
Analyte	**Area**	**Unit**	**Min Detect**	**Median**	**Mean**	**Max Detect**	**LBB-07**	**LBN-06**	**LBSE-07**
Calculated TEQ (ND=0), Mammals	Lake Bed	ug/kg	1.2E-05	3.9E-04	4.2E-04	1.0E-03	6.6E-07	3.2E-05	1.8E-03
Hexachlorobenzene[1]	Lake Bed	ug/kg	3.2E+00	1.4E+00	1.5E+00	3.2E+00	3.6E+00	3.2E+00	2.7E+00
Total Aluminum	Lake Bed	mg/kg	8.6E+02	6.8E+03	7.8E+03	1.7E+04	1.4E+03	1.8E+04	8.8E+03
Total Antimony	Lake Bed	mg/kg	8.5E-02	3.8E-01	4.1E-01	1.1E+00	1.4E-01	4.7E-01	4.9E-01
Total Arsenic	Lake Bed	mg/kg	4.9E+00	9.2E+00	1.0E+01	2.3E+01	5.8E+00	7.4E+00	7.0E+00
Total Barium	Lake Bed	mg/kg	1.3E+02	2.2E+02	2.4E+02	4.8E+02	1.5E+02	2.7E+02	2.9E+02
Total Beryllium	Lake Bed	mg/kg	4.0E-02	3.3E-01	3.8E-01	8.7E-01	5.2E-02	8.5E-01	4.5E-01
Total Cadmium	Lake Bed	mg/kg	5.6E-02	1.7E-01	1.6E-01	3.5E-01	4.1E-02	4.4E-01	2.6E-01
Total Chromium	Lake Bed	mg/kg	1.2E+00	9.2E+00	9.6E+00	2.0E+01	1.7E+00	2.1E+01	1.2E+01
Total Cobalt	Lake Bed	mg/kg	5.4E-01	3.3E+00	3.2E+00	6.4E+00	6.9E-01	5.9E+00	3.8E+00
Total Copper	Lake Bed	mg/kg	2.4E+00	1.1E+01	1.0E+01	2.2E+01	1.3E+00	1.6E+01	1.2E+01
Total Iron	Lake Bed	mg/kg	7.4E+02	7.2E+03	7.6E+03	1.7E+04	8.8E+02	1.7E+04	9.1E+03
Total Lead	Lake Bed	mg/kg	5.9E+00	1.0E+01	1.1E+01	1.8E+01	4.0E+00	9.7E+00	9.1E+00
Total Manganese	Lake Bed	mg/kg	2.2E+01	2.0E+02	1.8E+02	3.6E+02	3.2E+01	3.0E+02	2.7E+02
Total Mercury	Lake Bed	mg/kg	1.1E-02	2.6E-02	3.7E-02	1.6E-01	1.6E-02	4.9E-02	8.7E-02
Total Molybdenum	Lake Bed	mg/kg	5.1E-02	8.4E-01	1.6E+00	5.4E+00	2.7E+00	1.6E+00	4.5E+00
Total Nickel	Lake Bed	mg/kg	1.1E+00	8.1E+00	8.2E+00	1.7E+01	1.5E+00	1.7E+01	1.0E+01
Total PCBs	Lake Bed	ug/kg	1.1E-01	3.6E-01	4.4E-01	1.1E+00	7.3E-03	2.0E-02	1.1E+00
Total Selenium	Lake Bed	mg/kg	9.2E-02	3.7E-01	3.9E-01	1.1E+00	1.4E-01	1.1E+00	6.5E-01
Total Silver[2]	Lake Bed	mg/kg	2.4E-02	4.1E-02	4.4E-02	9.4E-02	< 0.021	2.1E-01	7.0E-02
Total Thallium	Lake Bed	mg/kg	3.4E-02	1.3E-01	1.3E-01	2.4E-01	4.2E-02	4.8E-01	2.1E-01
Total Vanadium	Lake Bed	mg/kg	4.5E+00	1.6E+01	1.9E+01	4.1E+01	6.1E+00	4.6E+01	2.1E+01
Total Zinc	Lake Bed	mg/kg	6.5E+00	2.8E+01	2.9E+01	8.1E+01	6.7E+00	5.6E+01	3.1E+01

Notes:

[1] All subsurface samples for HCB are non-detects

[2] Subsurface sample LBB-07 is ND for Total Silver

mg/kg = milligrams per kilogram
ND = Not Detected
PCB = Polychlorinated biphenyl
TEQ = Toxicity equivalence
ug/kg = micrograms/kilograms

Table 7.3
Evaluation of Upland Background Samples Collected at Depth
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

			Surface Samples				**Subsurface Samples**		
Analyte	**Area**	**Unit**	**Min Detect**	**Median**	**Mean**	**Max Detect**	**UPN-06**	**UPS-06**	**UPSE-06**
Calculated TEQ (ND=0), Mammals	Upland	ug/kg	4.9E-05	1.6E-04	1.8E-04	5.4E-04	7.0E-06	3.3E-06	7.1E-06
Hexachlorobenzene[1]	Upland	ug/kg	--	1.2E+00	1.1E+00	--	2.4E+00	2.5E+00	2.5E+00
Total Aluminum	Upland	mg/kg	7.6E+03	1.0E+04	1.1E+04	1.5E+04	1.4E+04	8.6E+03	1.6E+04
Total Antimony	Upland	mg/kg	1.0E-01	2.4E-01	2.4E-01	3.7E-01	3.0E-01	1.1E-01	3.4E-01
Total Arsenic	Upland	mg/kg	4.1E+00	5.6E+00	6.0E+00	1.0E+01	7.0E+00	5.1E+00	9.8E+00
Total Barium	Upland	mg/kg	1.2E+02	2.2E+02	2.1E+02	2.8E+02	2.0E+02	1.8E+02	2.1E+02
Total Beryllium	Upland	mg/kg	3.5E-01	4.8E-01	5.0E-01	7.5E-01	6.0E-01	3.8E-01	8.5E-01
Total Cadmium	Upland	mg/kg	2.9E-01	4.2E-01	4.3E-01	6.5E-01	3.0E-01	2.5E-01	3.1E-01
Total Chromium	Upland	mg/kg	7.7E+00	1.1E+01	1.1E+01	1.5E+01	1.4E+01	8.1E+00	1.6E+01
Total Cobalt	Upland	mg/kg	2.6E+00	3.7E+00	3.8E+00	5.8E+00	4.4E+00	2.8E+00	7.6E+00
Total Copper	Upland	mg/kg	9.4E+00	1.4E+01	1.5E+01	2.3E+01	1.5E+01	8.0E+00	1.7E+01
Total Iron	Upland	mg/kg	8.4E+03	1.1E+04	1.2E+04	1.9E+04	1.1E+04	8.6E+03	2.0E+04
Total Lead	Upland	mg/kg	1.1E+01	1.9E+01	2.2E+01	8.9E+01	7.8E+00	5.6E+00	1.5E+01
Total Manganese	Upland	mg/kg	2.7E+02	4.2E+02	4.3E+02	6.3E+02	3.6E+02	2.2E+02	5.1E+02
Total Mercury	Upland	mg/kg	1.9E-02	3.2E-02	3.4E-02	7.1E-02	2.6E-02	3.7E-02	1.7E-02
Total Molybdenum	Upland	mg/kg	4.2E-01	7.4E-01	7.7E-01	1.3E+00	4.7E-01	5.8E-01	1.1E+00
Total Nickel	Upland	mg/kg	5.9E+00	8.8E+00	8.9E+00	1.2E+01	1.0E+01	6.9E+00	1.5E+01
Total PCBs	Upland	ug/kg	1.6E-01	2.6E-01	2.8E-01	6.6E-01	1.2E-02	9.3E-03	1.3E-02
Total Selenium	Upland	mg/kg	1.8E-01	2.5E-01	2.6E-01	3.2E-01	2.7E-01	3.4E-01	2.9E-01
Total Silver	Upland	mg/kg	3.9E-02	6.8E-02	7.0E-02	1.2E-01	6.3E-02	4.1E-02	7.0E-02
Total Thallium	Upland	mg/kg	1.1E-01	1.6E-01	1.7E-01	2.7E-01	2.1E-01	1.7E-01	2.5E-01
Total Vanadium	Upland	mg/kg	1.2E+01	1.8E+01	1.8E+01	2.4E+01	2.4E+01	1.4E+01	2.6E+01
Total Zinc	Upland	mg/kg	2.6E+01	3.8E+01	4.1E+01	7.3E+01	4.5E+01	2.5E+01	5.3E+01

Notes:

[1] All subsurface samples for HCB are non-detects

mg/kg = milligrams per kilogram
ND = Not Detected
PCB = Polychlorinated biphenyl
TEQ = Toxicity equivalence
ug/kg = micrograms/kilograms

Table 8.1
Sample Size Calculations for Upland Background Dataset
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Unit	N	Number Detect	Percent Detects	Mean	1/2 of Mean	SD	Distribution	Appropriate Min Sample Size[1]	Adequate number of Samples[2]	Sample Shortfall[3]
Calculated TEQ (ND=0), Mammals	ug/kg	18	18	100%	1.8E-04	9.2E-05	1.2E-04	Lognormal	19	FALSE	1
Total PCBs	ug/kg	18	18	100%	2.8E-01	1.4E-01	1.2E-01	Lognormal	9	TRUE	
Hexachlorobenzene	ug/kg	18	0	0%	1.1E+00	5.7E-01	4.0E-02	NDD	1	TRUE	
Total Aluminum	mg/kg	30	30	100%	1.1E+04	5.4E+03	2.1E+03	Normal	3	TRUE	
Total Antimony	mg/kg	30	30	100%	2.4E-01	1.2E-01	8.2E-02	Normal	6	TRUE	
Total Arsenic	mg/kg	30	30	100%	6.0E+00	3.0E+00	1.5E+00	NDD	4	TRUE	
Total Barium	mg/kg	30	30	100%	2.1E+02	1.1E+02	4.4E+01	Normal	3	TRUE	
Total Beryllium	mg/kg	30	30	100%	5.0E-01	2.5E-01	1.0E-01	Normal	3	TRUE	
Total Cadmium	mg/kg	30	30	100%	4.3E-01	2.1E-01	8.0E-02	Normal	2	TRUE	
Total Calcium	mg/kg	30	30	100%	9.6E+04	4.8E+04	2.4E+04	Normal	4	TRUE	
Total Chromium	mg/kg	30	30	100%	1.1E+01	5.5E+00	1.8E+00	Normal	2	TRUE	
Total Cobalt	mg/kg	30	30	100%	3.8E+00	1.9E+00	7.8E-01	Normal	3	TRUE	
Total Copper	mg/kg	30	30	100%	1.5E+01	7.3E+00	3.7E+00	Normal	4	TRUE	
Total Iron	mg/kg	30	30	100%	1.2E+04	6.1E+03	3.0E+03	NDD	4	TRUE	
Total Lead	mg/kg	30	30	100%	2.2E+01	1.1E+01	1.4E+01	NDD	18	TRUE	
Total Manganese	mg/kg	30	30	100%	4.3E+02	2.1E+02	8.4E+01	Normal	3	TRUE	
Total Mercury	mg/kg	30	30	100%	3.4E-02	1.7E-02	1.0E-02	Lognormal	5	TRUE	
Total Molybdenum	mg/kg	29	29	100%	7.7E-01	3.8E-01	1.8E-01	Normal	3	TRUE	
Total Nickel	mg/kg	30	30	100%	8.9E+00	4.4E+00	1.6E+00	Normal	2	TRUE	
Total Selenium	mg/kg	30	30	100%	2.6E-01	1.3E-01	3.7E-02	Normal	2	TRUE	
Total Silver	mg/kg	30	30	100%	7.0E-02	3.5E-02	1.9E-02	Normal	4	TRUE	
Total Thallium	mg/kg	30	30	100%	1.7E-01	8.3E-02	3.5E-02	Normal	3	TRUE	
Total Vanadium	mg/kg	30	30	100%	1.8E+01	8.9E+00	2.9E+00	Normal	2	TRUE	
Total Zinc	mg/kg	30	30	100%	4.1E+01	2.0E+01	1.1E+01	Lognormal	4	TRUE	

Notes:

[1] "Appropriate sample size" calculated in ProUCL 5.0 using the sample size calculator for WRS hypothesis testing assuming (a = 0.1, b = 0.2, S = 0.5 x Mean).

[2] Is the "Appropriate sample size" less than or equal to N.

[3] Sample shortfall = "Appropriate sample size" minus N, in cases where the "appropriate sample size" exceeds N.

mg/kg = milligrams per kilogram
ND = Not Detected
NDD = No discernable distribution
PCB = Polychlorinated biphenyl
TEQ = Toxicity equivalence
ug/kg = micrograms/kilograms

Table 8.2
Sample Size Calculations for Lakebed Background Dataset
Phase 1A-B Background Data Quality Assessment
US Magnesium, LLC
Tooele County, Utah

Analyte	Unit	N	Number Detect	Percent Detects	Mean	1/2 of Mean	SD	Distribution	Appropriate Min Sample Size[1]	Adequate number of Samples[2]	Sample Shortfall[3]
Calculated TEQ (ND=0), Mammals	ug/kg	14	14	100%	4.2E-04	2.1E-04	3.1E-04	Normal	22	FALSE	8
Total PCBs	ug/kg	14	14	100%	4.4E-01	2.2E-01	3.2E-01	Lognormal	23	FALSE	9
Hexachlorobenzene	ug/kg	18	1	6%	1.5E+00	7.3E-01	4.8E-01	NDD	5	TRUE	
Total Aluminum	mg/kg	30	30	100%	7.8E+03	3.9E+03	6.2E+03	NDD	28	TRUE	
Total Antimony	mg/kg	30	30	100%	4.1E-01	2.0E-01	2.5E-01	Lognormal	17	TRUE	
Total Arsenic	mg/kg	30	30	100%	1.0E+01	5.2E+00	4.1E+00	Lognormal	7	TRUE	
Total Barium	mg/kg	30	30	100%	2.4E+02	1.2E+02	8.8E+01	Lognormal	7	TRUE	
Total Beryllium	mg/kg	30	30	100%	3.8E-01	1.9E-01	3.0E-01	NDD	27	TRUE	
Total Cadmium	mg/kg	30	22	73%	1.6E-01	8.0E-02	1.2E-01	NDD	23	TRUE	
Total Calcium	mg/kg	30	30	100%	1.7E+05	8.7E+04	9.9E+04	NDD	15	TRUE	
Total Chromium	mg/kg	30	30	100%	9.6E+00	4.8E+00	7.3E+00	NDD	25	TRUE	
Total Cobalt	mg/kg	30	30	100%	3.2E+00	1.6E+00	2.2E+00	NDD	21	TRUE	
Total Copper	mg/kg	30	30	100%	1.0E+01	5.1E+00	6.3E+00	NDD	17	TRUE	
Total Iron	mg/kg	30	30	100%	7.6E+03	3.8E+03	6.2E+03	NDD	29	TRUE	
Total Lead	mg/kg	30	30	100%	1.1E+01	5.5E+00	3.2E+00	Normal	5	TRUE	
Total Manganese	mg/kg	30	30	100%	1.8E+02	9.1E+01	1.3E+02	NDD	21	TRUE	
Total Mercury	mg/kg	30	29	97%	3.7E-02	1.9E-02	3.2E-02	Lognormal	33	FALSE	3
Total Molybdenum	mg/kg	27	27	100%	1.6E+00	7.9E-01	1.6E+00	NDD	44	FALSE	17
Total Nickel	mg/kg	30	30	100%	8.2E+00	4.1E+00	6.0E+00	NDD	24	TRUE	
Total Selenium	mg/kg	30	26	87%	3.9E-01	2.0E-01	2.9E-01	NDD	24	TRUE	
Total Silver	mg/kg	30	20	67%	4.4E-02	2.2E-02	2.8E-02	NDD	18	TRUE	
Total Thallium	mg/kg	30	22	73%	1.3E-01	6.3E-02	8.2E-02	NDD	19	TRUE	
Total Vanadium	mg/kg	30	30	100%	1.9E+01	9.5E+00	1.3E+01	NDD	22	TRUE	
Total Zinc	mg/kg	30	30	100%	2.9E+01	1.4E+01	1.9E+01	NDD	19	TRUE	

Notes:

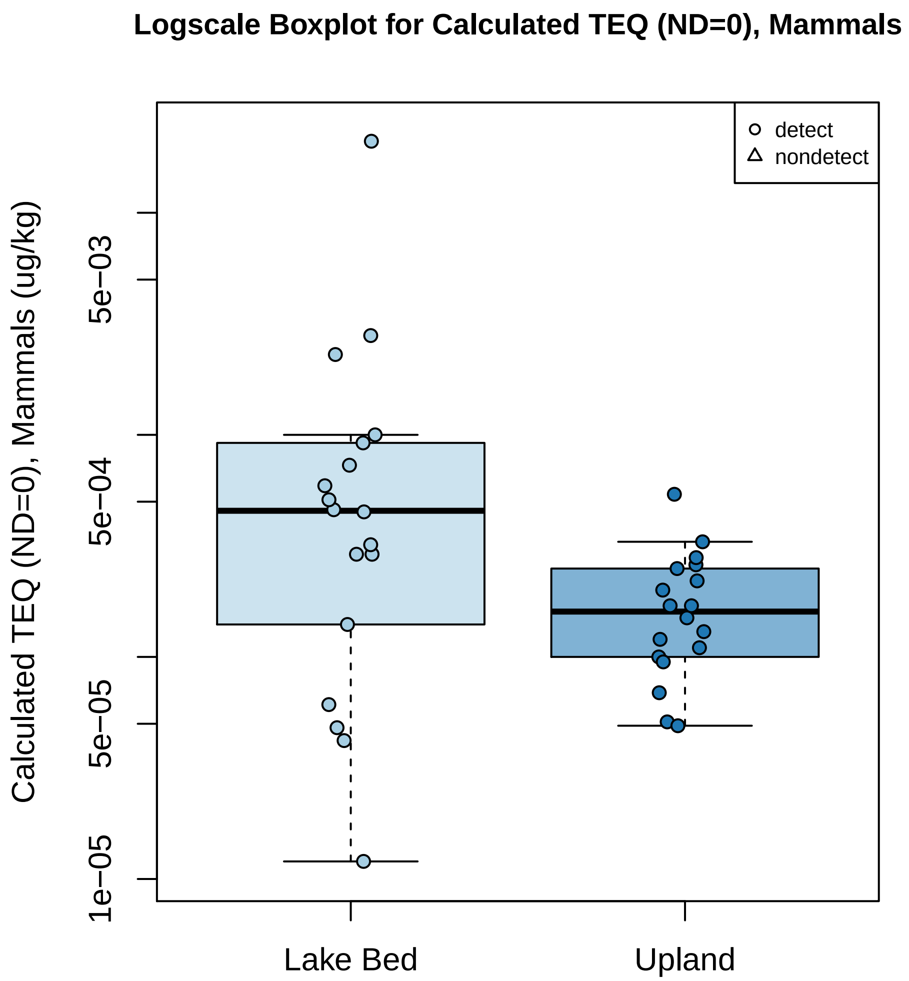
[1] "Appropriate sample size" calculated in ProUCL 5.0 using the sample size calculator for WRS hypothesis testing assuming (a = 0.1, b = 0.2, S = 0.5 x Mean).

[2] Is the "Appropriate sample size" less than or equal to N.

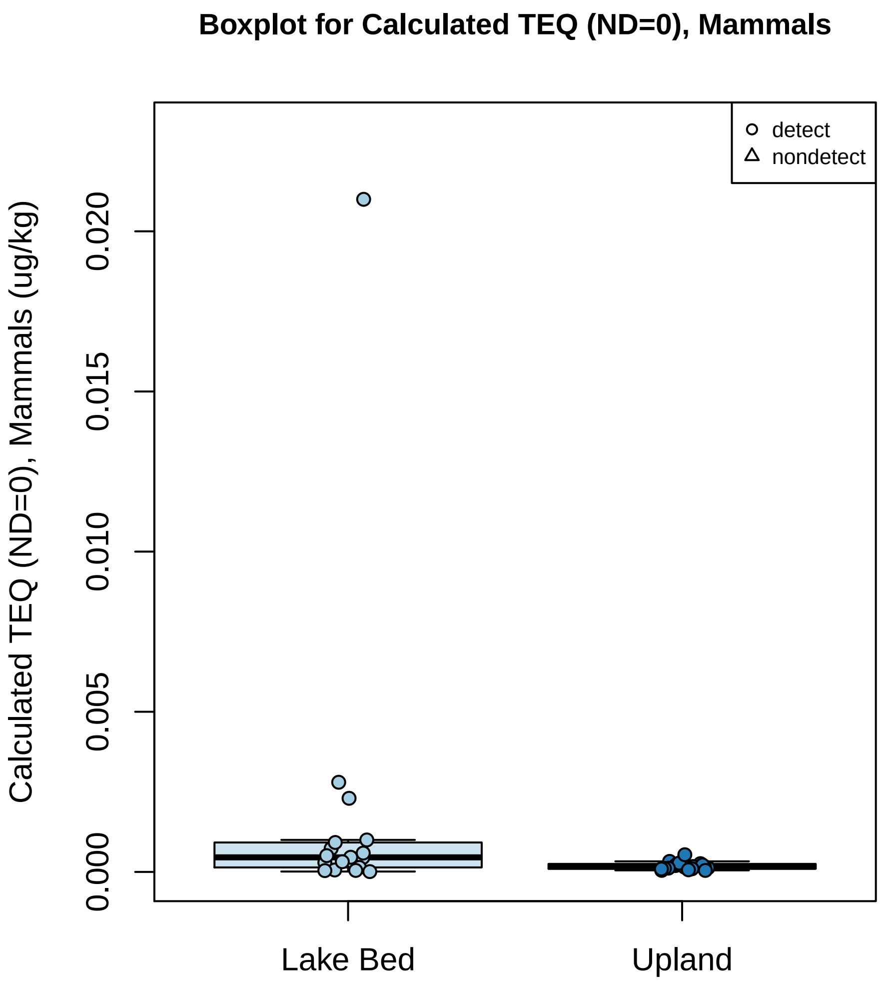
[3] Sample shortfall = "Appropriate sample size" minus N, in cases where the "appropriate sample size" exceeds N.

mg/kg = milligrams per kilogram
ND = Not Detected
NDD = No discernable distribution
PCB = Polychlorinated biphenyl
TEQ = Toxicity equivalence
ug/kg = micrograms/kilograms

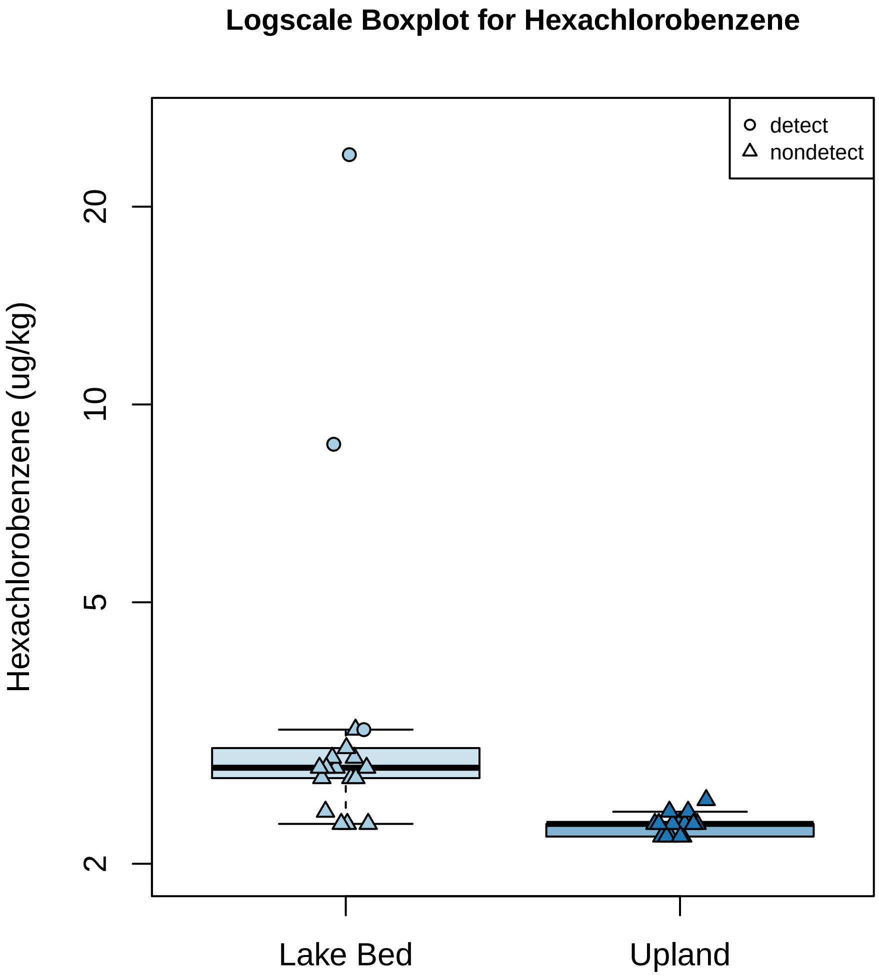
Attachment A
Boxplots Comparing Upland and Lake Bed for All Analytes

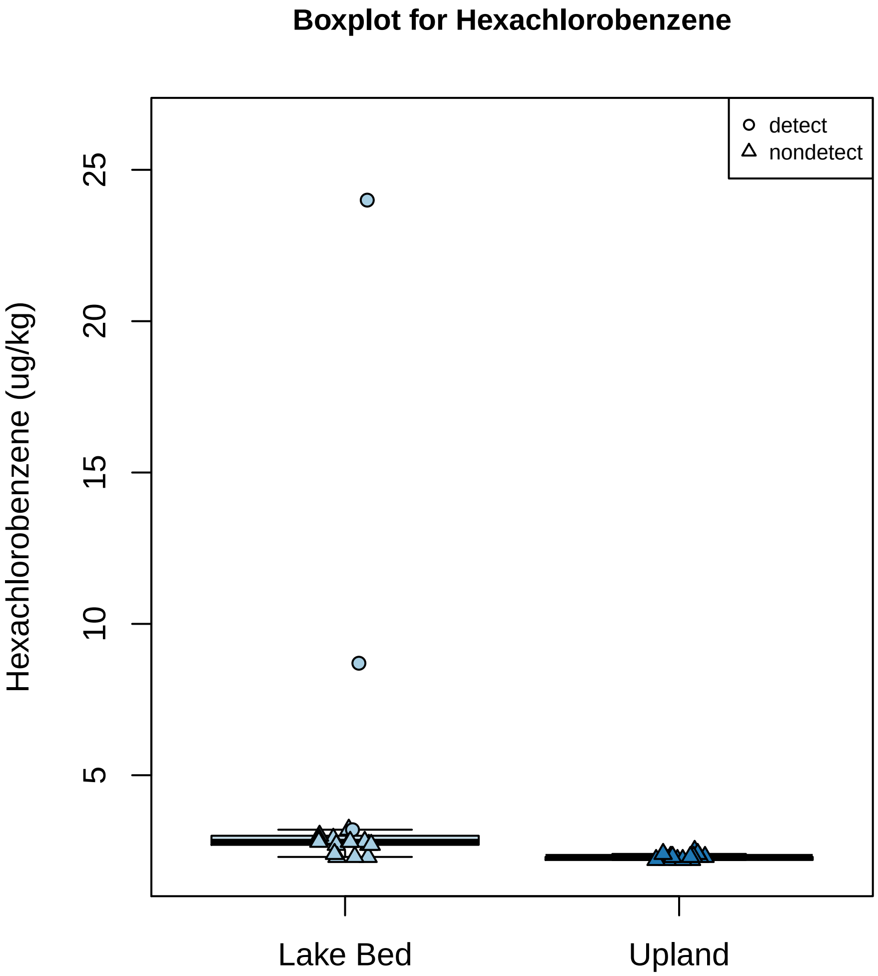


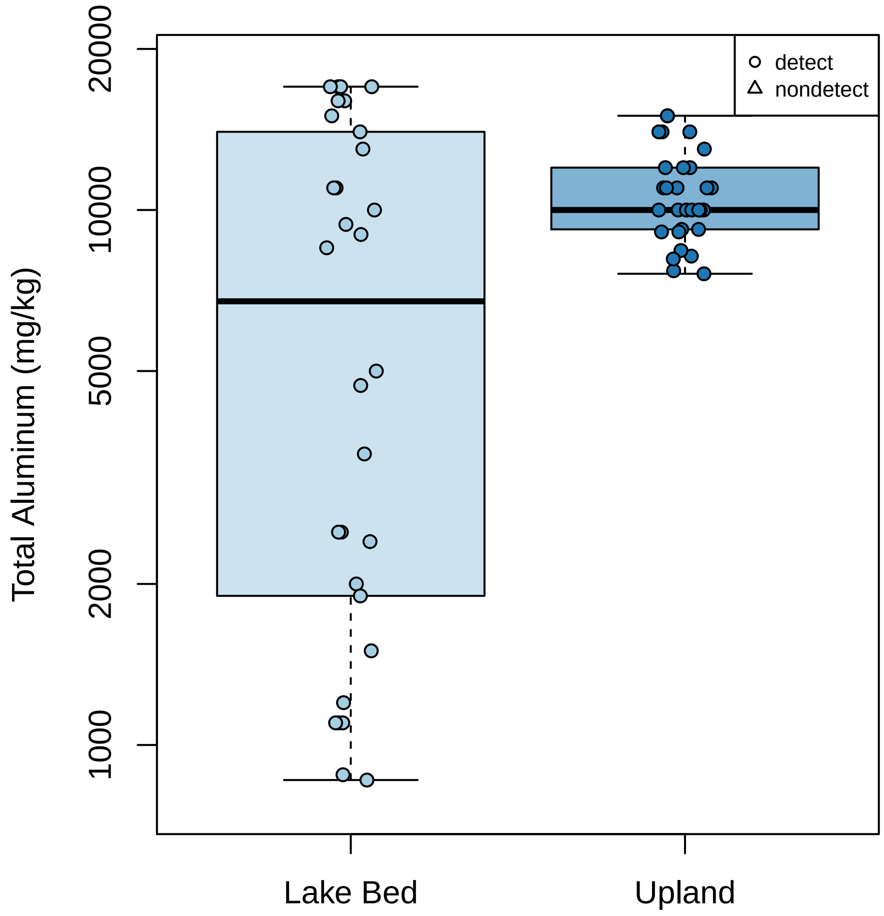
Logscale Boxplot for Calculated TEQ (ND=0), Mammals

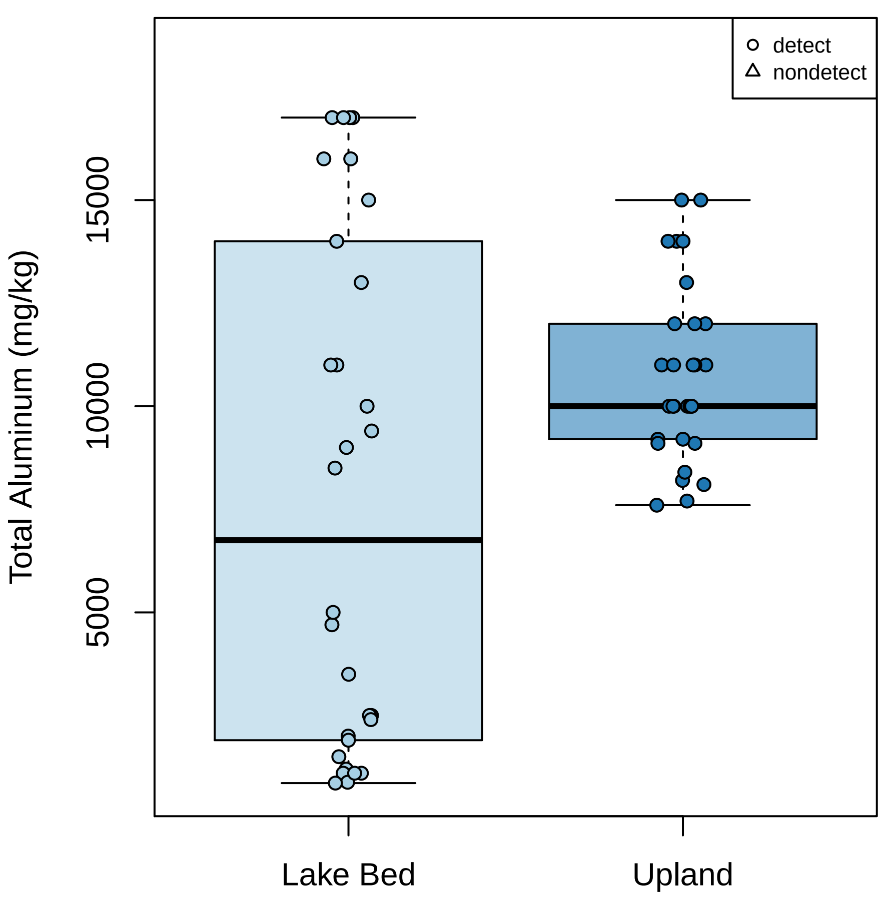


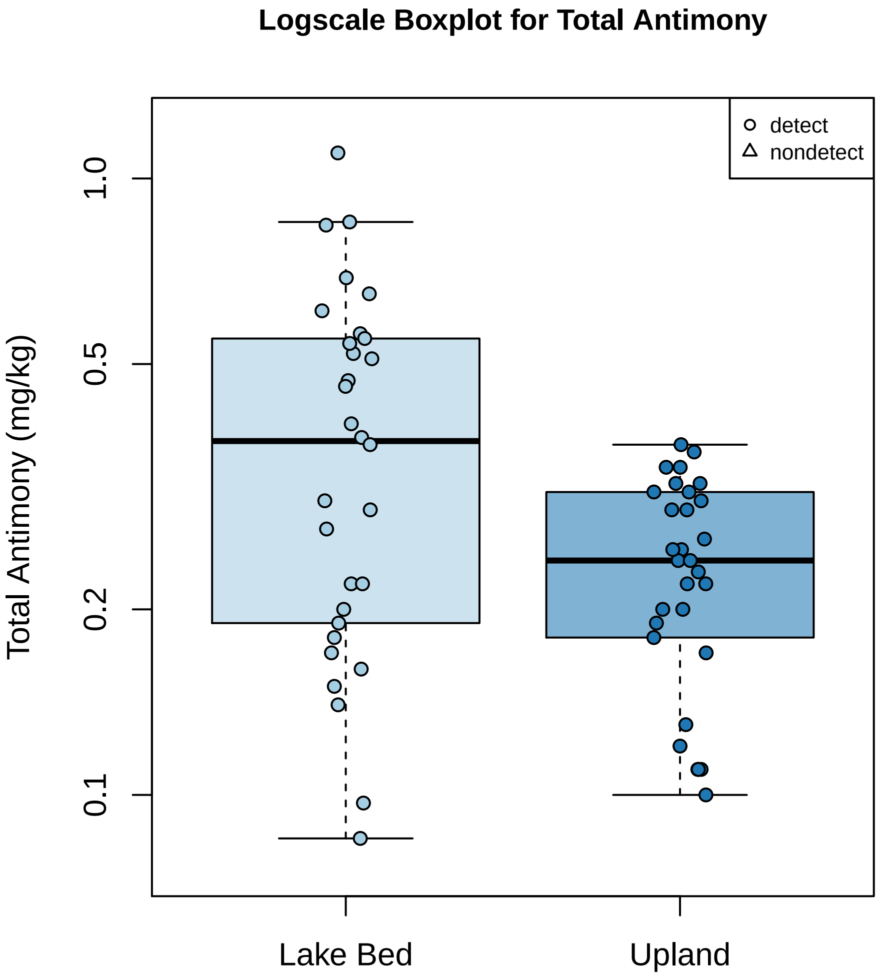
Boxplot for Calculated TEQ (ND=0), Mammals


Logscale Boxplot for Hexachlorobenzene

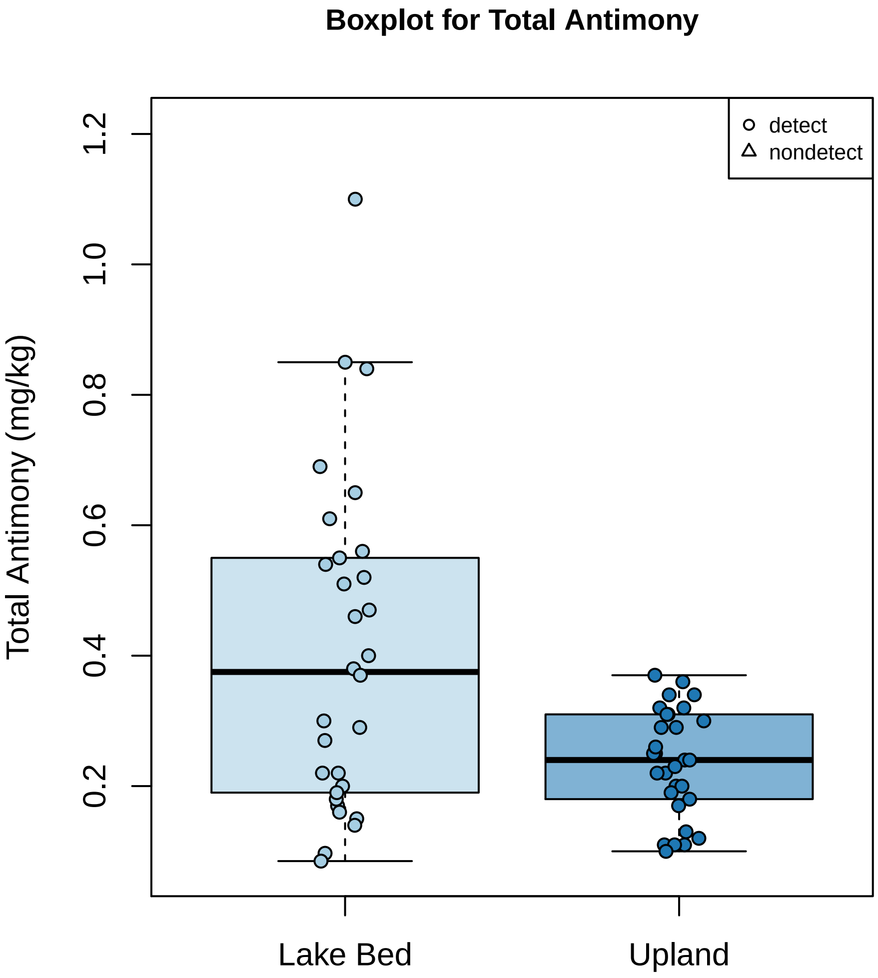

Boxplot for Hexachlorobenzene


Logscale Boxplot for Total Aluminum

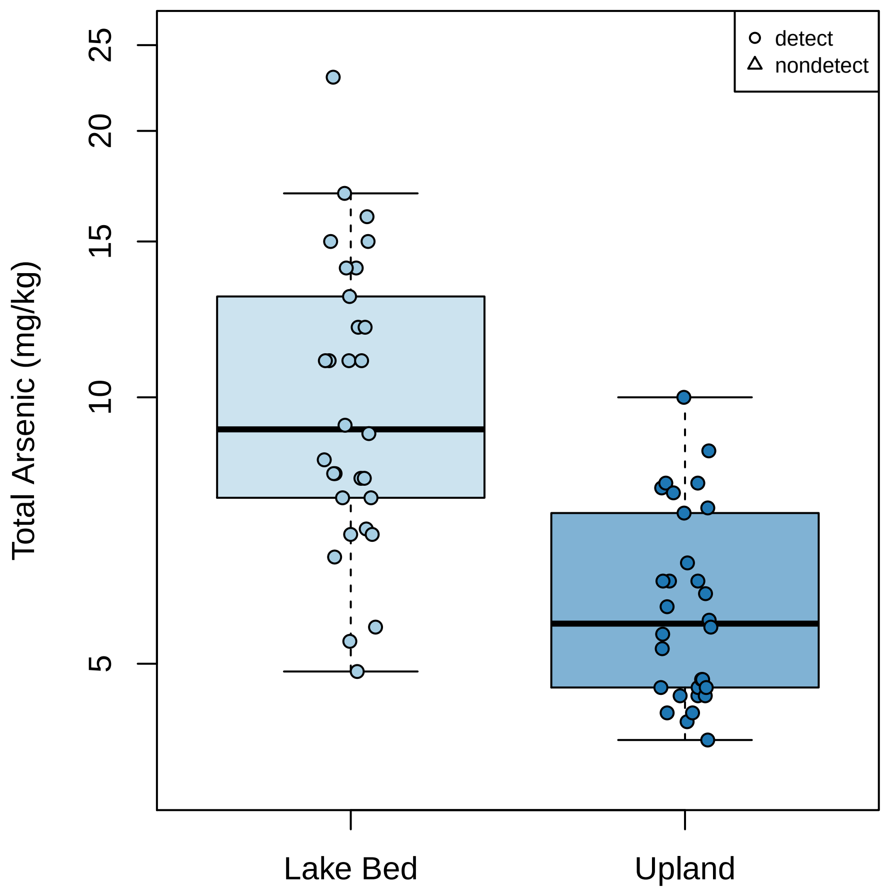

Boxplot for Total Aluminum



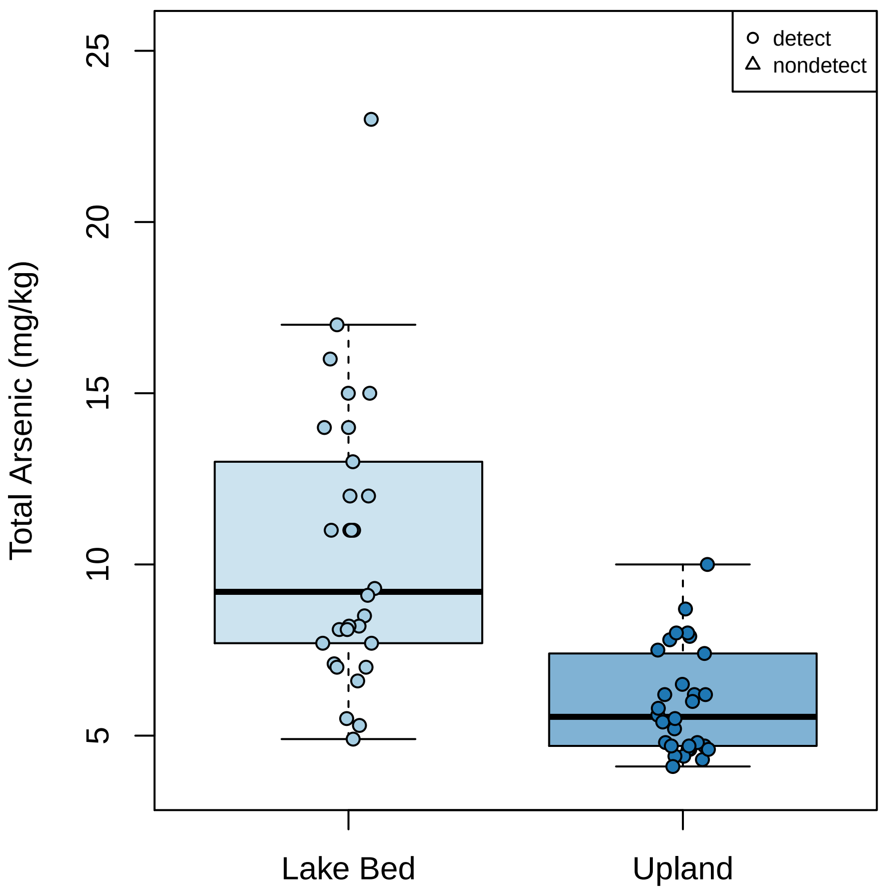
Logscale Boxplot for Total Antimony



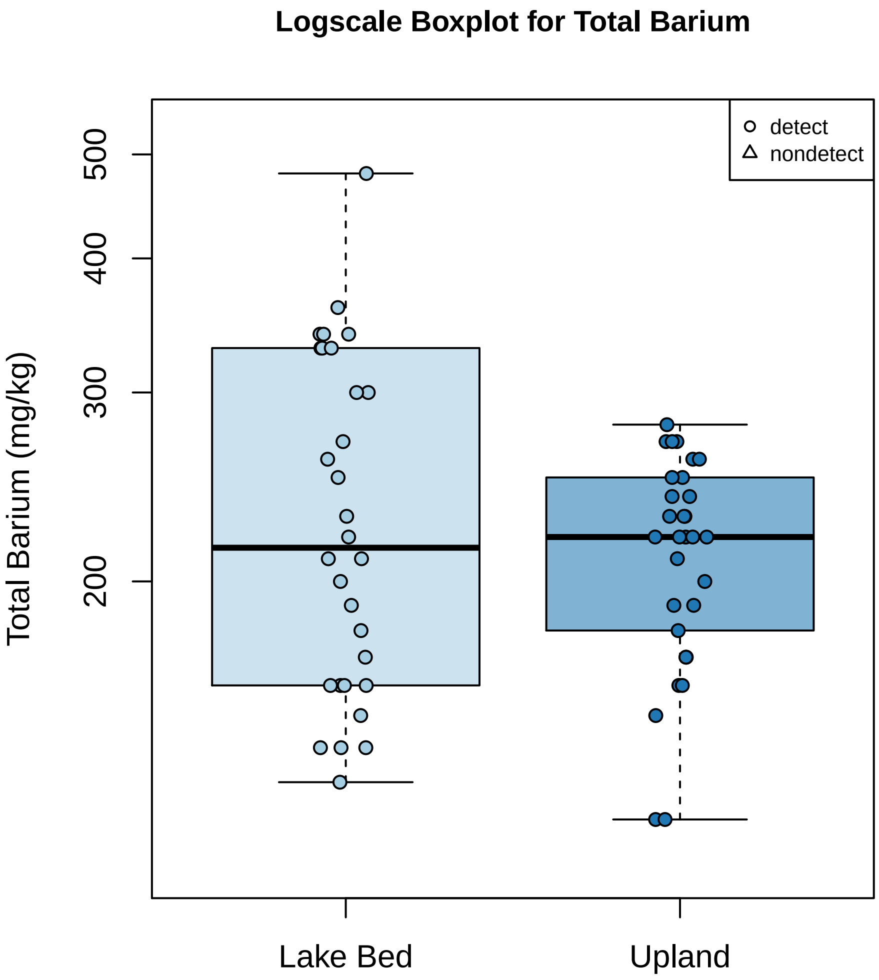
Boxplot for Total Antimony



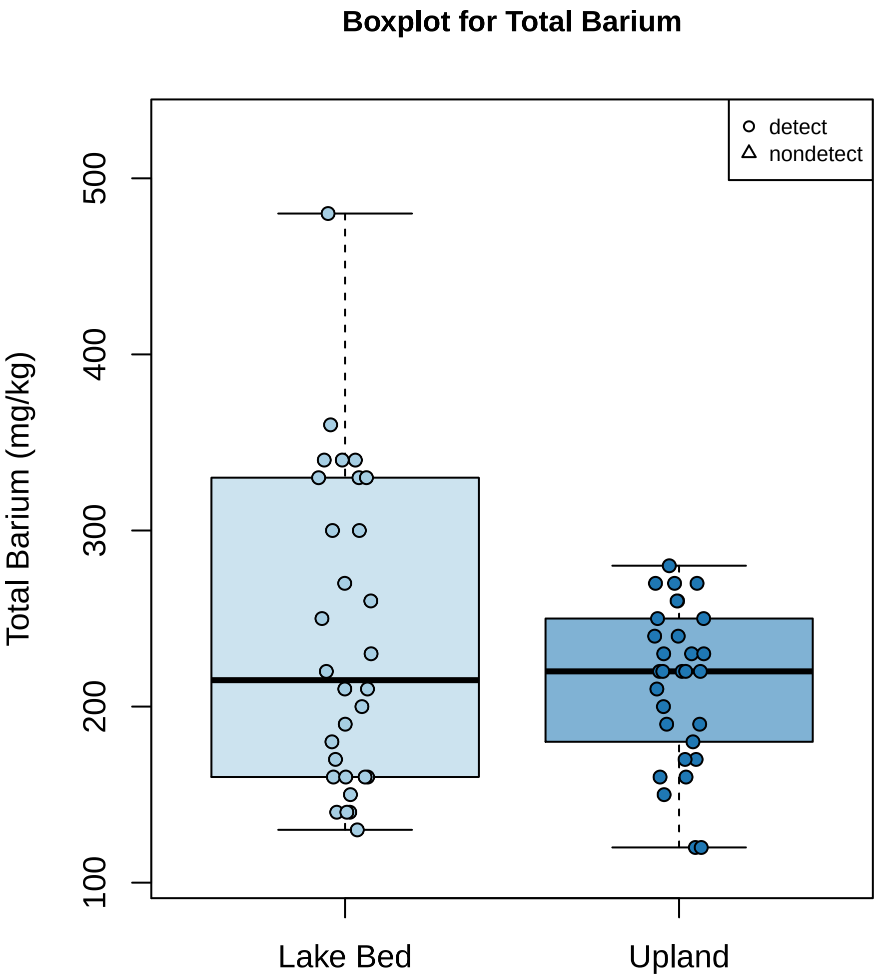
Logscale Boxplot for Total Arsenic



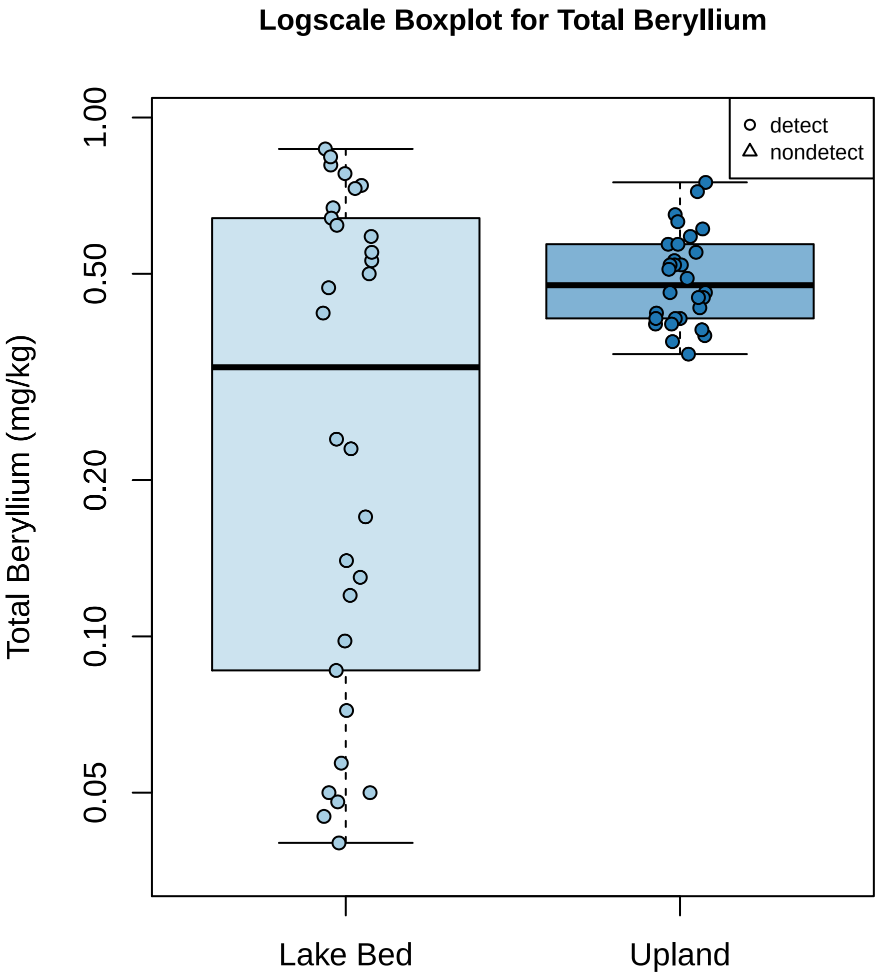
Boxplot for Total Arsenic

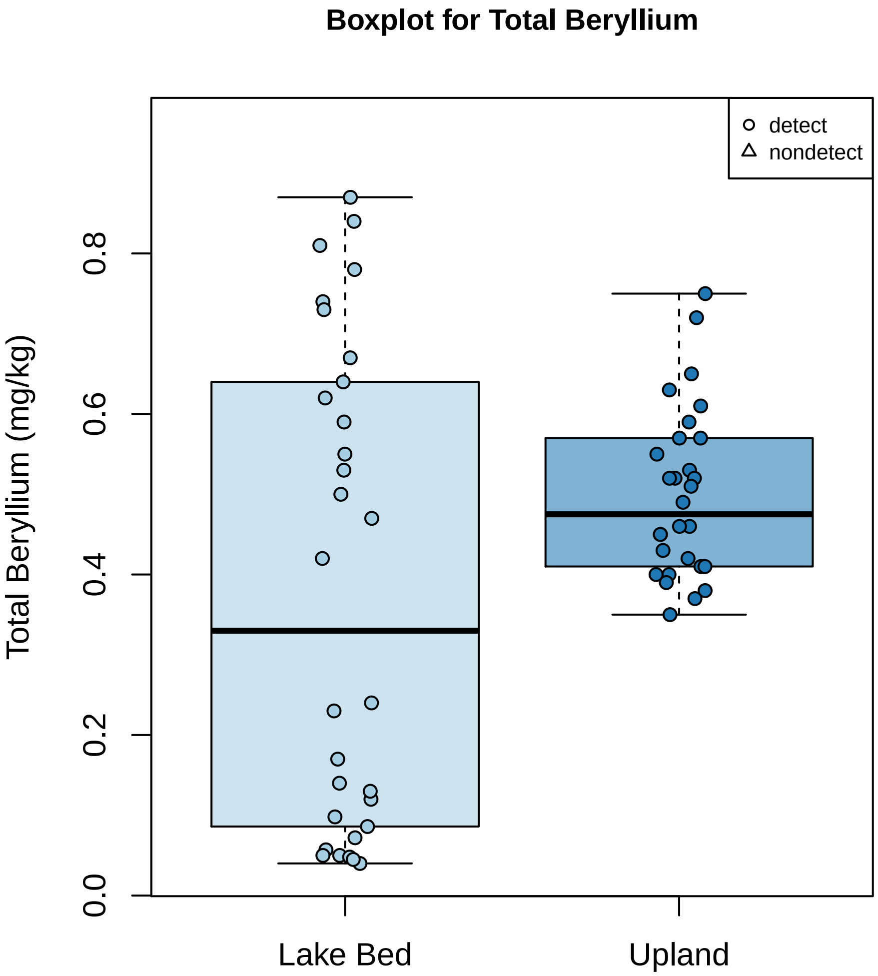


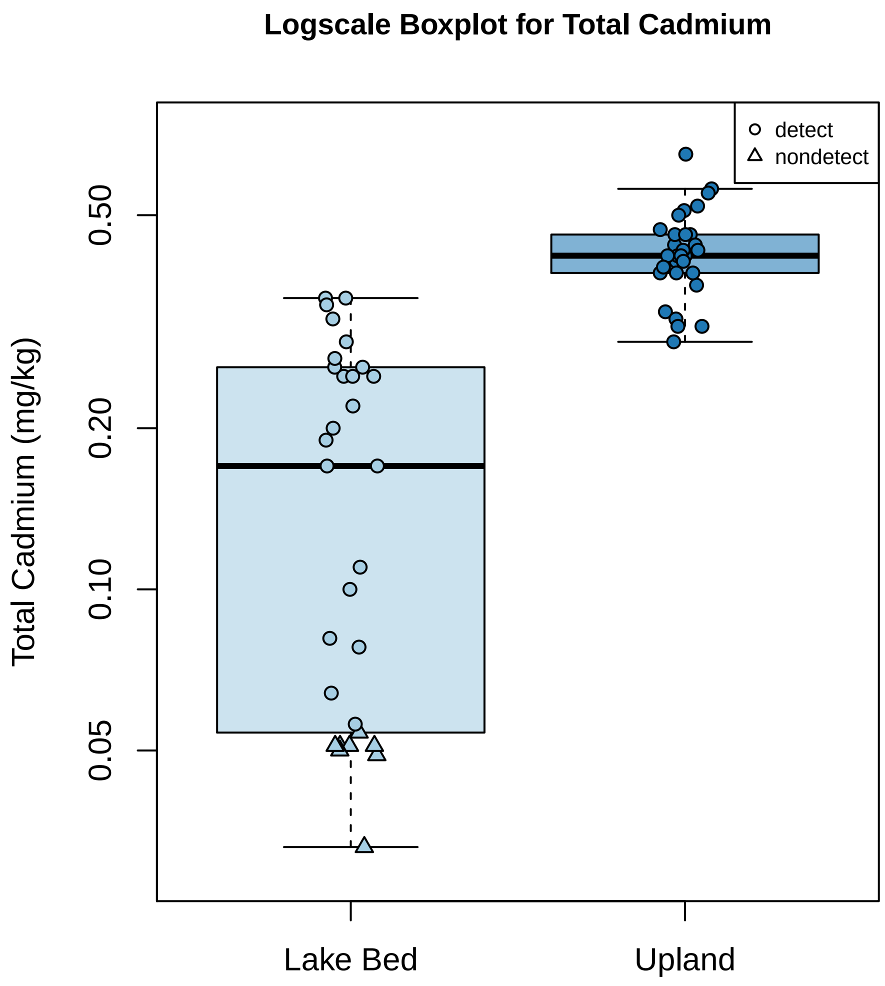
Logscale Boxplot for Total Barium

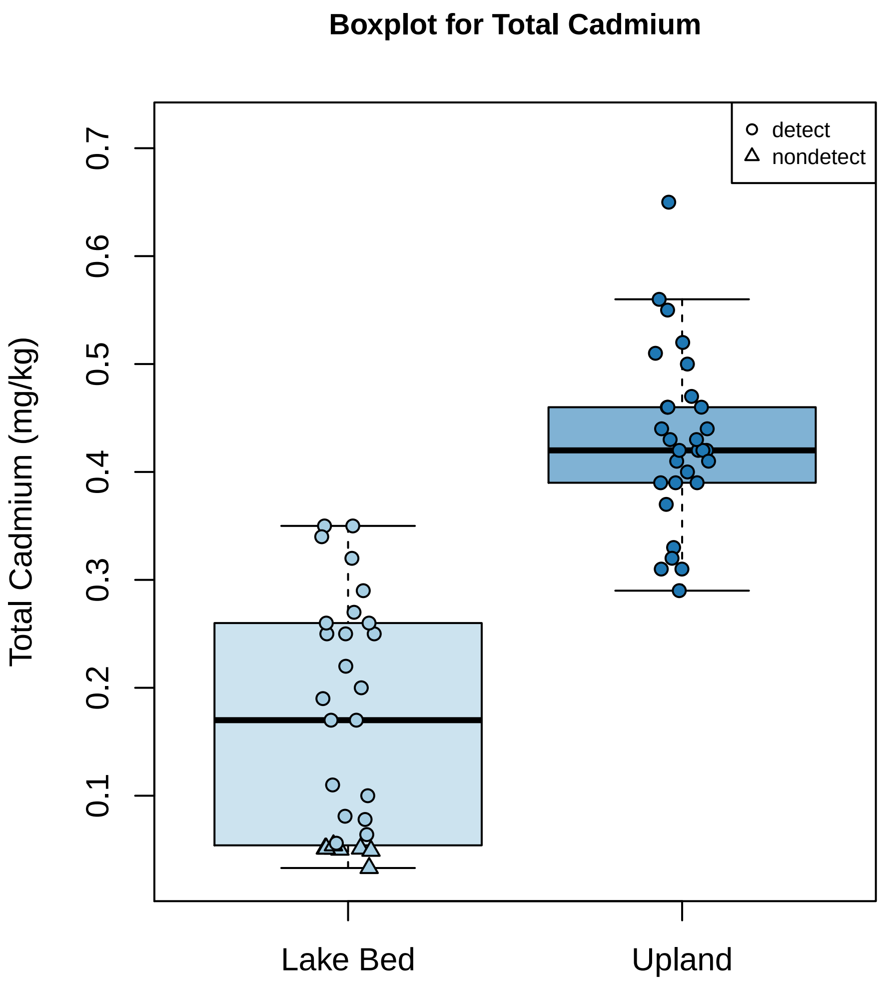


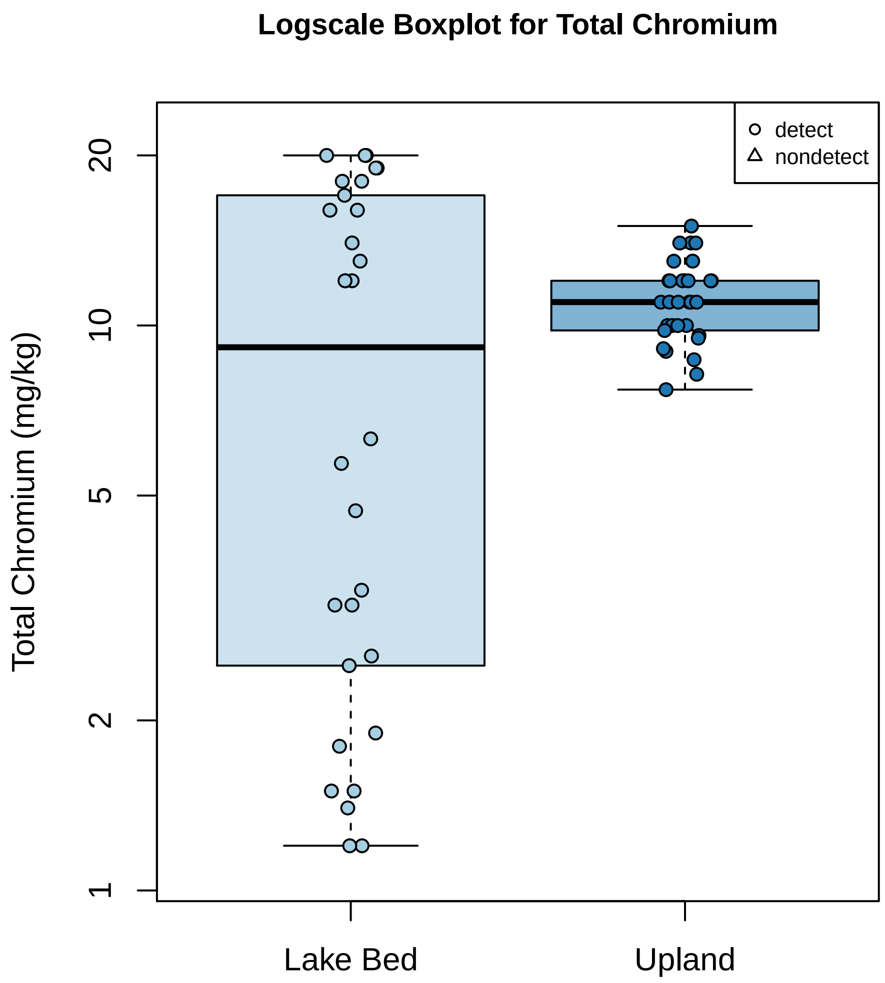
Boxplot for Total Barium

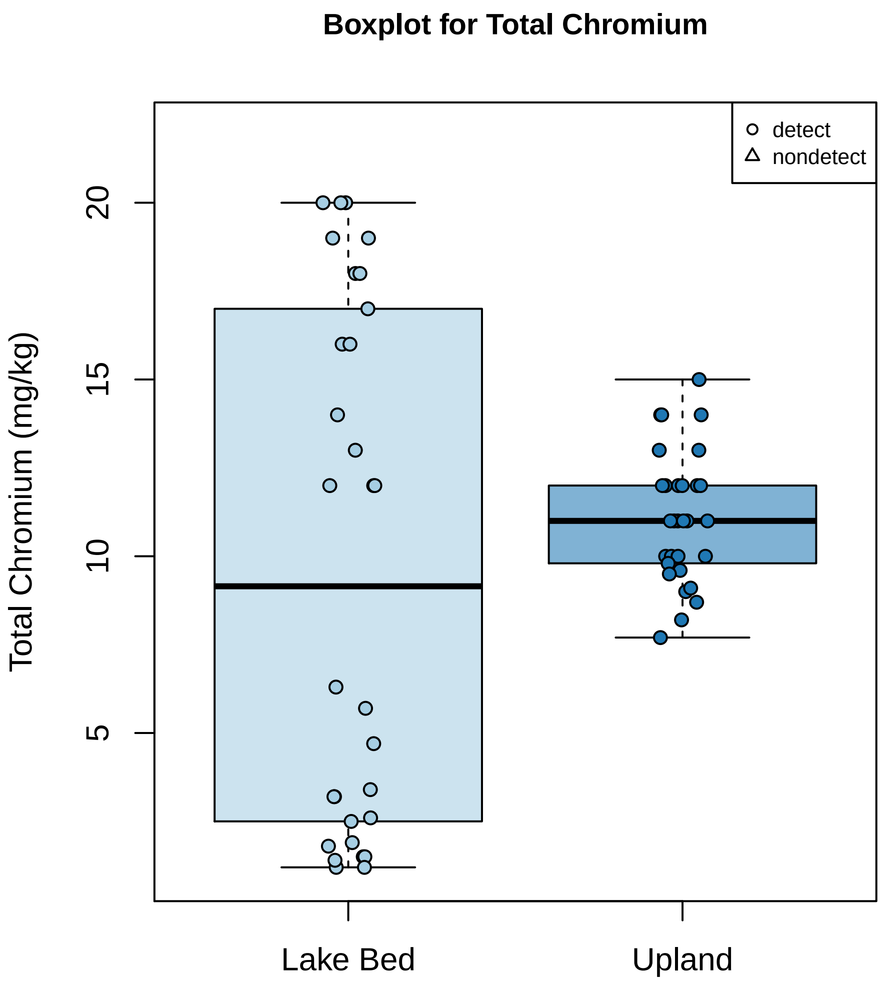

Logscale Boxplot for Total Beryllium
Total Beryllium (mg/kg)
1.00
0.50
0.20
0.10
0.05
Lake Bed
Upland
○ detect
△ nondetect

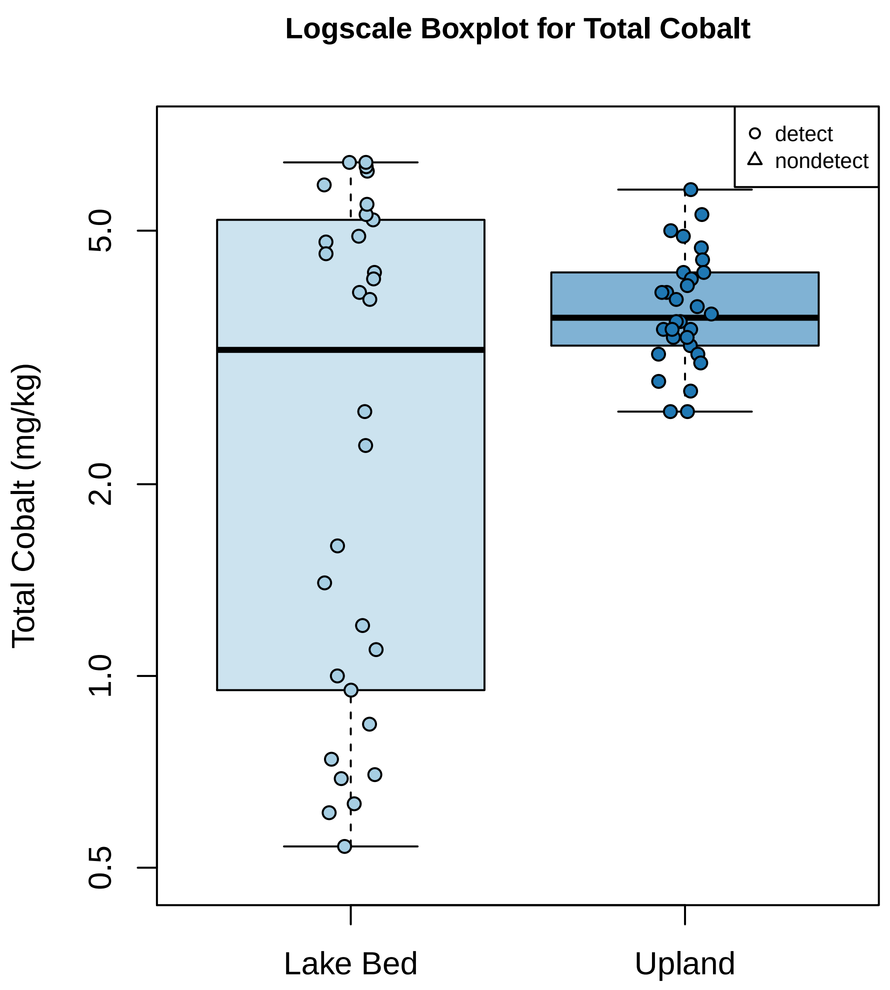

Boxplot for Total Beryllium
Total Beryllium (mg/kg)
0.8
0.6
0.4
0.2
0.0
Lake Bed
Upland
○ detect
△ nondetect

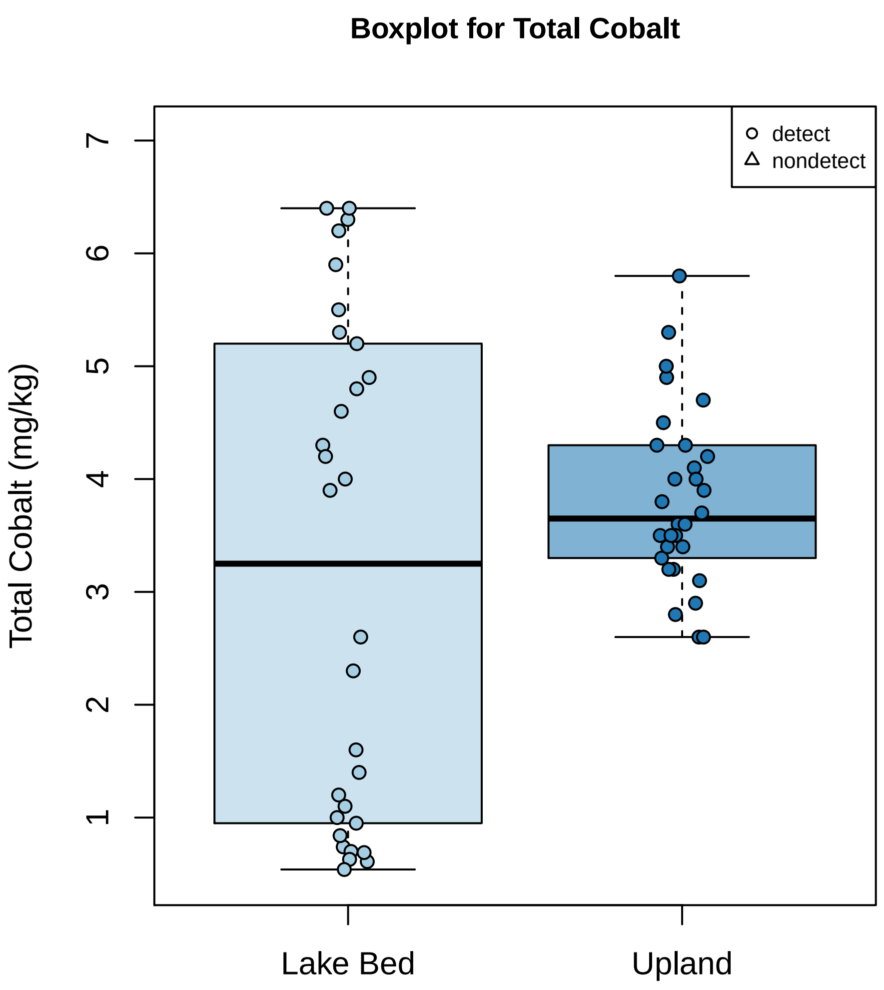

Logscale Boxplot for Total Cadmium

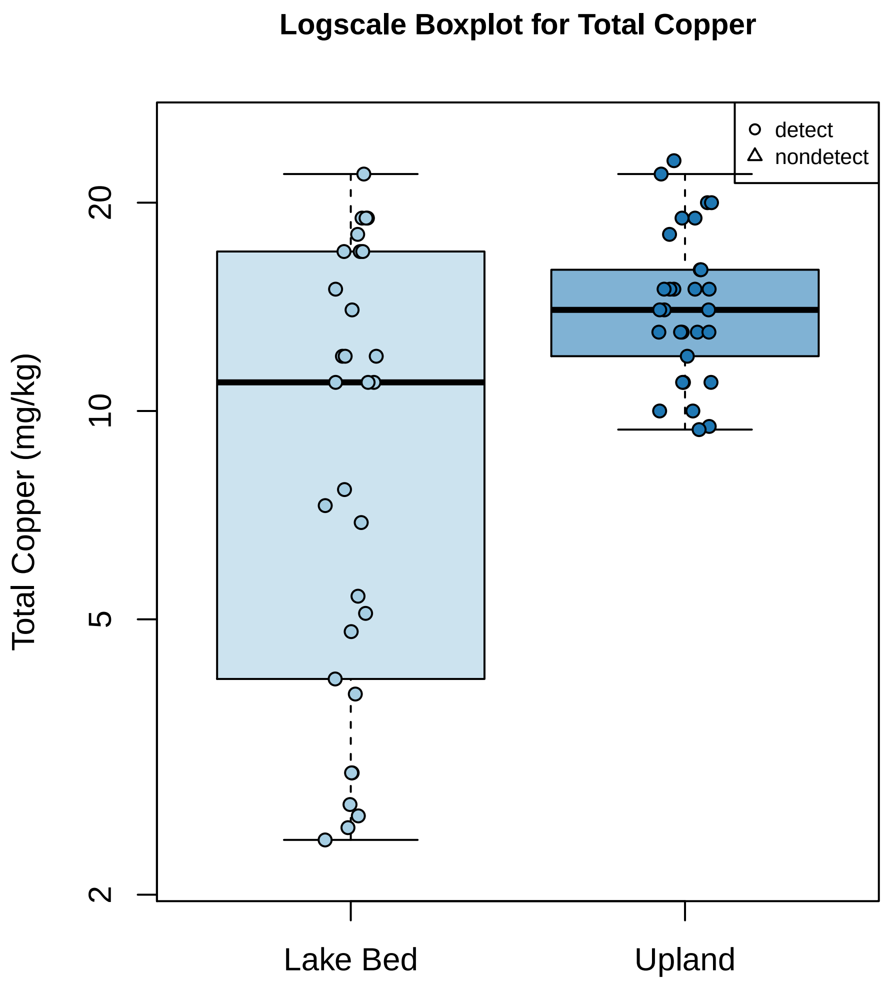

Boxplot for Total Cadmium

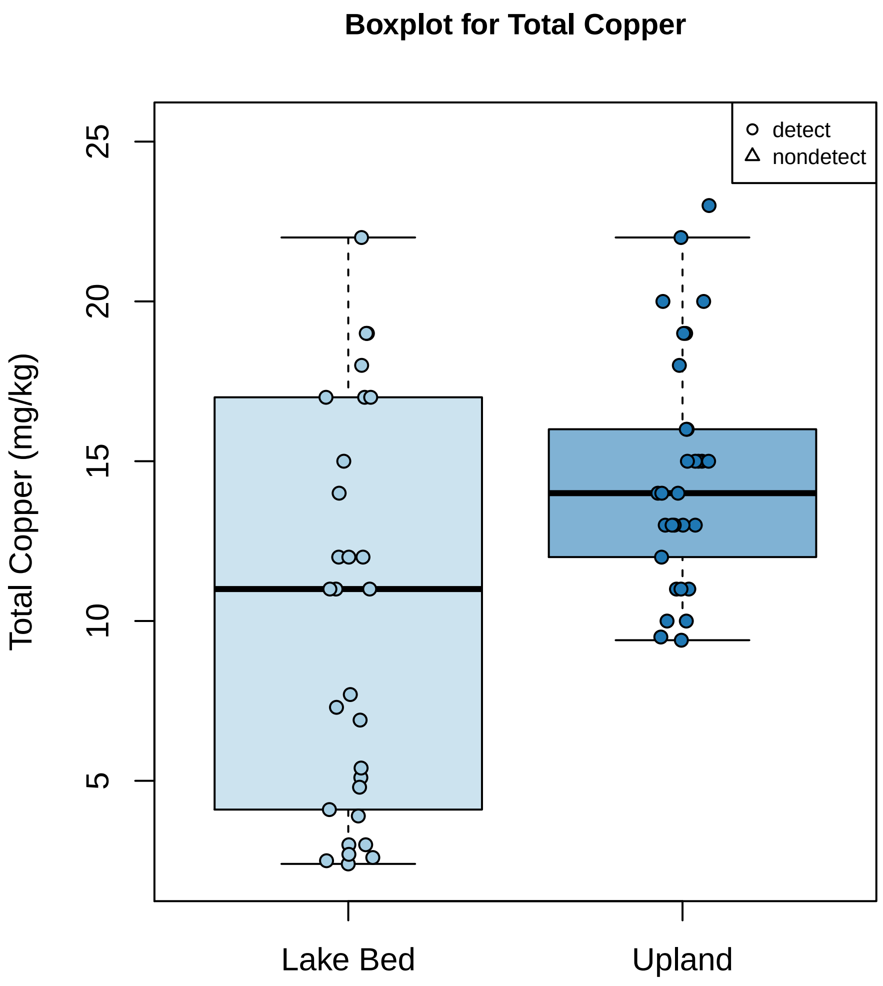

Logscale Boxplot for Total Chromium

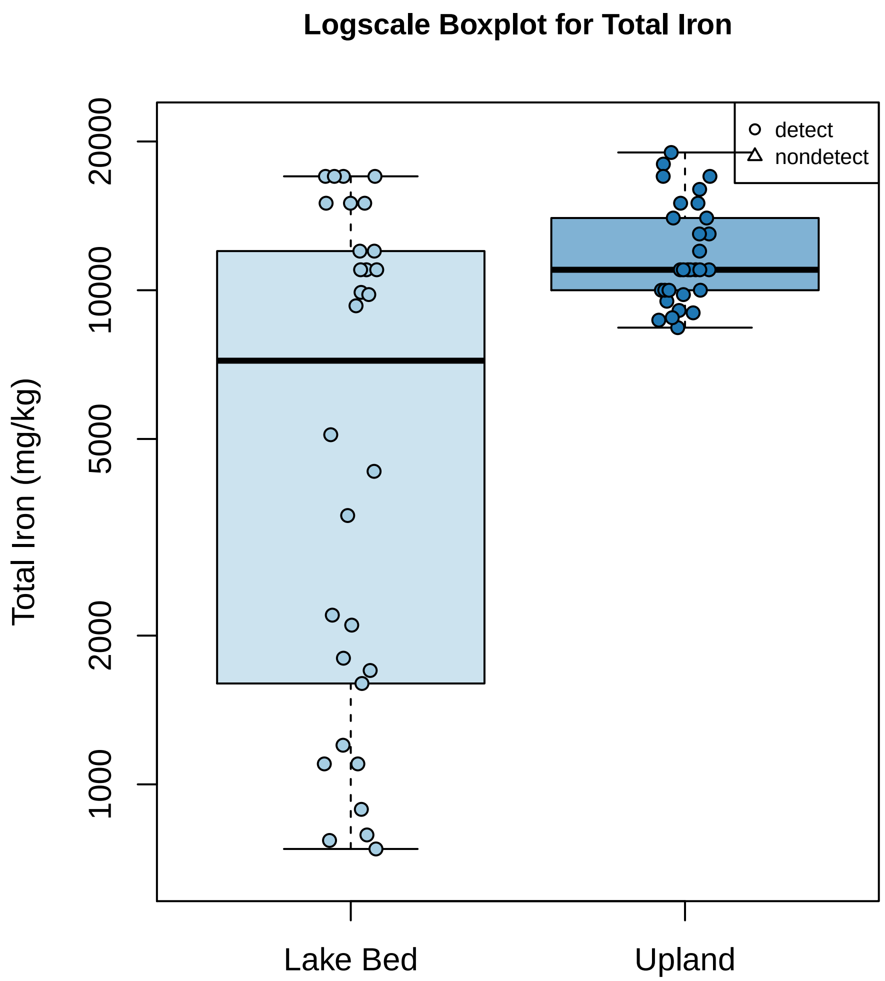

Boxplot for Total Chromium


Logscale Boxplot for Total Cobalt
Total Cobalt (mg/kg)
0.5
1.0
2.0
5.0
Lake Bed
Upland
detect
nondetect

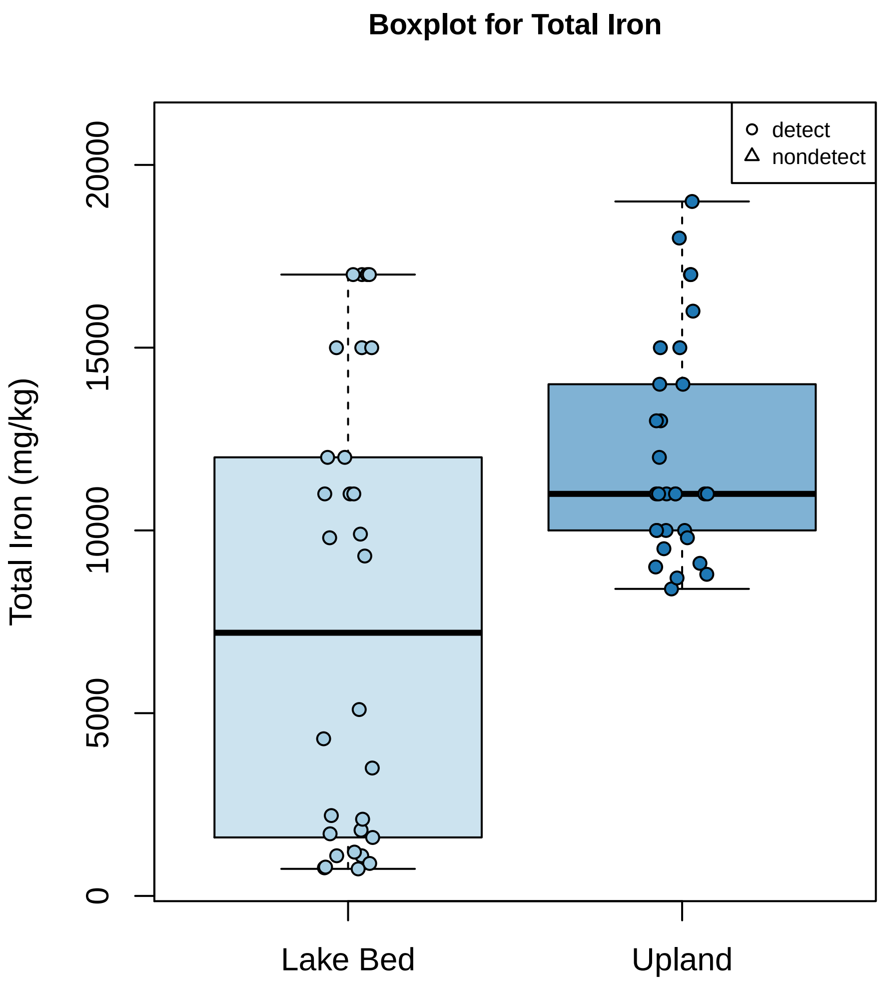

Boxplot for Total Cobalt
Total Cobalt (mg/kg)
1
2
3
4
5
6
7
Lake Bed
Upland
detect
nondetect


Logscale Boxplot for Total Copper
Total Copper (mg/kg)
2
5
10
20
Lake Bed
Upland
○ detect
△ nondetect

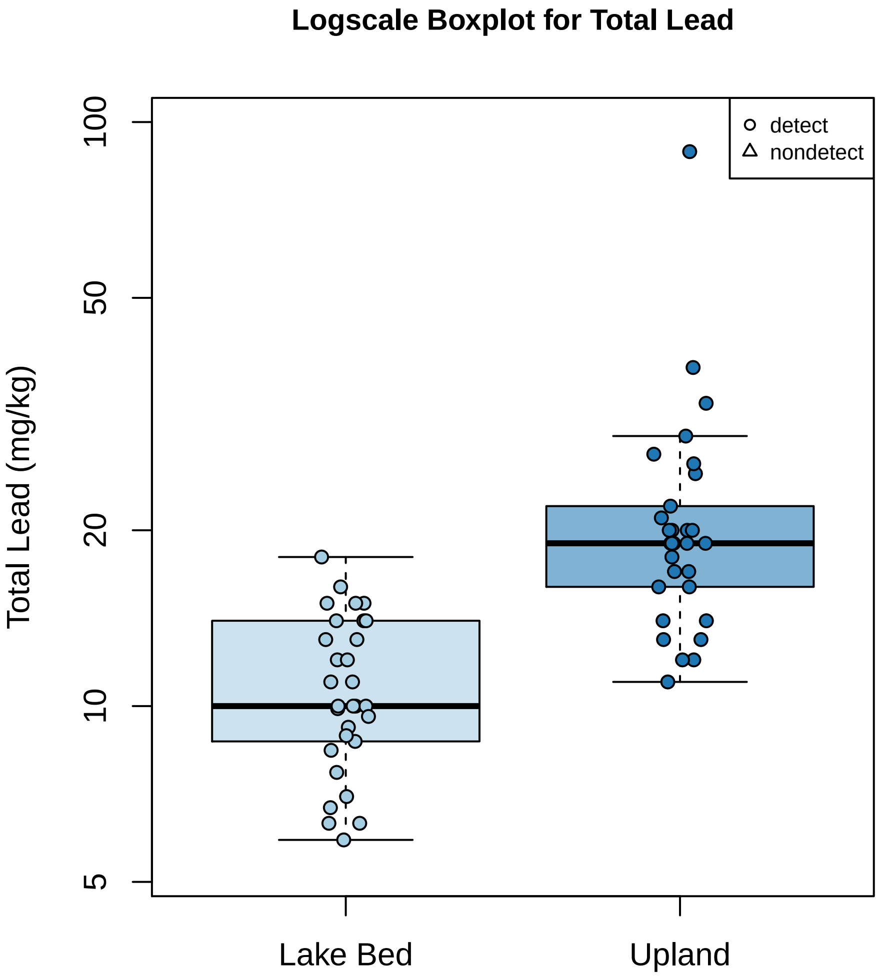

Boxplot for Total Copper
Total Copper (mg/kg)
5
10
15
20
25
Lake Bed
Upland
○ detect
△ nondetect

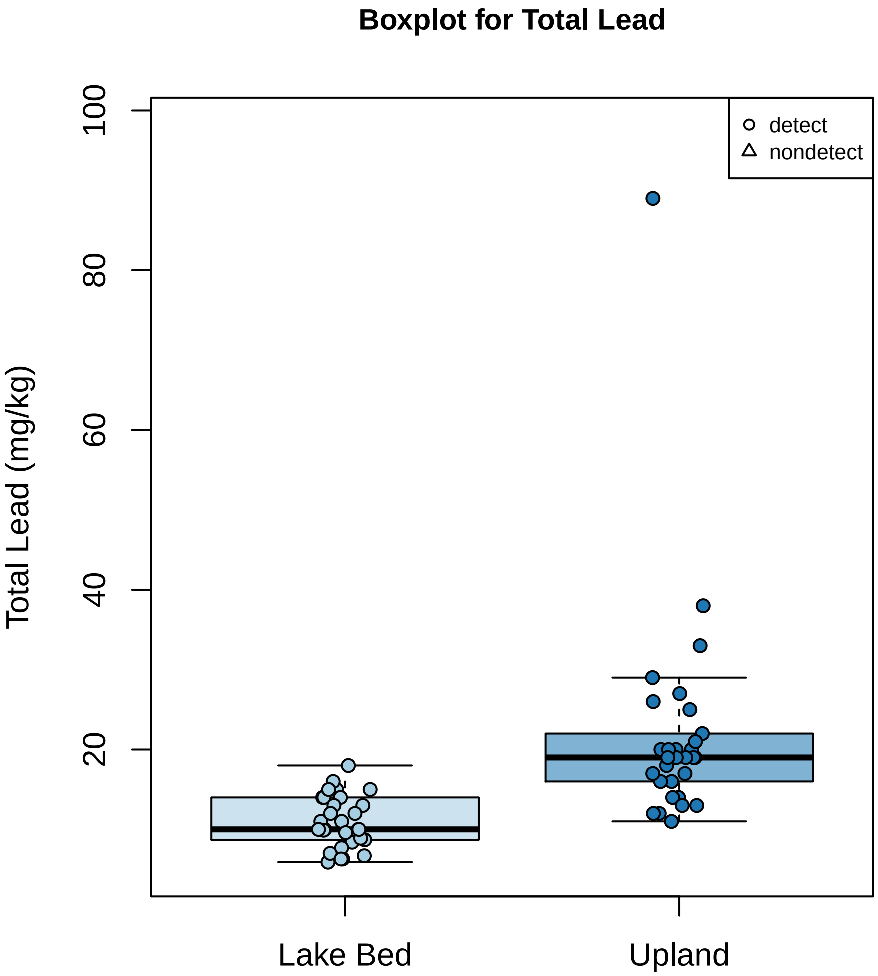


Logscale Boxplot for Total Iron

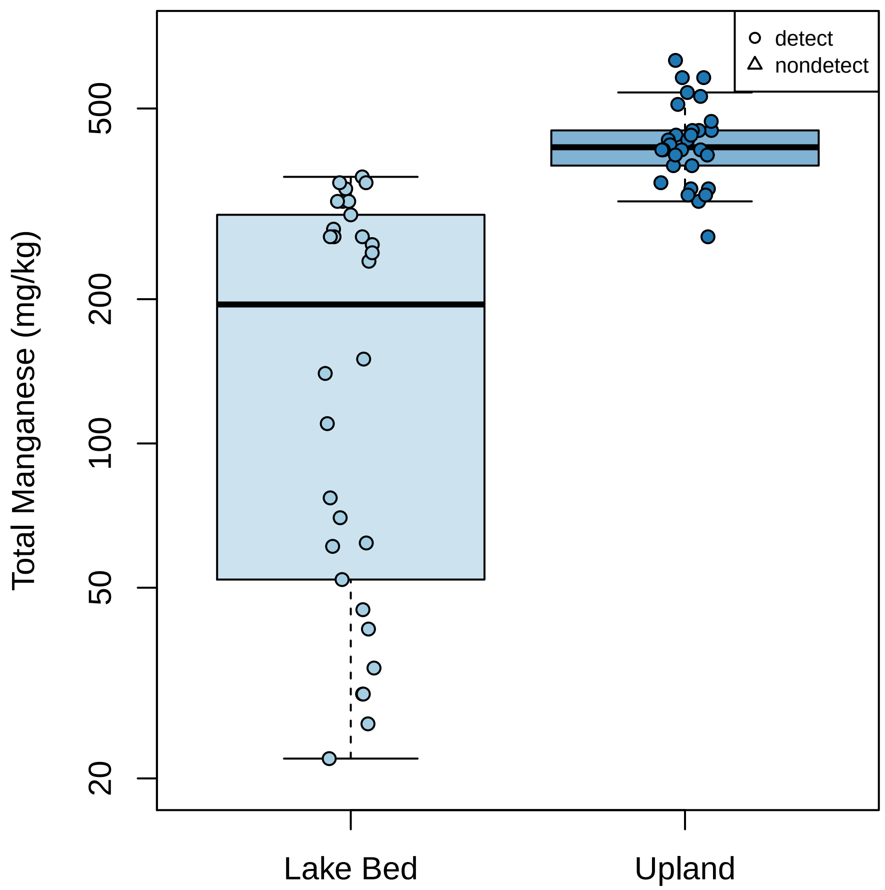


Boxplot for Total Iron

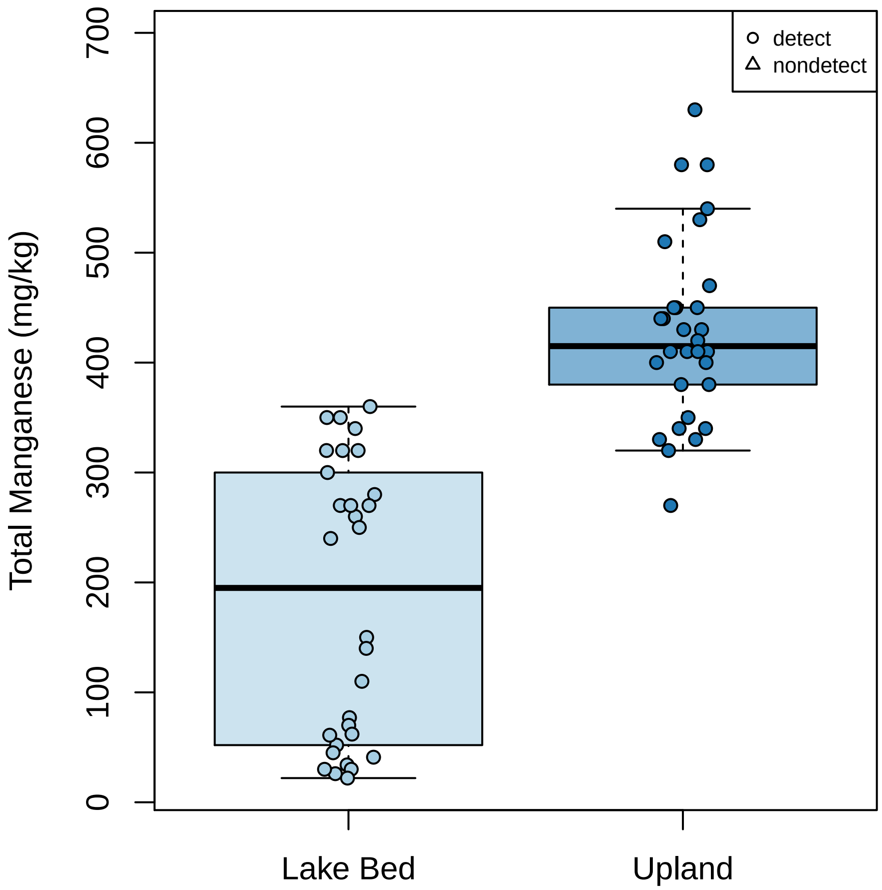

Logscale Boxplot for Total Lead
Total Lead (mg/kg)
100
50
20
10
5
detect
nondetect
Lake Bed
Upland

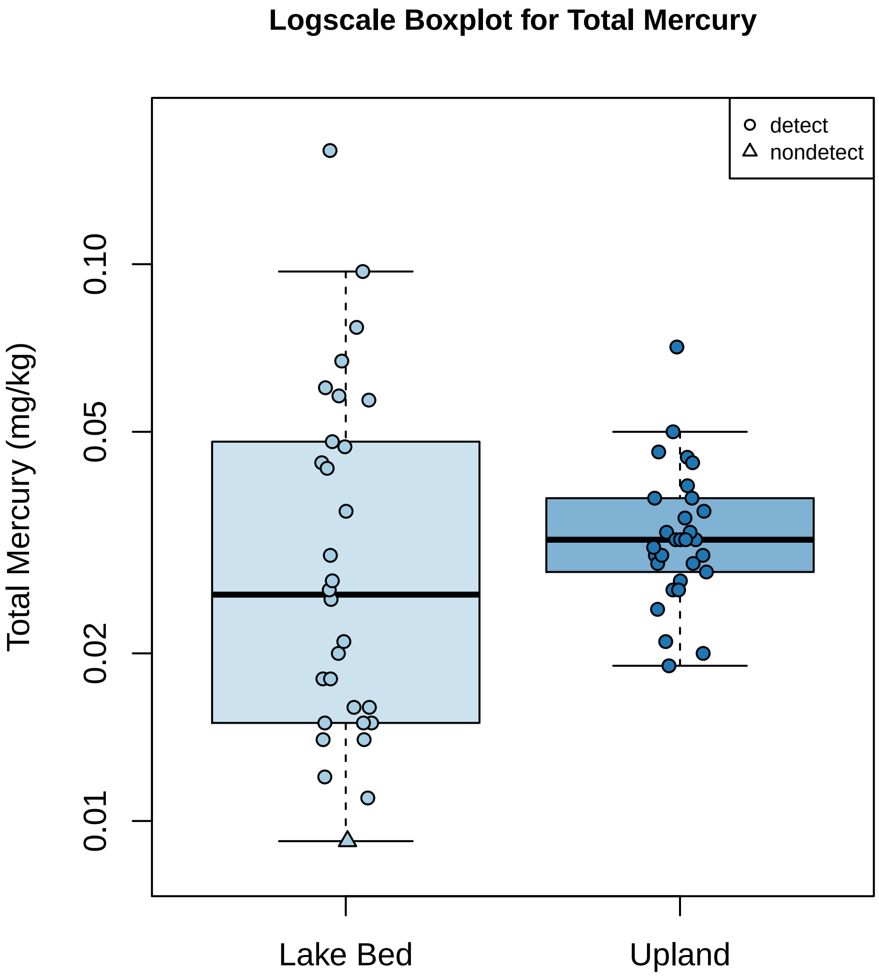

Boxplot for Total Lead
Total Lead (mg/kg)
100
80
60
40
20
detect
nondetect
Lake Bed
Upland

Logscale Boxplot for Total Manganese

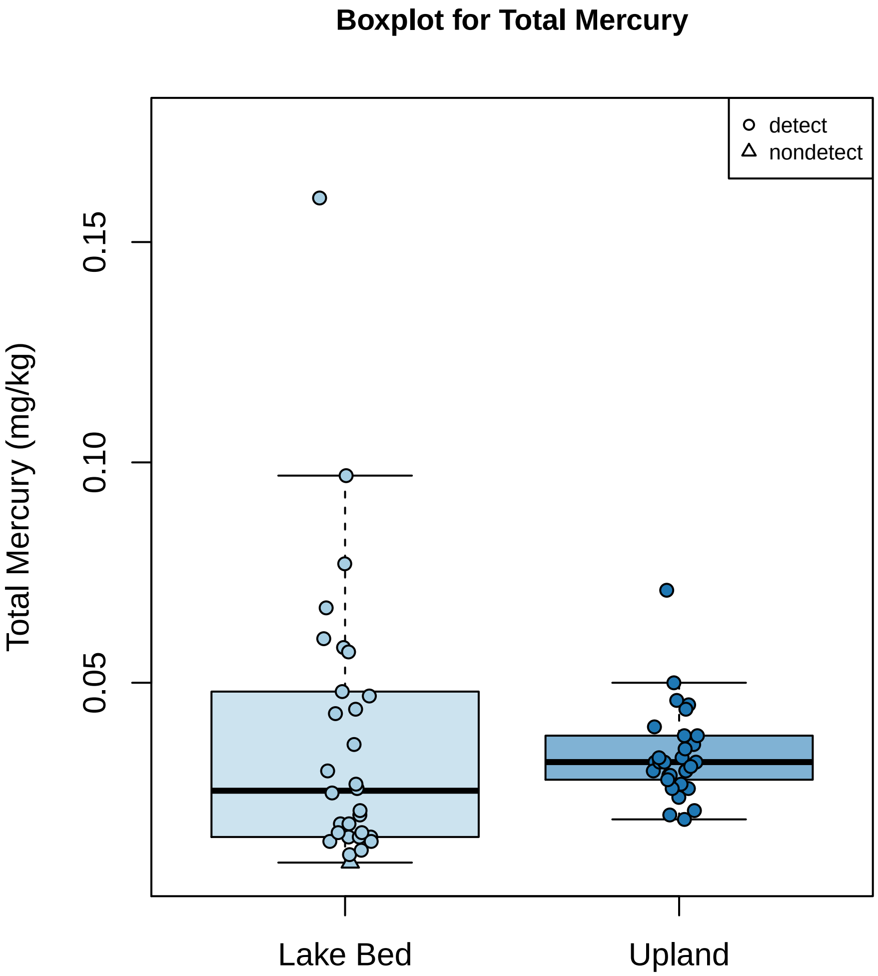


Boxplot for Total Manganese



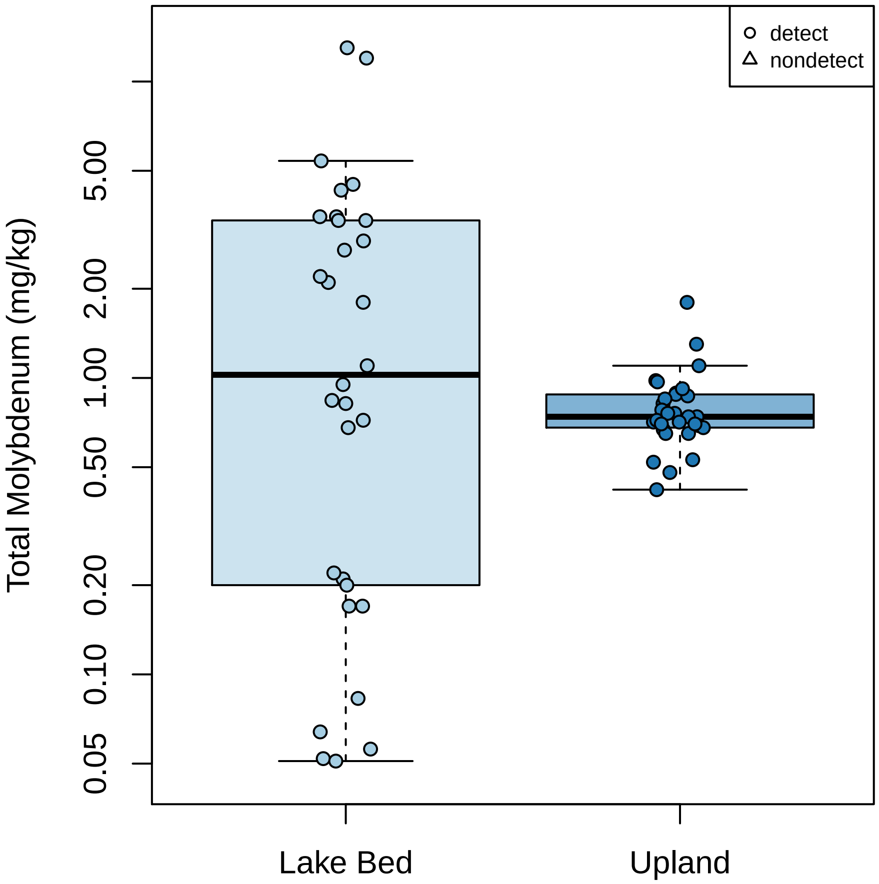


Logscale Boxplot for Total Mercury

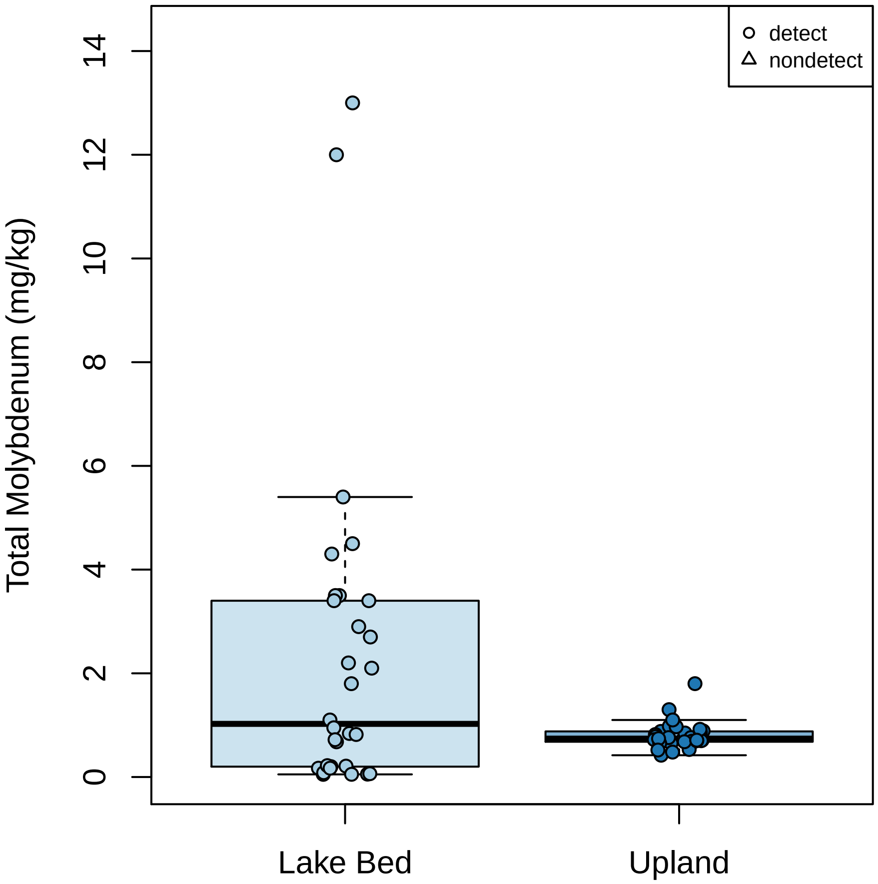


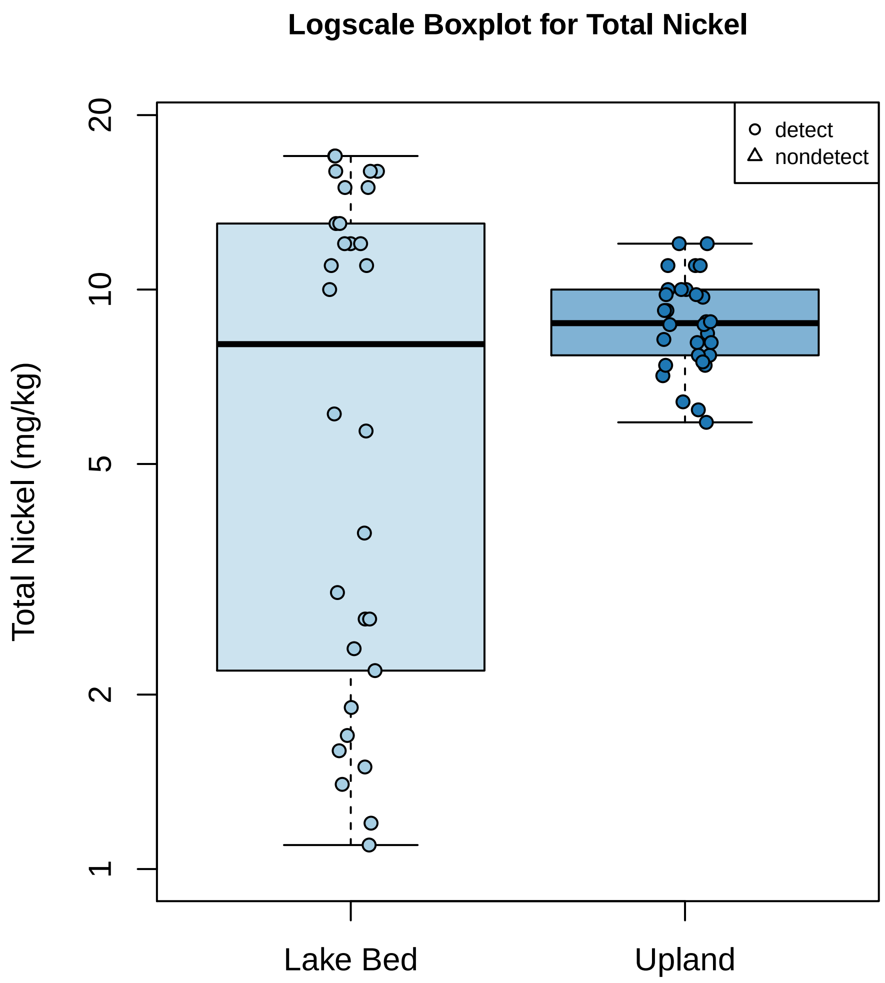
Boxplot for Total Mercury

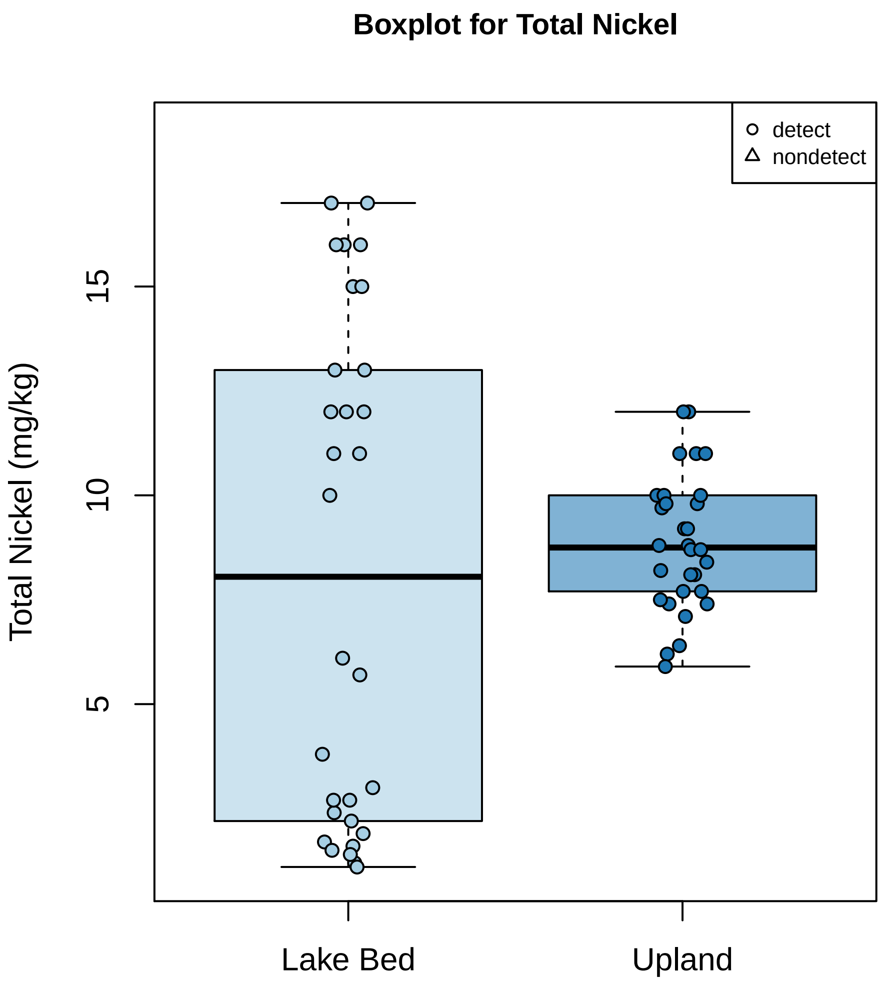
Logscale Boxplot for Total Molybdenum

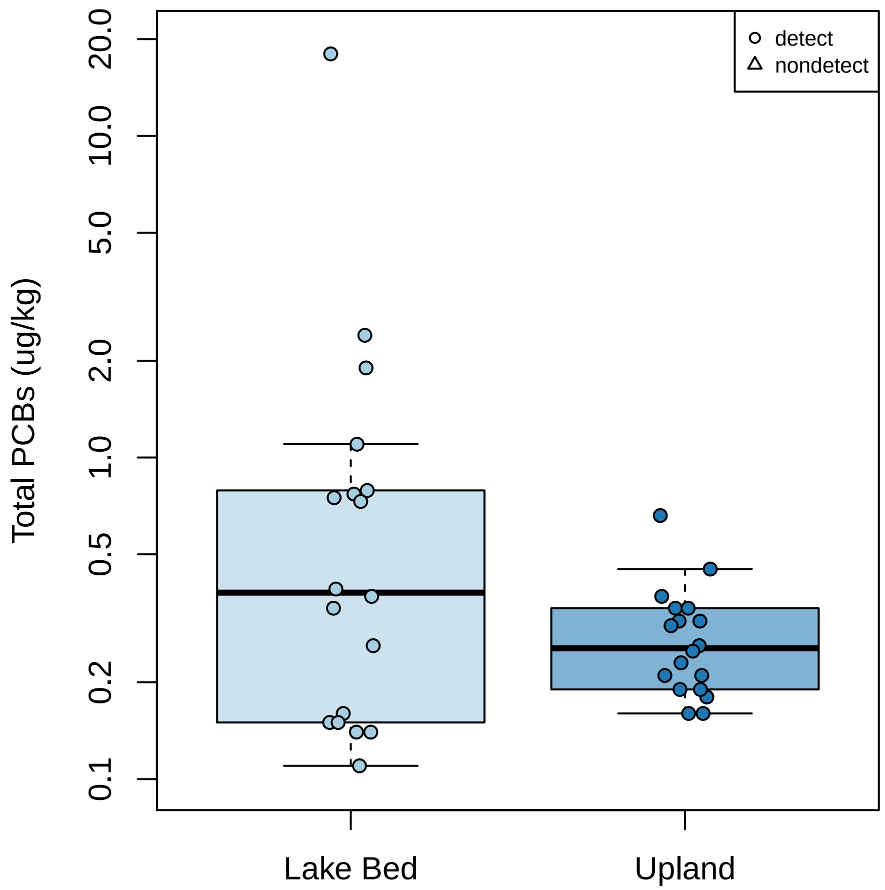


Boxplot for Total Molybdenum

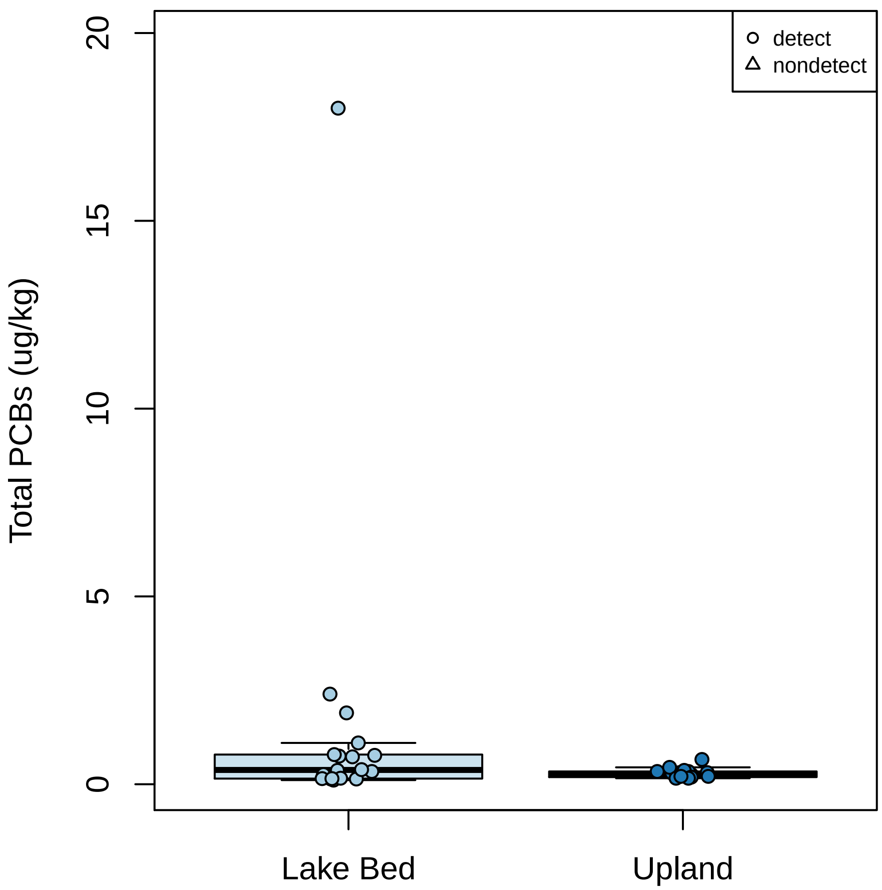



Logscale Boxplot for Total Nickel
Total Nickel (mg/kg)
20
10
5
2
1
detect
nondetect
Lake Bed
Upland

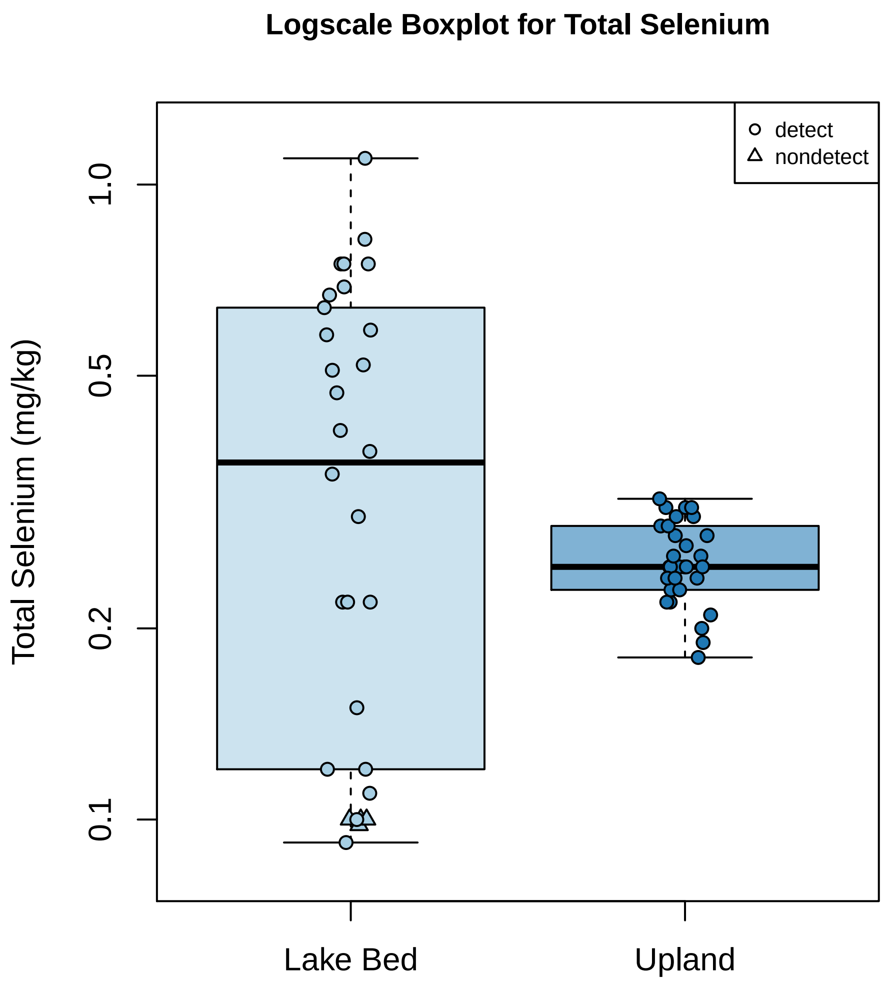

Boxplot for Total Nickel
Total Nickel (mg/kg)
15
10
5
detect
nondetect
Lake Bed
Upland

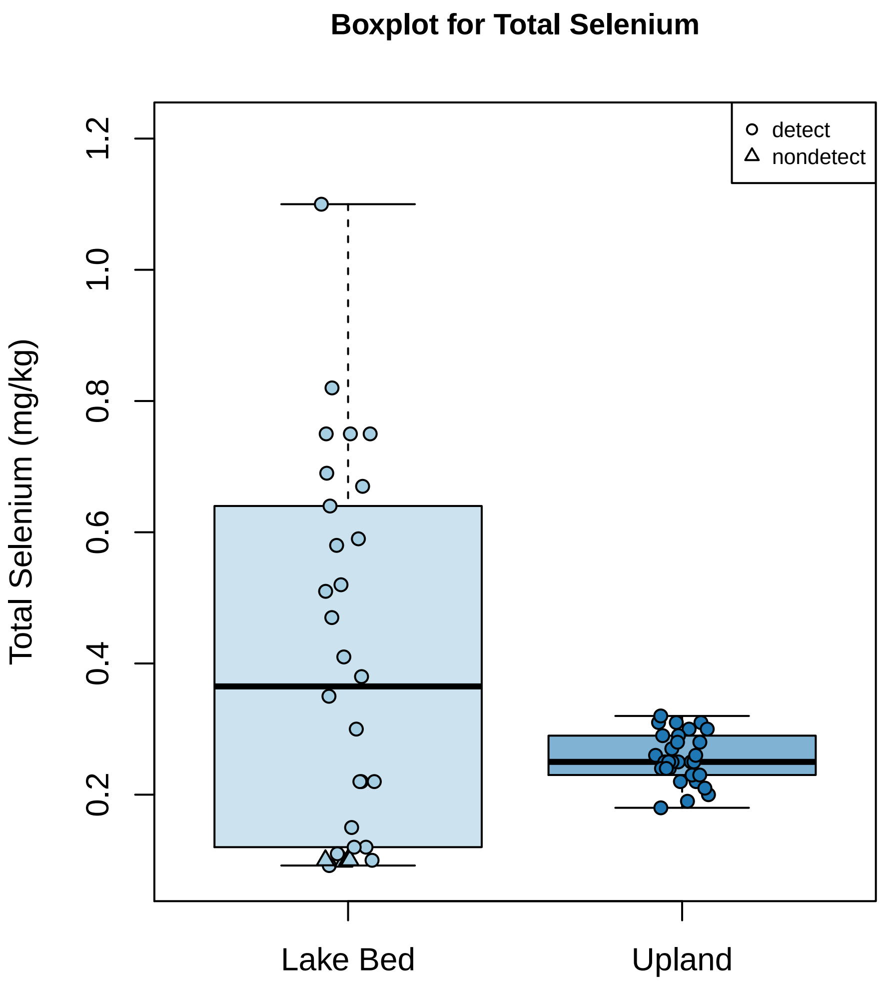


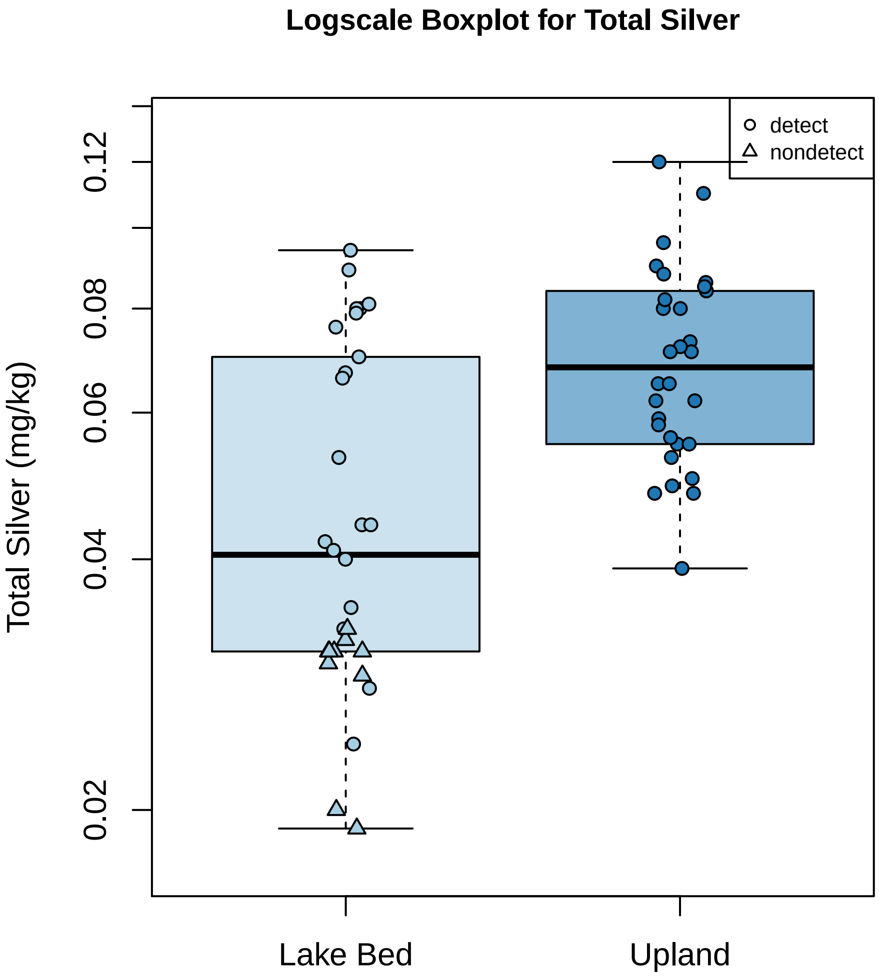
Logscale Boxplot for Total PCBs



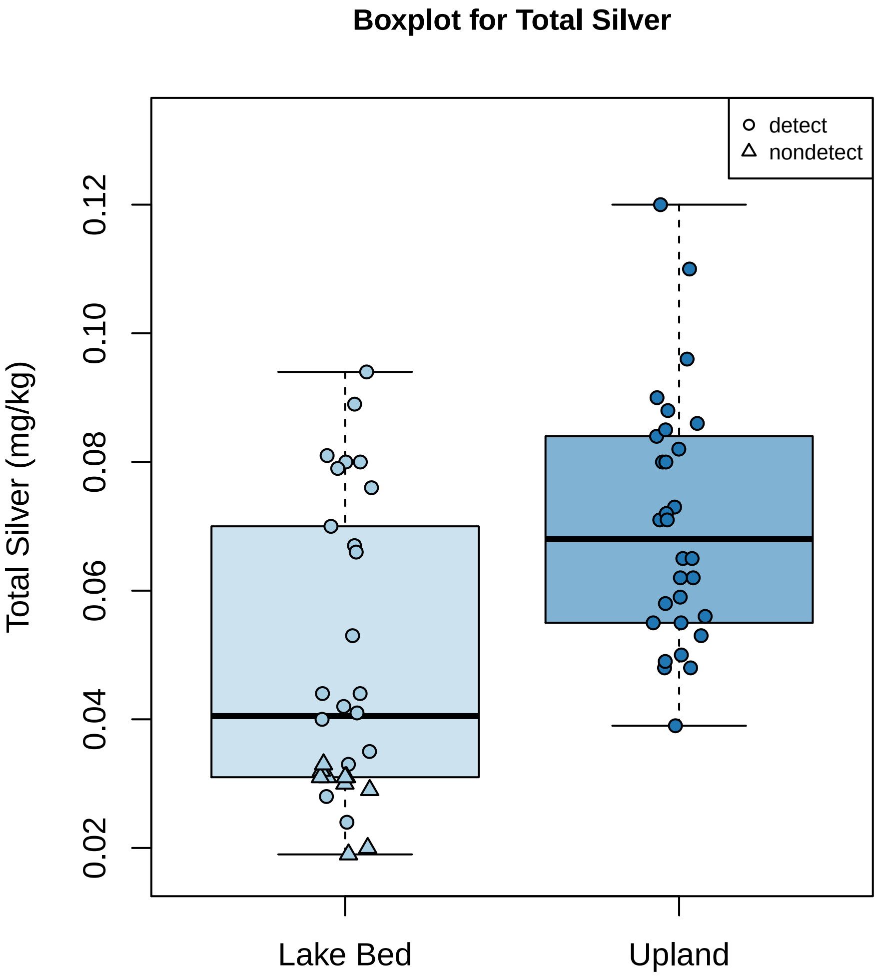
Boxplot for Total PCBs


Logscale Boxplot for Total Selenium
Total Selenium (mg/kg)
1.0
0.5
0.2
0.1
detect
nondetect
Lake Bed
Upland

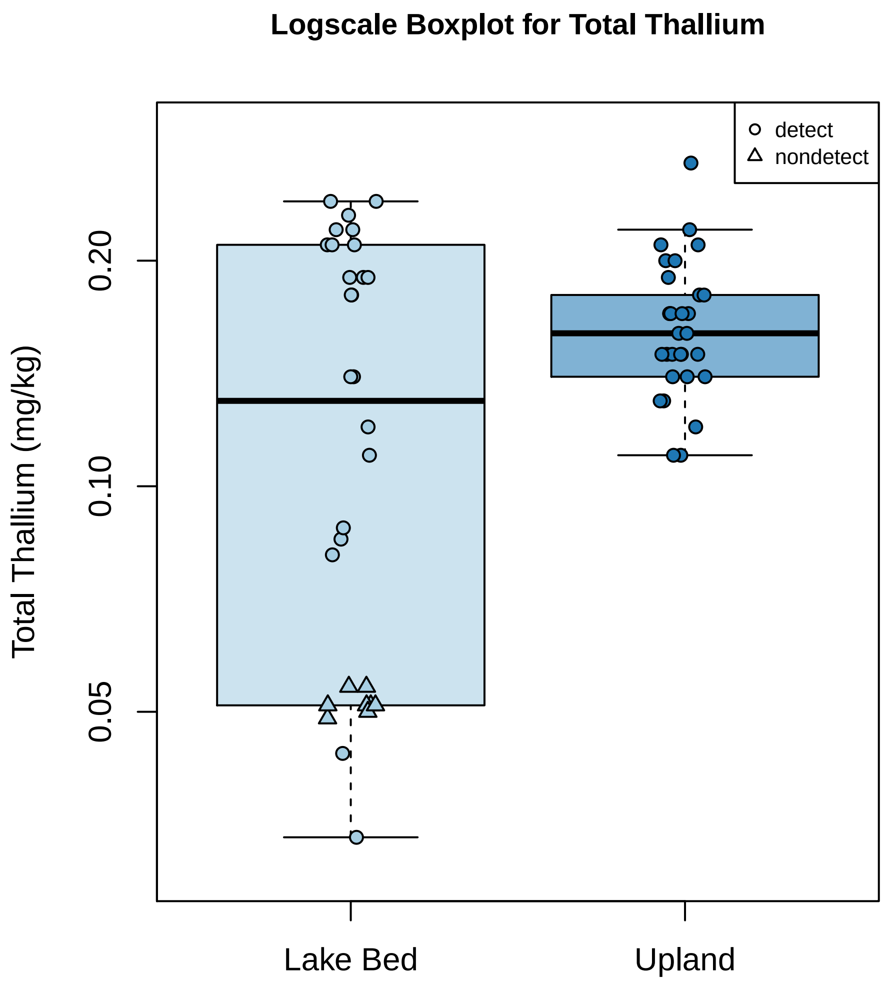

Boxplot for Total Selenium
Total Selenium (mg/kg)
1.2
1.0
0.8
0.6
0.4
0.2
detect
nondetect
Lake Bed
Upland

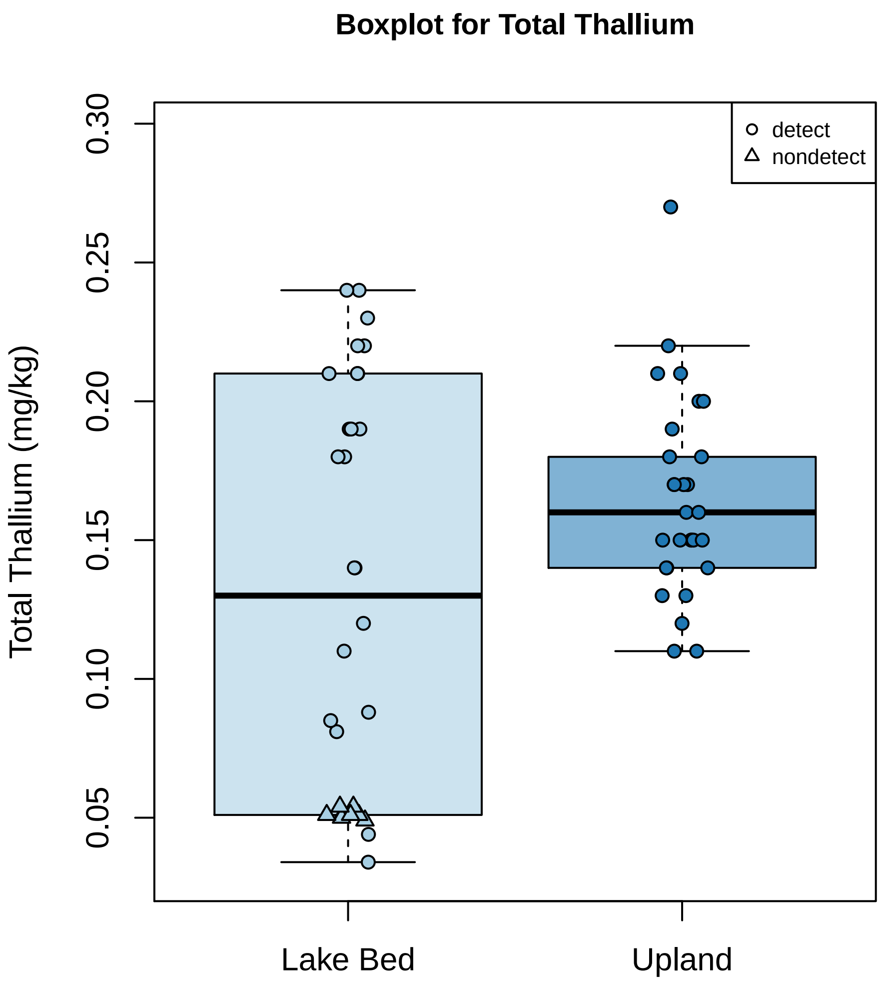


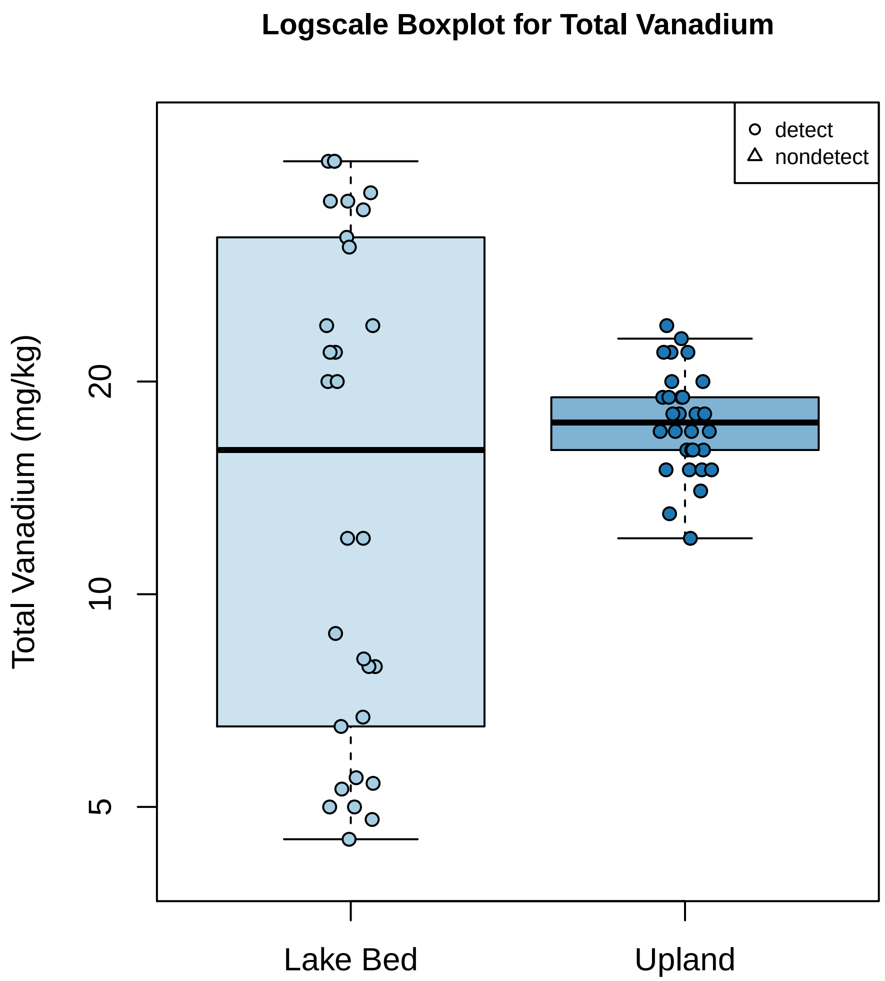
Logscale Boxplot for Total Silver

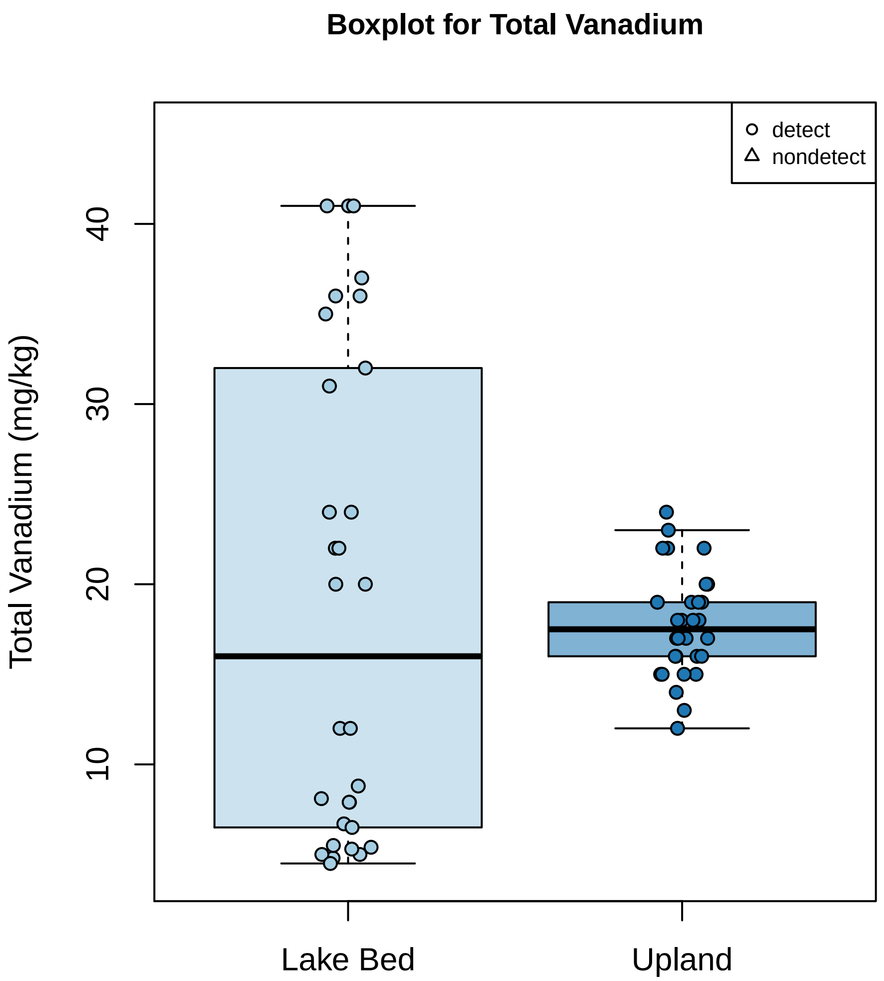


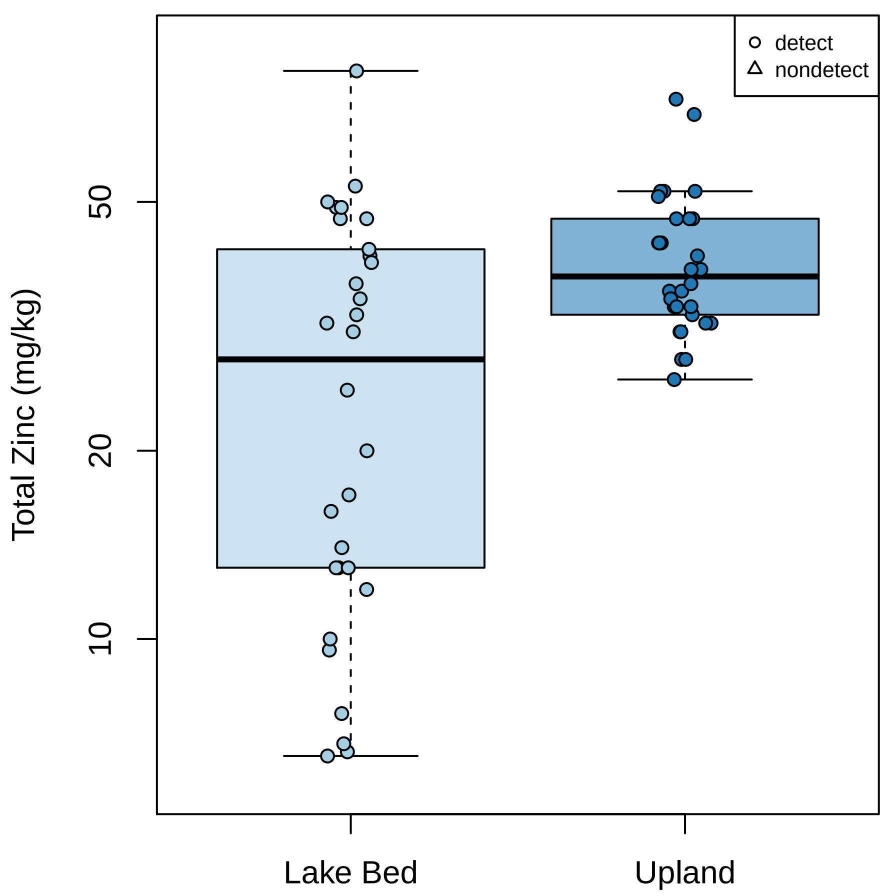
Boxplot for Total Silver


Logscale Boxplot for Total Thallium
Total Thallium (mg/kg)
0.05
0.10
0.20
Lake Bed
Upland
detect
nondetect

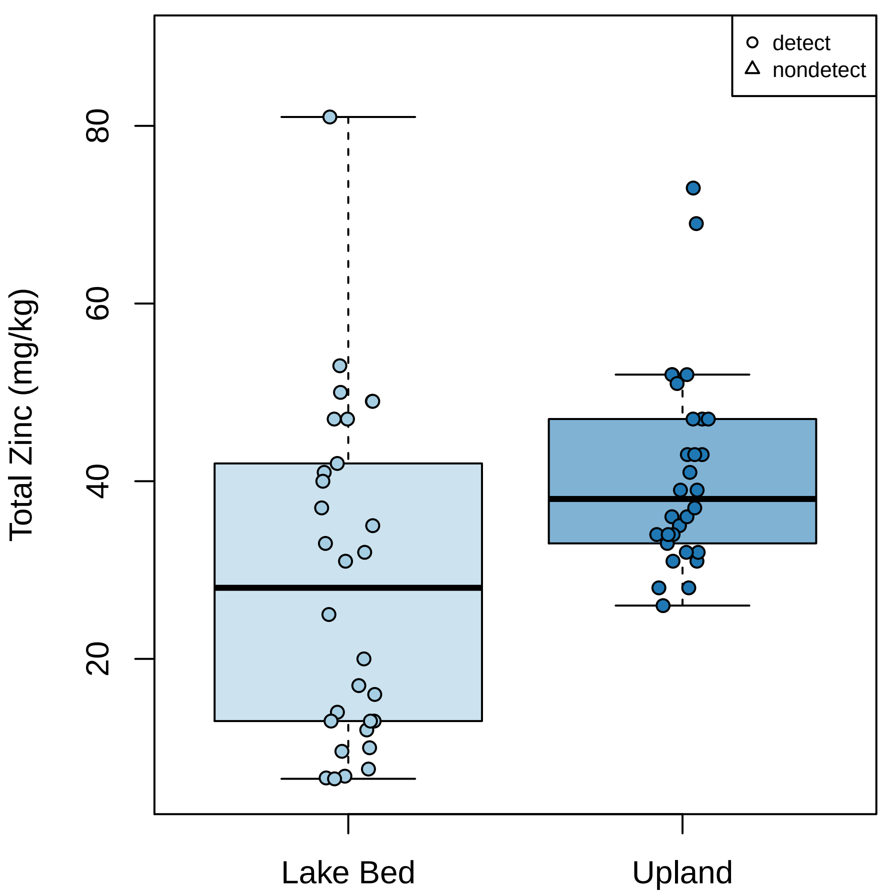

Boxplot for Total Thallium
Total Thallium (mg/kg)
0.05
0.10
0.15
0.20
0.25
0.30
Lake Bed
Upland
detect
nondetect


Logscale Boxplot for Total Vanadium


Boxplot for Total Vanadium



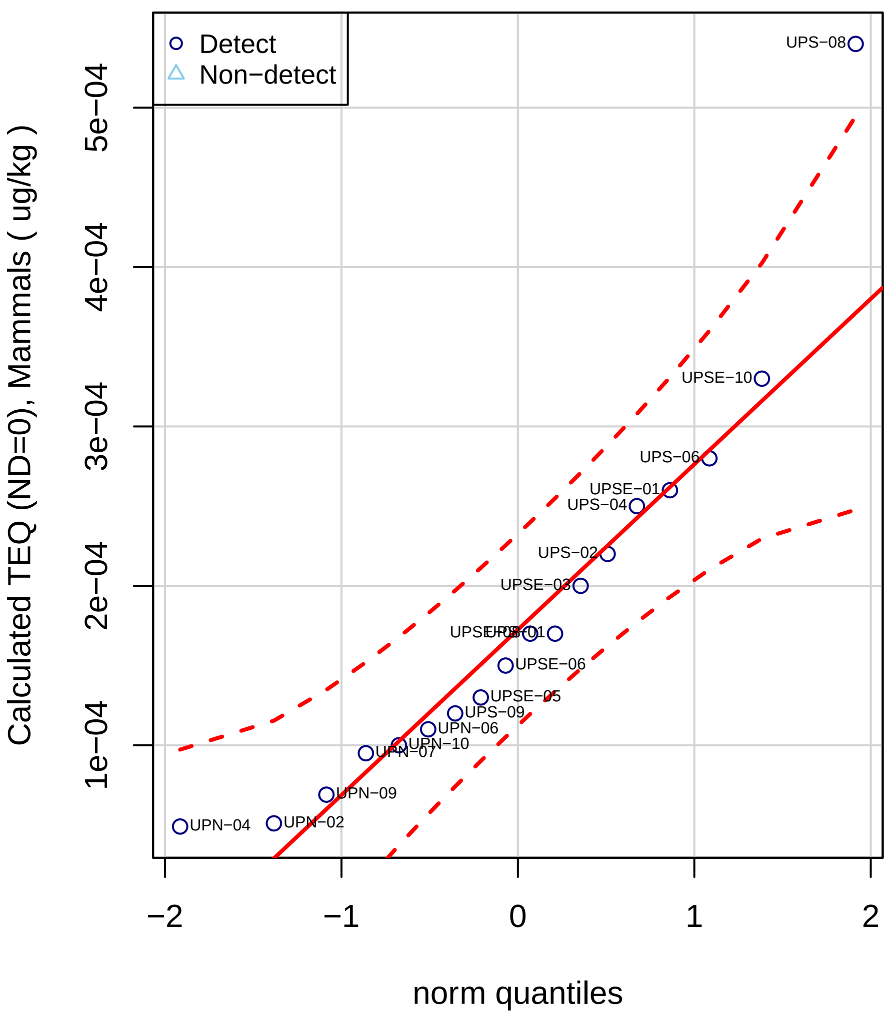
Logscale Boxplot for Total Zinc



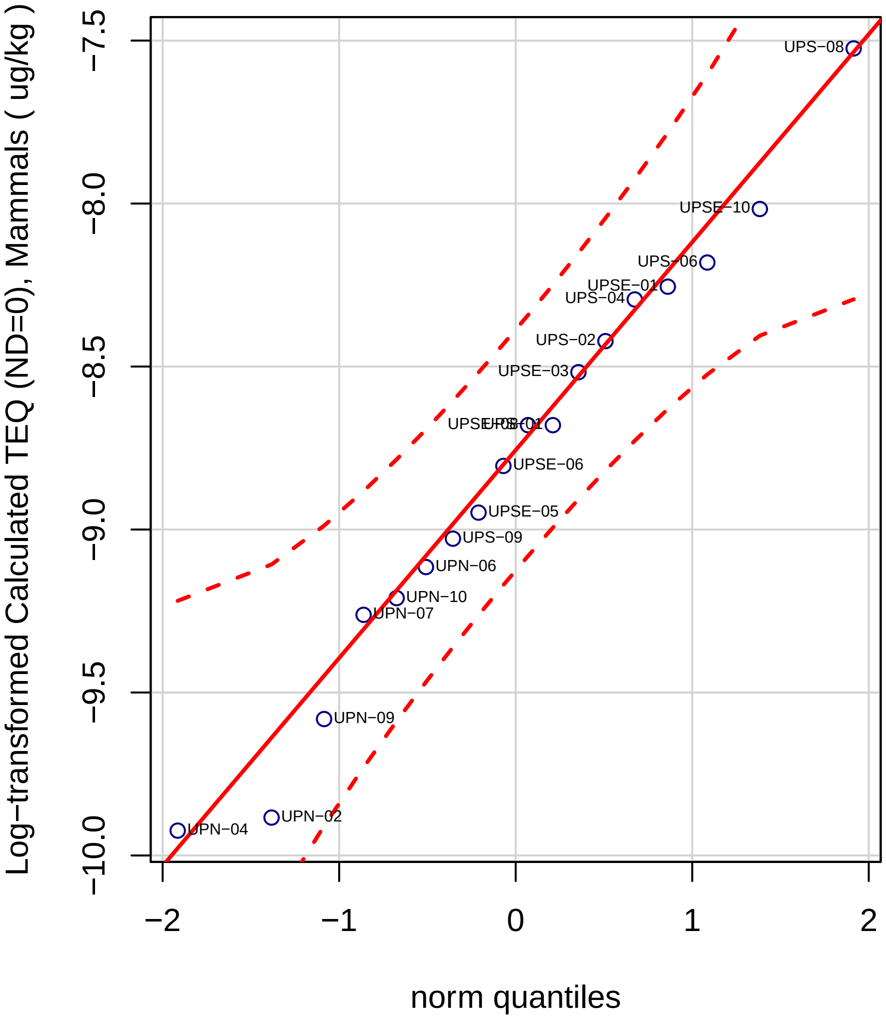
Boxplot for Total Zinc

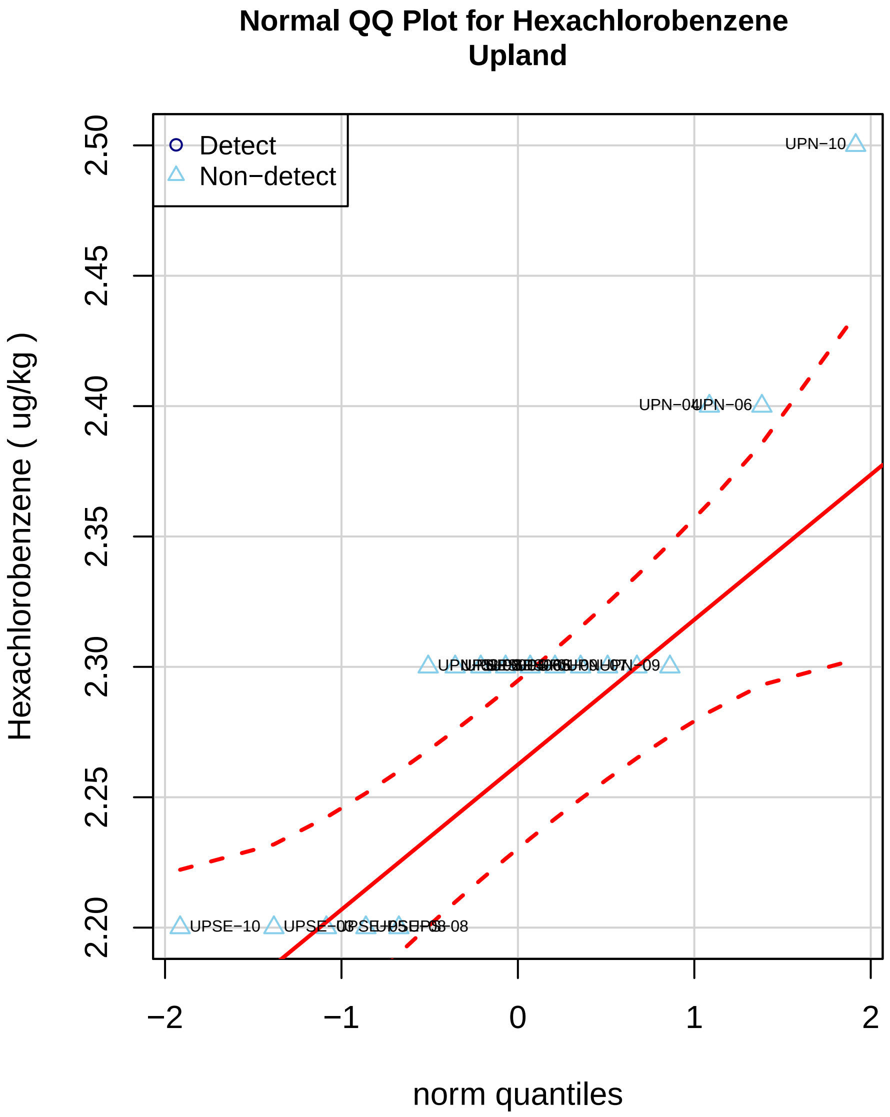
Attachment B
Q-Q Plots for All Analytes

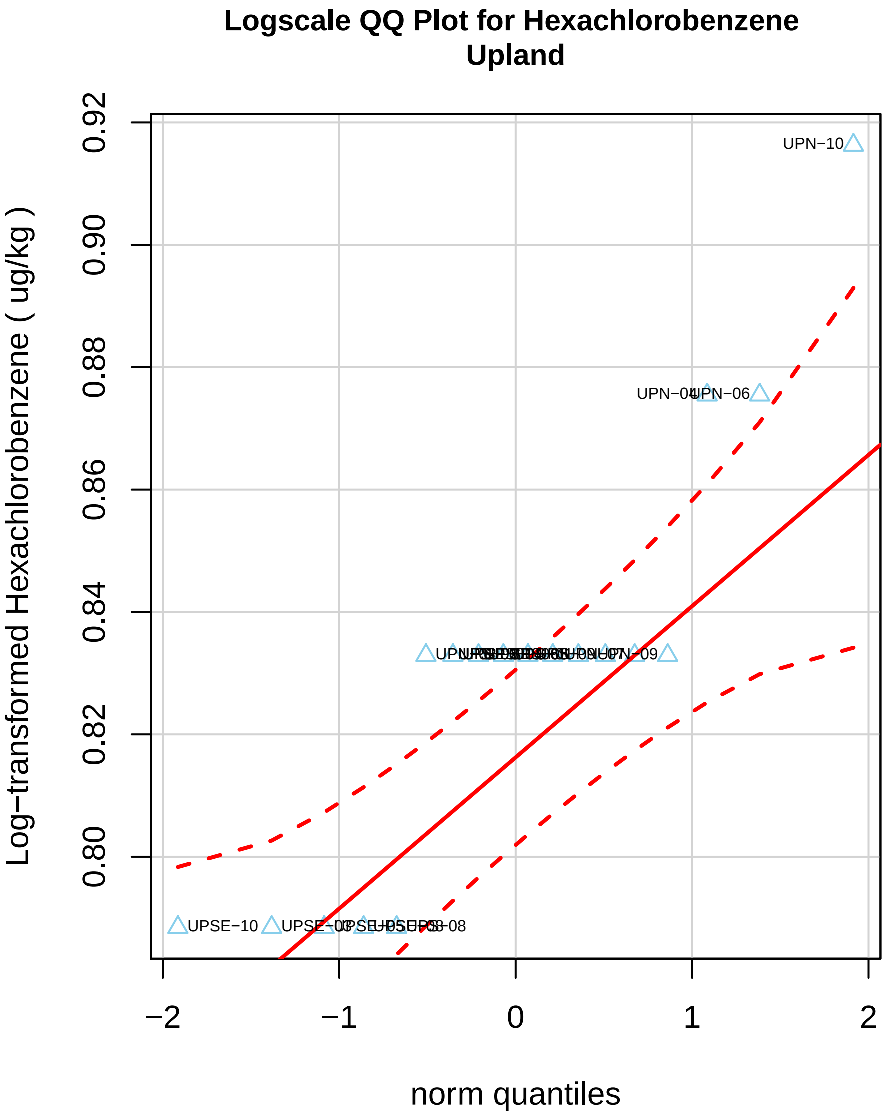
Normal QQ Plot for Calculated TEQ (ND=0), Mammals Upland

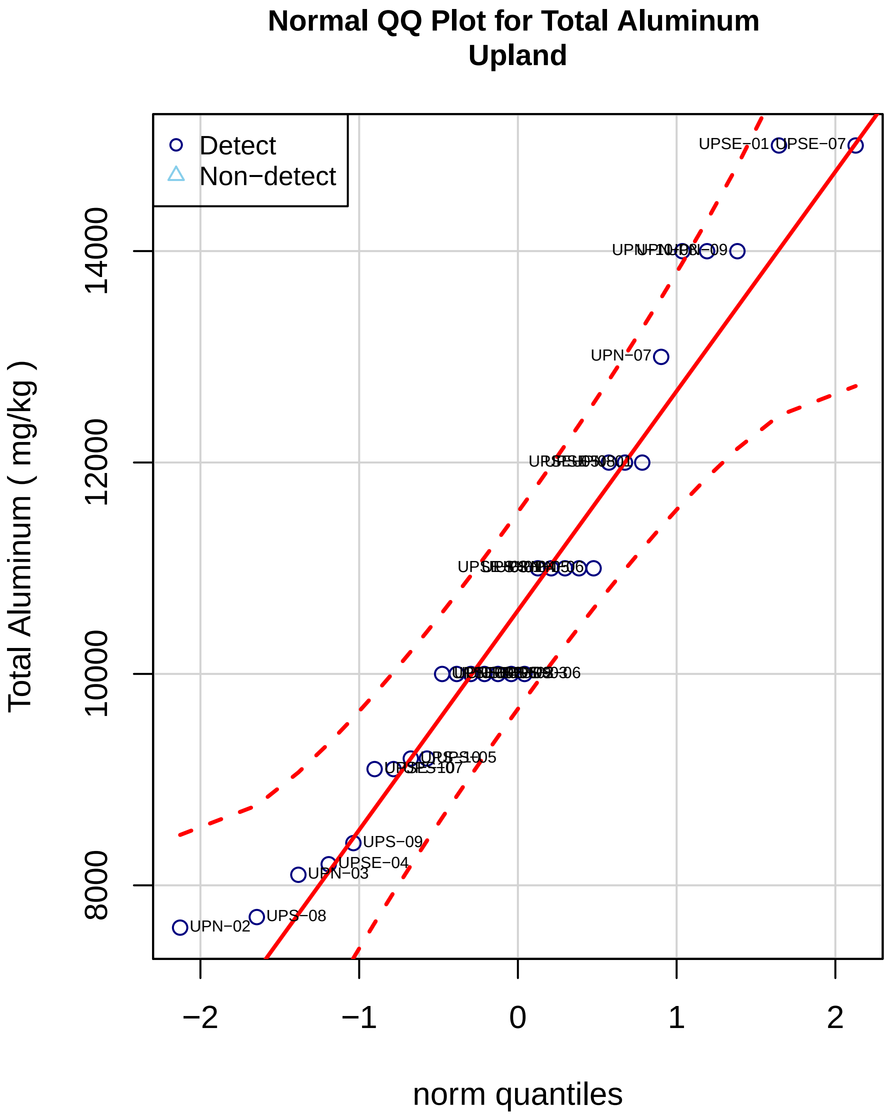


Logscale QQ Plot for Calculated TEQ (ND=0), Mammals Upland

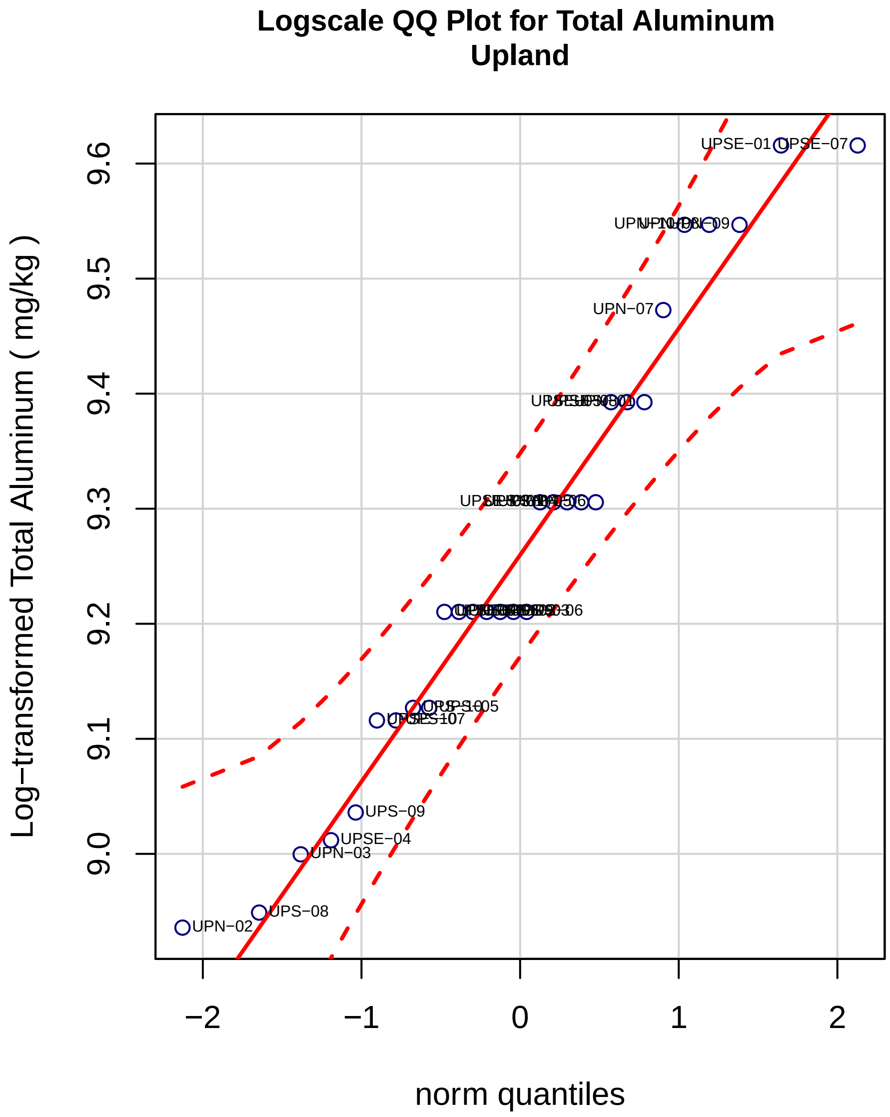



Normal QQ Plot for Hexachlorobenzene
Upland
Detect
Non−detect
Hexachlorobenzene (ug/kg)
2.20
2.25
2.30
2.35
2.40
2.45
2.50
UPN−10
UPN−04
UPN−06
UPN−09
UPSE−10
UPSE−07
UPSE−08
−2
−1
0
1
2
norm quantiles

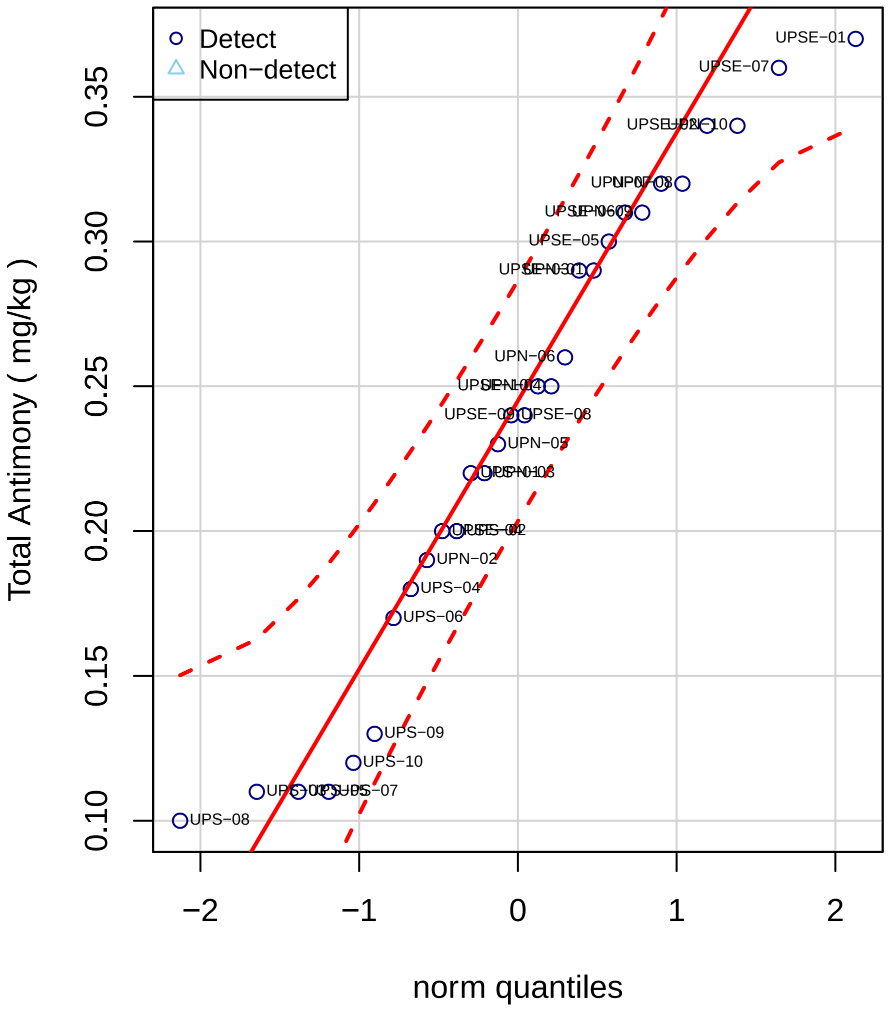

Logscale QQ Plot for Hexachlorobenzene
Upland
Log−transformed Hexachlorobenzene (ug/kg)
0.80
0.82
0.84
0.86
0.88
0.90
0.92
UPN−10
UPN−04
UPN−06
UPN−09
UPSE−10
UPSE−07
UPSE−08
−2
−1
0
1
2
norm quantiles



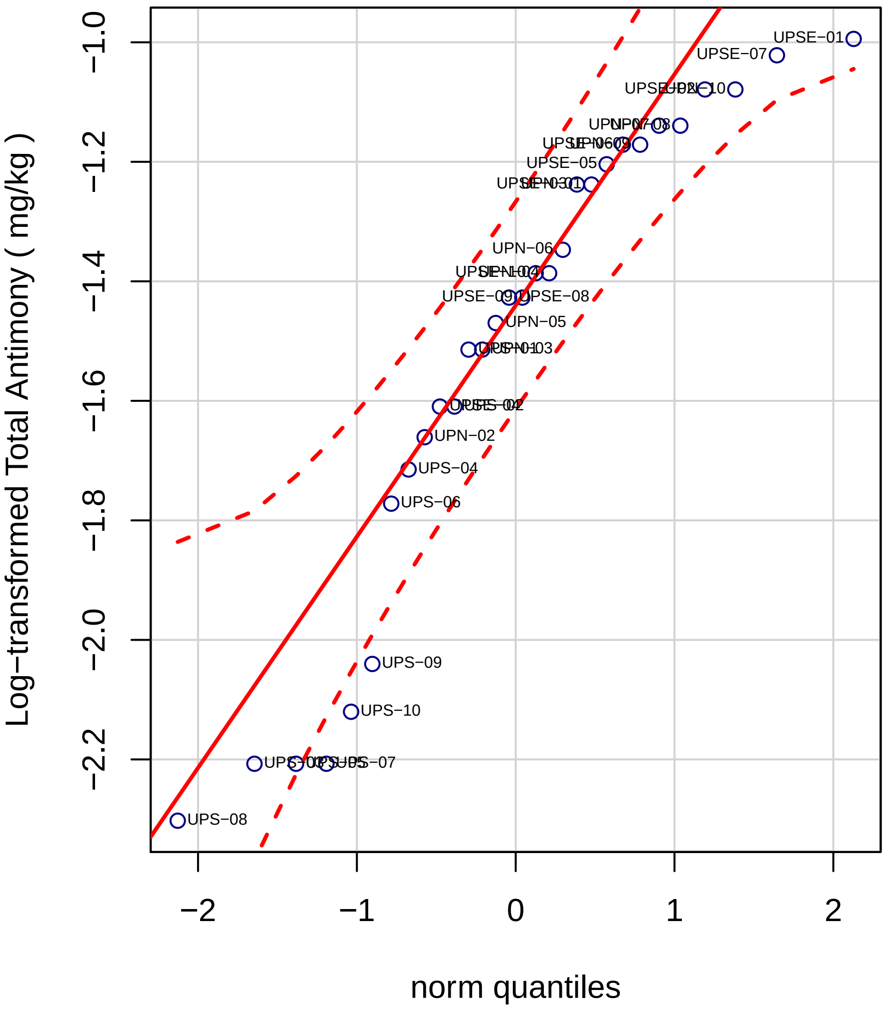
Normal QQ Plot for Total Aluminum
Upland



Logscale QQ Plot for Total Aluminum
Upland

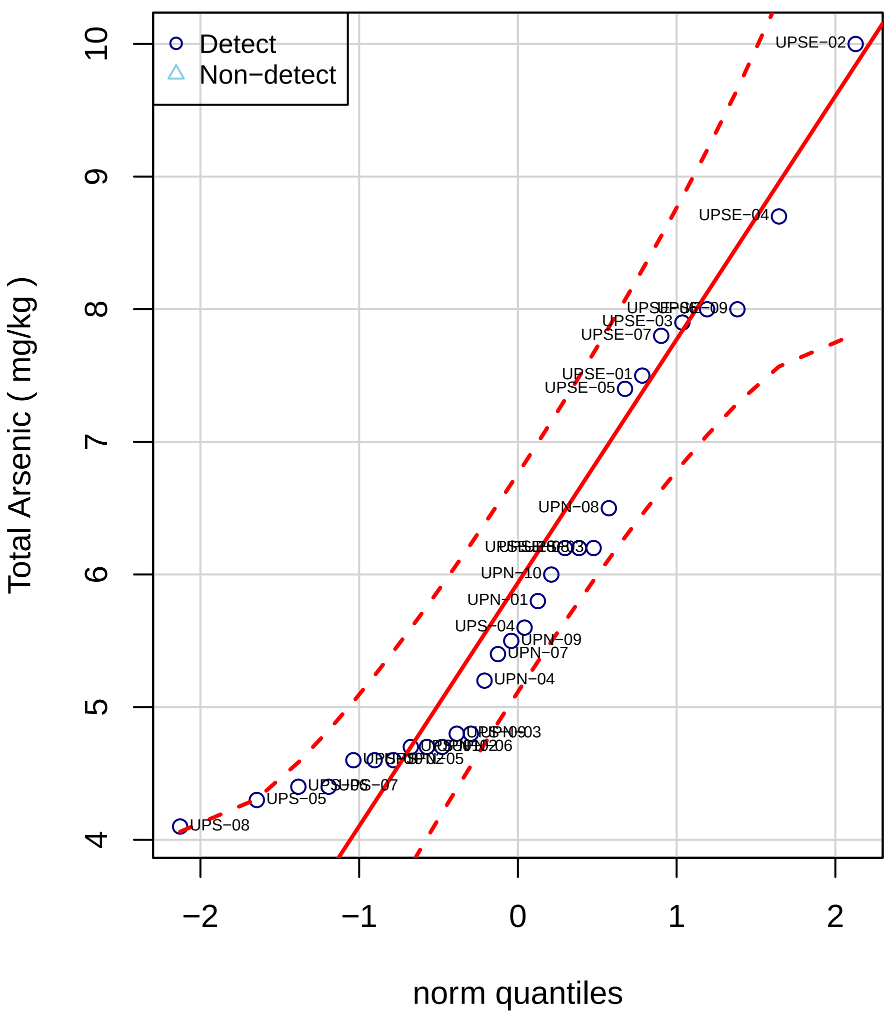


Normal QQ Plot for Total Antimony
Upland

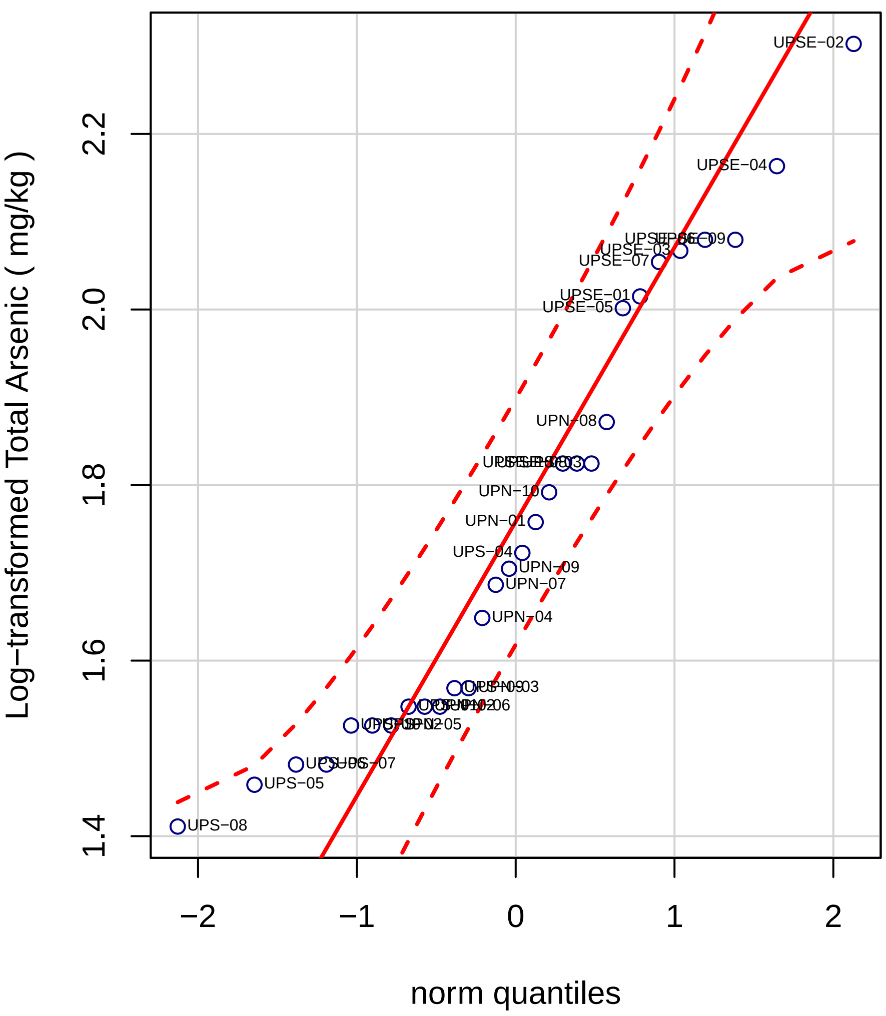


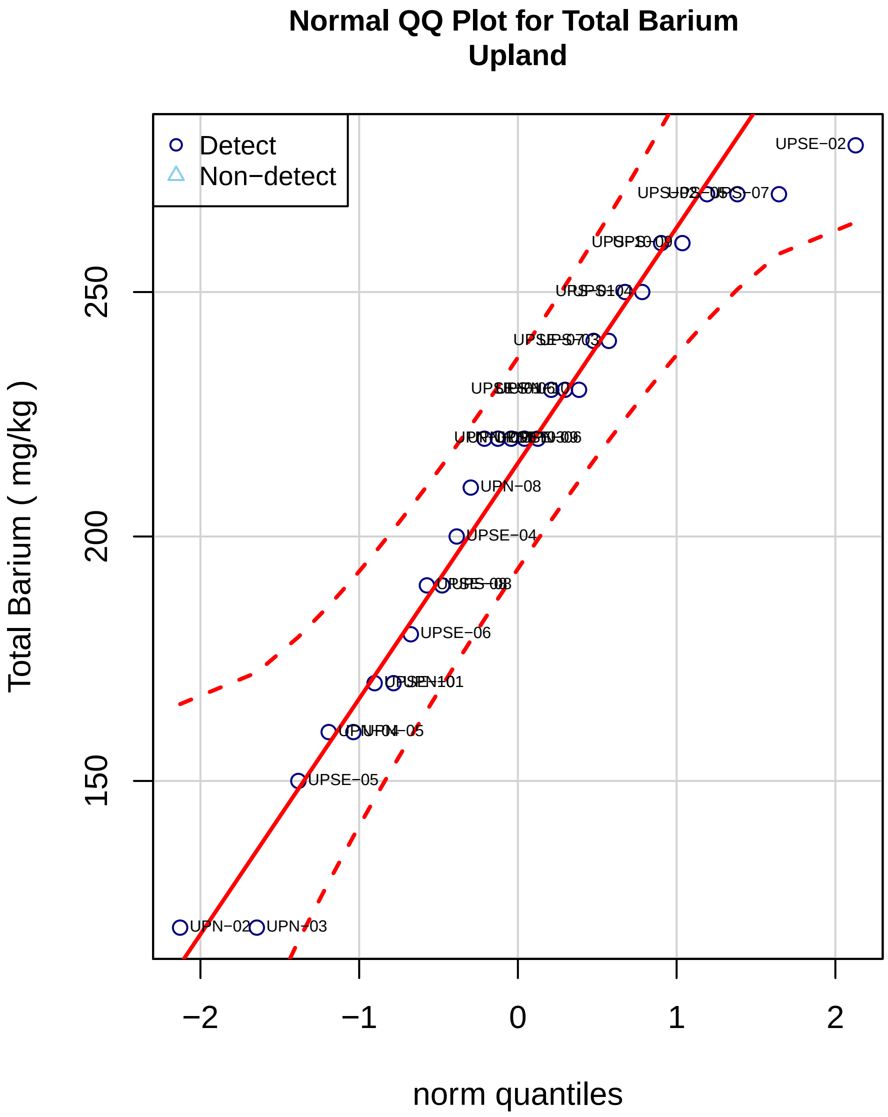
Logscale QQ Plot for Total Antimony
Upland

Normal QQ Plot for Total Arsenic Upland

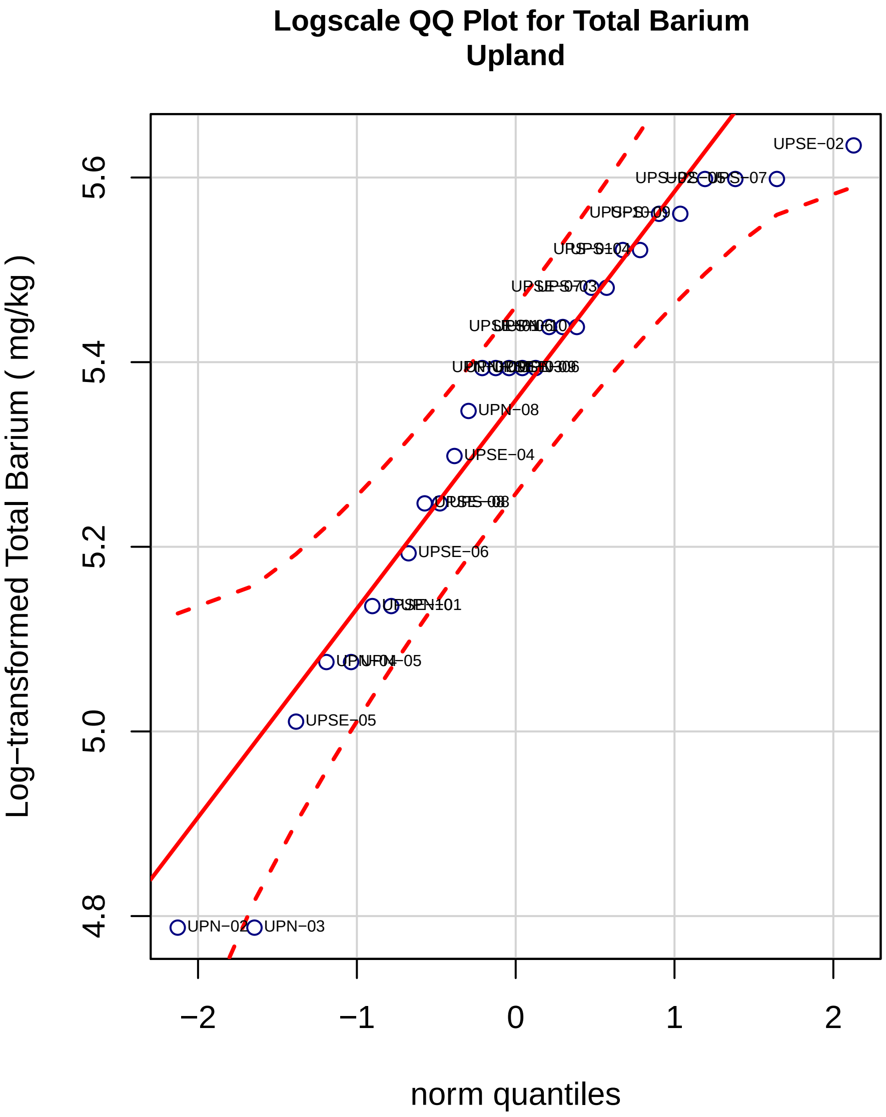


Logscale QQ Plot for Total Arsenic Upland

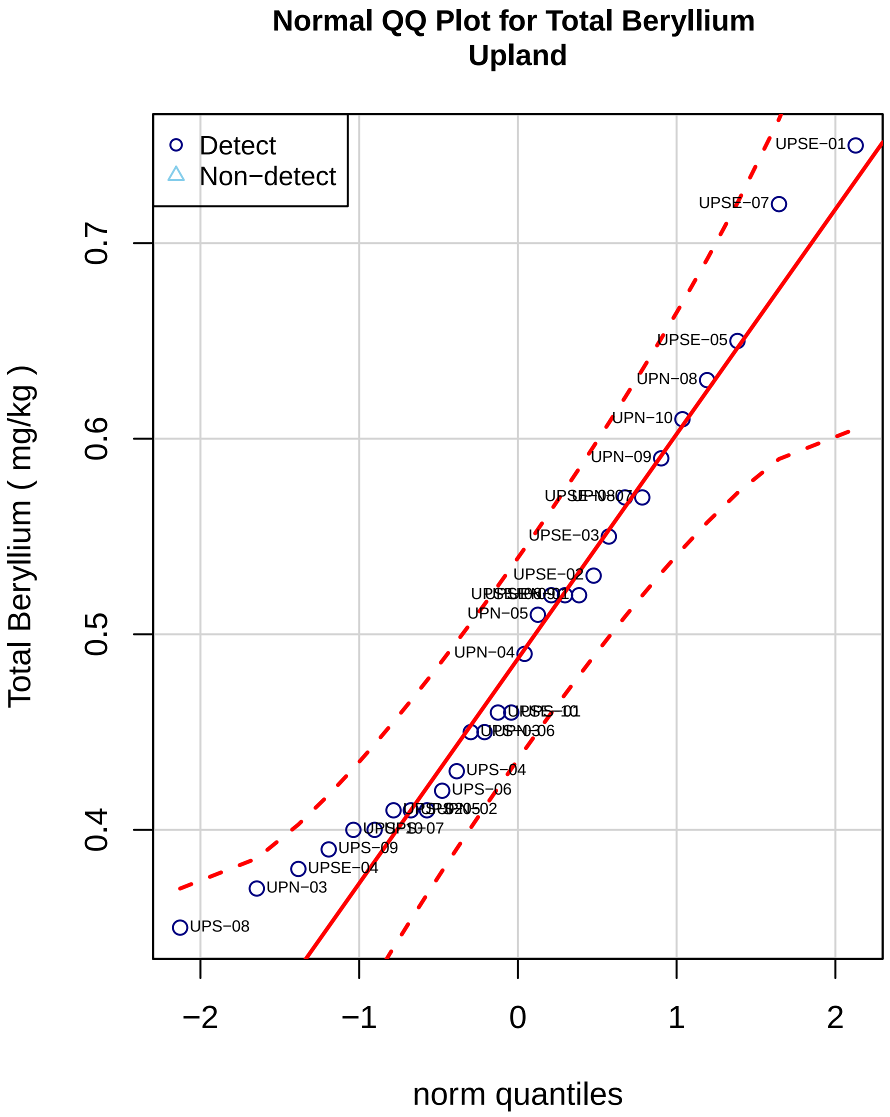


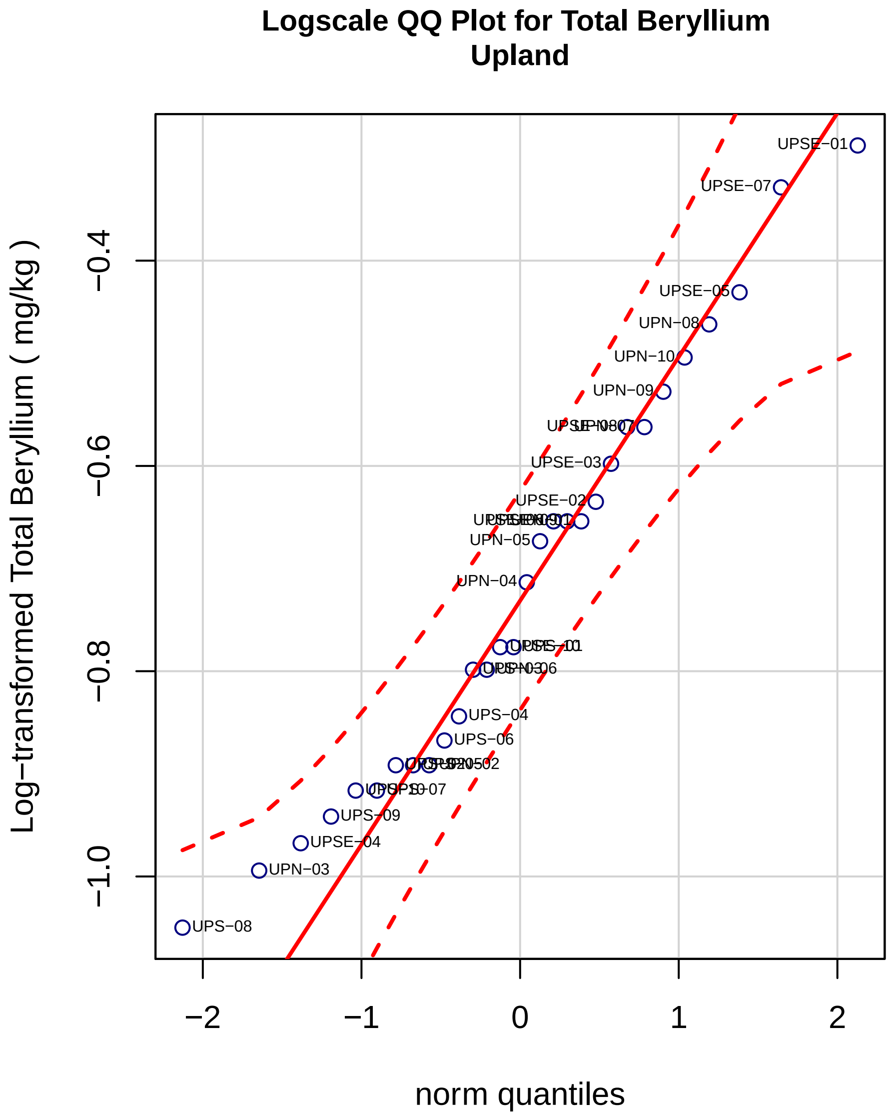


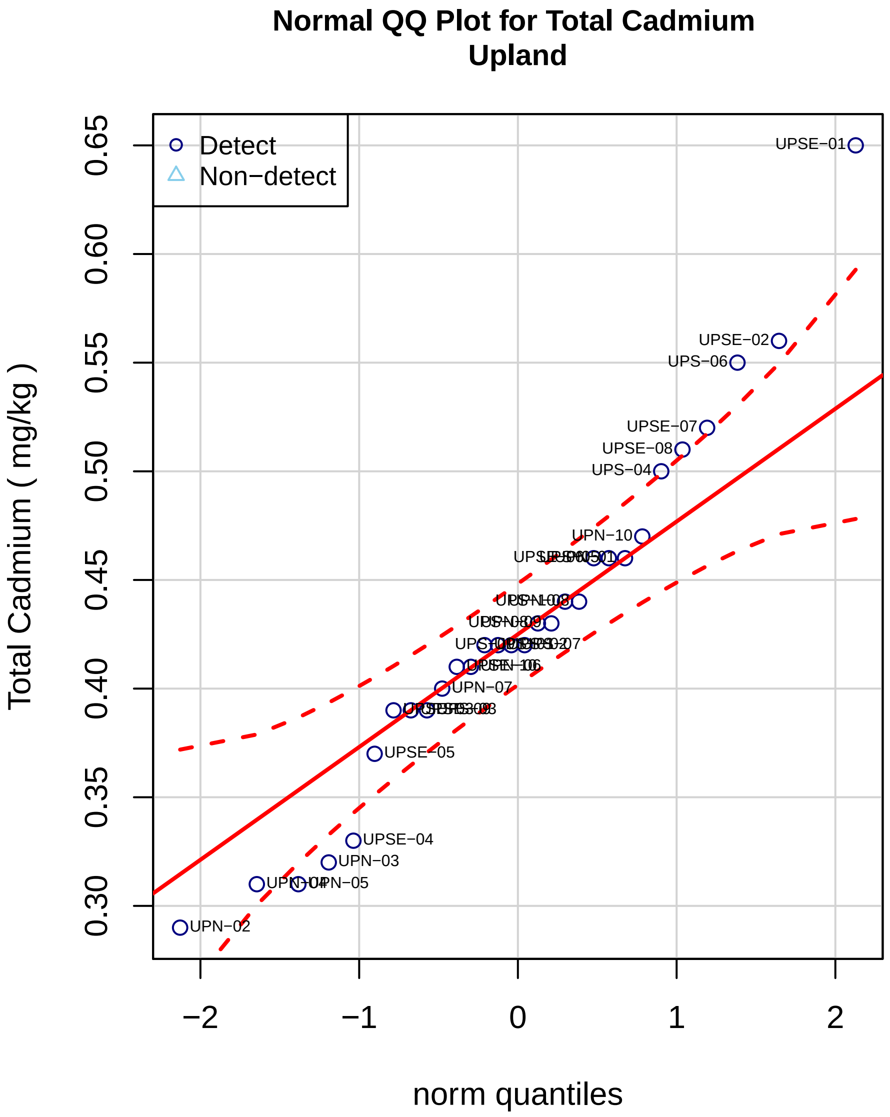
Normal QQ Plot for Total Barium
Upland

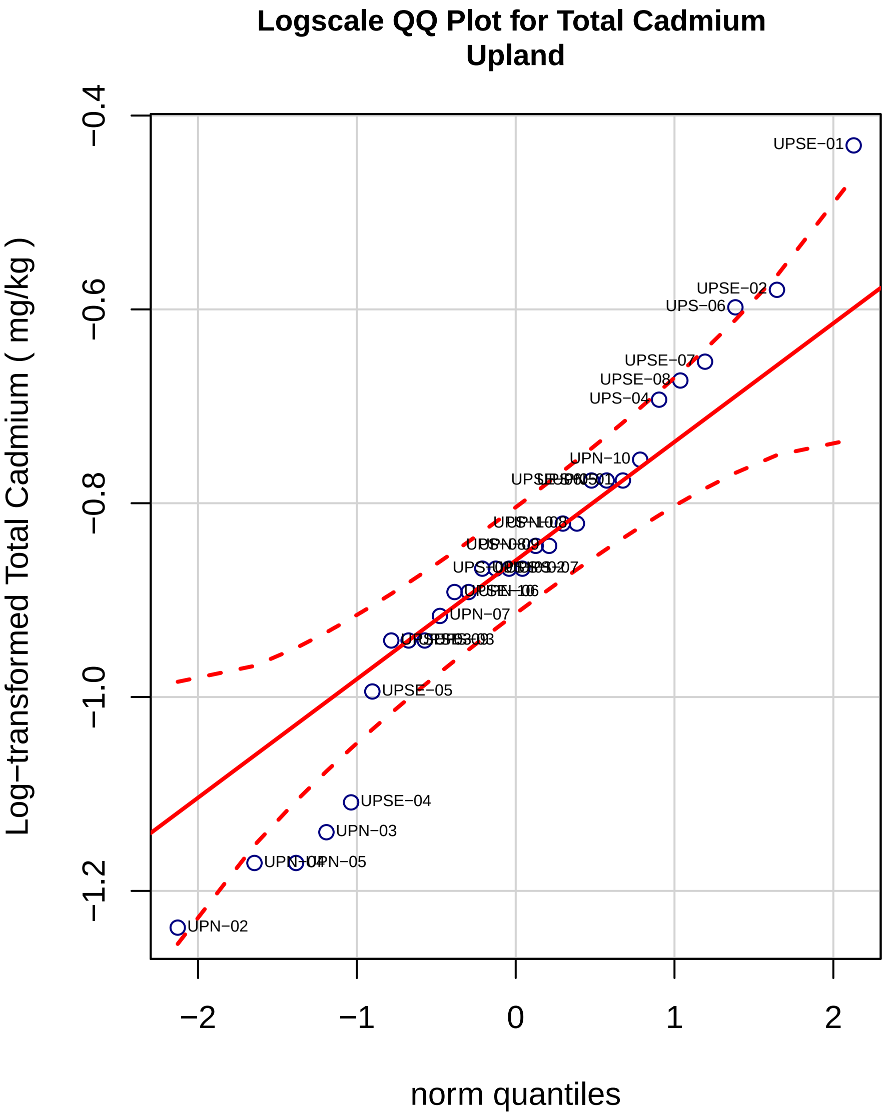


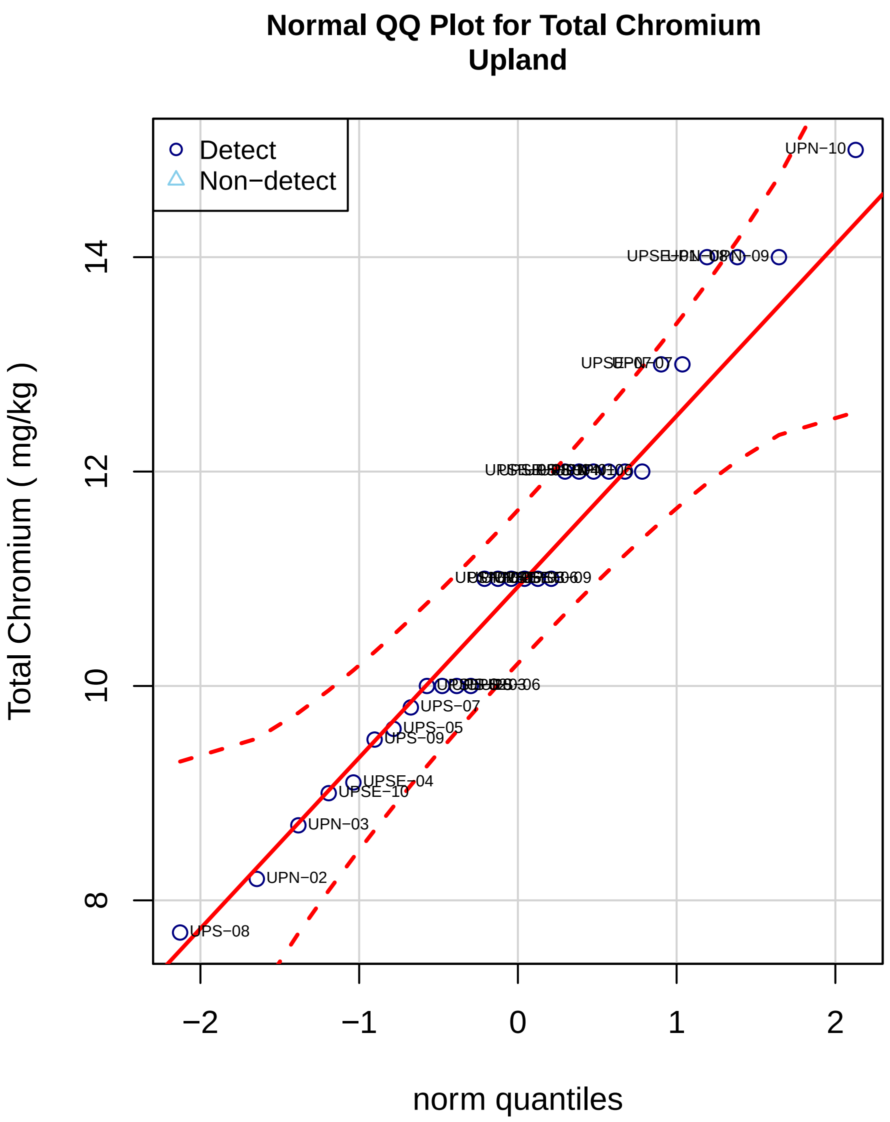
Logscale QQ Plot for Total Barium
Upland

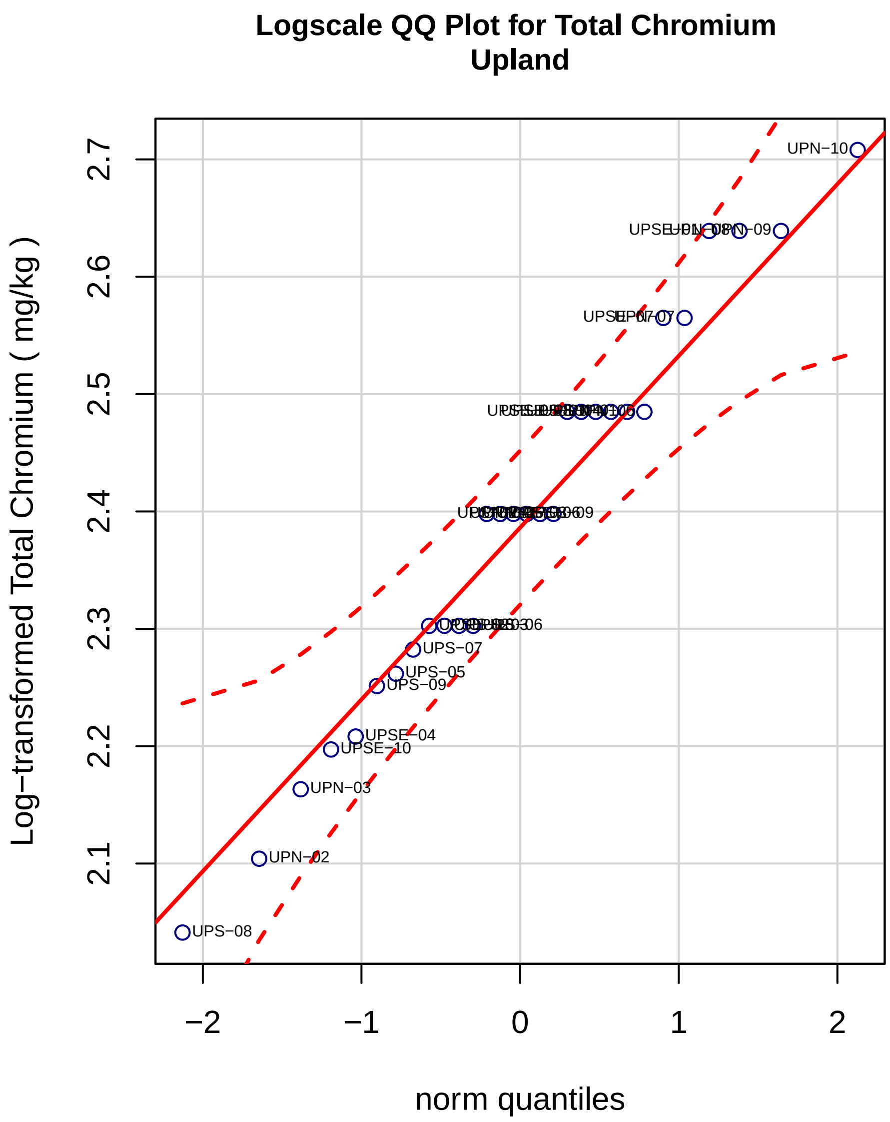

Normal QQ Plot for Total Beryllium
Upland

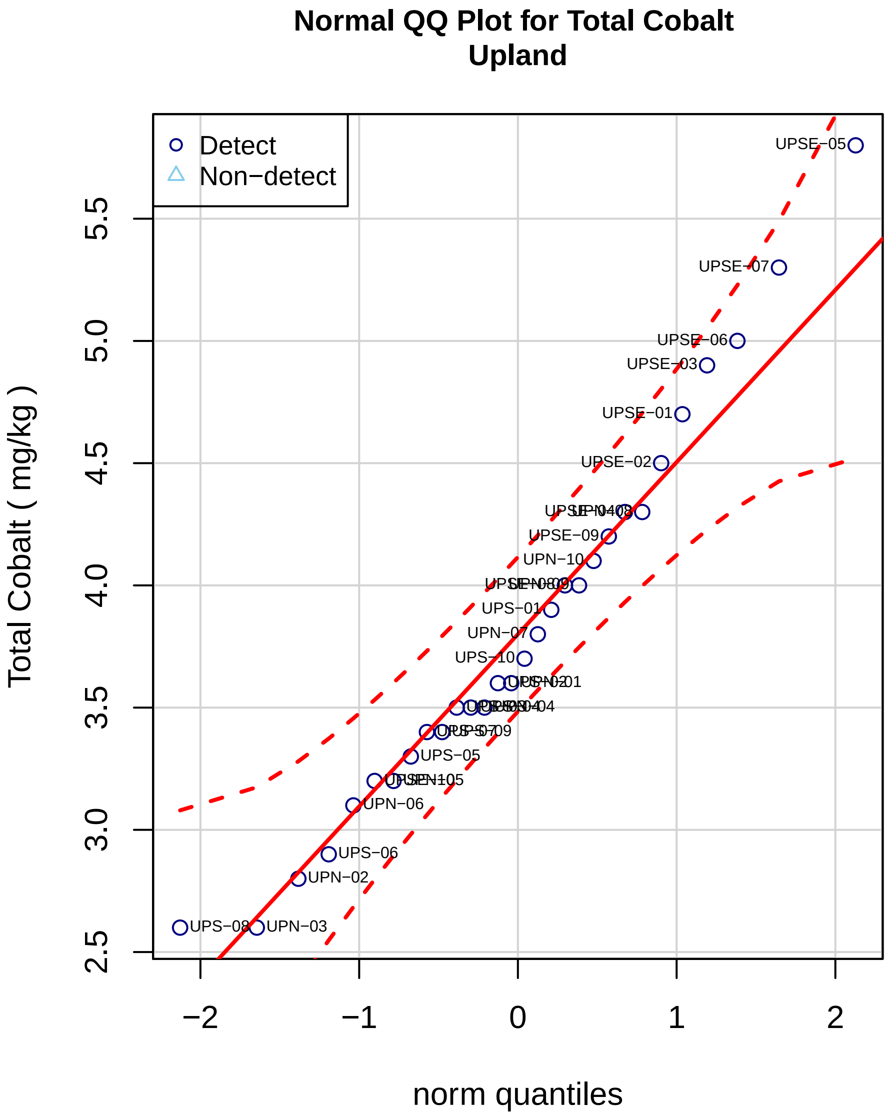

Logscale QQ Plot for Total Beryllium
Upland

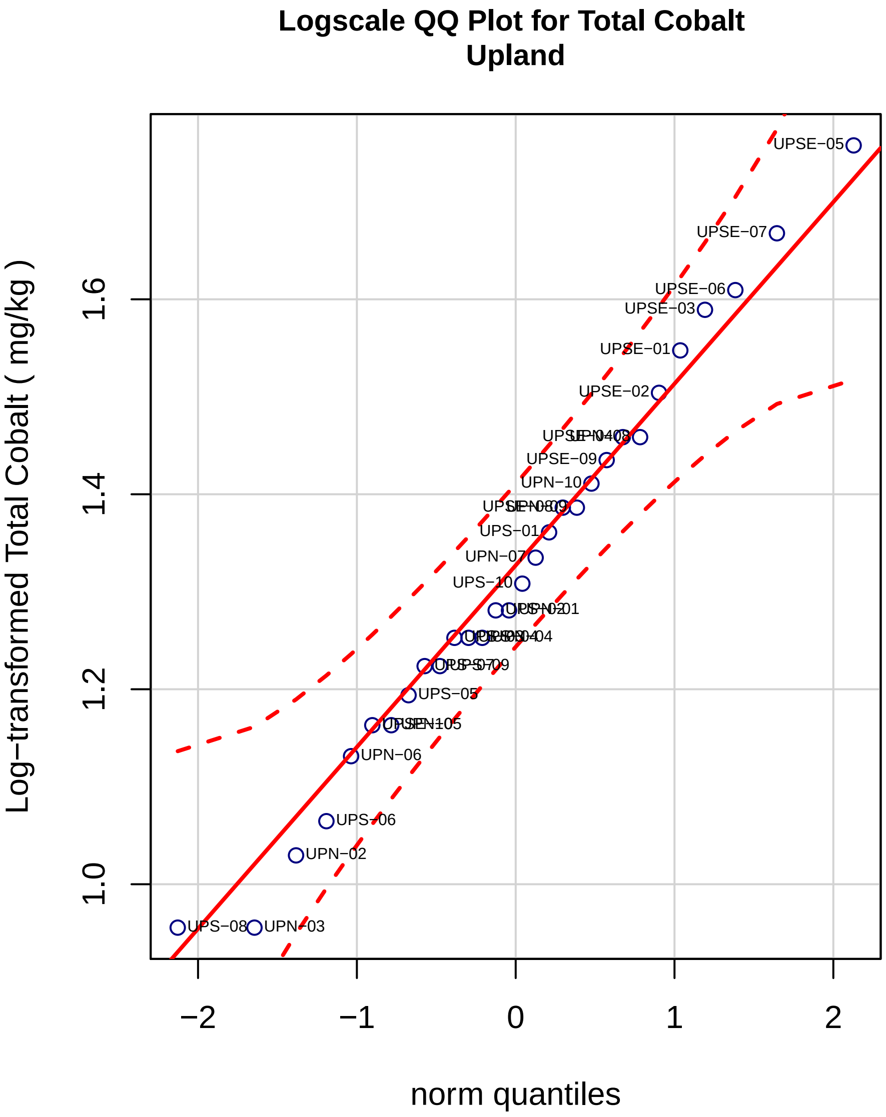

Normal QQ Plot for Total Cadmium
Upland
Detect
Non−detect
Total Cadmium (mg/kg)
0.30
0.35
0.40
0.45
0.50
0.55
0.60
0.65
−2
−1
0
1
2
norm quantiles
UPSE−01
UPSE−02
UPS−06
UPSE−07
UPSE−08
UPS−04
UPN−10
UPSE−05
UPN−07
UPSE−04
UPN−03
UPN−05
UPN−02

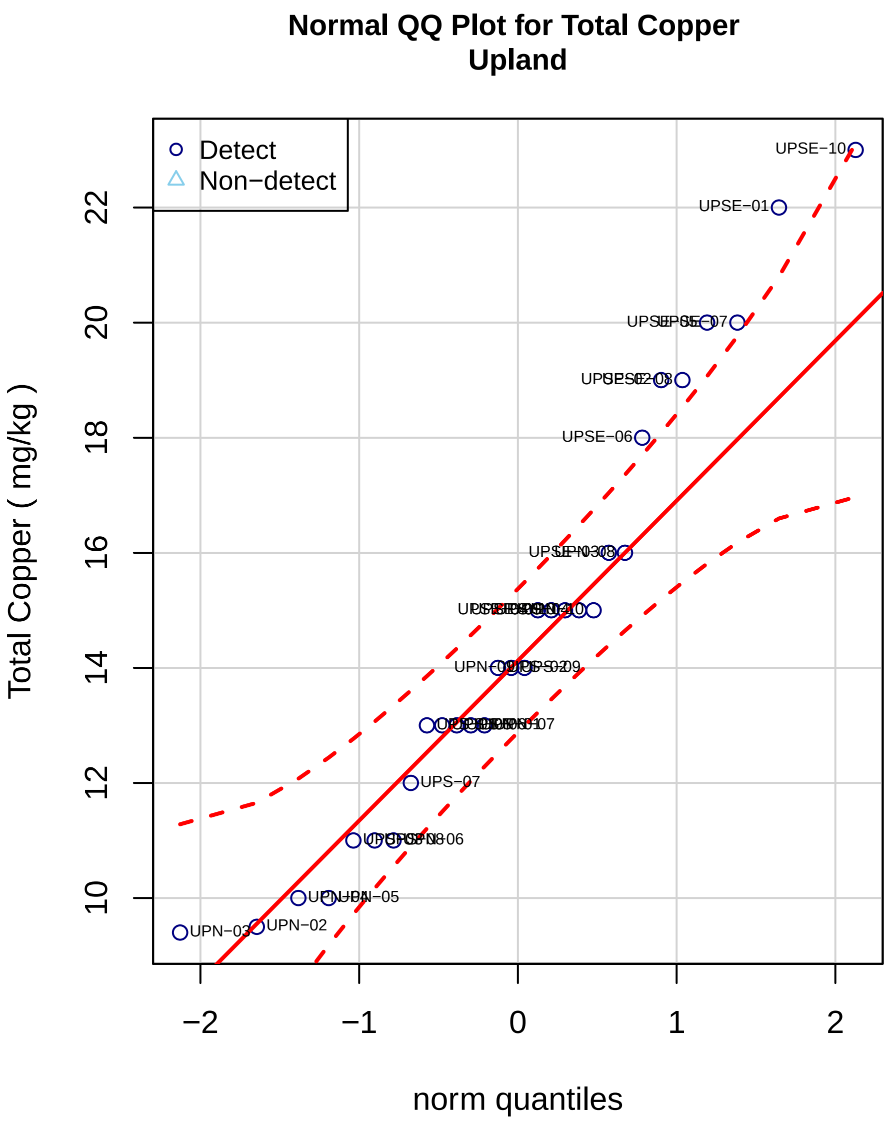

Logscale QQ Plot for Total Cadmium
Upland
Log−transformed Total Cadmium (mg/kg)
−1.2
−1.0
−0.8
−0.6
−0.4
−2
−1
0
1
2
norm quantiles
UPSE−01
UPSE−02
UPS−06
UPSE−07
UPSE−08
UPS−04
UPN−10
UPN−07
UPSE−05
UPSE−04
UPN−03
UPN−05
UPN−02

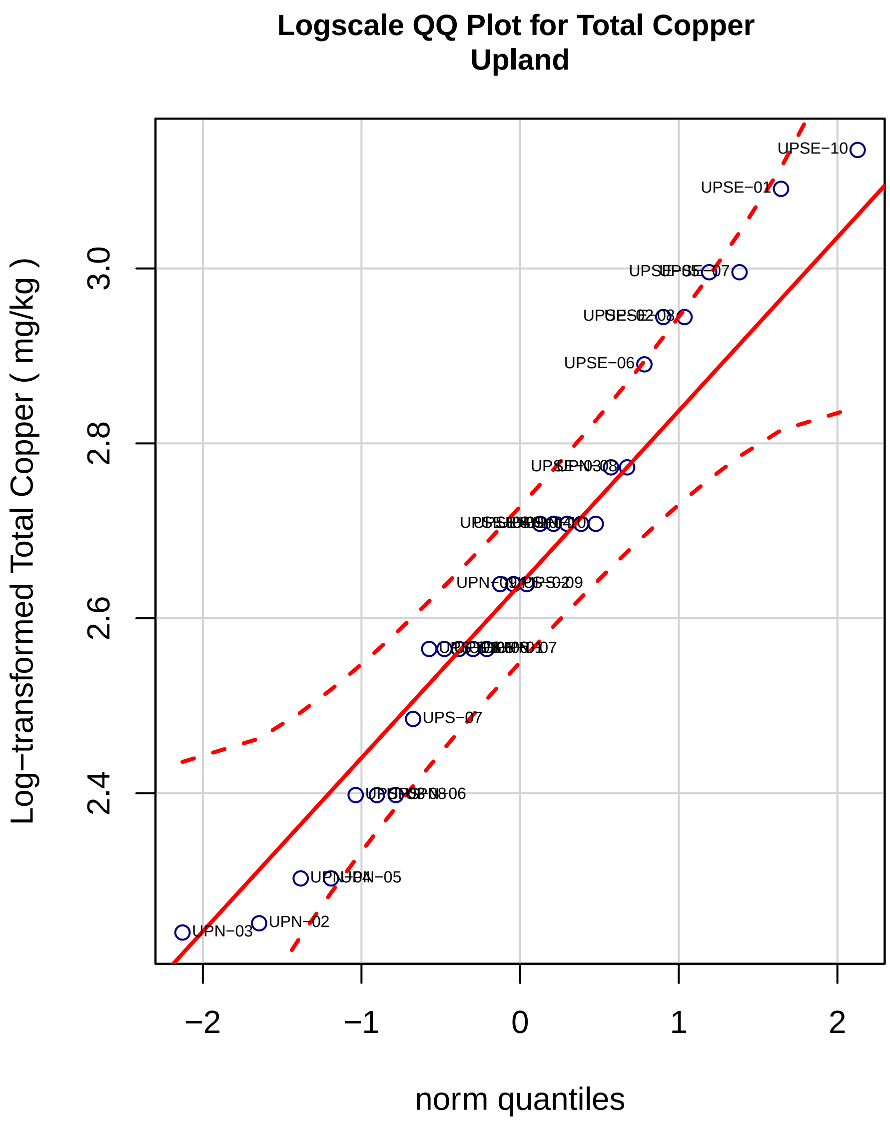

Normal QQ Plot for Total Chromium
Upland
Detect
Non−detect
Total Chromium (mg/kg)
norm quantiles
8
10
12
14
−2
−1
0
1
2
UPN−10
UPN−09
UPN−07
UPS−07
UPS−05
UPS−09
UPSE−04
UPSE−10
UPN−03
UPN−02
UPS−08

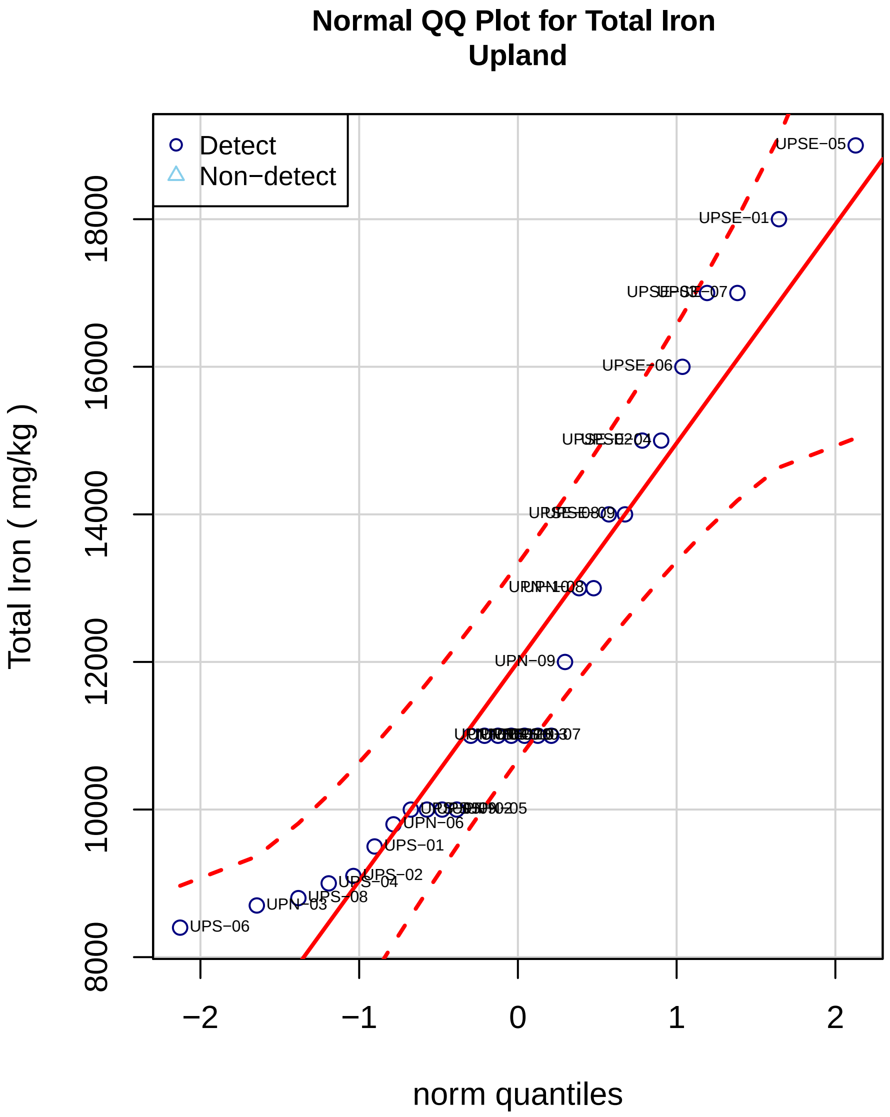

Logscale QQ Plot for Total Chromium
Upland
Log−transformed Total Chromium (mg/kg)
norm quantiles
2.1
2.2
2.3
2.4
2.5
2.6
2.7
−2
−1
0
1
2
UPN−10
UPN−09
UPN−07
UPS−07
UPS−05
UPS−09
UPSE−04
UPSE−10
UPN−03
UPN−02
UPS−08

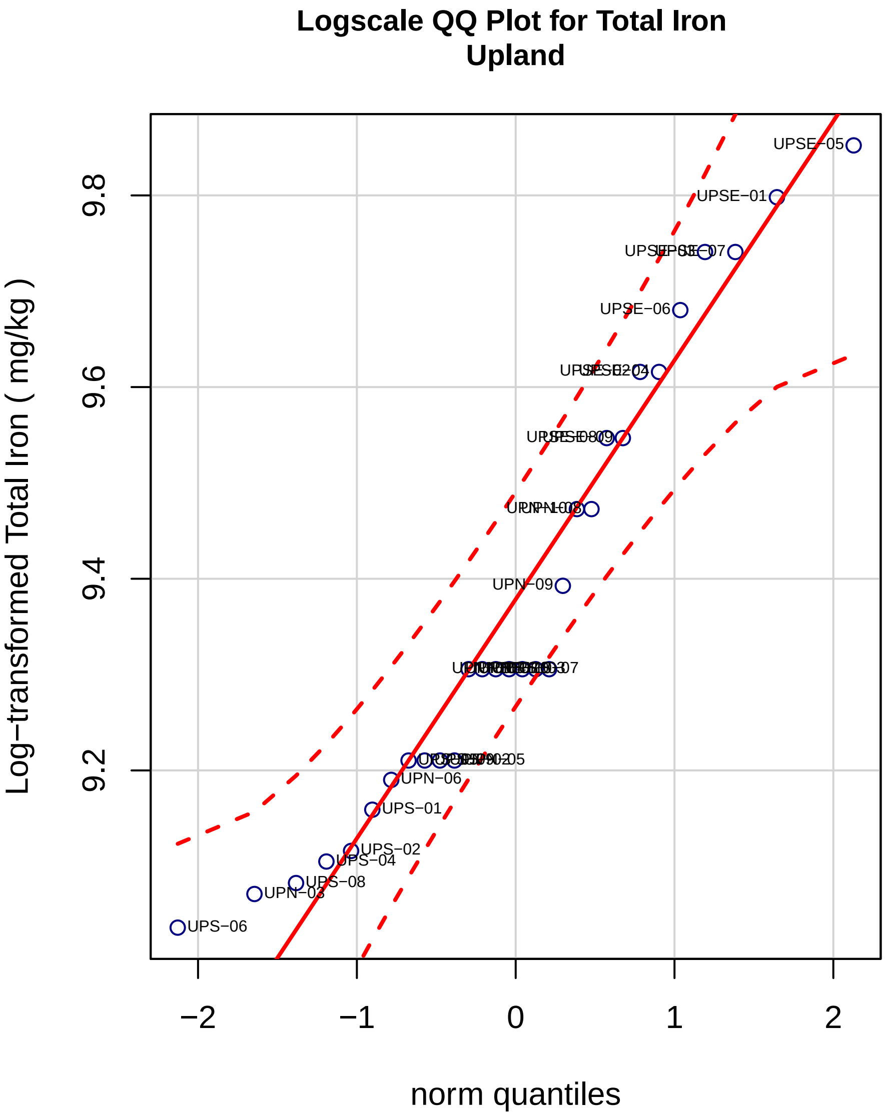

Normal QQ Plot for Total Cobalt
Upland
Detect
Non−detect
Total Cobalt (mg/kg)
norm quantiles
2.5
3.0
3.5
4.0
4.5
5.0
5.5
−2
−1
0
1
2
UPSE−05
UPSE−07
UPSE−06
UPSE−03
UPSE−01
UPSE−02
UPSE−09
UPN−10
UPS−01
UPN−07
UPS−10
UPS−05
UPN−06
UPS−06
UPN−02
UPS−08
UPN−03

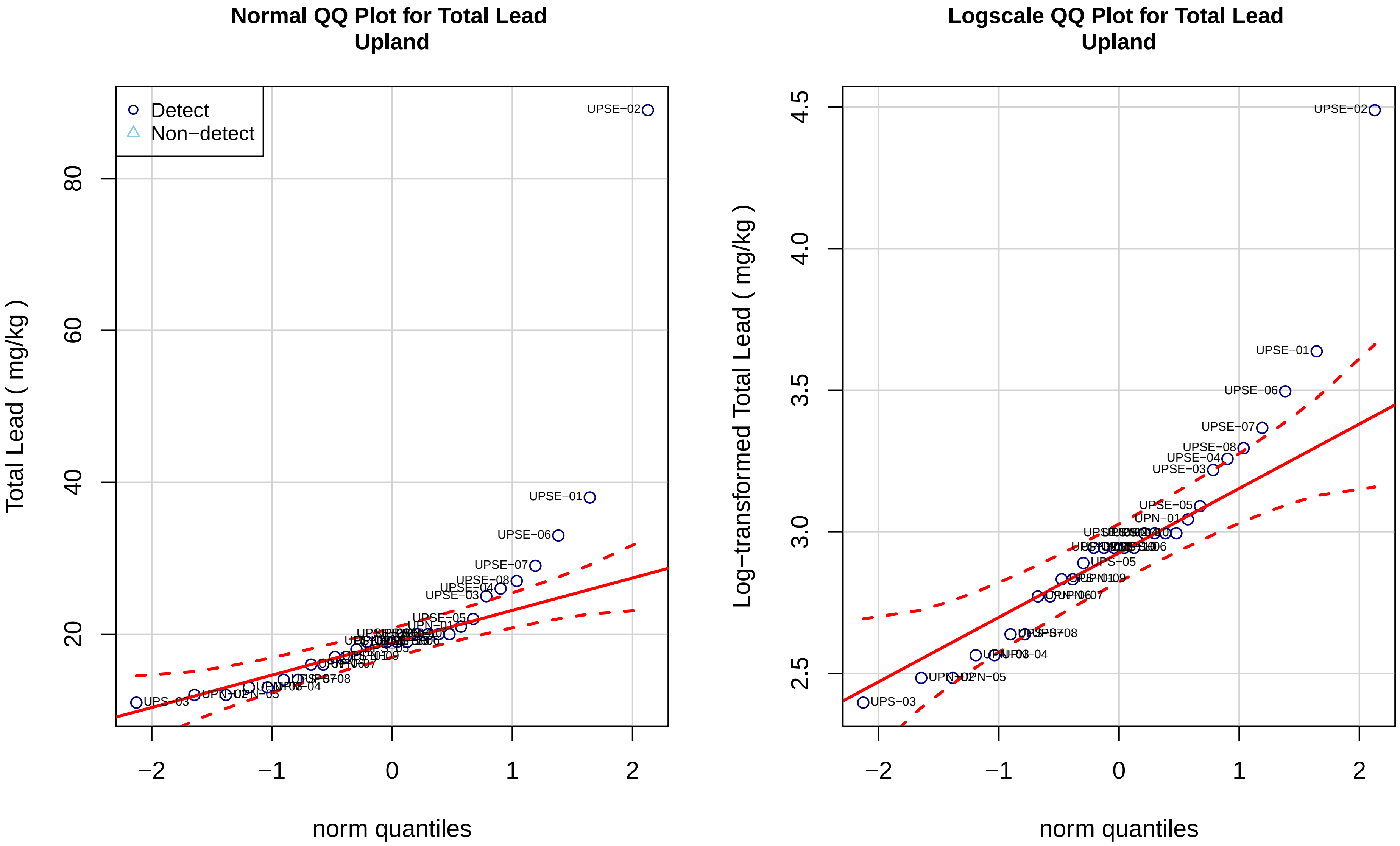

Logscale QQ Plot for Total Cobalt
Upland
Log−transformed Total Cobalt (mg/kg)
norm quantiles
1.0
1.2
1.4
1.6
−2
−1
0
1
2
UPSE−05
UPSE−07
UPSE−06
UPSE−03
UPSE−01
UPSE−02
UPSE−09
UPN−10
UPS−01
UPN−07
UPS−10
UPS−05
UPN−06
UPS−06
UPN−02
UPS−08
UPN−03


Normal QQ Plot for Total Copper
Upland
Detect
Non−detect
Total Copper (mg/kg)
norm quantiles
10
12
14
16
18
20
22
−2
−1
0
1
2
UPSE−10
UPSE−01
UPSE−07
UPSE−06
UPS−07
UPN−05
UPN−02
UPN−03
UPS−09
UPN−06


Logscale QQ Plot for Total Copper
Upland
Log−transformed Total Copper (mg/kg)
norm quantiles
2.4
2.6
2.8
3.0
−2
−1
0
1
2
UPSE−10
UPSE−01
UPSE−07
UPSE−06
UPS−07
UPN−05
UPN−02
UPN−03
UPS−09
UPN−06


Normal QQ Plot for Total Iron
Upland
Detect
Non−detect
Total Iron (mg/kg)
8000
10000
12000
14000
16000
18000
−2
−1
0
1
2
norm quantiles
UPSE−05
UPSE−01
UPSE−07
UPSE−06
UPN−09
UPN−06
UPS−01
UPS−02
UPS−04
UPS−08
UPN−03
UPS−06

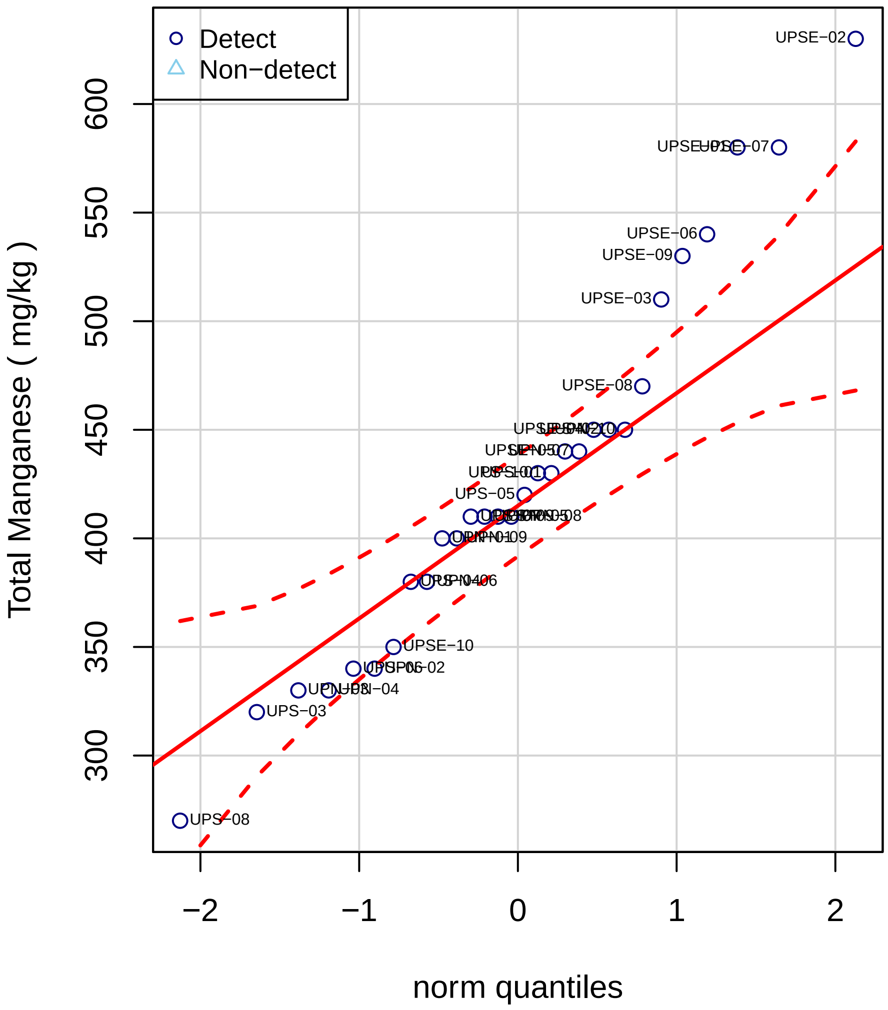

Logscale QQ Plot for Total Iron
Upland
Log−transformed Total Iron (mg/kg)
9.2
9.4
9.6
9.8
−2
−1
0
1
2
norm quantiles
UPSE−05
UPSE−01
UPSE−07
UPSE−06
UPN−09
UPN−06
UPS−01
UPS−02
UPS−04
UPS−08
UPN−03
UPS−06



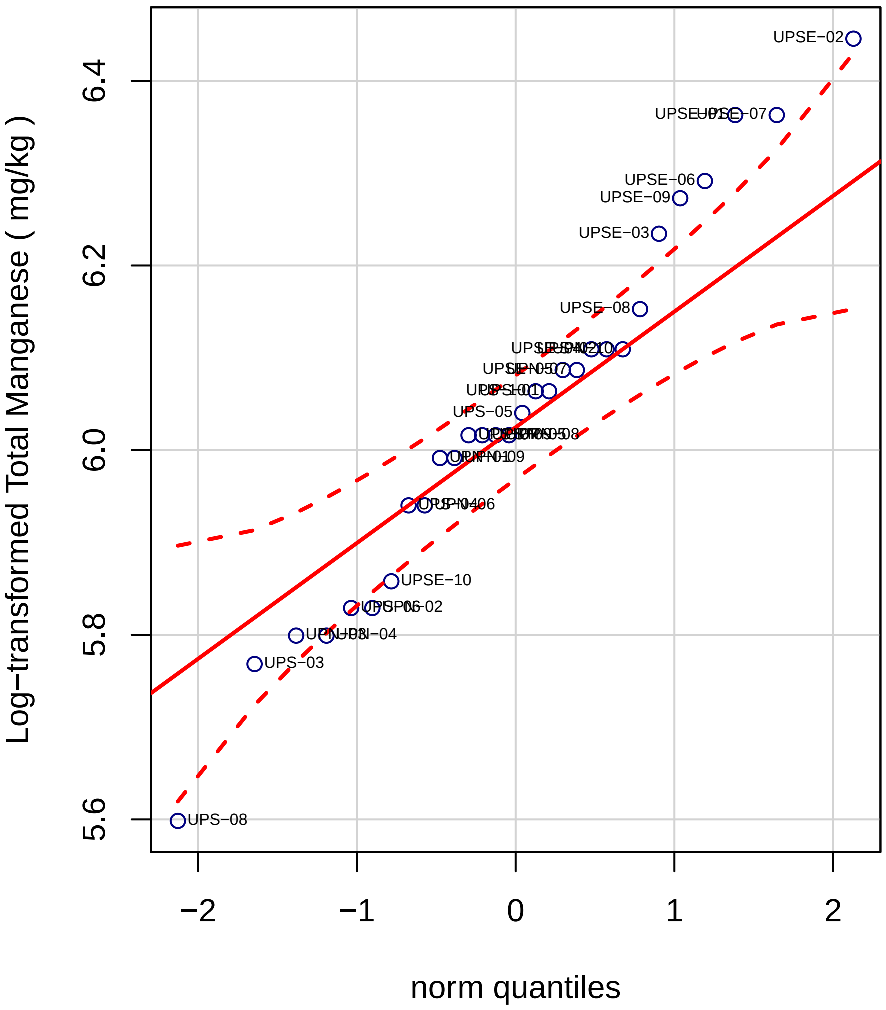
Normal QQ Plot for Total Lead
Upland

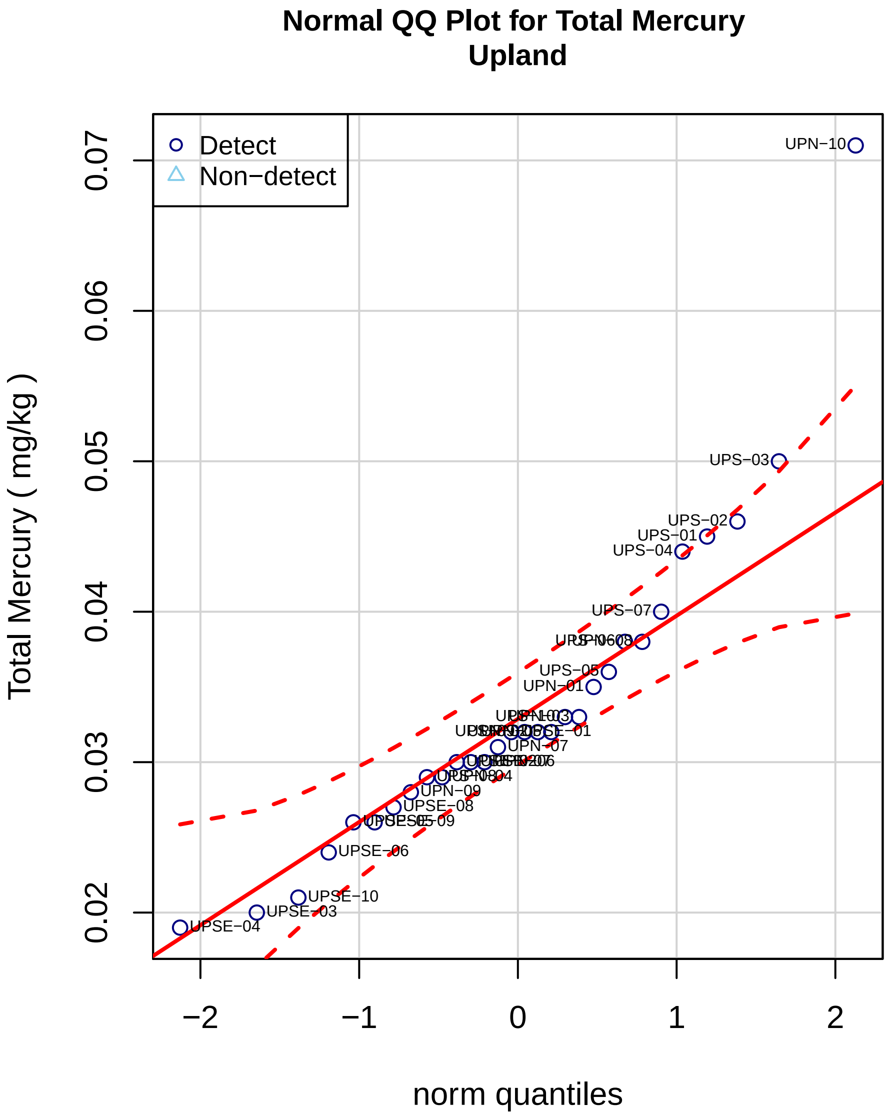
Logscale QQ Plot for Total Lead
Upland

Normal QQ Plot for Total Manganese
Upland

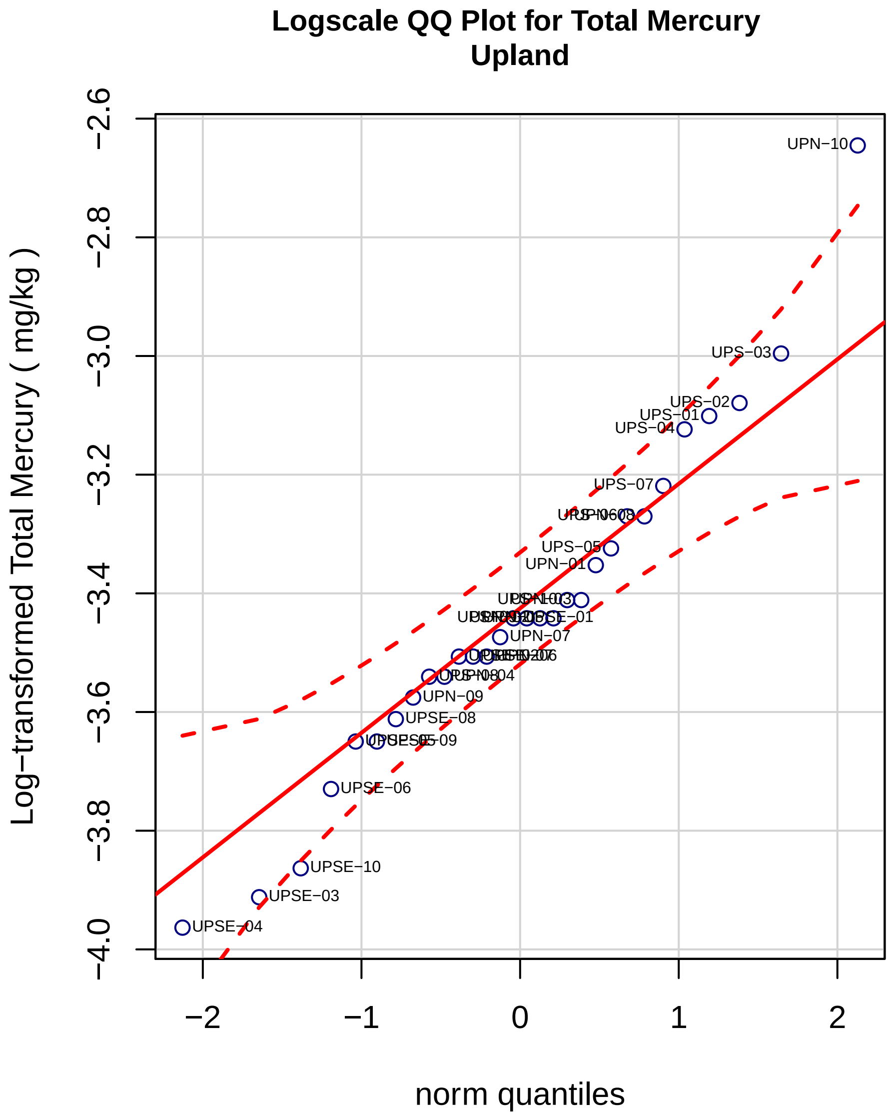


Logscale QQ Plot for Total Manganese
Upland

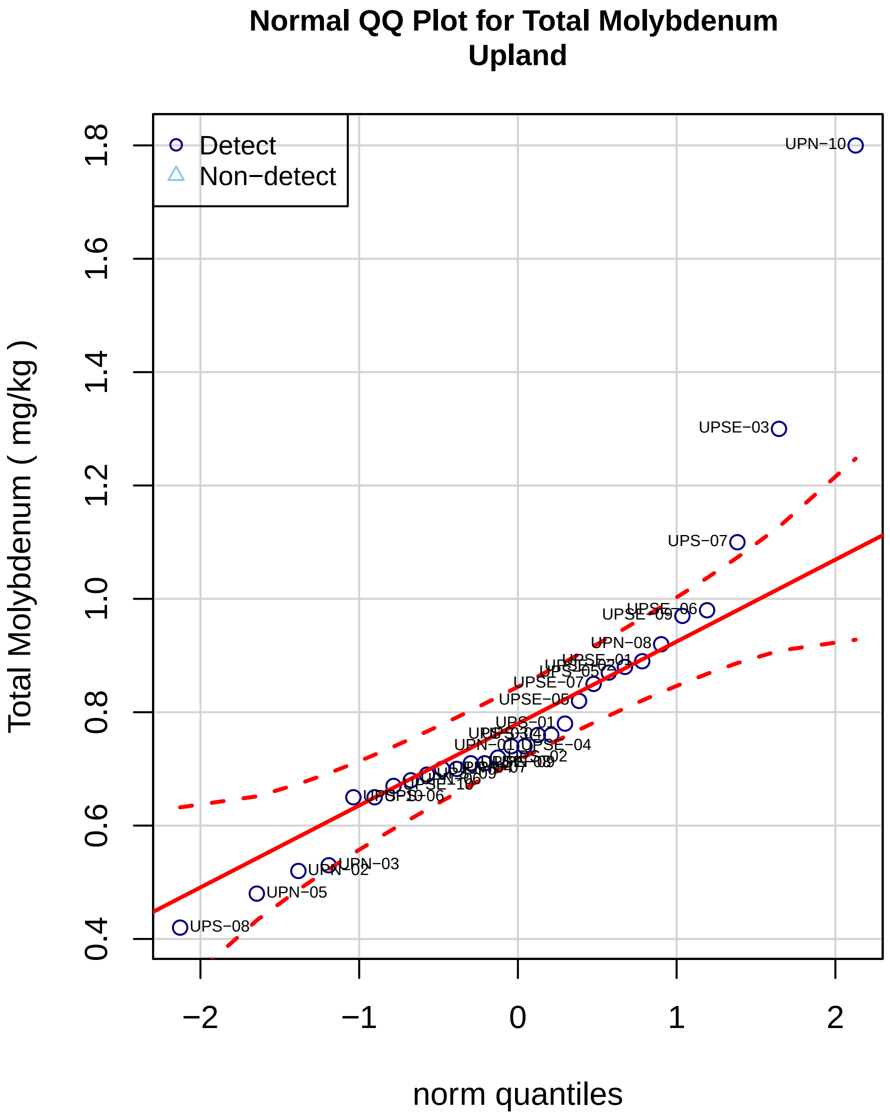


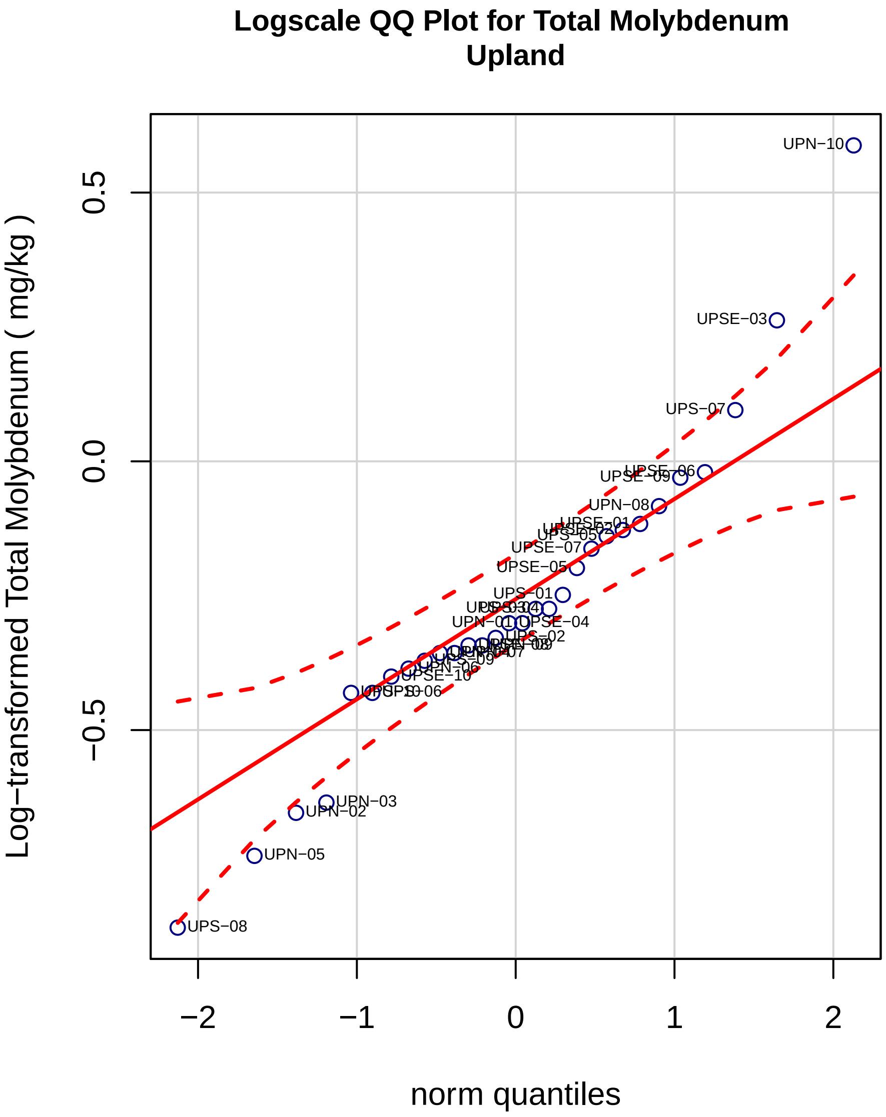


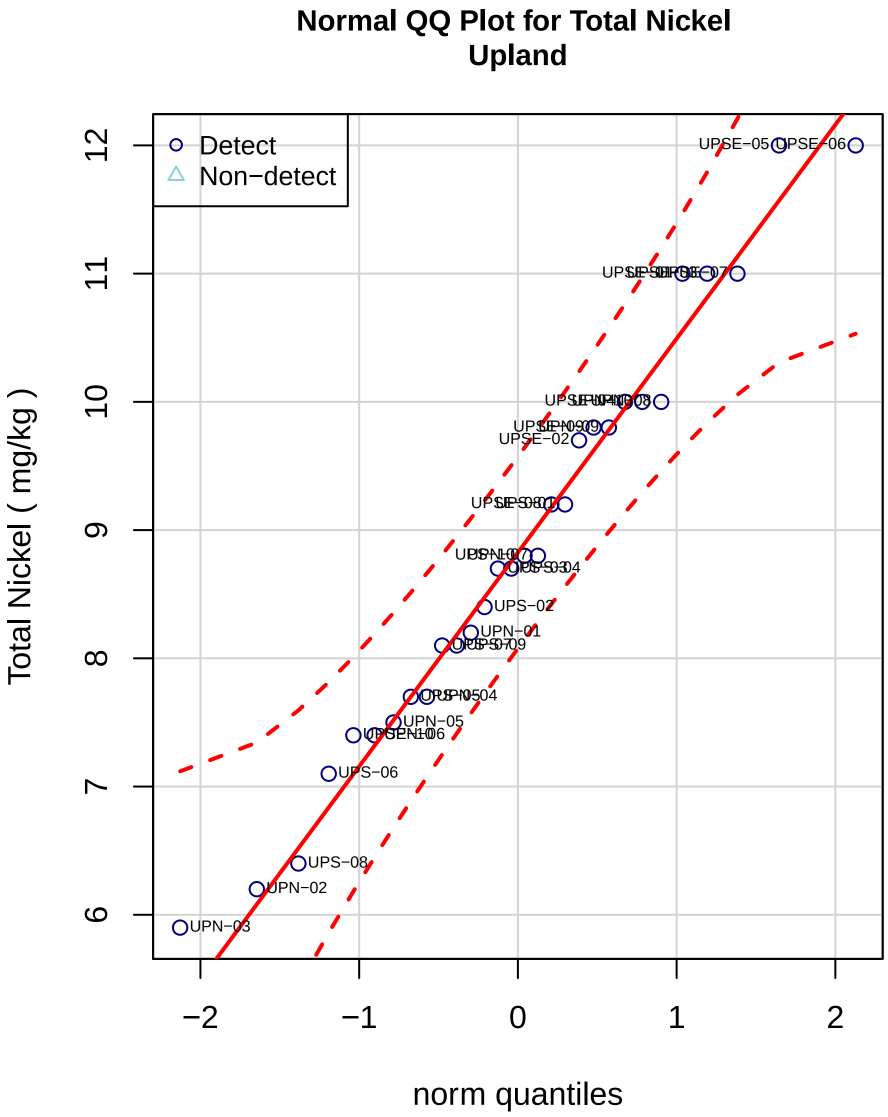
Normal QQ Plot for Total Mercury
Upland

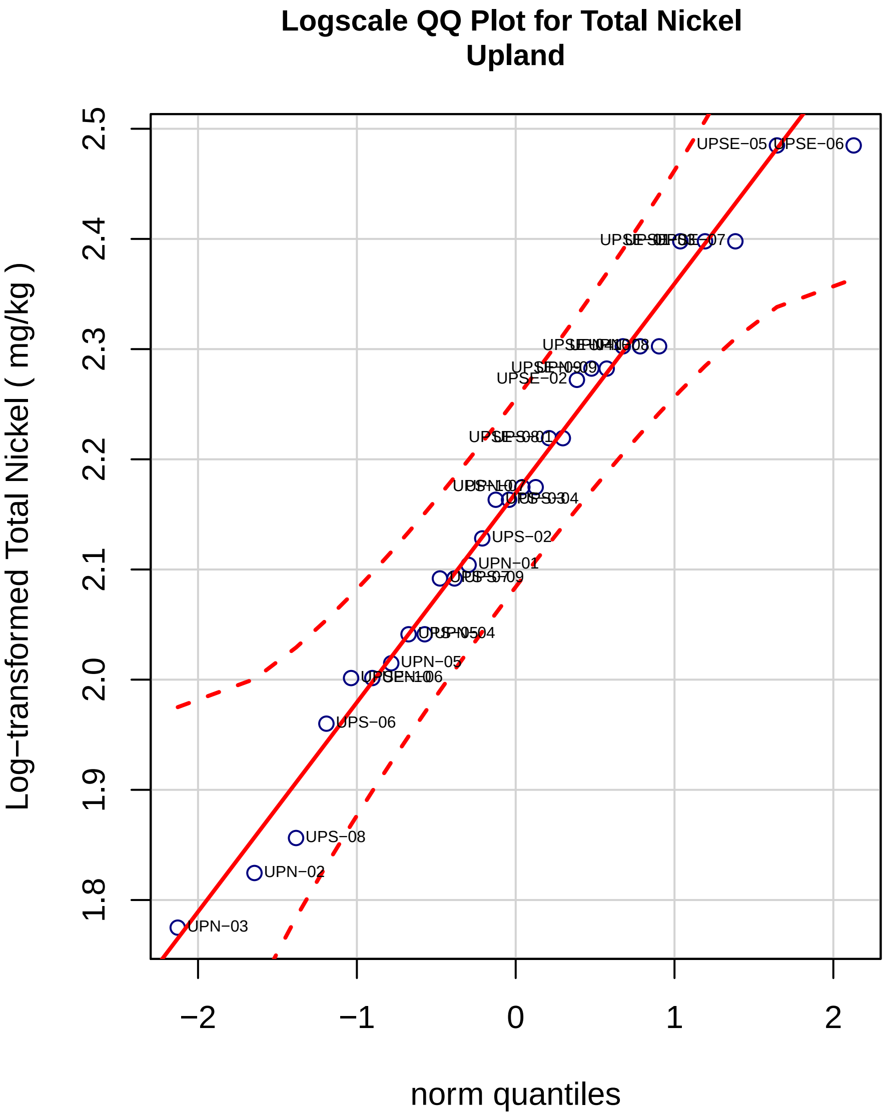


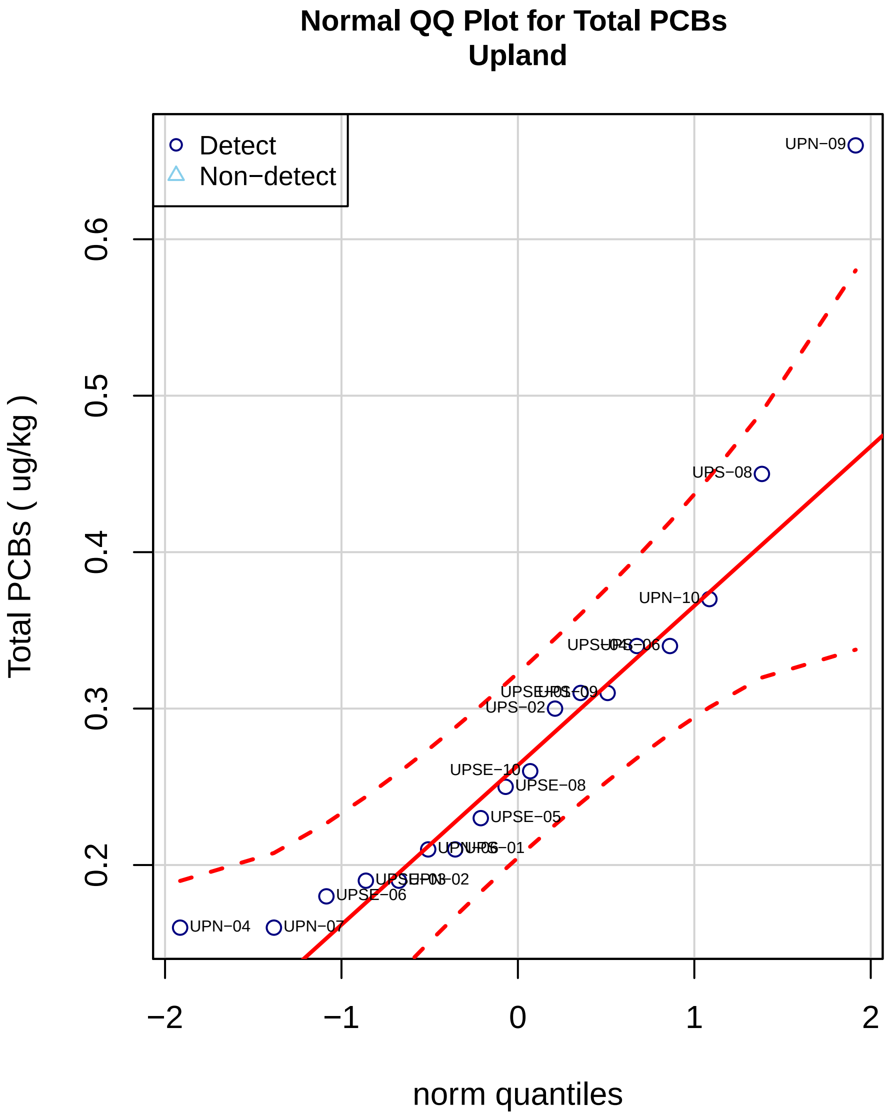
Logscale QQ Plot for Total Mercury
Upland


Normal QQ Plot for Total Molybdenum
Upland

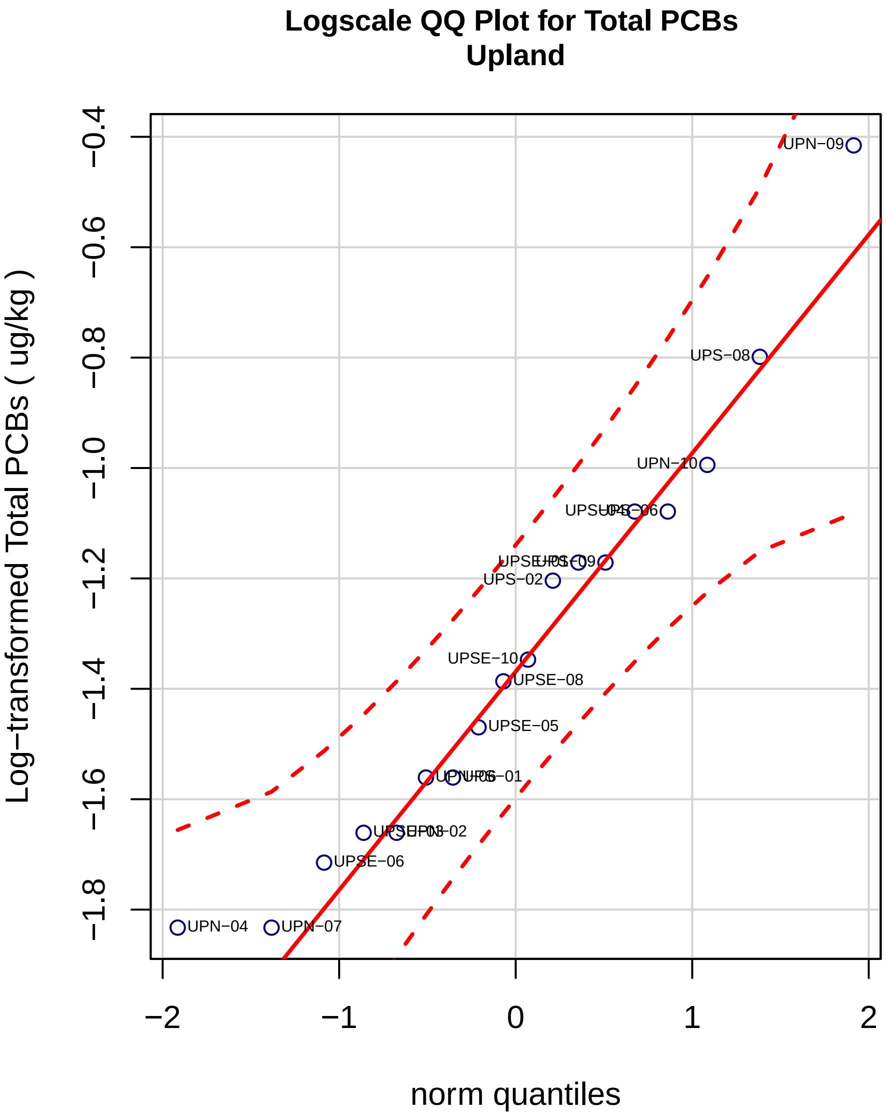

Logscale QQ Plot for Total Molybdenum
Upland


Normal QQ Plot for Total Nickel
Upland

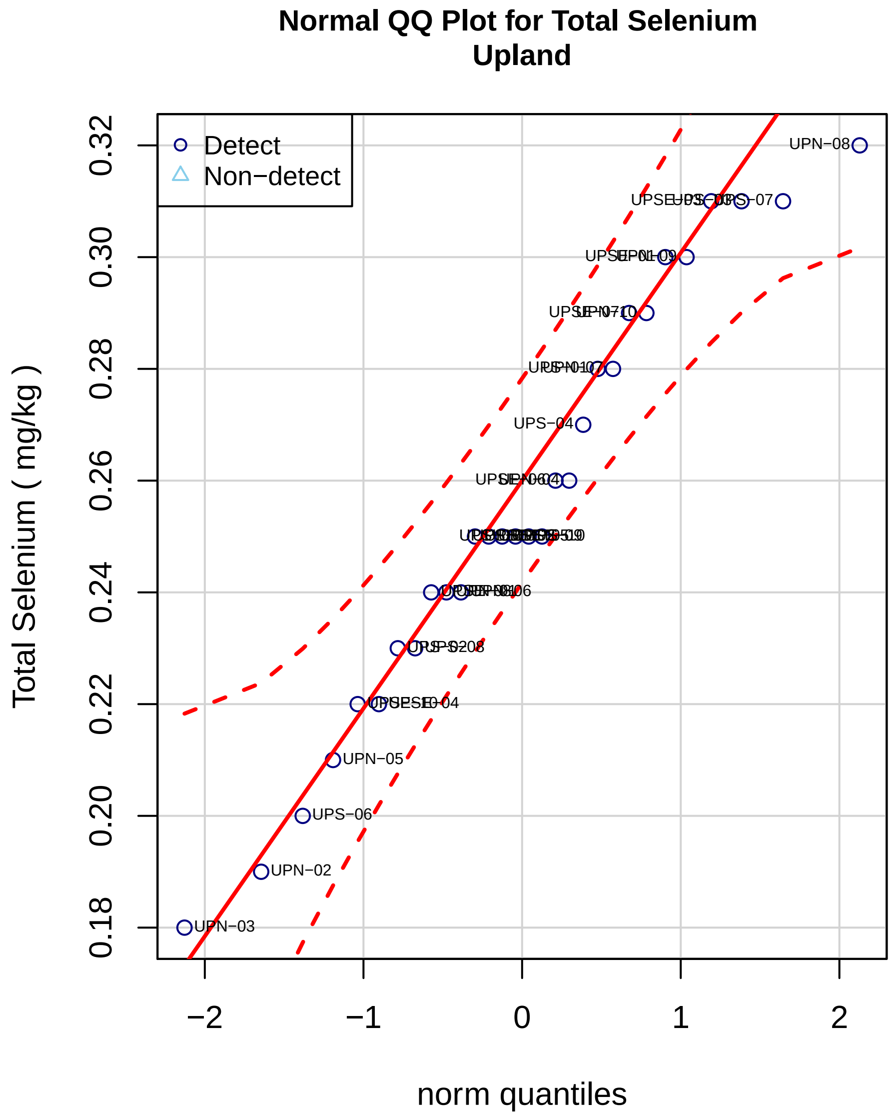

Logscale QQ Plot for Total Nickel
Upland

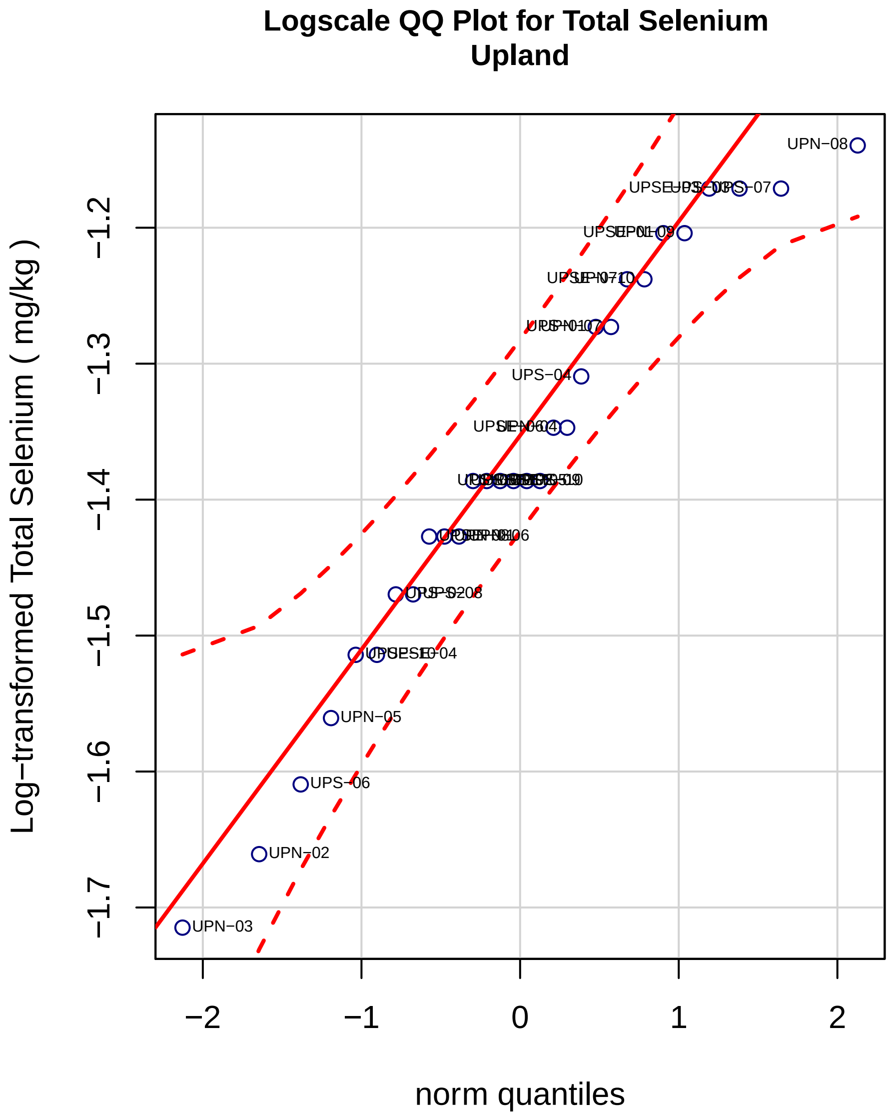


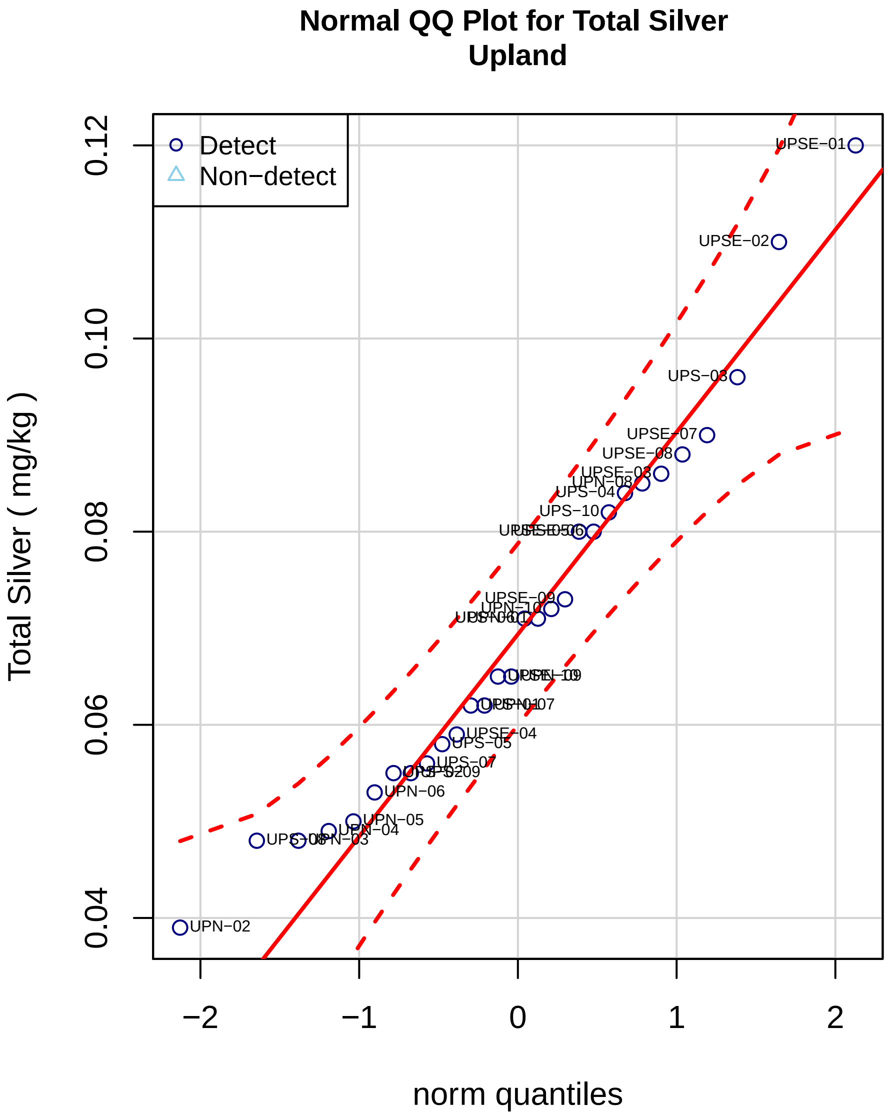
Normal QQ Plot for Total PCBs
Upland

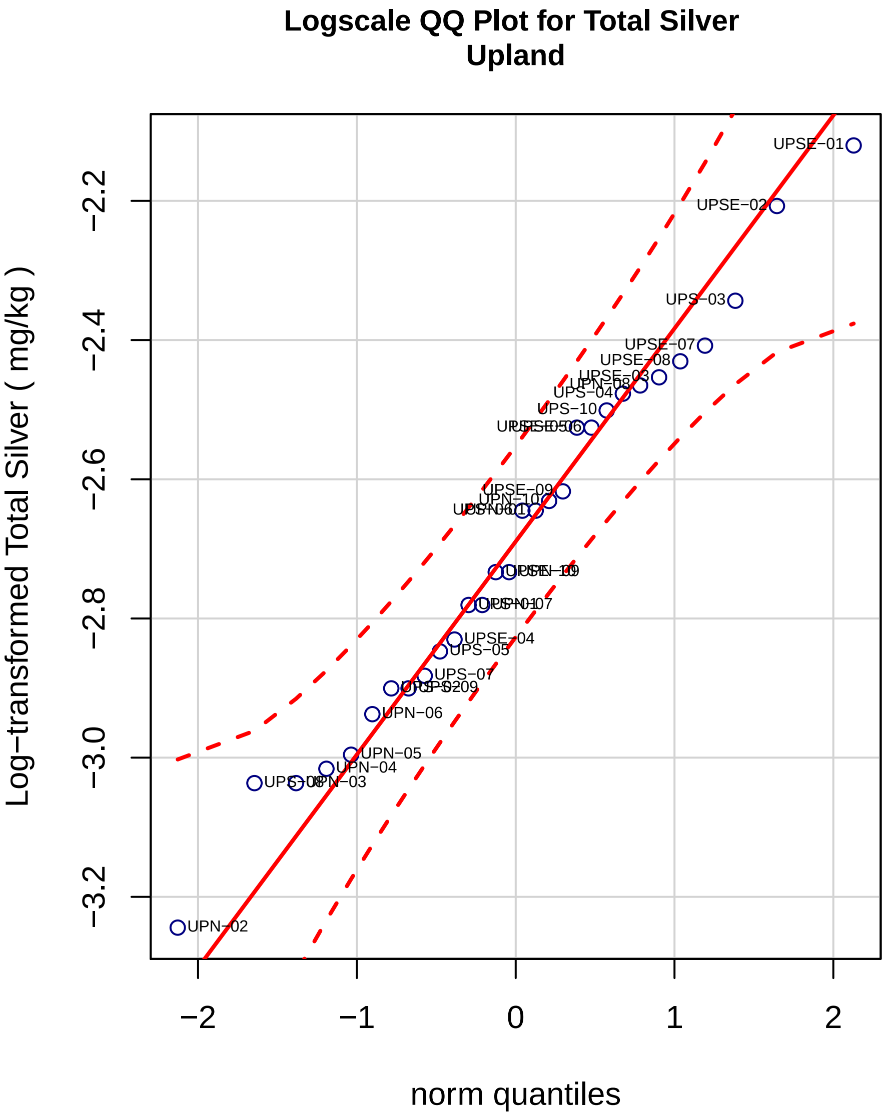


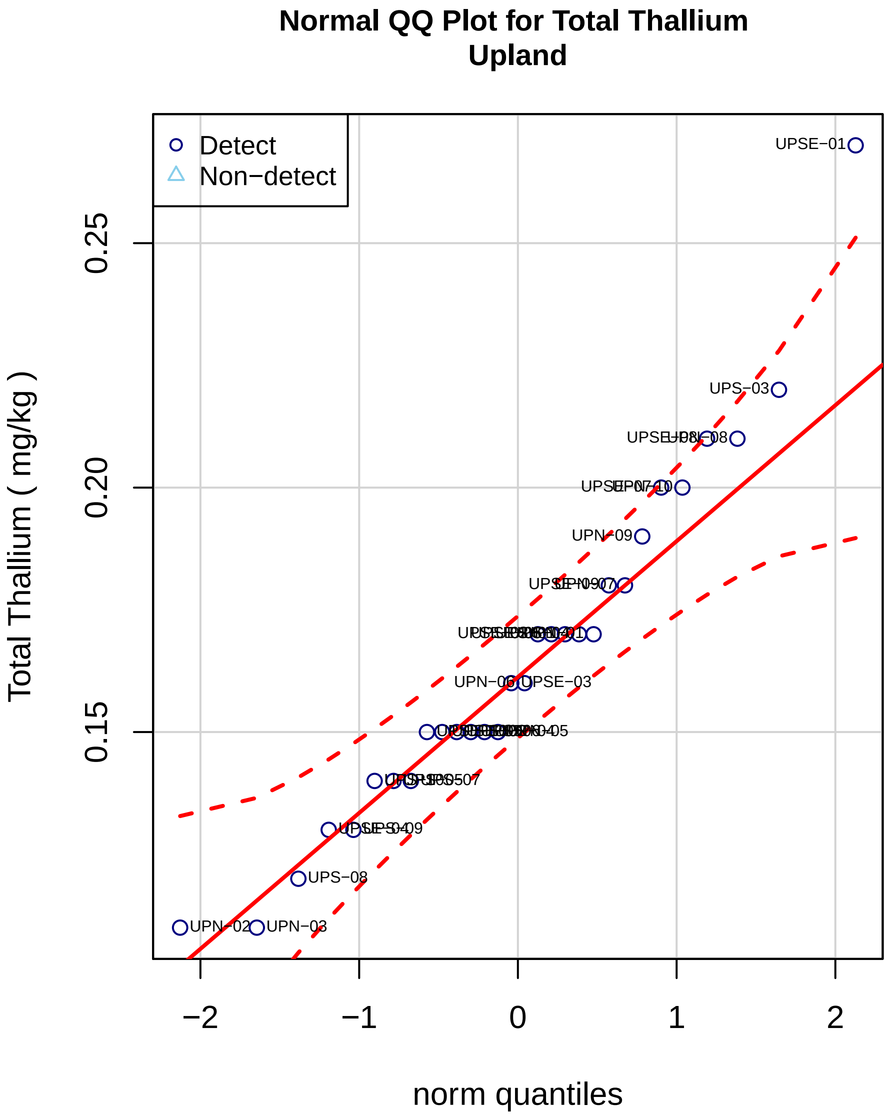
Logscale QQ Plot for Total PCBs
Upland

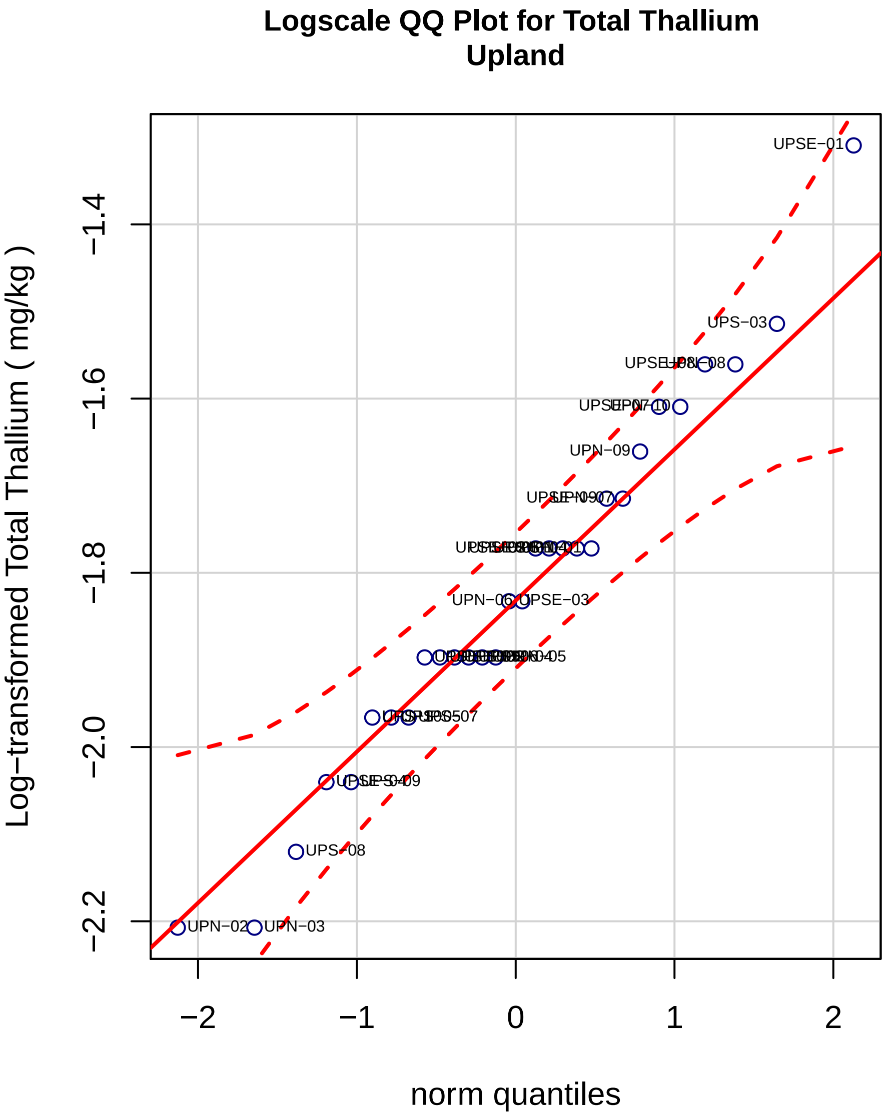

Normal QQ Plot for Total Selenium
Upland
Detect
Non−detect
Total Selenium (mg/kg)
norm quantiles
0.18
0.20
0.22
0.24
0.26
0.28
0.30
0.32
−2
−1
0
1
2
UPN−08
UPS−07
UPN−09
UPS−04
UPN−05
UPS−06
UPN−02
UPN−03

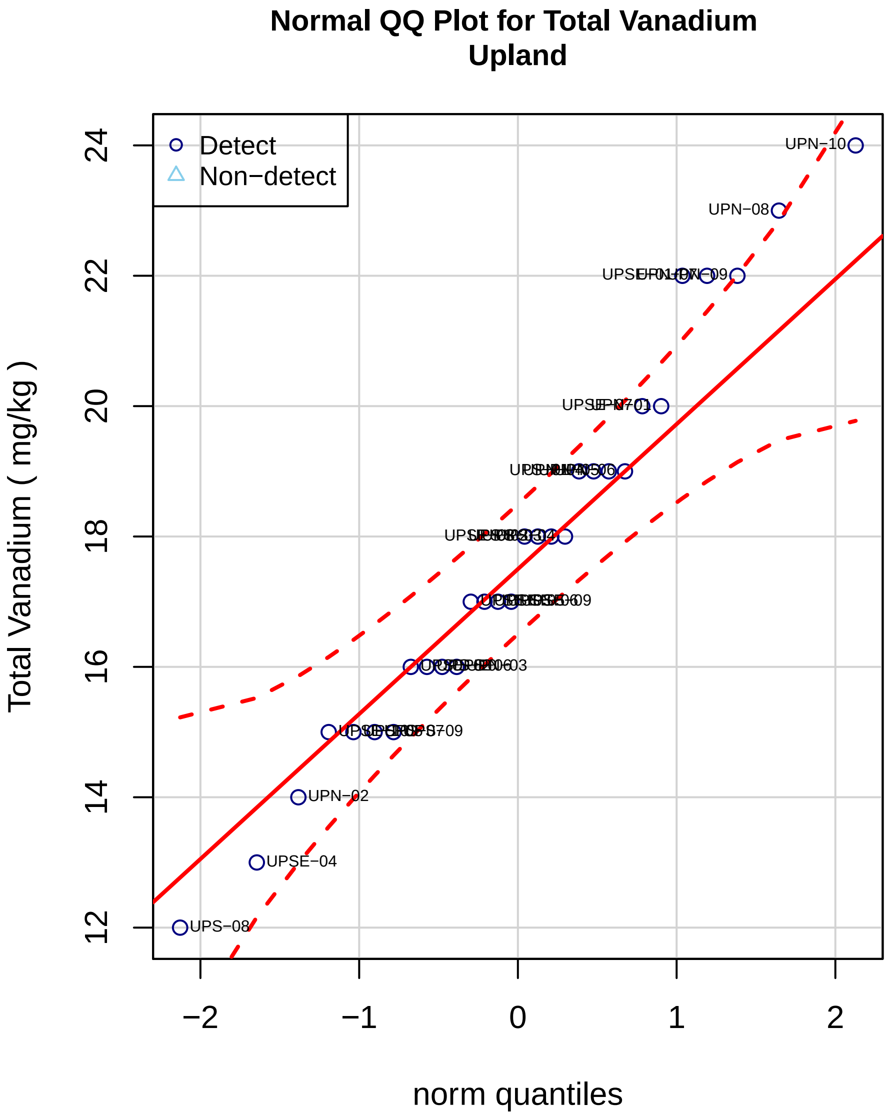

Logscale QQ Plot for Total Selenium
Upland
Log−transformed Total Selenium (mg/kg)
norm quantiles
−1.7
−1.6
−1.5
−1.4
−1.3
−1.2
−2
−1
0
1
2
UPN−08
UPS−07
UPN−09
UPS−04
UPN−05
UPS−06
UPN−02
UPN−03

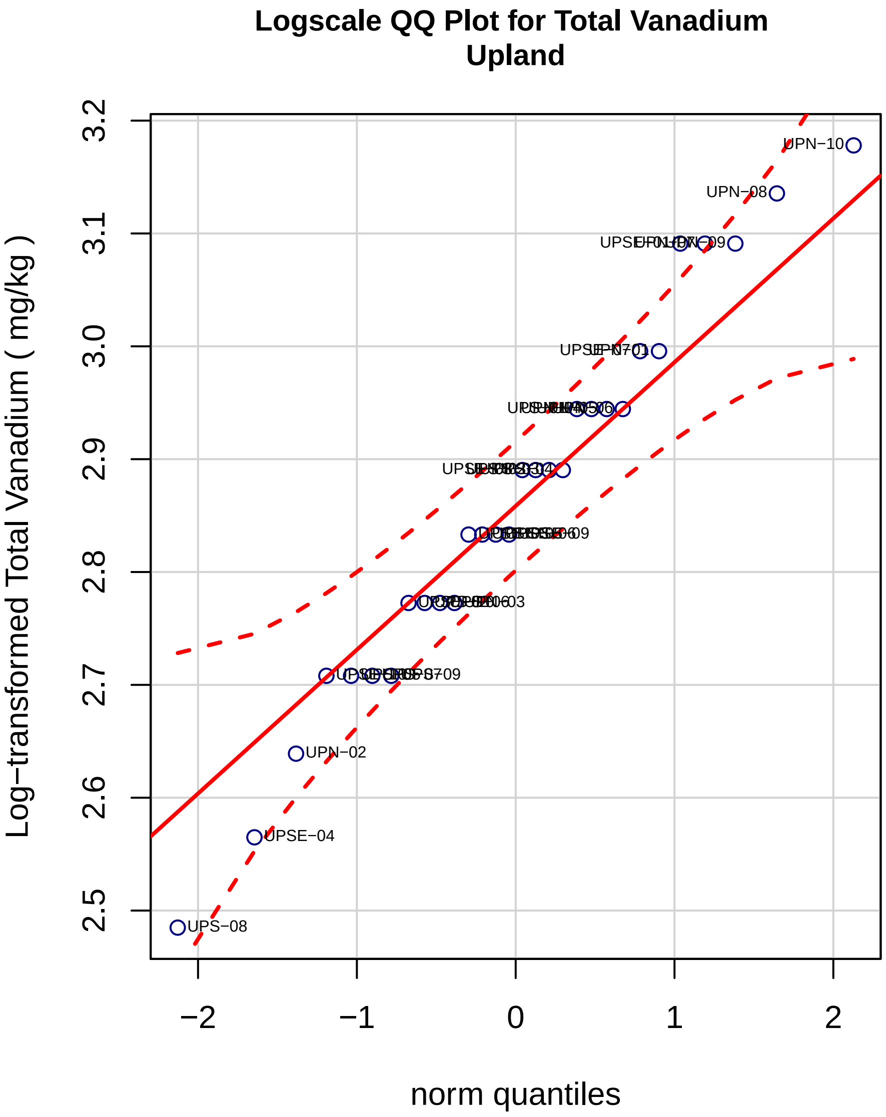

Normal QQ Plot for Total Silver
Upland
Detect
Non−detect
Total Silver (mg/kg)
norm quantiles
0.04
0.06
0.08
0.10
0.12
−2
−1
0
1
2
UPSE−01
UPSE−02
UPS−03
UPSE−07
UPSE−08
UPSE−03
UPN−08
UPS−04
UPS−10
UPSE−09
UPN−10
UPSE−04
UPS−05
UPS−07
UPN−06
UPN−05
UPN−04
UPN−03
UPN−02

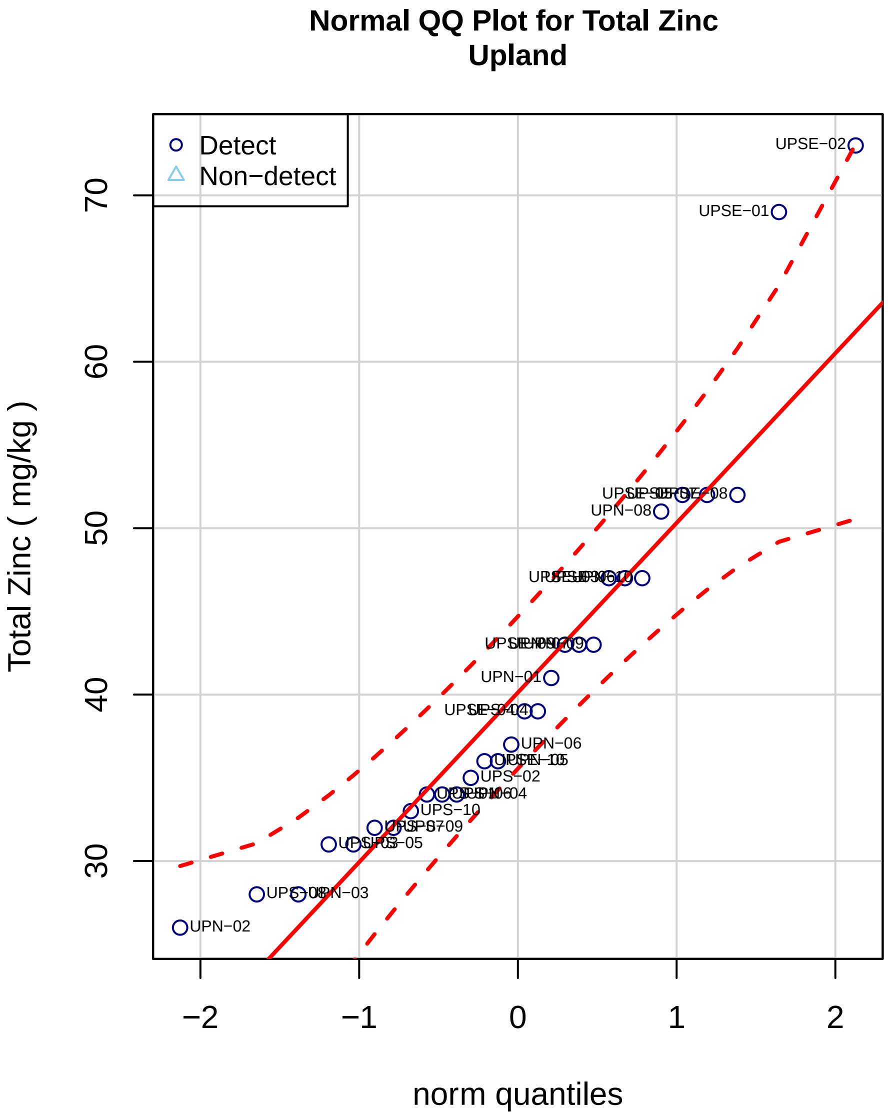

Logscale QQ Plot for Total Silver
Upland
Log−transformed Total Silver (mg/kg)
norm quantiles
−3.2
−3.0
−2.8
−2.6
−2.4
−2.2
−2
−1
0
1
2
UPSE−01
UPSE−02
UPS−03
UPSE−07
UPSE−08
UPSE−03
UPN−08
UPS−04
UPS−10
UPSE−09
UPN−10
UPSE−04
UPS−05
UPS−07
UPN−06
UPN−05
UPN−04
UPN−03
UPN−02

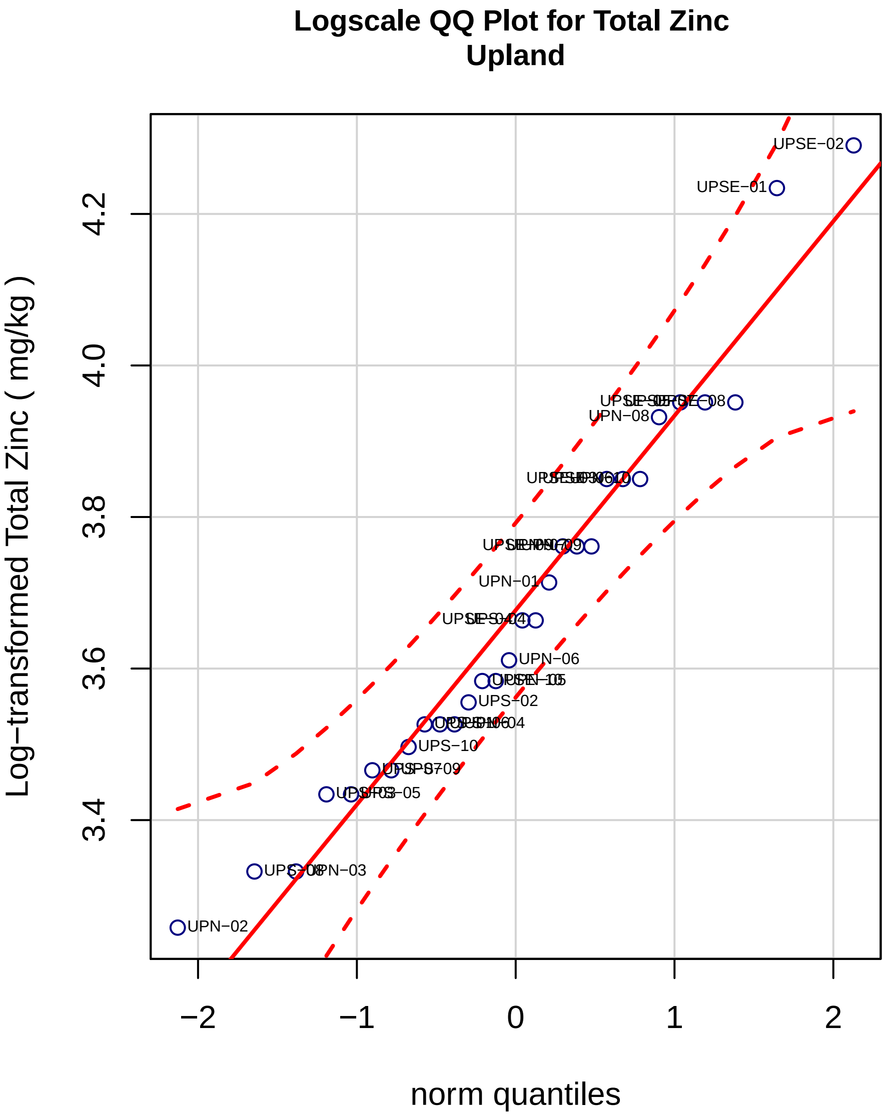

Normal QQ Plot for Total Thallium
Upland
Detect
Non−detect
UPSE−01
UPS−03
UPSE−08
UPN−08
UPSE−10
UPN−07
UPN−09
UPSE−07
UPN−09
UPN−06
UPSE−03
UPN−05
UPS−07
UPS−09
UPS−08
UPN−02
UPN−03
Total Thallium (mg/kg)
0.15
0.20
0.25
−2
−1
0
1
2
norm quantiles

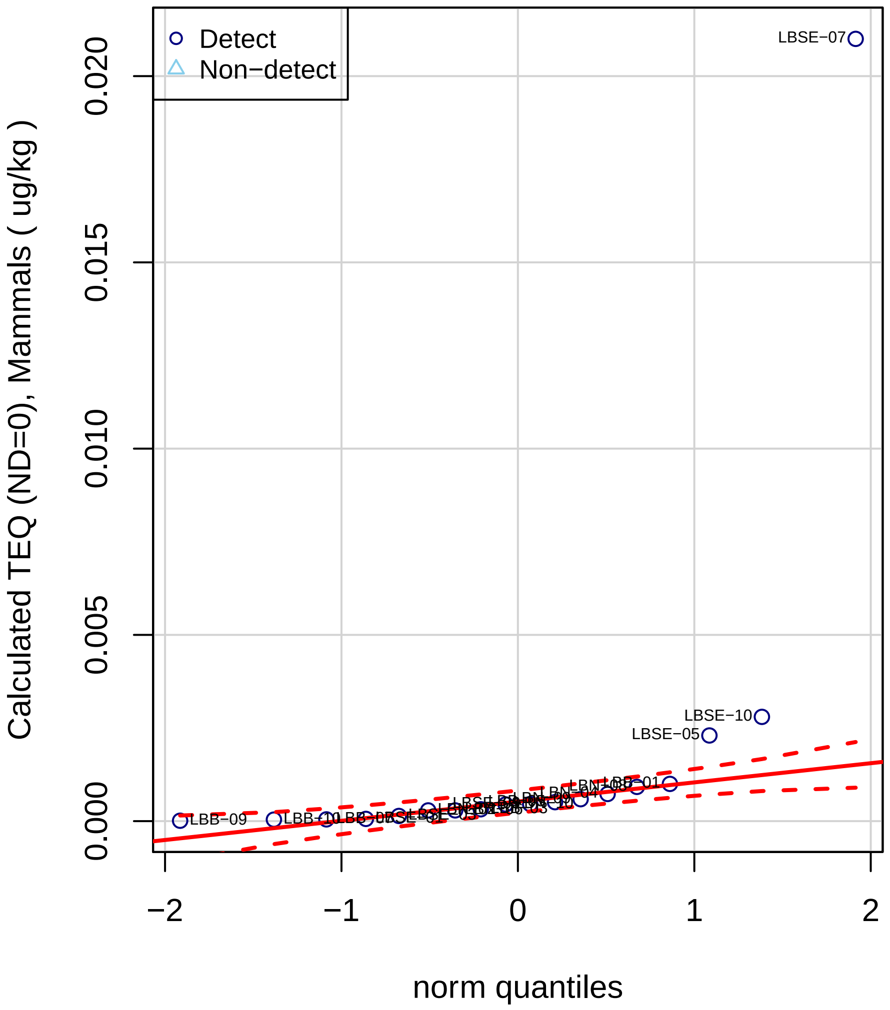

Logscale QQ Plot for Total Thallium
Upland
UPSE−01
UPS−03
UPSE−08
UPN−08
UPSE−10
UPN−07
UPN−09
UPSE−07
UPN−09
UPN−06
UPSE−03
UPN−05
UPS−07
UPS−09
UPS−08
UPN−02
UPN−03
Log−transformed Total Thallium (mg/kg)
−2.2
−2.0
−1.8
−1.6
−1.4
−2
−1
0
1
2
norm quantiles


Normal QQ Plot for Total Vanadium
Upland
Detect
Non−detect
Total Vanadium (mg/kg)
norm quantiles
12
14
16
18
20
22
24
−2
−1
0
1
2
UPN−10
UPN−08
UPN−02
UPSE−04
UPS−08

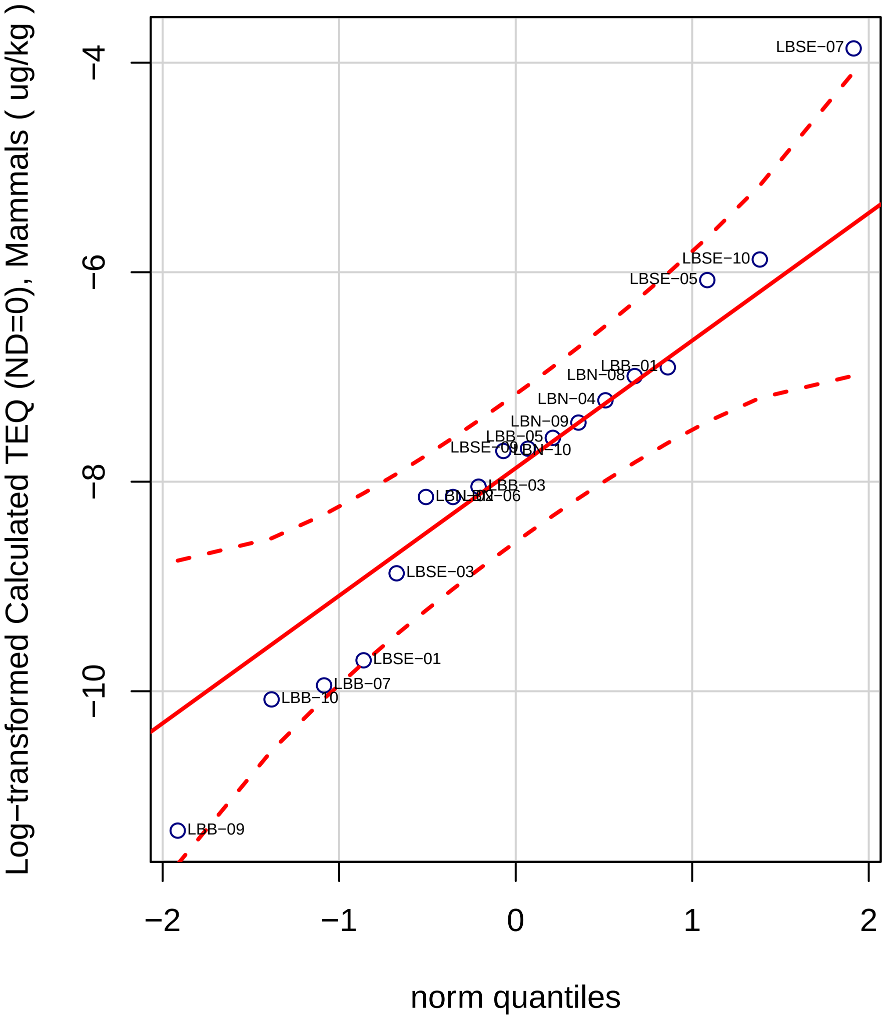

Logscale QQ Plot for Total Vanadium
Upland
Log−transformed Total Vanadium (mg/kg)
norm quantiles
2.5
2.6
2.7
2.8
2.9
3.0
3.1
3.2
−2
−1
0
1
2
UPN−10
UPN−08
UPN−02
UPSE−04
UPS−08


Normal QQ Plot for Total Zinc
Upland

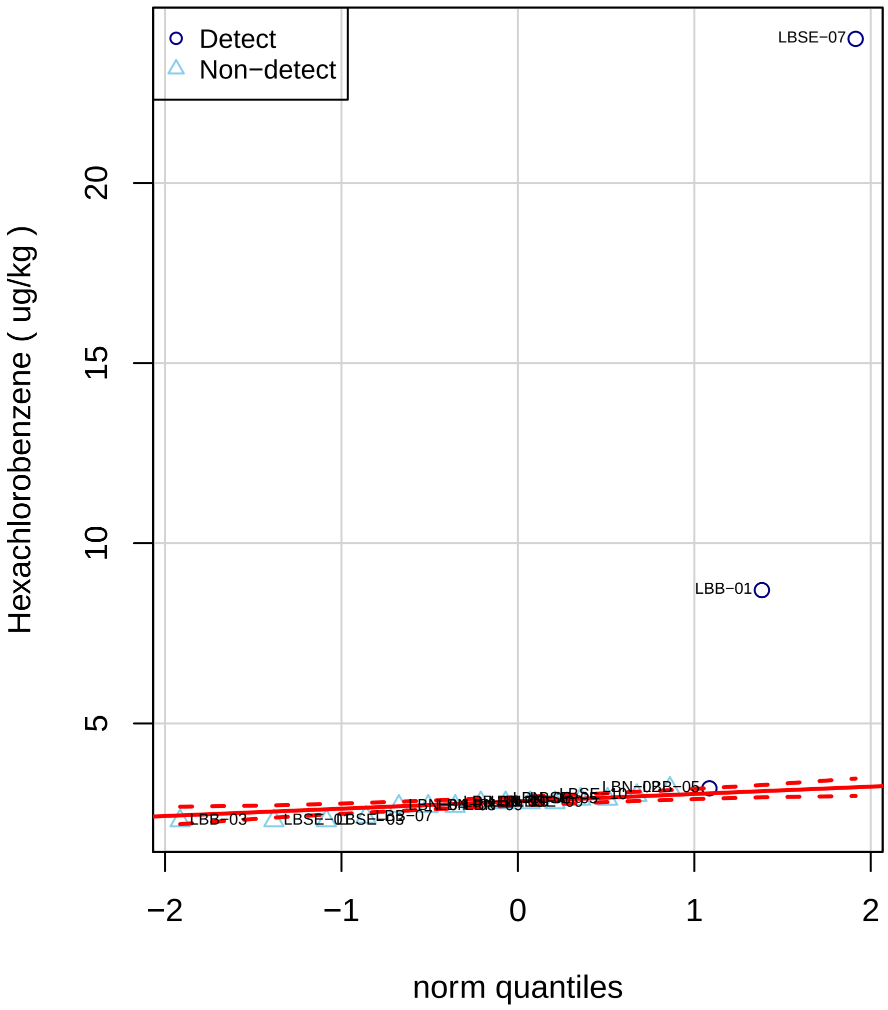

Logscale QQ Plot for Total Zinc
Upland



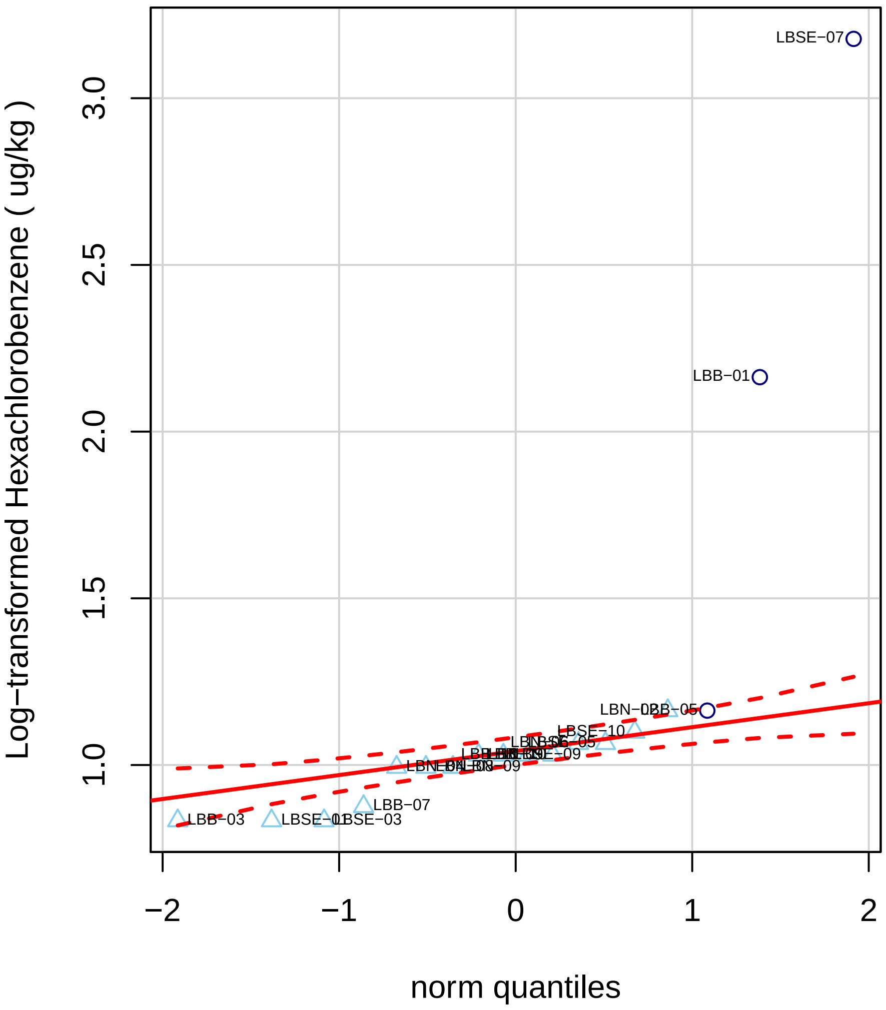
Normal QQ Plot for Calculated TEQ (ND=0), Mammals Lake Bed



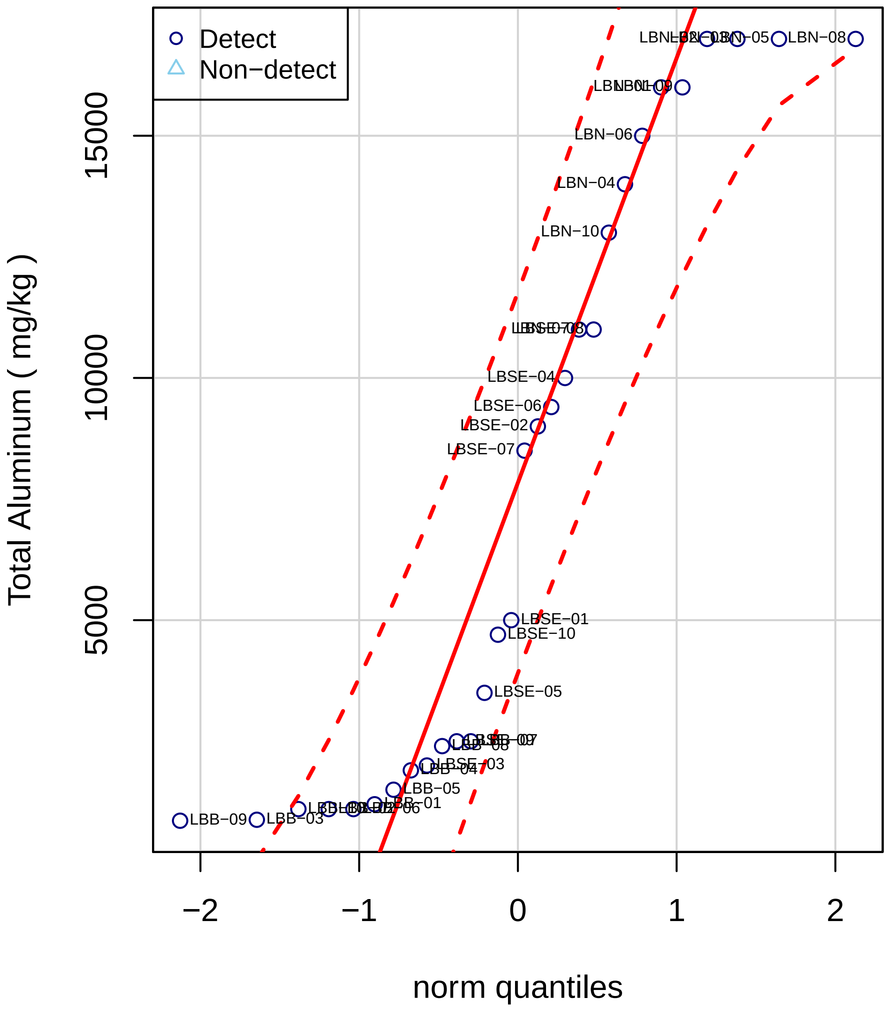
Logscale QQ Plot for Calculated TEQ (ND=0), Mammals Lake Bed

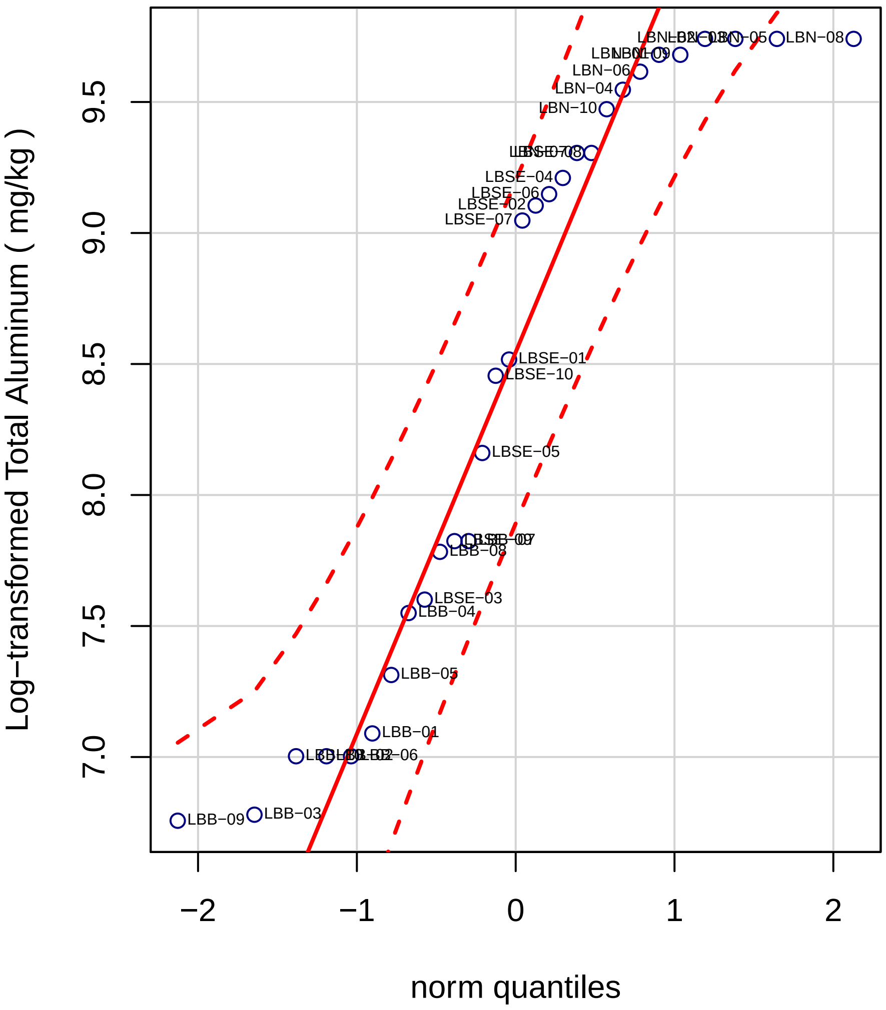


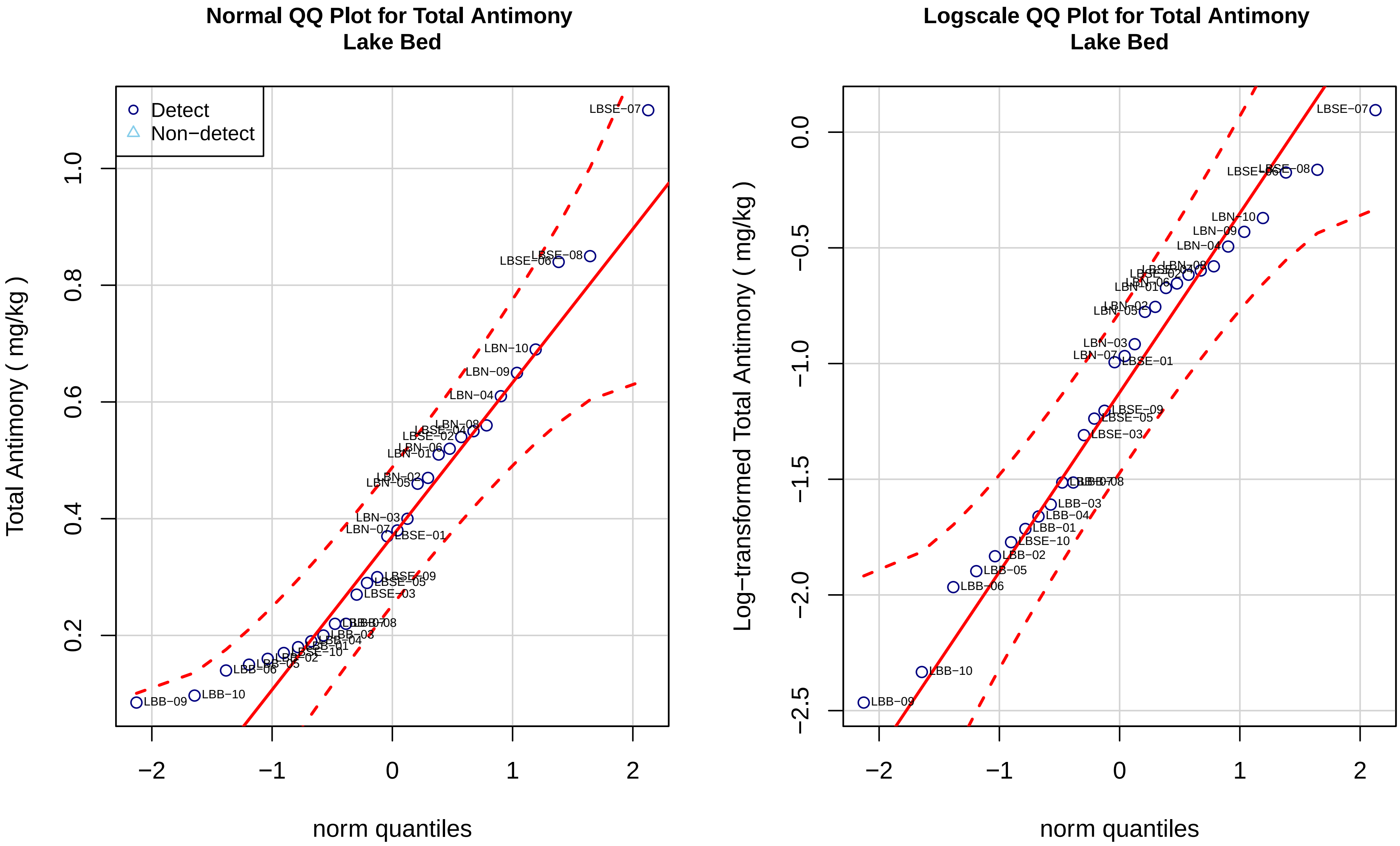
Normal QQ Plot for Hexachlorobenzene
Lake Bed



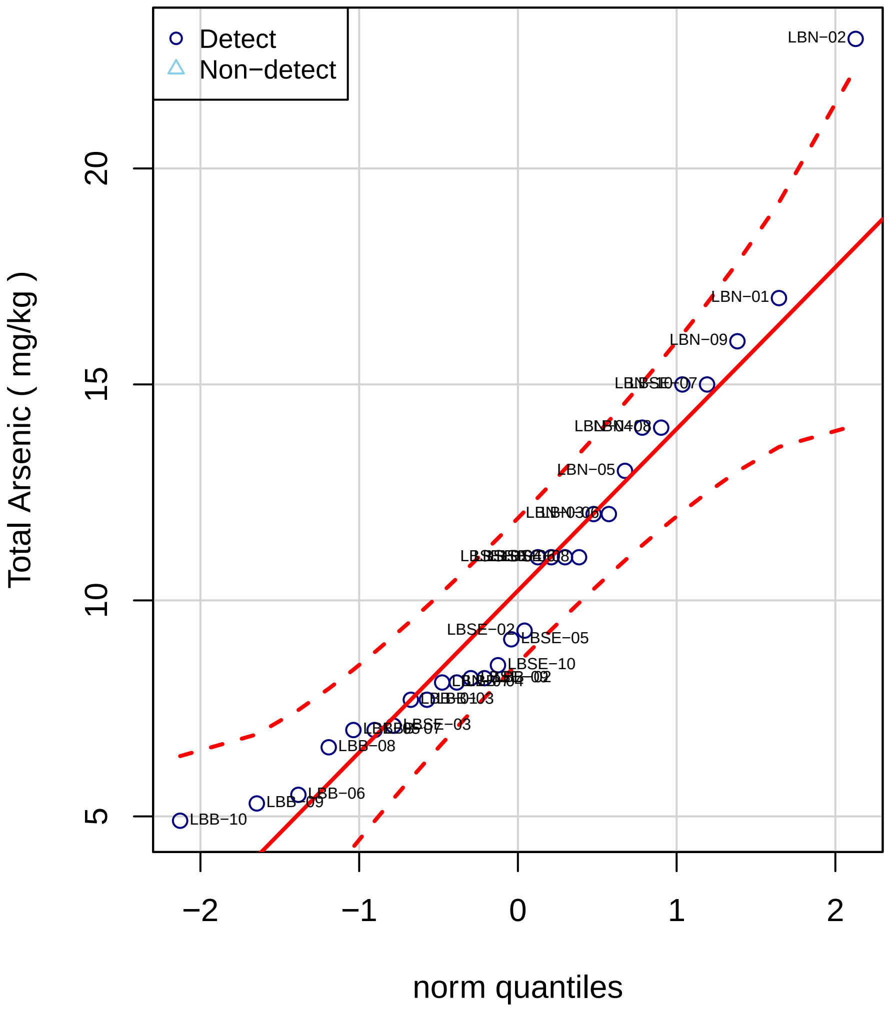
Logscale QQ Plot for Hexachlorobenzene
Lake Bed


Normal QQ Plot for Total Aluminum
Lake Bed

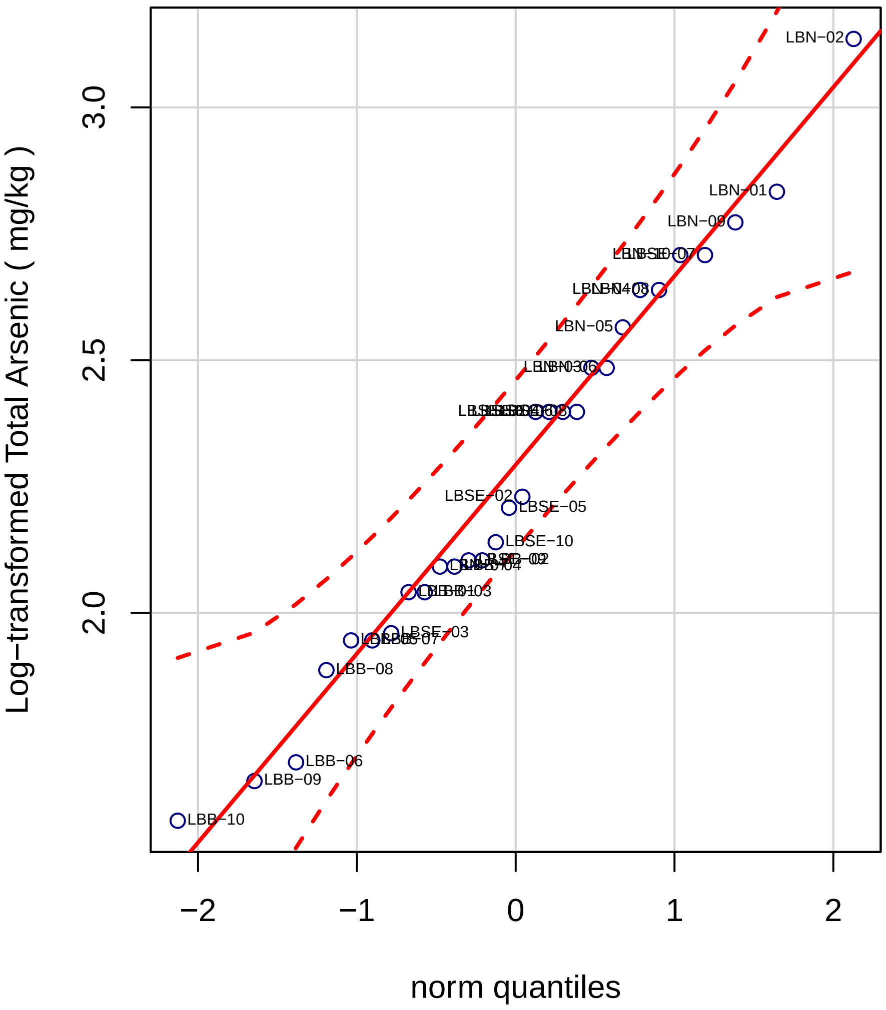

Logscale QQ Plot for Total Aluminum
Lake Bed

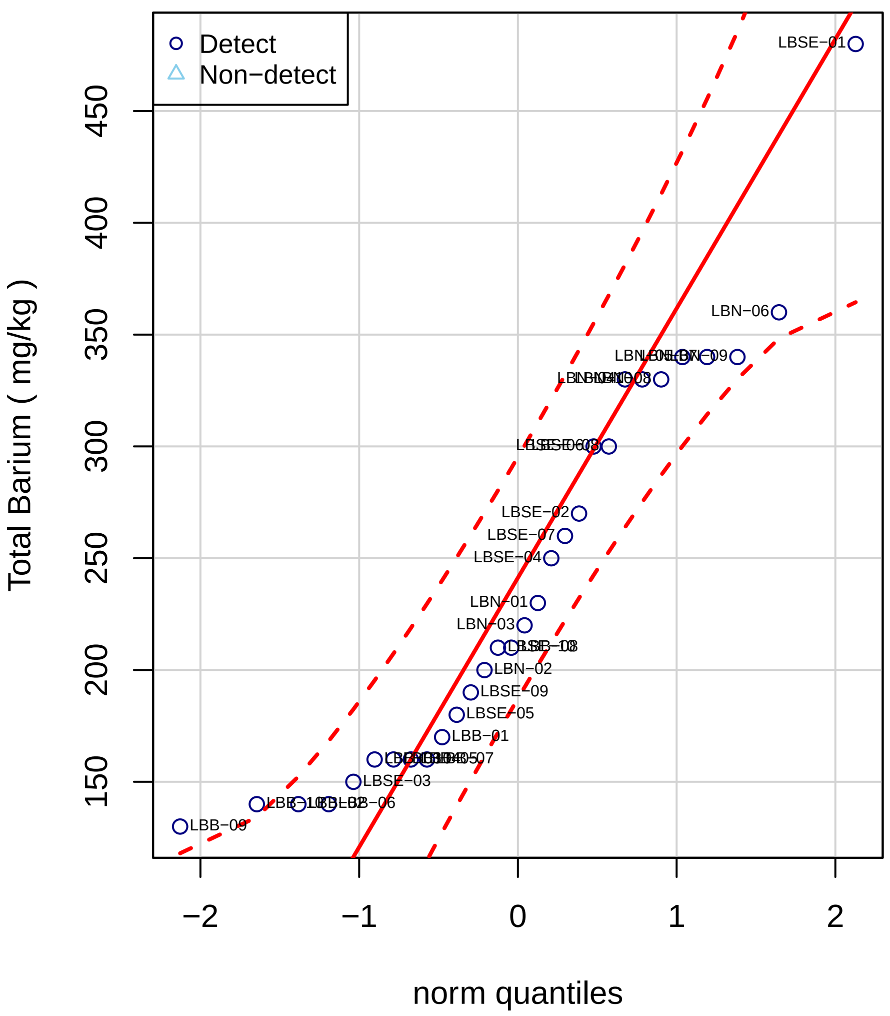

Normal QQ Plot for Total Antimony
Lake Bed
Detect
Non−detect
Total Antimony (mg/kg)
norm quantiles
0.2
0.4
0.6
0.8
1.0
−2
−1
0
1
2
LBSE−07
LBSE−08
LBSE−06
LBN−10
LBN−09
LBN−04
LBN−08
LBSE−04
LBSE−02
LBN−06
LBN−01
LBN−02
LBN−05
LBN−03
LBN−07
LBSE−01
LBSE−09
LBSE−05
LBSE−03
LBB−07
LBB−08
LBB−03
LBB−04
LBB−01
LBSE−10
LBB−02
LBB−05
LBB−06
LBB−10
LBB−09
Logscale QQ Plot for Total Antimony
Lake Bed
Log−transformed Total Antimony (mg/kg)
norm quantiles
0.0
−0.5
−1.0
−1.5
−2.0
−2.5
−2
−1
0
1
2
LBSE−07
LBSE−08
LBSE−06
LBN−10
LBN−09
LBN−04
LBN−08
LBSE−04
LBSE−02
LBN−06
LBN−01
LBN−02
LBN−05
LBN−03
LBN−07
LBSE−01
LBSE−09
LBSE−05
LBSE−03
LBB−07
LBB−08
LBB−03
LBB−04
LBB−01
LBSE−10
LBB−02
LBB−05
LBB−06
LBB−10
LBB−09

Normal QQ Plot for Total Arsenic
Lake Bed

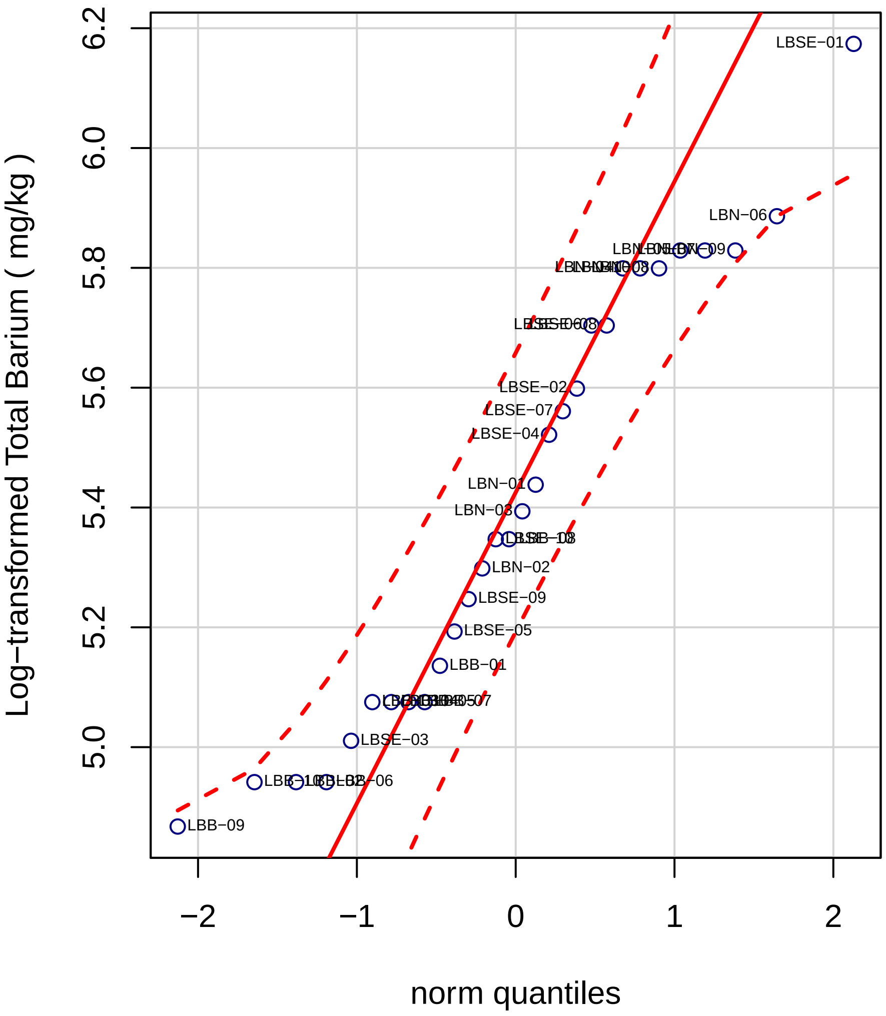


Logscale QQ Plot for Total Arsenic
Lake Bed

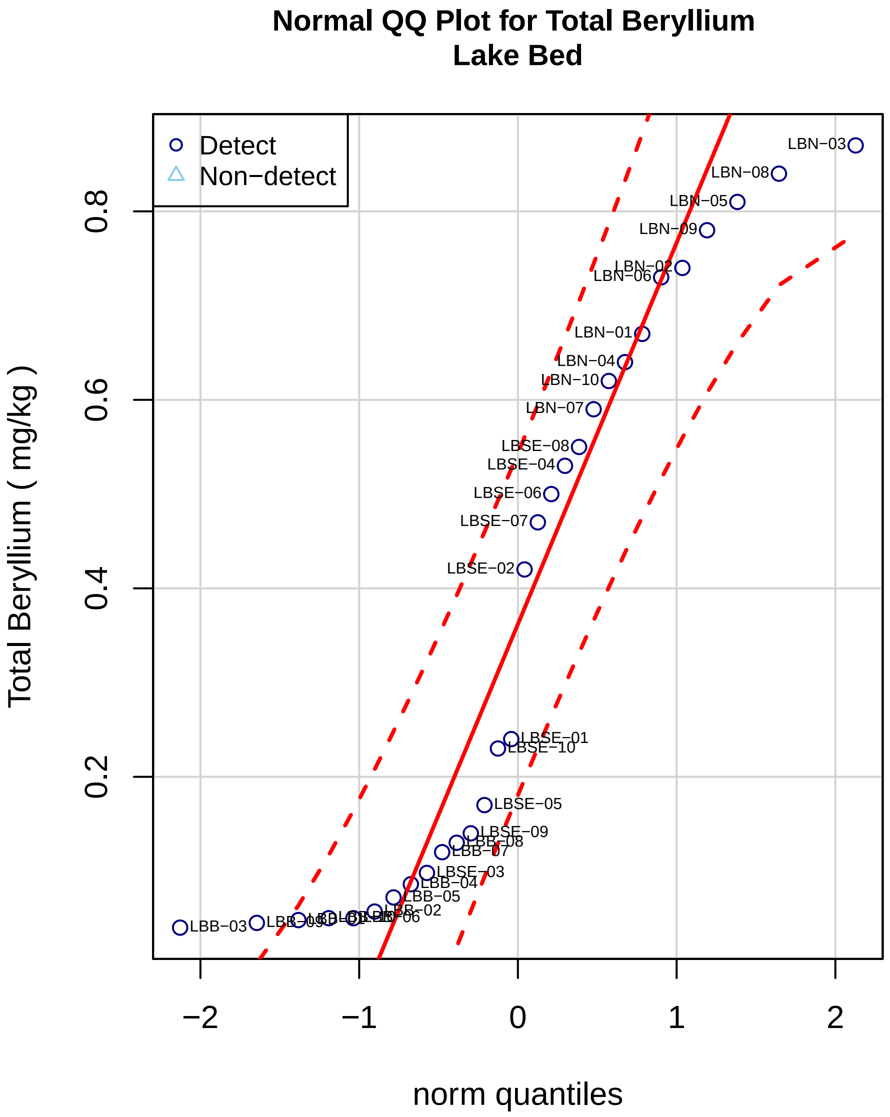




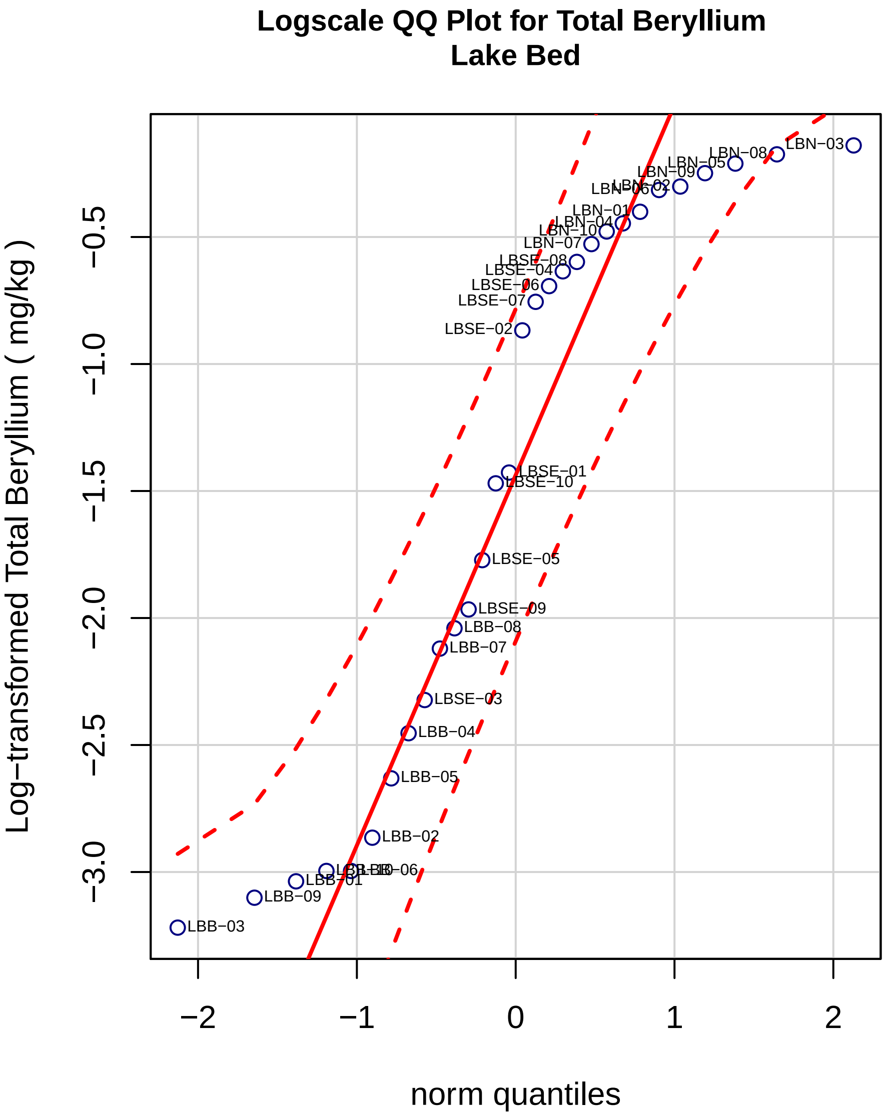
Normal QQ Plot for Total Barium
Lake Bed



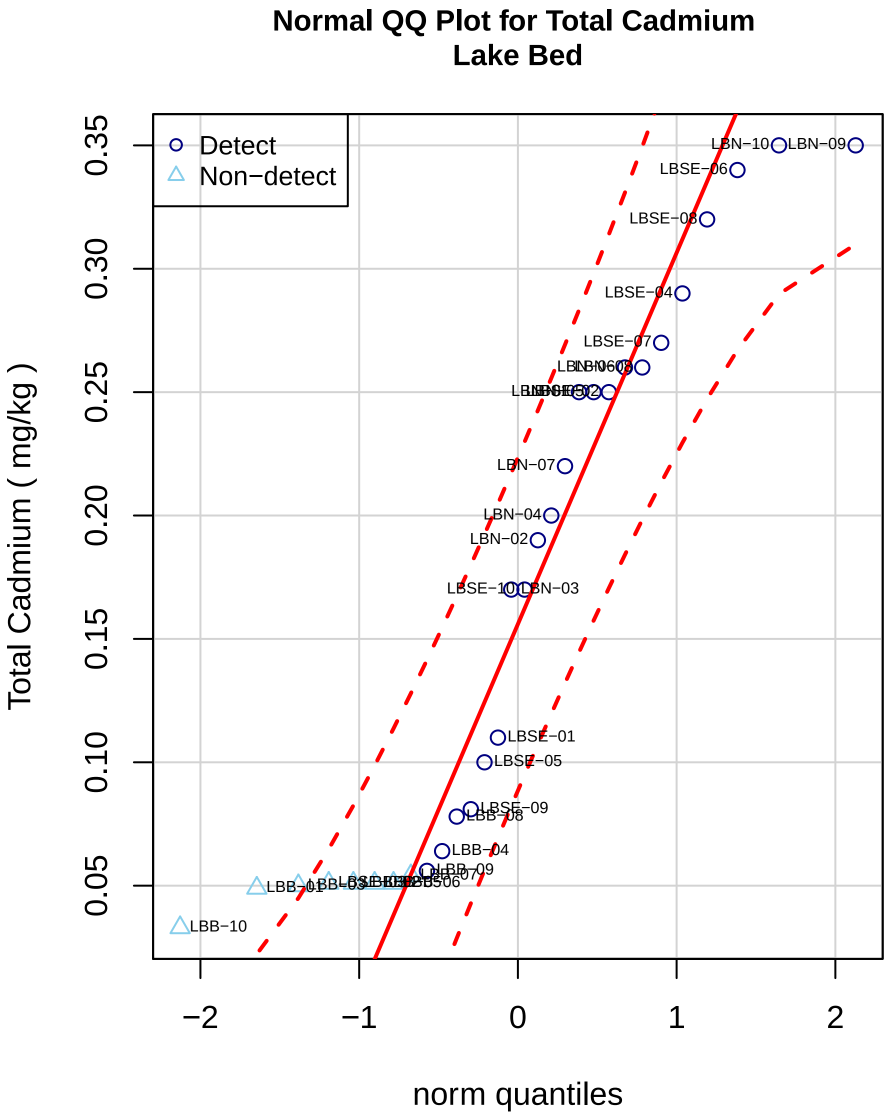
Logscale QQ Plot for Total Barium
Lake Bed

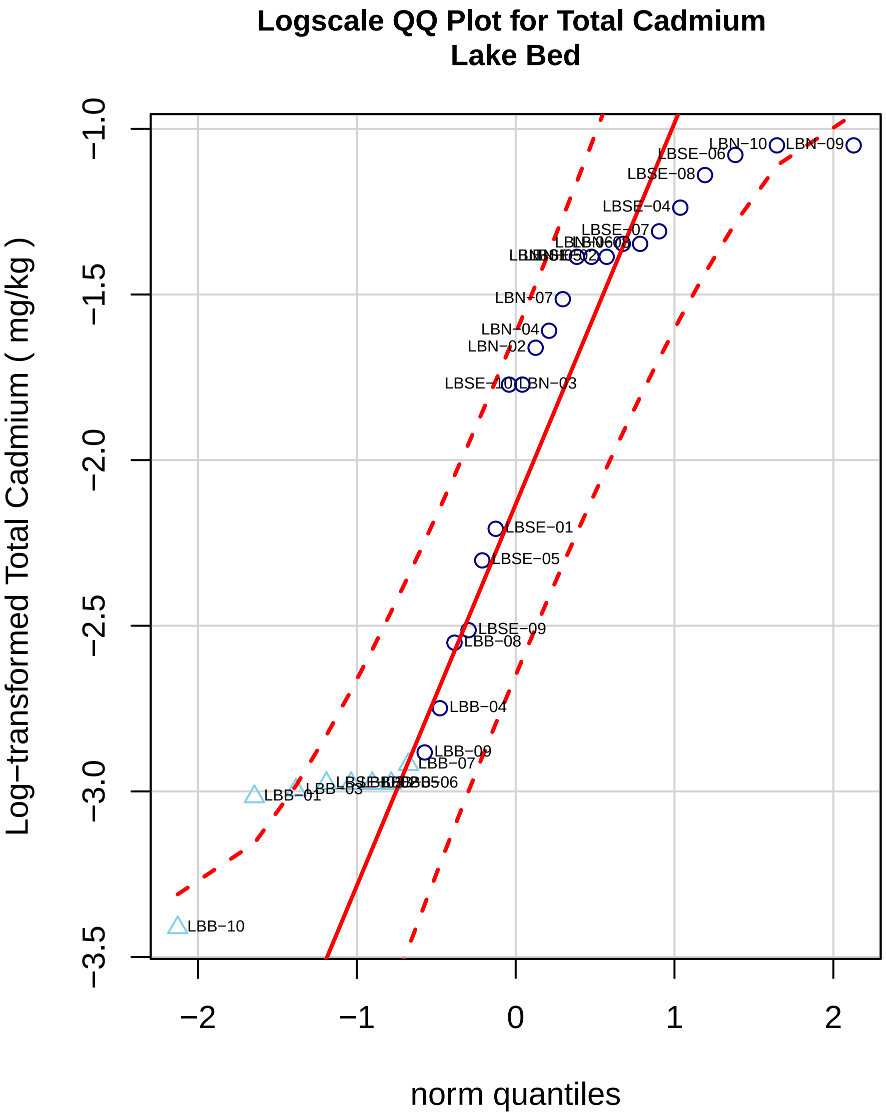


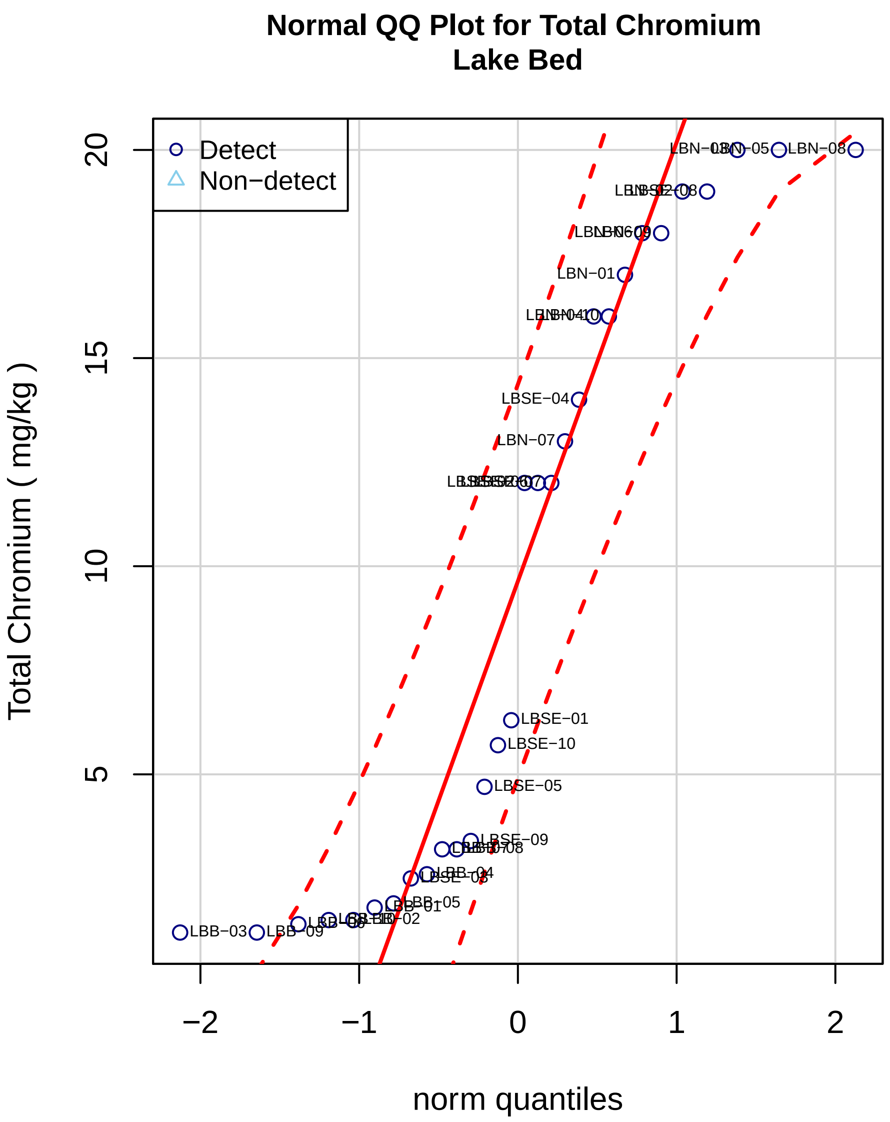
Normal QQ Plot for Total Beryllium
Lake Bed

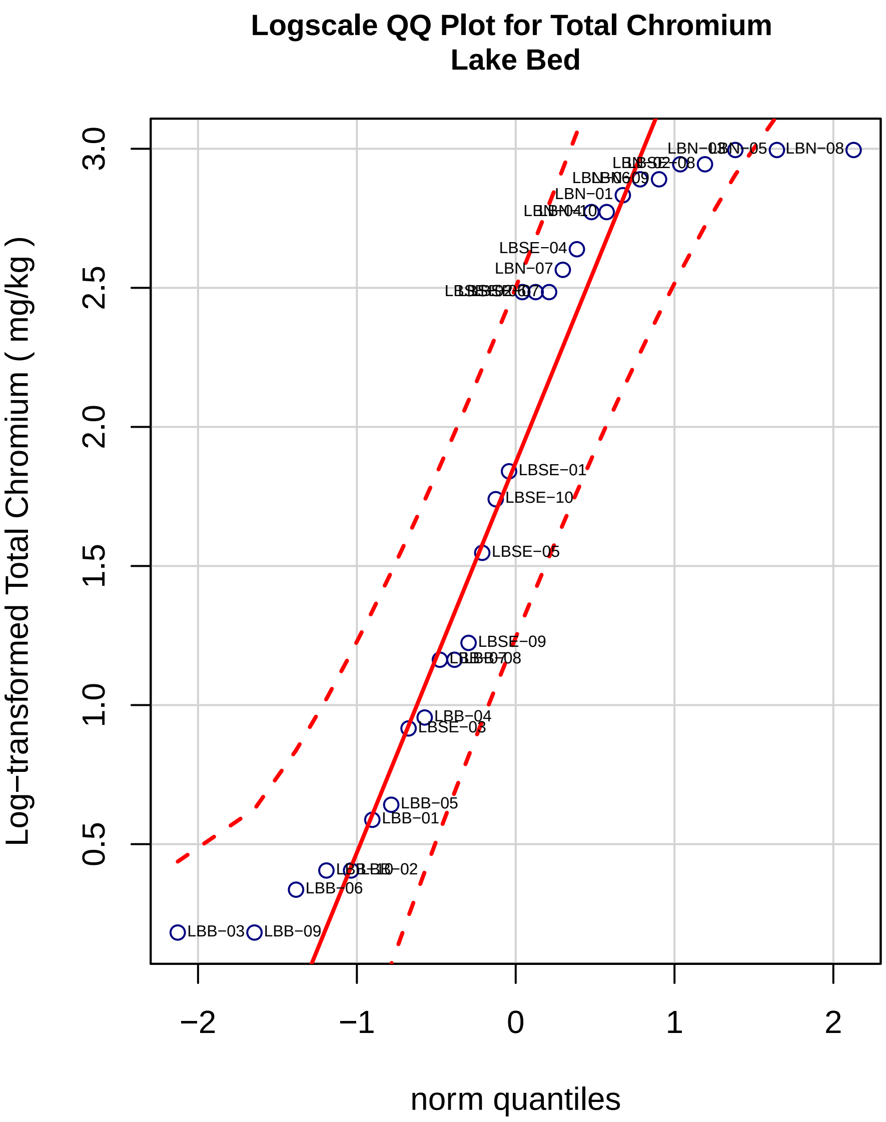


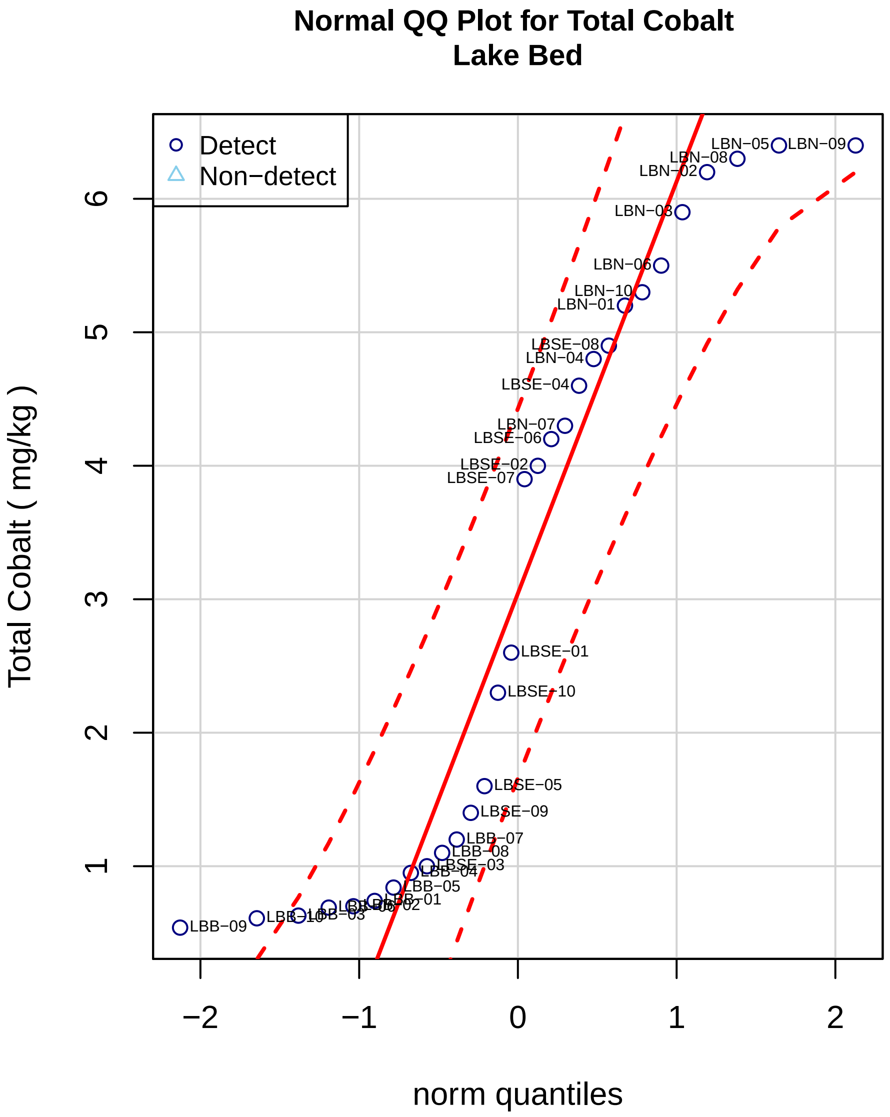
Logscale QQ Plot for Total Beryllium
Lake Bed

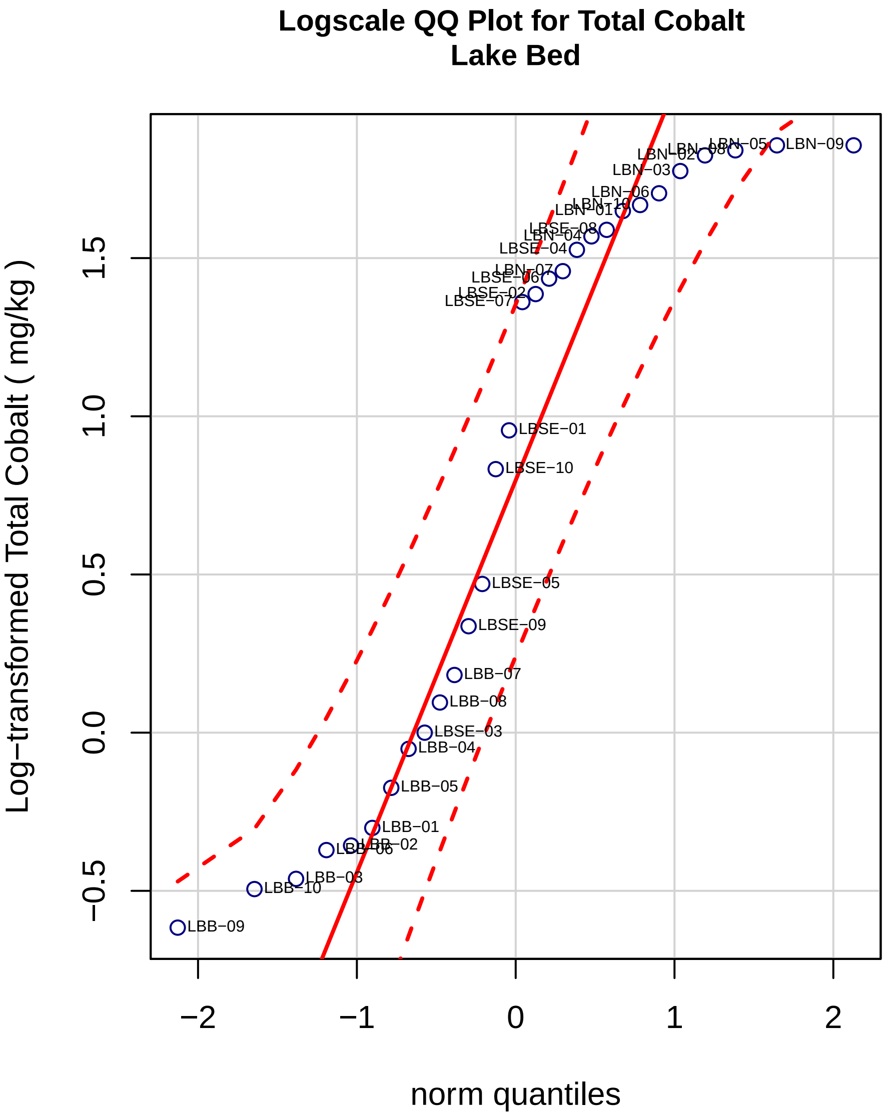

Normal QQ Plot for Total Cadmium
Lake Bed
Detect
Non−detect
Total Cadmium (mg/kg)
norm quantiles
0.05
0.10
0.15
0.20
0.25
0.30
0.35
−2
−1
0
1
2
LBN−10
LBN−09
LBSE−06
LBSE−08
LBSE−04
LBSE−07
LBN−07
LBN−04
LBN−02
LBSE−10
LBN−03
LBSE−01
LBSE−05
LBSE−09
LBB−08
LBB−04
LBB−09
LBB−07
LBB−01
LBB−03
LBB−10

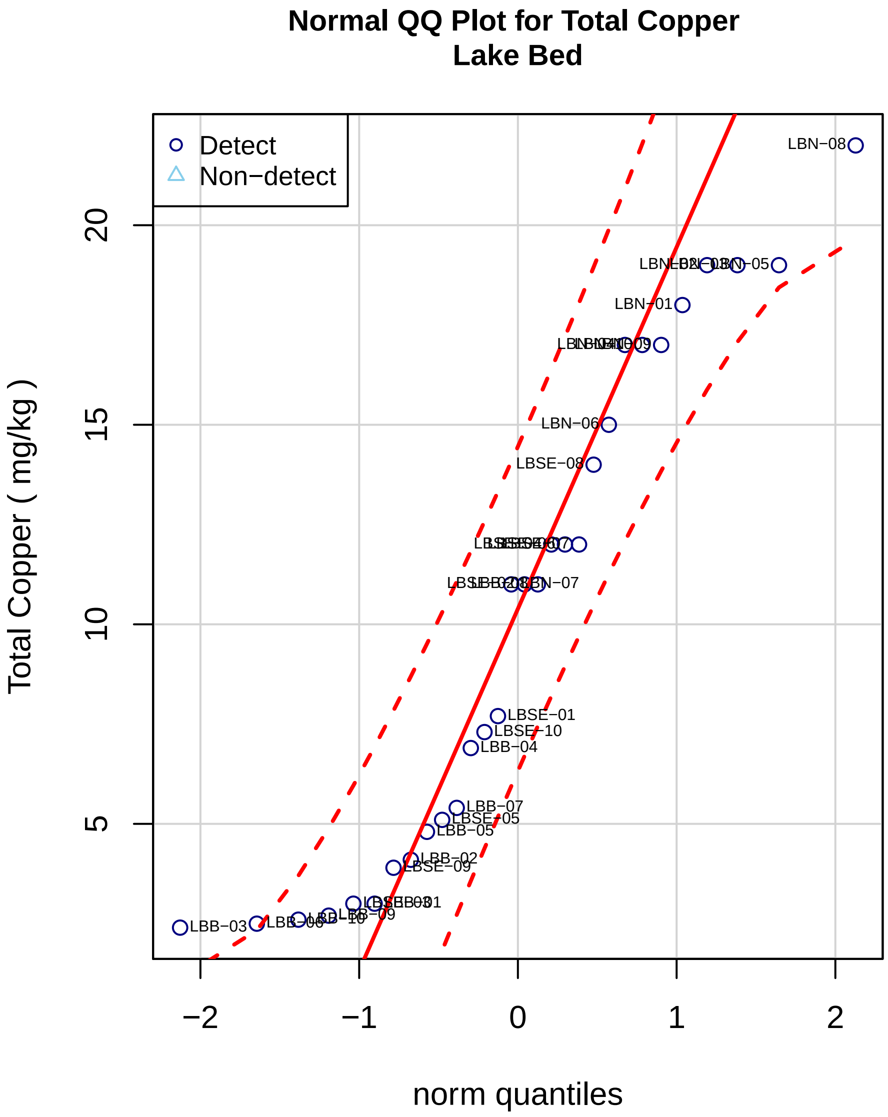

Logscale QQ Plot for Total Cadmium
Lake Bed
Log−transformed Total Cadmium (mg/kg)
norm quantiles
−1.0
−1.5
−2.0
−2.5
−3.0
−3.5
−2
−1
0
1
2
LBN−10
LBN−09
LBSE−06
LBSE−08
LBSE−04
LBSE−07
LBN−07
LBN−04
LBN−02
LBSE−10
LBN−03
LBSE−01
LBSE−05
LBSE−09
LBB−08
LBB−04
LBB−09
LBB−07
LBB−01
LBB−03
LBB−10


Normal QQ Plot for Total Chromium
Lake Bed
Detect
Non−detect
Total Chromium (mg/kg)
norm quantiles
20
15
10
5
−2
−1
0
1
2
LBN−05
LBN−08
LBN−01
LBSE−04
LBN−07
LBSE−01
LBSE−10
LBSE−05
LBSE−09
LBB−03
LBB−09

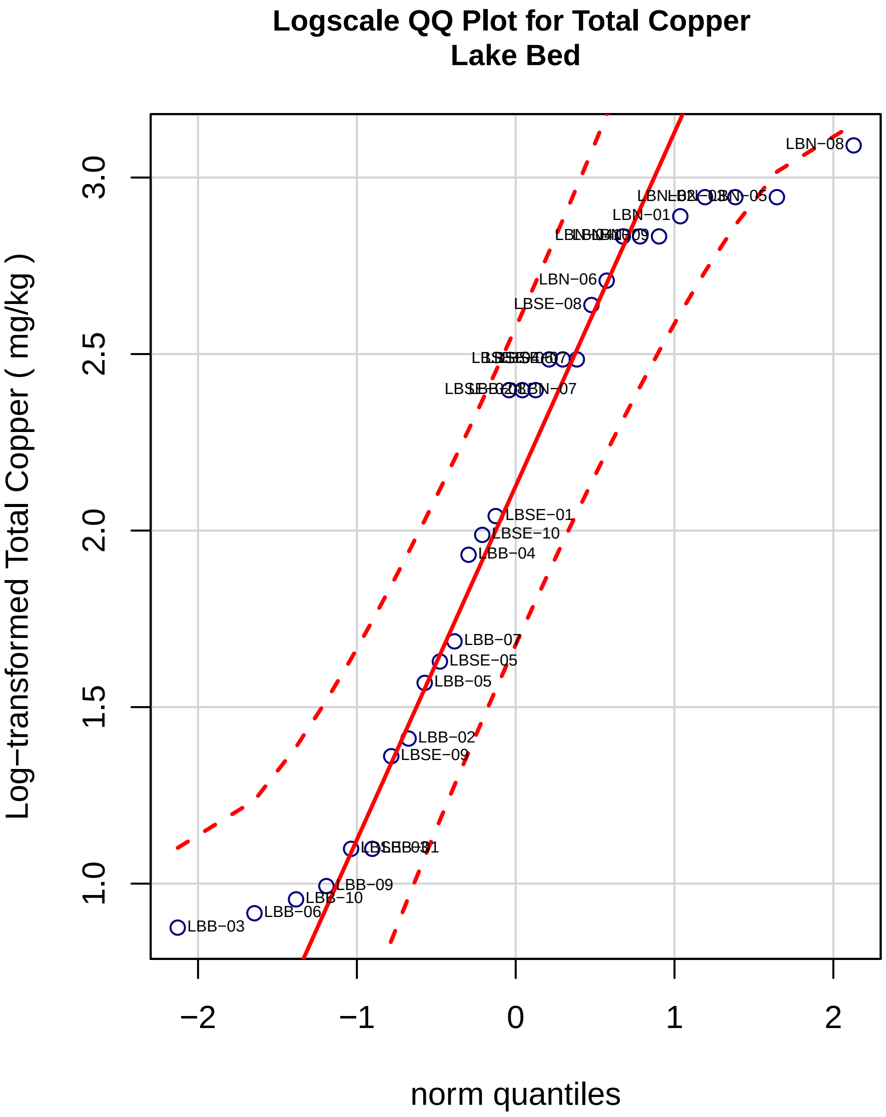

Logscale QQ Plot for Total Chromium
Lake Bed
Log−transformed Total Chromium (mg/kg)
norm quantiles
3.0
2.5
2.0
1.5
1.0
0.5
−2
−1
0
1
2
LBN−05
LBN−08
LBN−01
LBSE−04
LBN−07
LBSE−01
LBSE−10
LBSE−05
LBSE−09
LBB−04
LBSE−03
LBB−05
LBB−01
LBB−02
LBB−06
LBB−03
LBB−09


Normal QQ Plot for Total Cobalt
Lake Bed

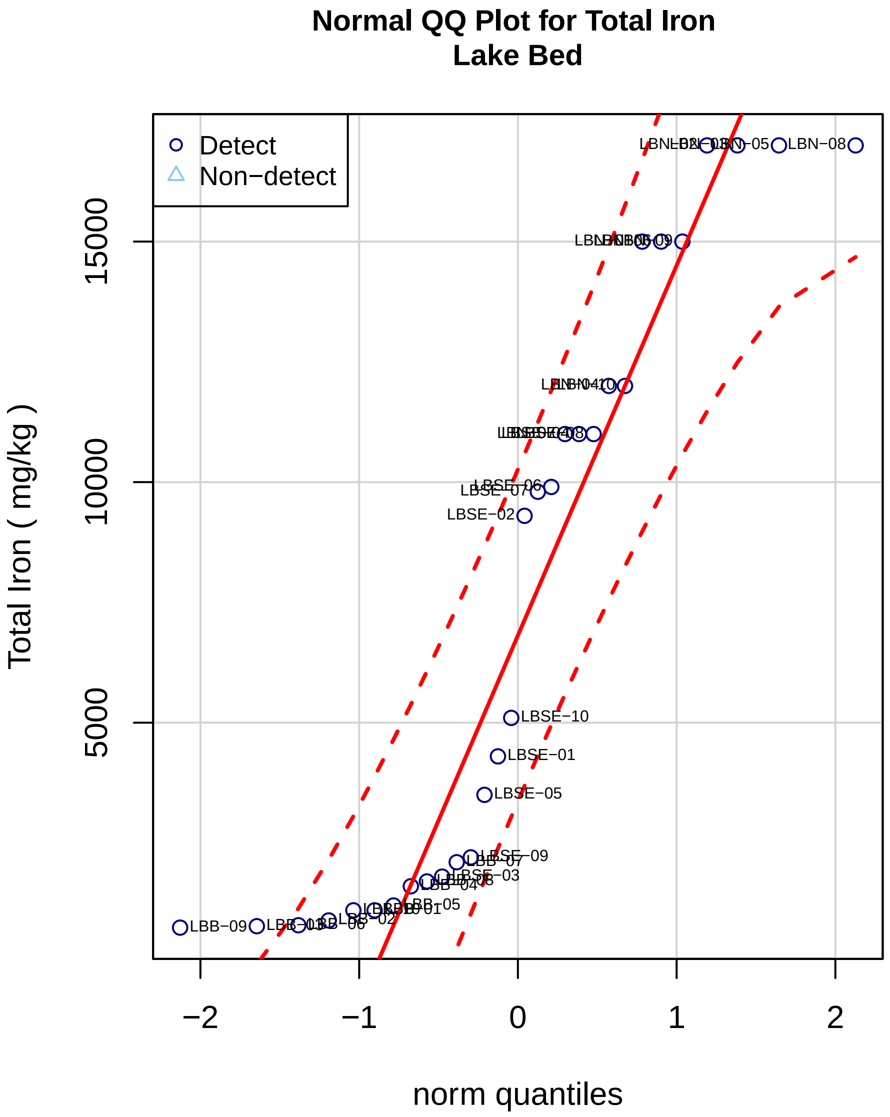

Logscale QQ Plot for Total Cobalt
Lake Bed



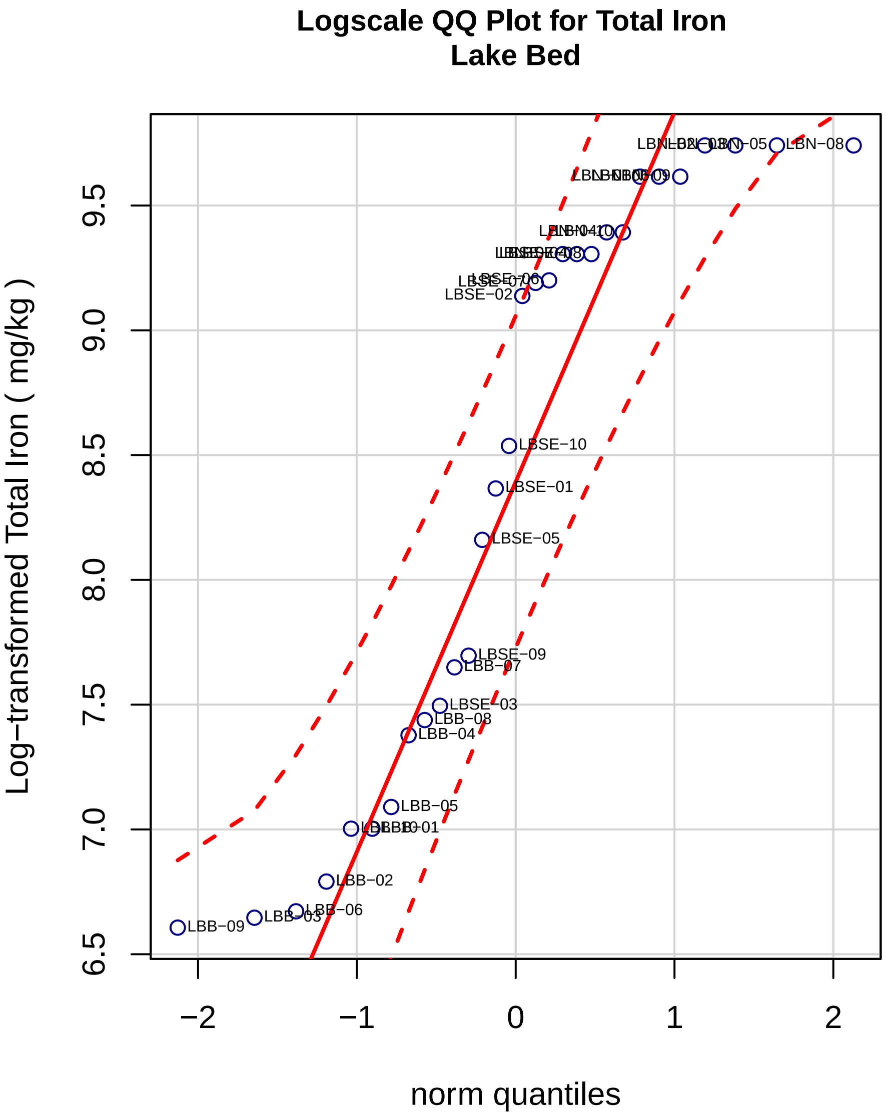
Normal QQ Plot for Total Copper
Lake Bed



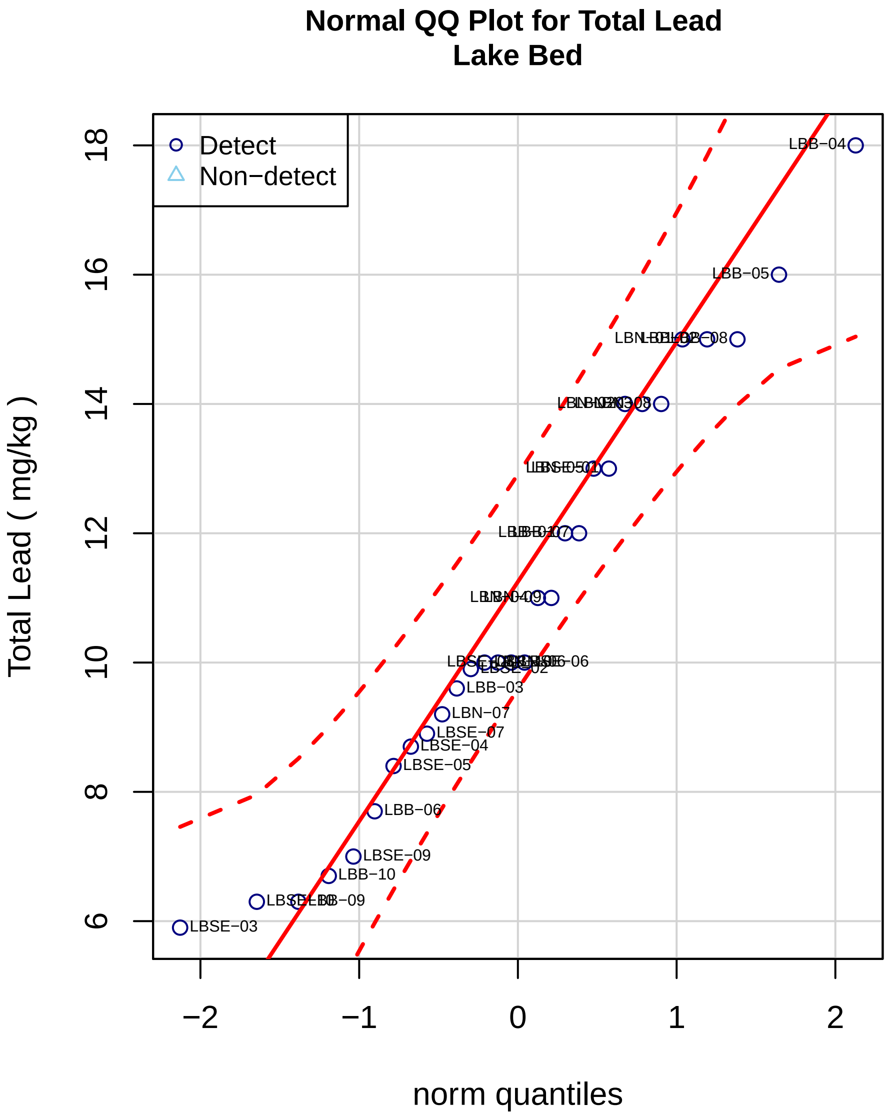
Logscale QQ Plot for Total Copper
Lake Bed

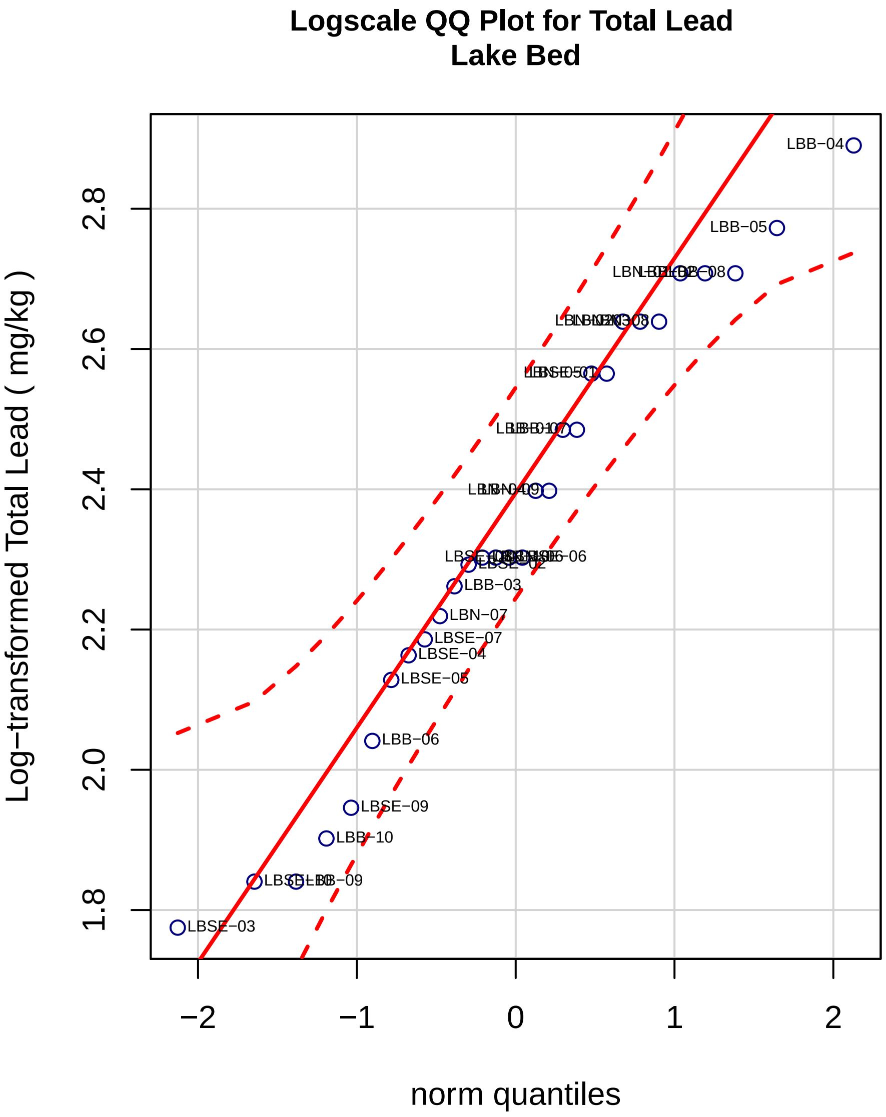


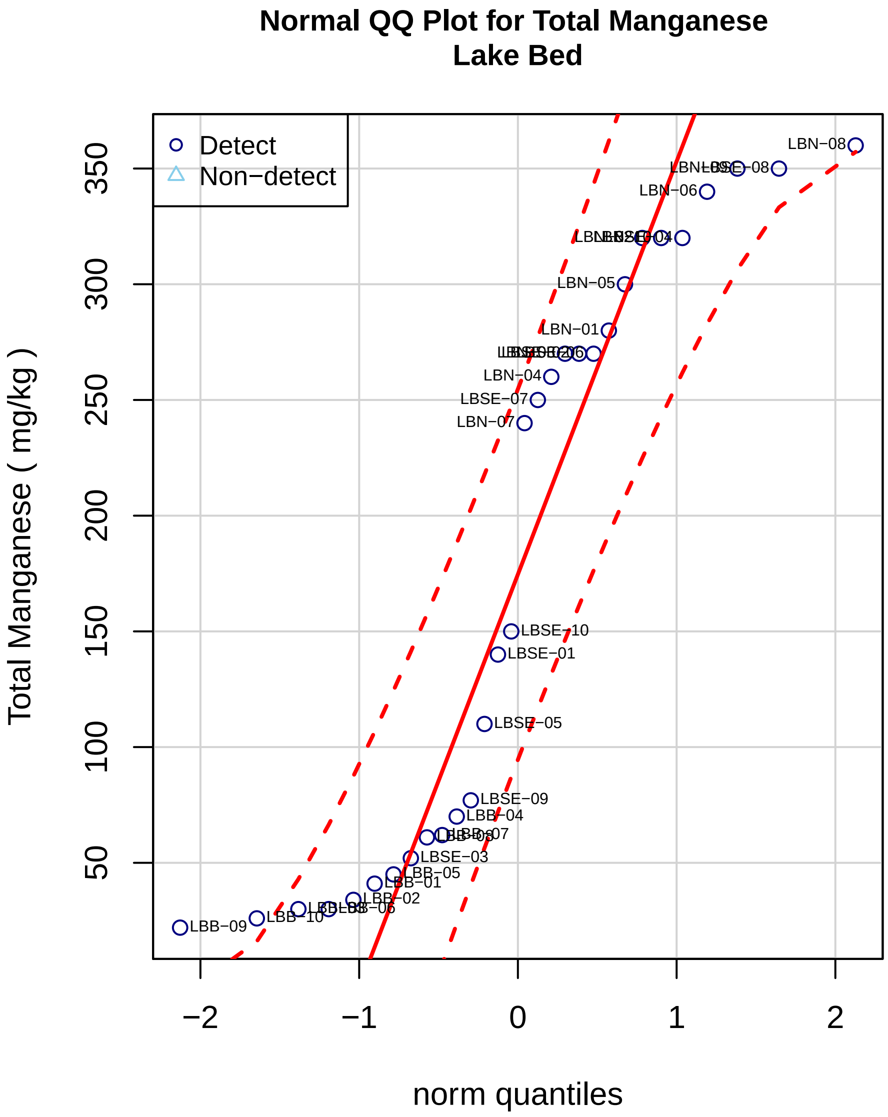
Normal QQ Plot for Total Iron
Lake Bed

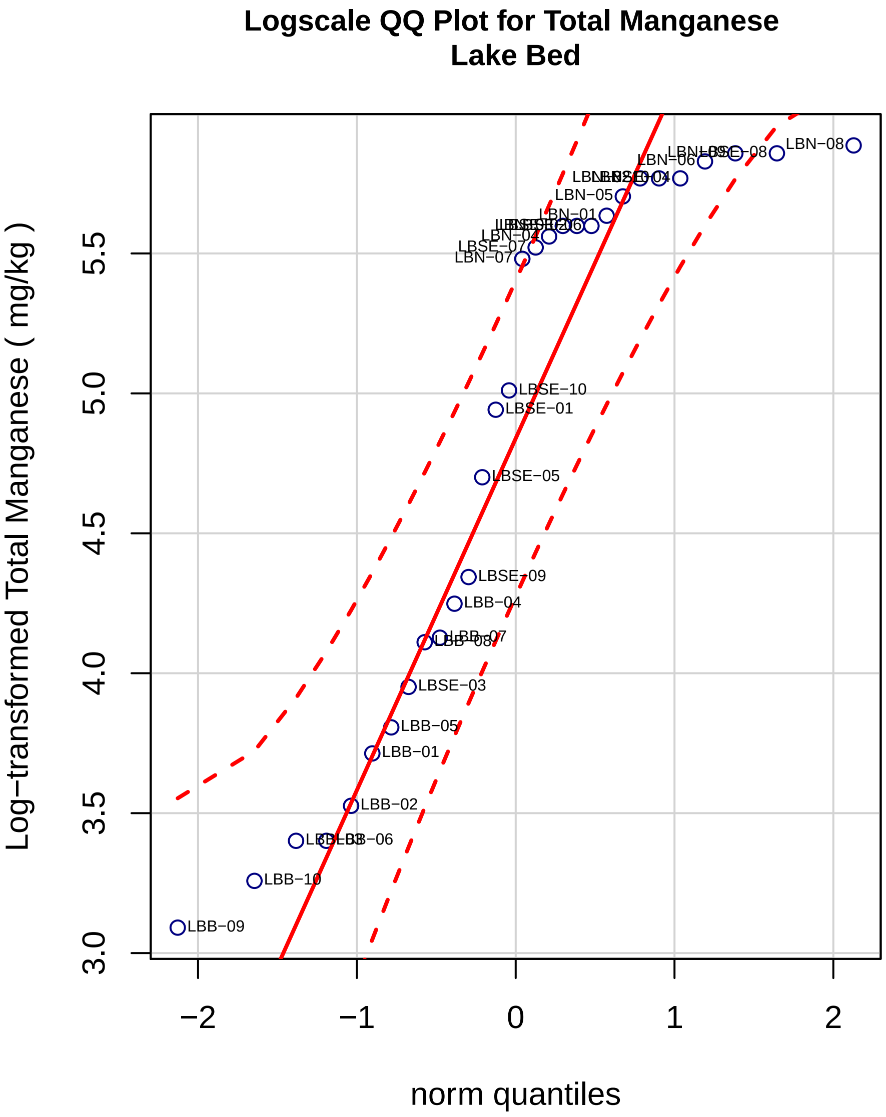


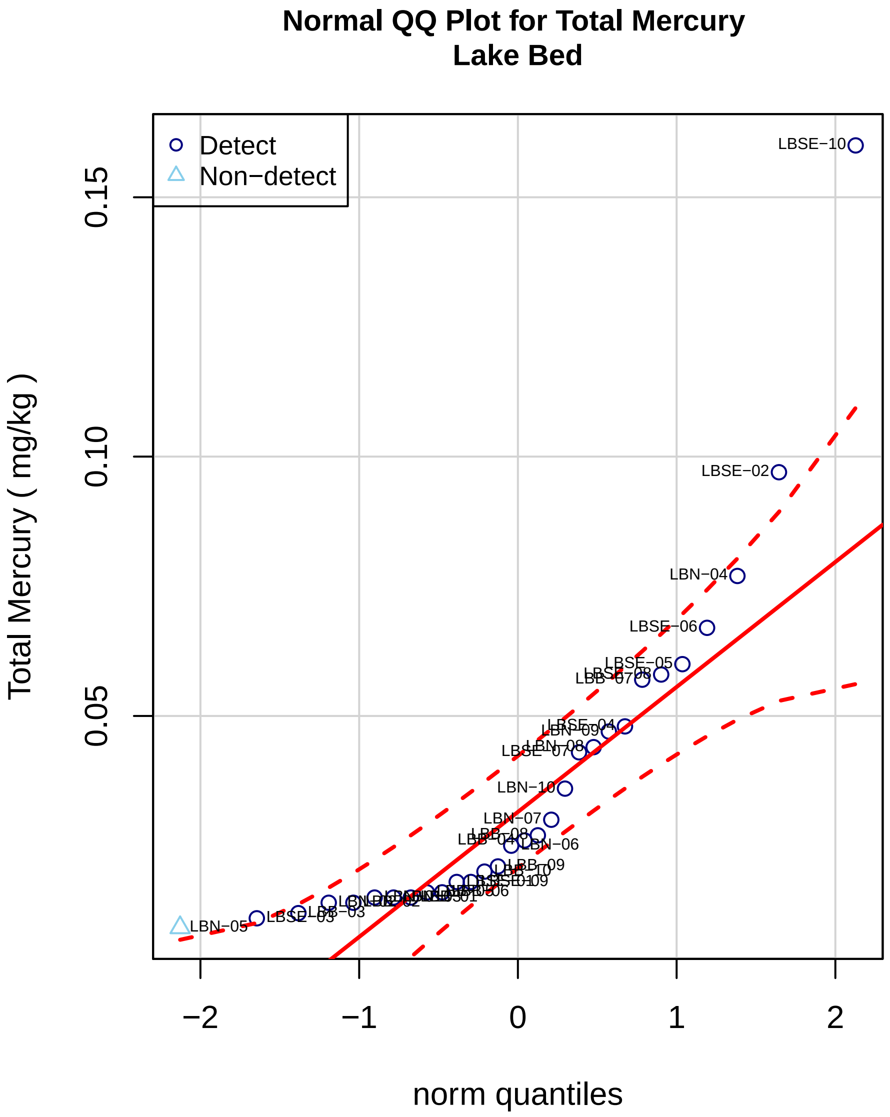
Logscale QQ Plot for Total Iron
Lake Bed

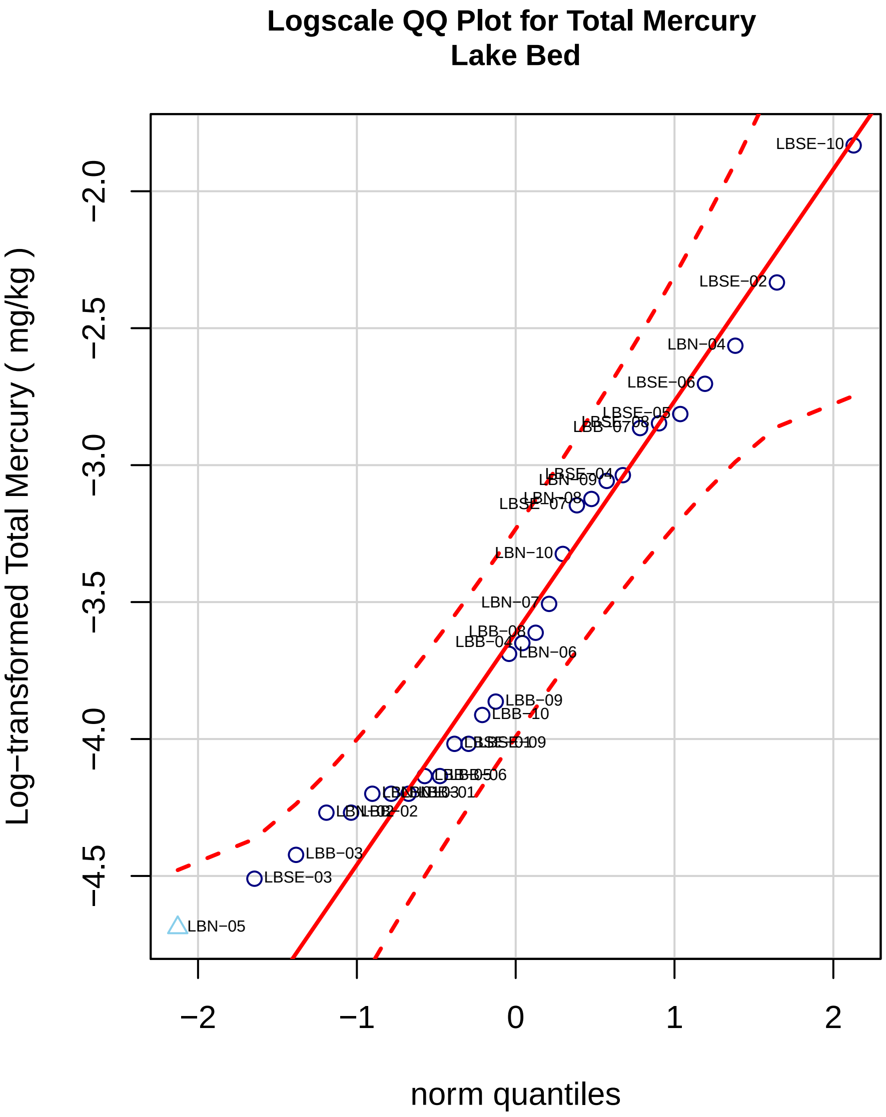

Normal QQ Plot for Total Lead
Lake Bed


Logscale QQ Plot for Total Lead
Lake Bed


Normal QQ Plot for Total Manganese
Lake Bed


Logscale QQ Plot for Total Manganese
Lake Bed


Normal QQ Plot for Total Mercury
Lake Bed
Detect
Non−detect
Total Mercury (mg/kg)
0.05
0.10
0.15
−2
−1
0
1
2
norm quantiles
LBSE−10
LBSE−02
LBN−04
LBSE−06
LBSE−05
LBB−07
LBSE−04
LBN−09
LBN−08
LBSE−07
LBN−10
LBN−07
LBB−08
LBB−04
LBN−06
LBB−09
LBB−10
LBSE−09
LBSE−03
LBB−03
LBN−05


Logscale QQ Plot for Total Mercury
Lake Bed
Log−transformed Total Mercury (mg/kg)
−2.0
−2.5
−3.0
−3.5
−4.0
−4.5
−2
−1
0
1
2
norm quantiles
LBSE−10
LBSE−02
LBN−04
LBSE−06
LBSE−05
LBB−07
LBSE−04
LBN−09
LBN−08
LBSE−07
LBN−10
LBN−07
LBB−08
LBB−04
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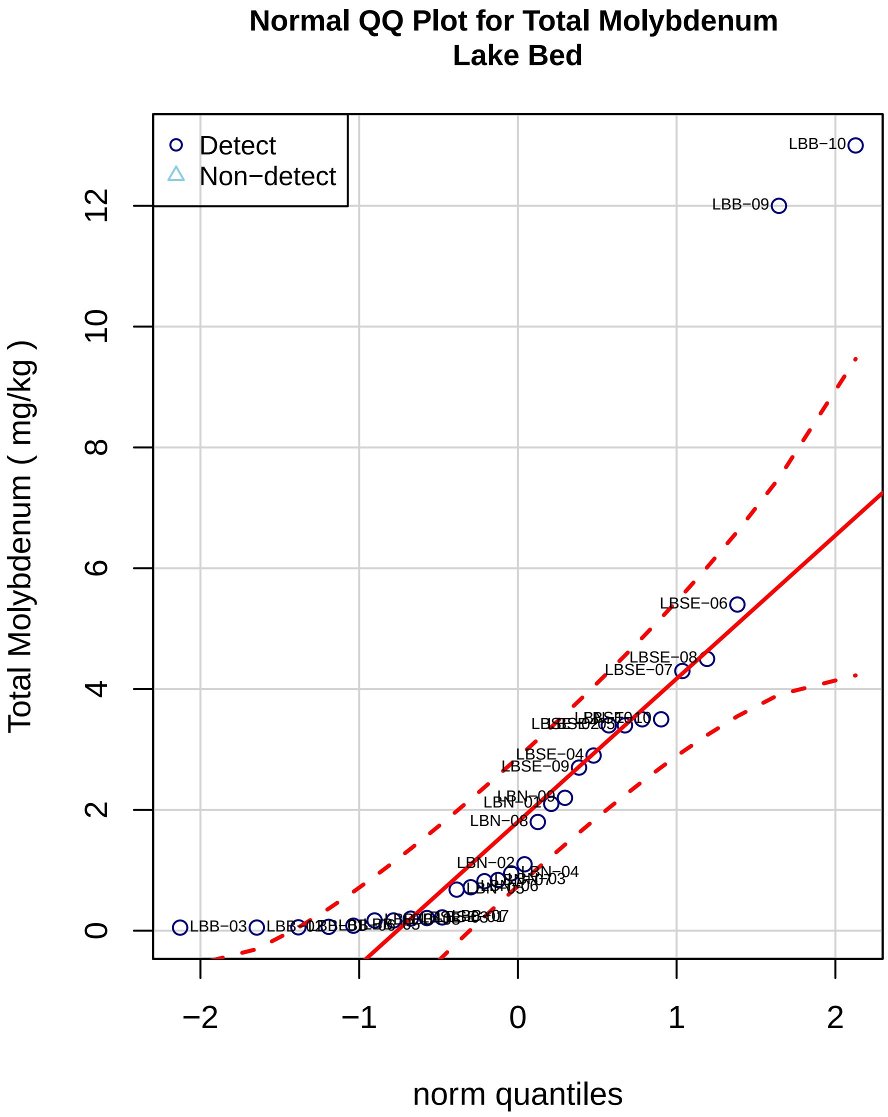
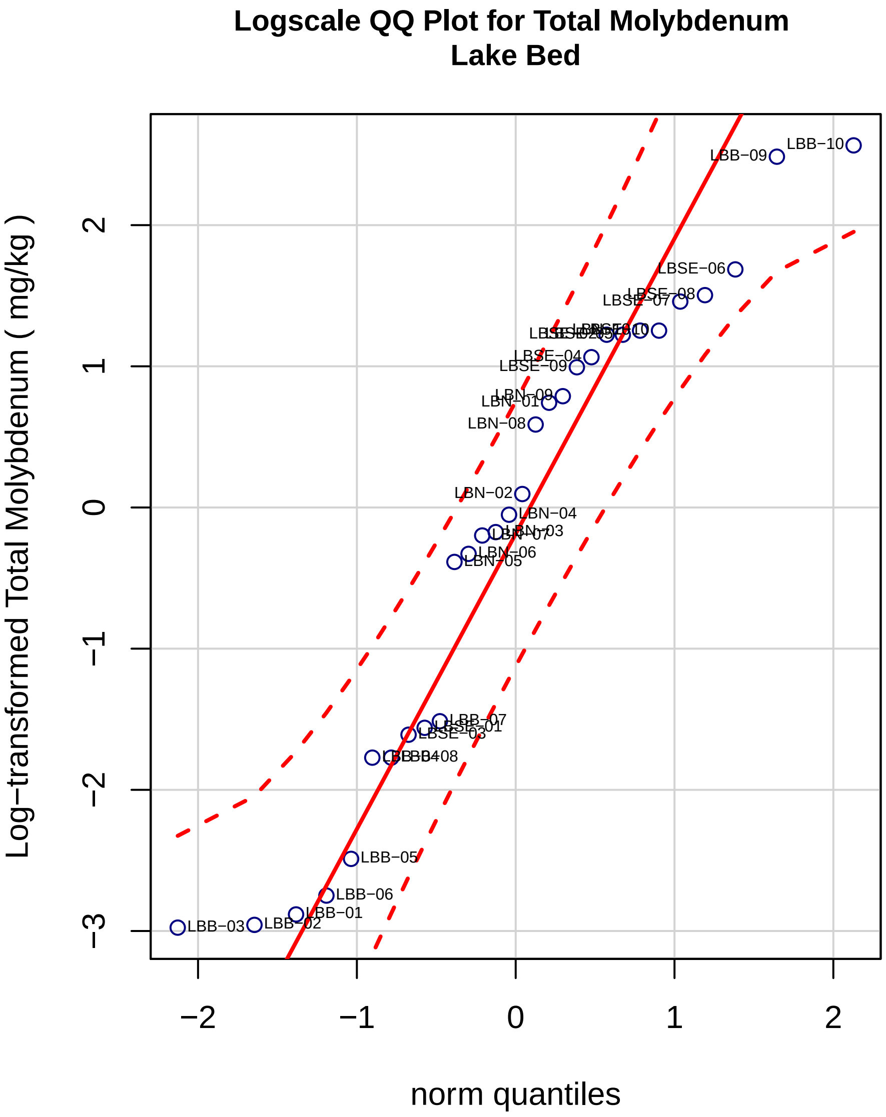
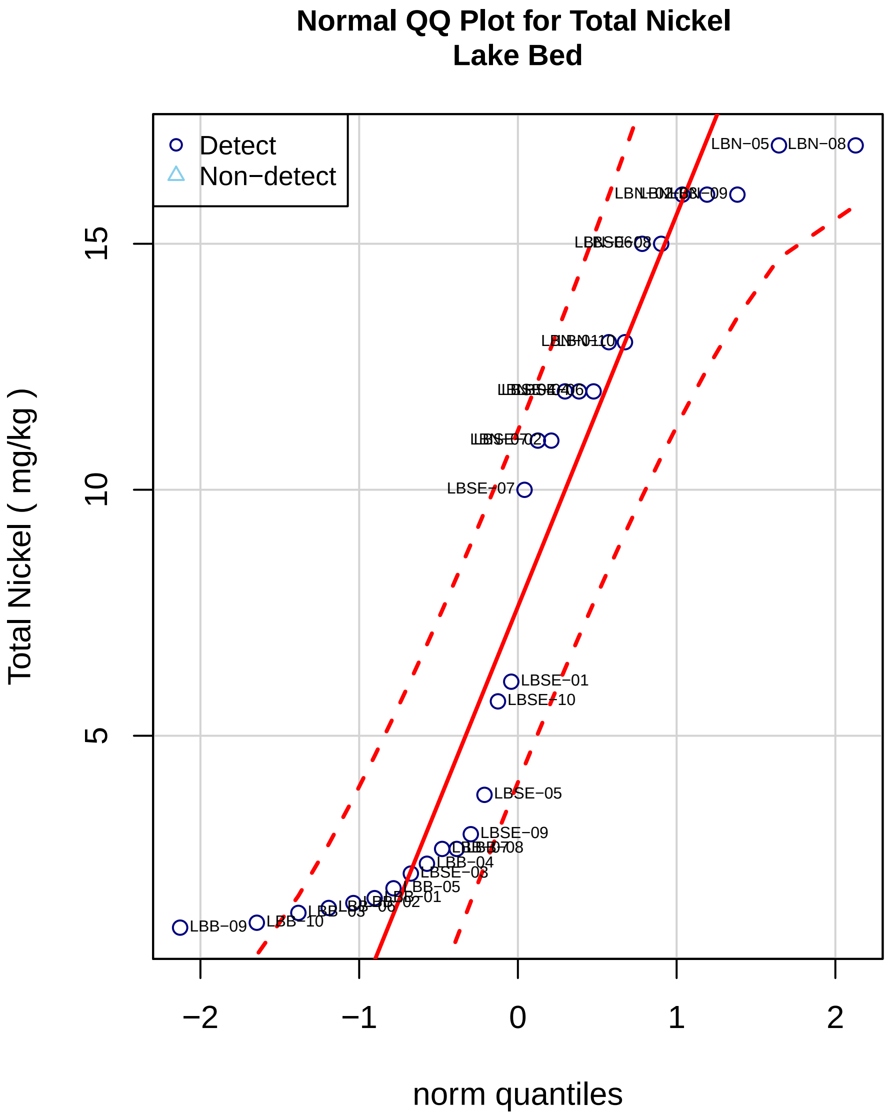
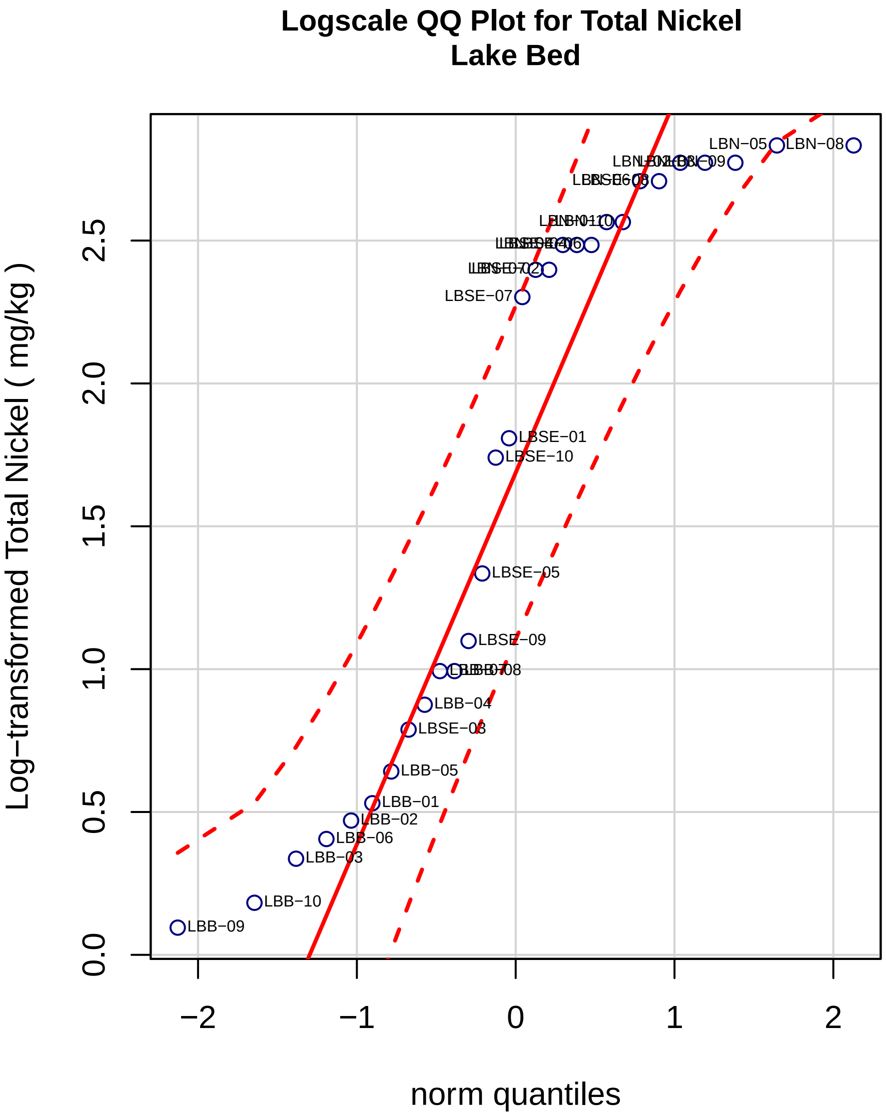
LBB−10
LBSE−09
LBB−06
LBSE−01
LBN−02
LBB−03
LBSE−03
LBN−05


Normal QQ Plot for Total Molybdenum
Lake Bed


Logscale QQ Plot for Total Molybdenum
Lake Bed


Normal QQ Plot for Total Nickel
Lake Bed
Detect
Non−detect
Total Nickel (mg/kg)
norm quantiles
5
10
15
−2
−1
0
1
2
LBN−05
LBN−08
LBN−09
LBSE−06
LBSE−03
LBN−10
LBSE−04
LBSE−02
LBSE−07
LBSE−01
LBSE−10
LBSE−05
LBSE−09
LBB−07
LBB−08
LBB−04
LBSE−08
LBB−05
LBB−01
LBB−02
LBB−06
LBB−03
LBB−10
LBB−09


Logscale QQ Plot for Total Nickel
Lake Bed
Log−transformed Total Nickel (mg/kg)
norm quantiles
0.0
0.5
1.0
1.5
2.0
2.5
−2
−1
0
1
2
LBN−05
LBN−08
LBN−09
LBSE−06
LBSE−03
LBN−10
LBSE−04
LBSE−02
LBSE−07
LBSE−01
LBSE−10
LBSE−05
LBSE−09
LBB−07
LBB−08
LBB−04
LBSE−08
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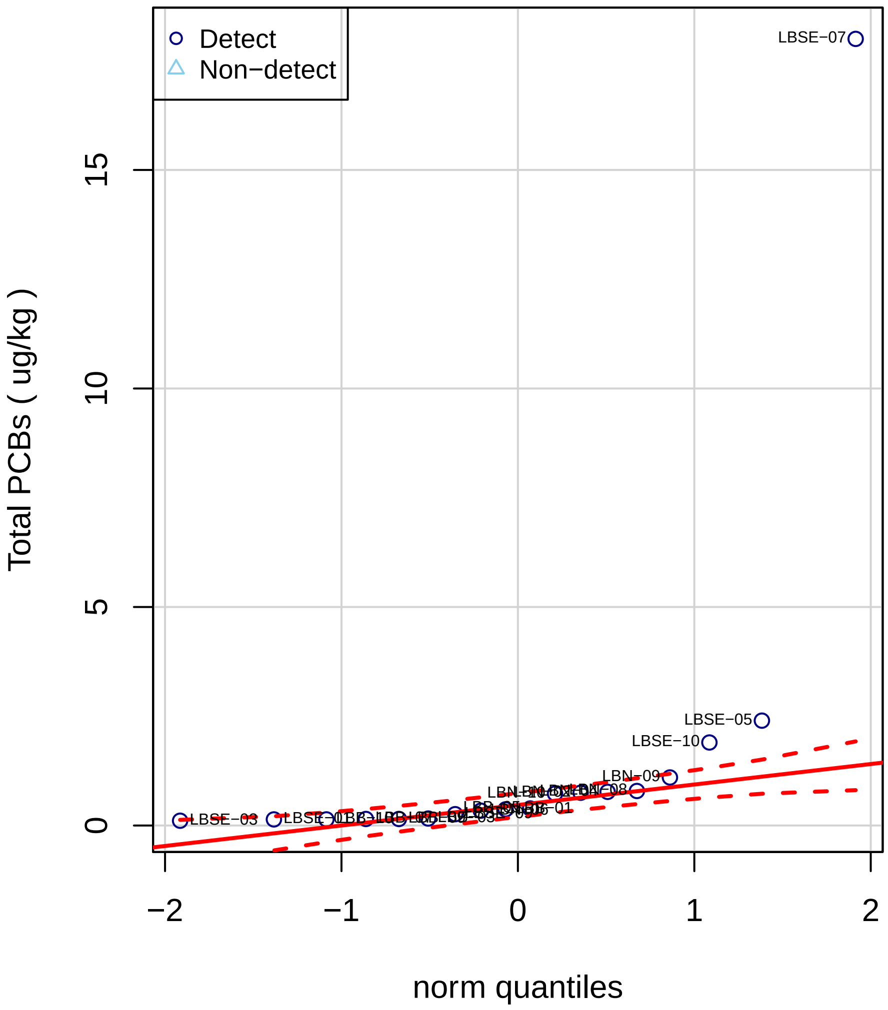
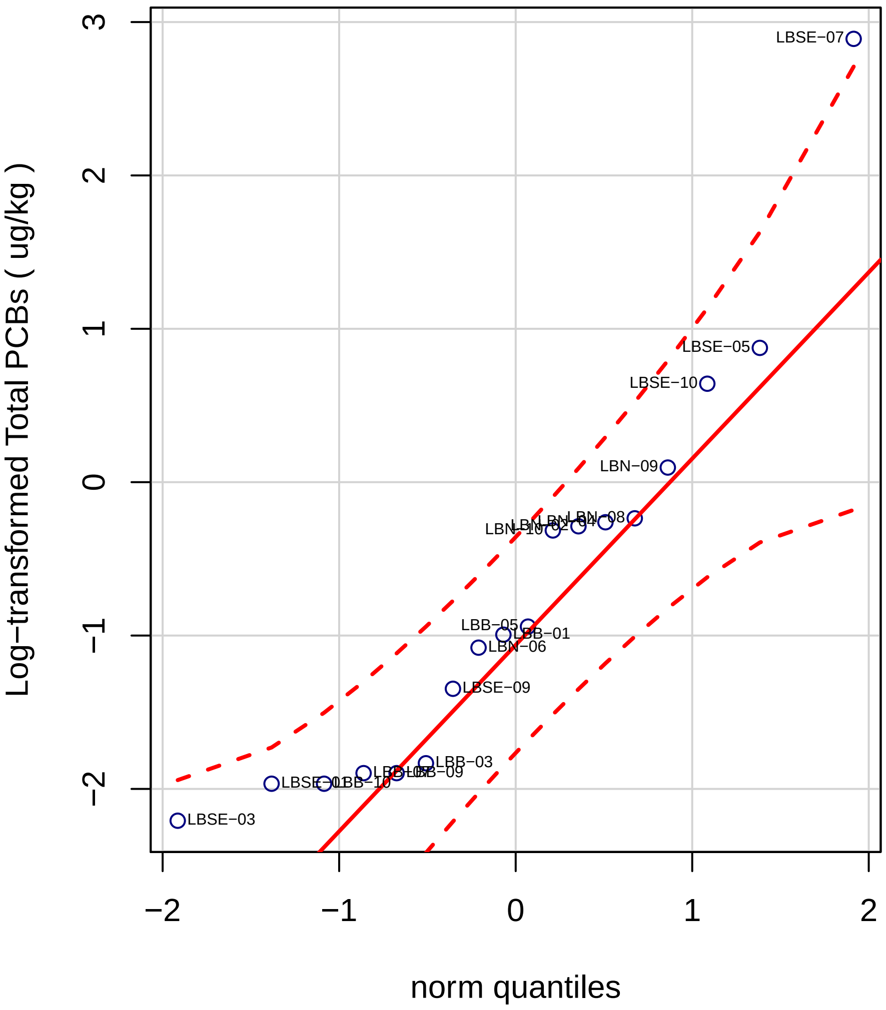
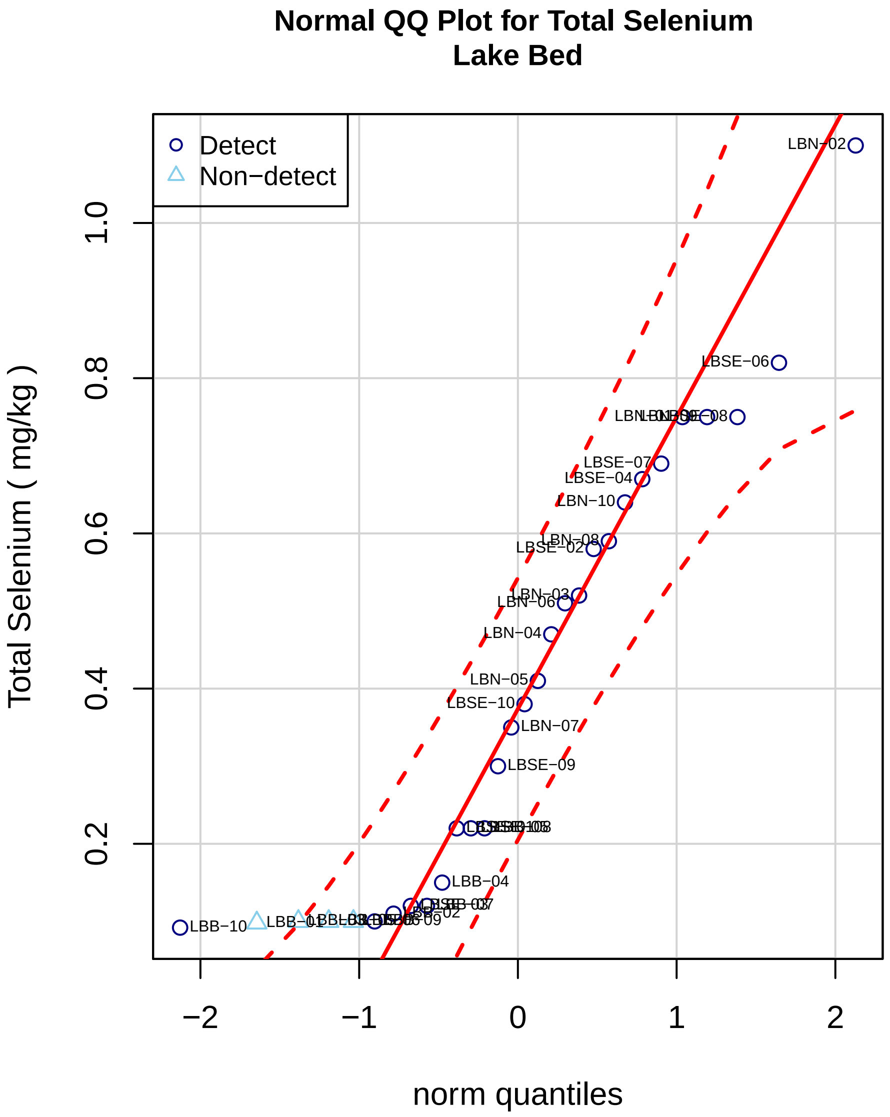
LBB−03
LBB−10
LBB−09

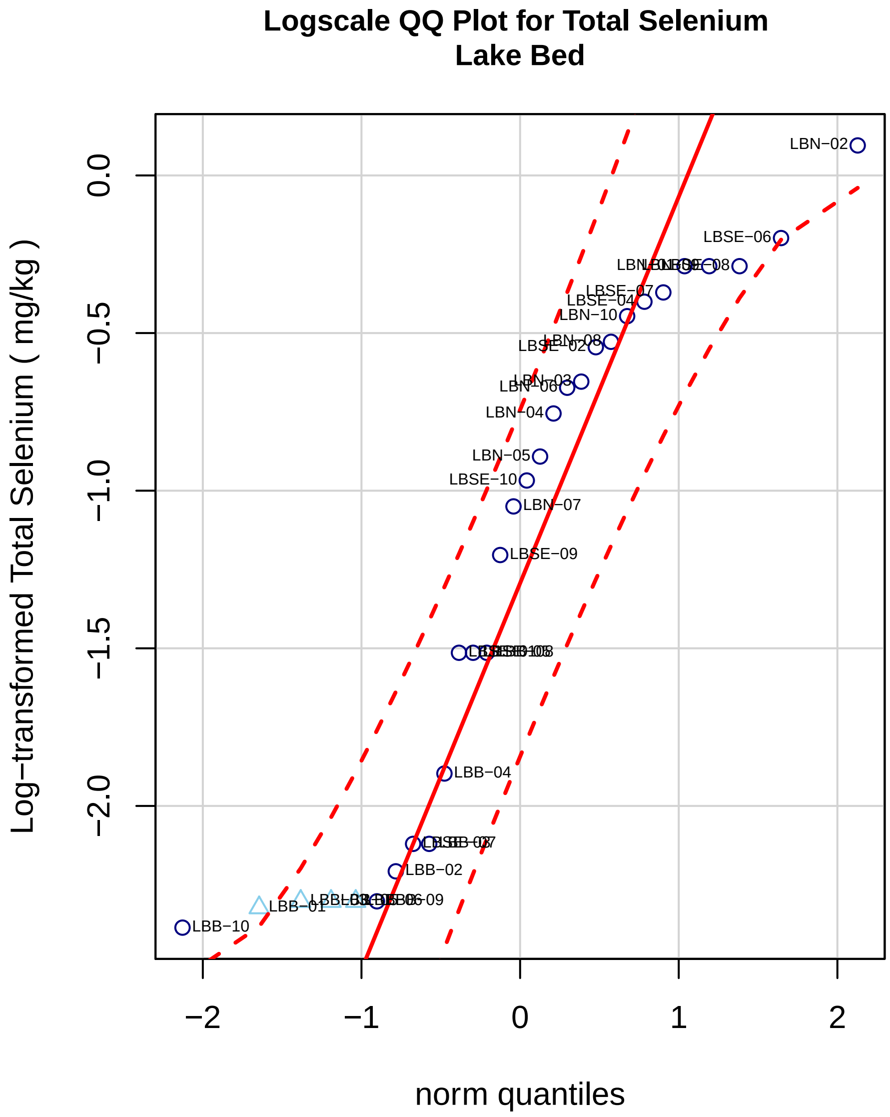


Normal QQ Plot for Total PCBs
Lake Bed

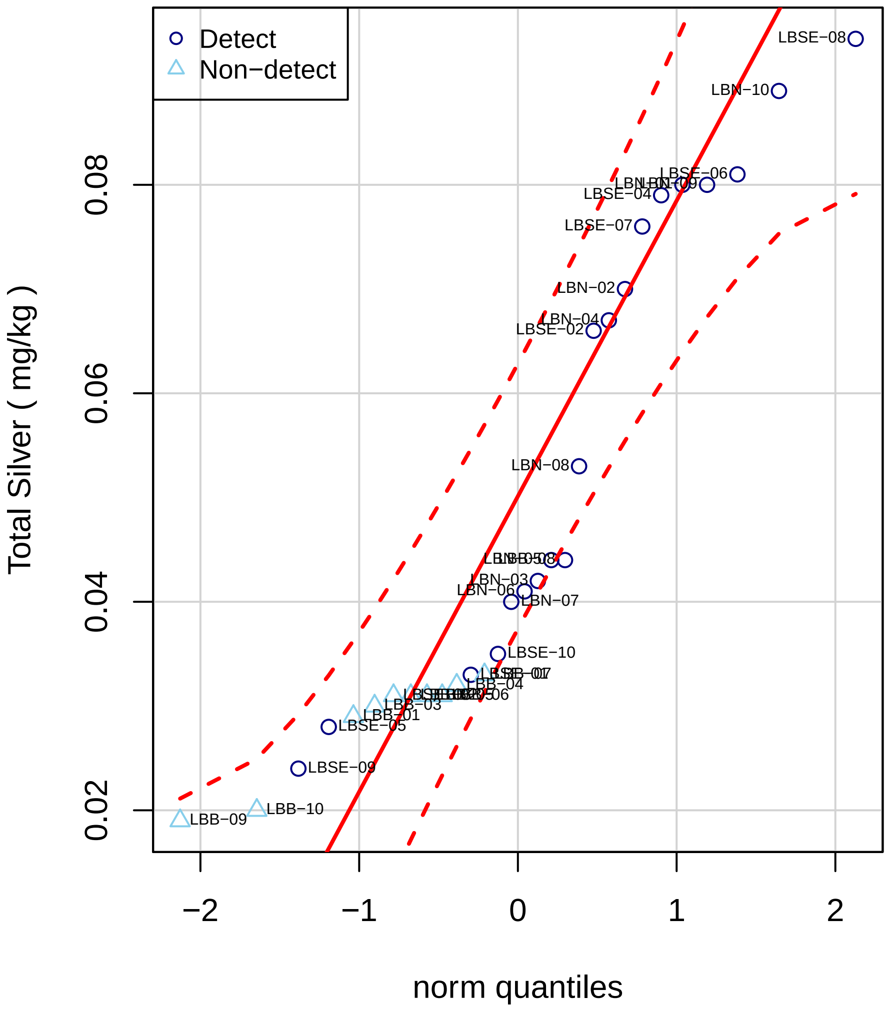


Logscale QQ Plot for Total PCBs
Lake Bed

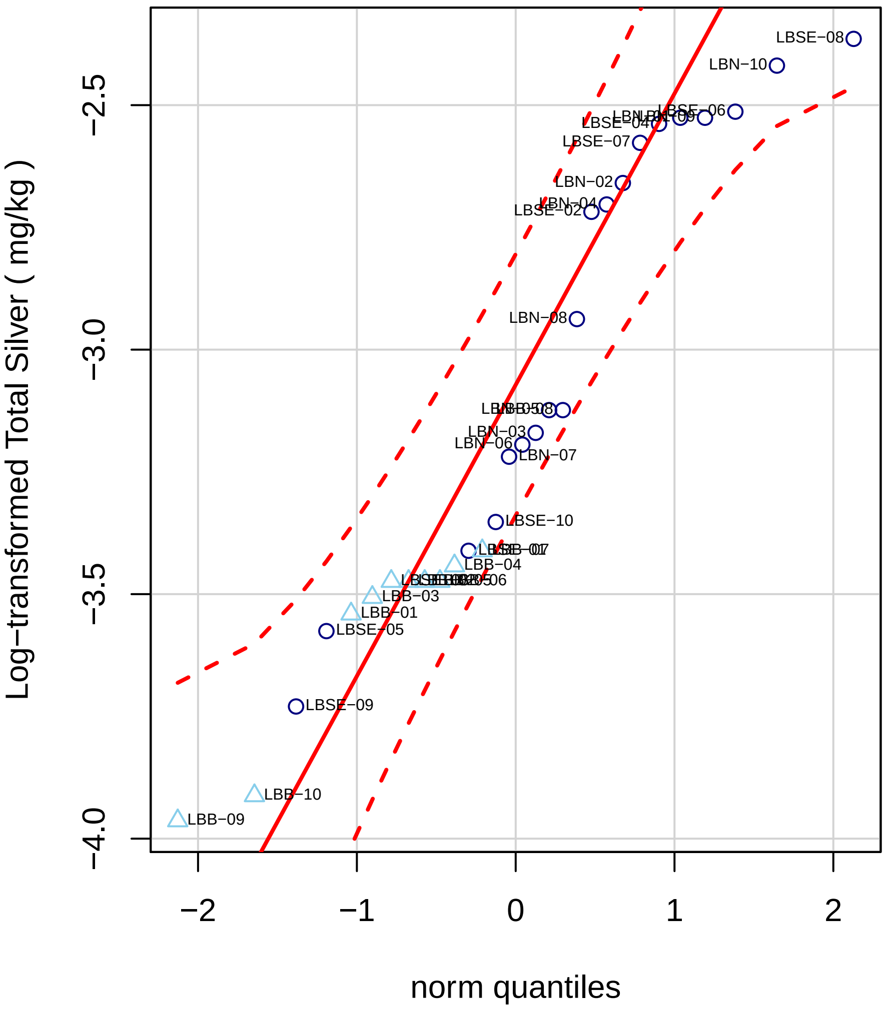

Normal QQ Plot for Total Selenium
Lake Bed
Detect
Non−detect
Total Selenium (mg/kg)
norm quantiles
0.2
0.4
0.6
0.8
1.0
−2
−1
0
1
2
LBN−02
LBSE−06
LBSE−08
LBSE−07
LBSE−04
LBN−10
LBN−08
LBSE−02
LBN−03
LBN−06
LBN−04
LBN−05
LBSE−10
LBN−07
LBSE−09
LBB−04
LBB−02
LBB−10
LBB−01

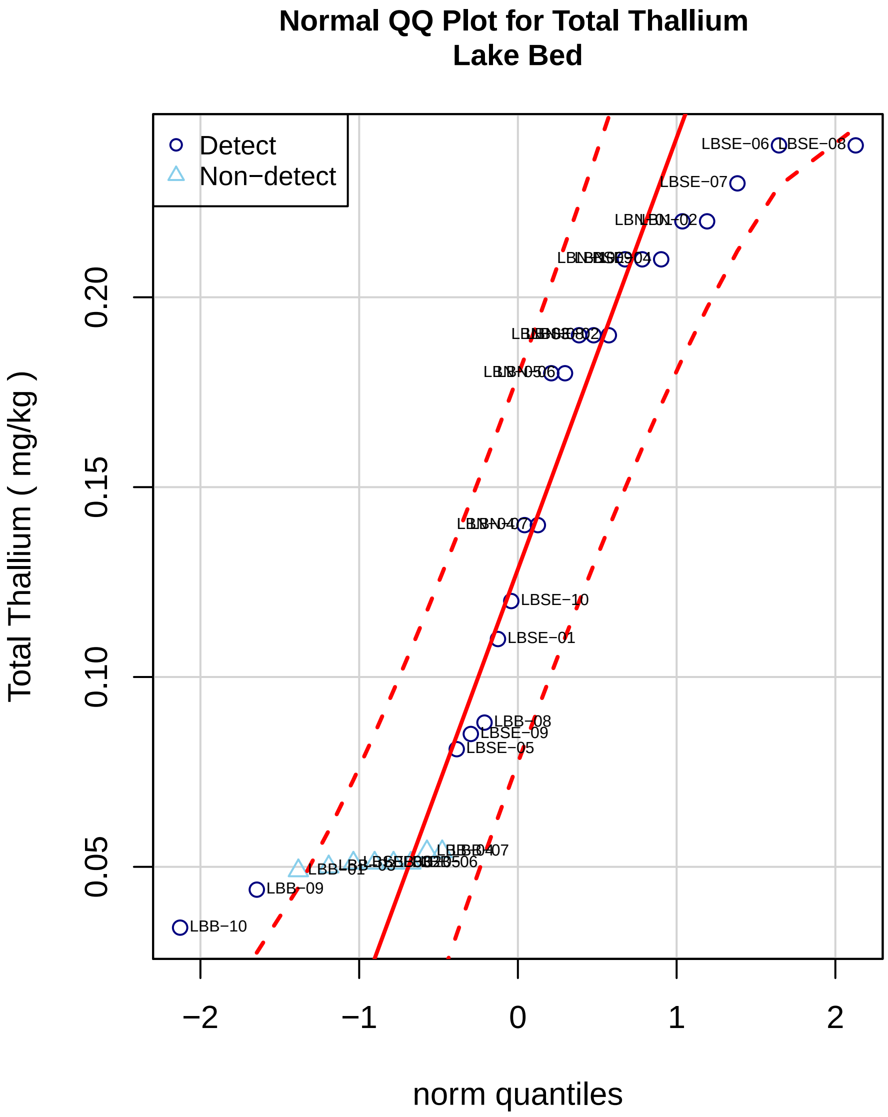

Logscale QQ Plot for Total Selenium
Lake Bed
Log−transformed Total Selenium (mg/kg)
norm quantiles
0.0
−0.5
−1.0
−1.5
−2.0
−2
−1
0
1
2
LBN−02
LBSE−06
LBSE−08
LBSE−07
LBSE−04
LBN−10
LBN−08
LBSE−02
LBN−03
LBN−06
LBN−04
LBN−05
LBSE−10
LBN−07
LBSE−09
LBB−04
LBB−02
LBB−10
LBB−01

Normal QQ Plot for Total Silver
Lake Bed

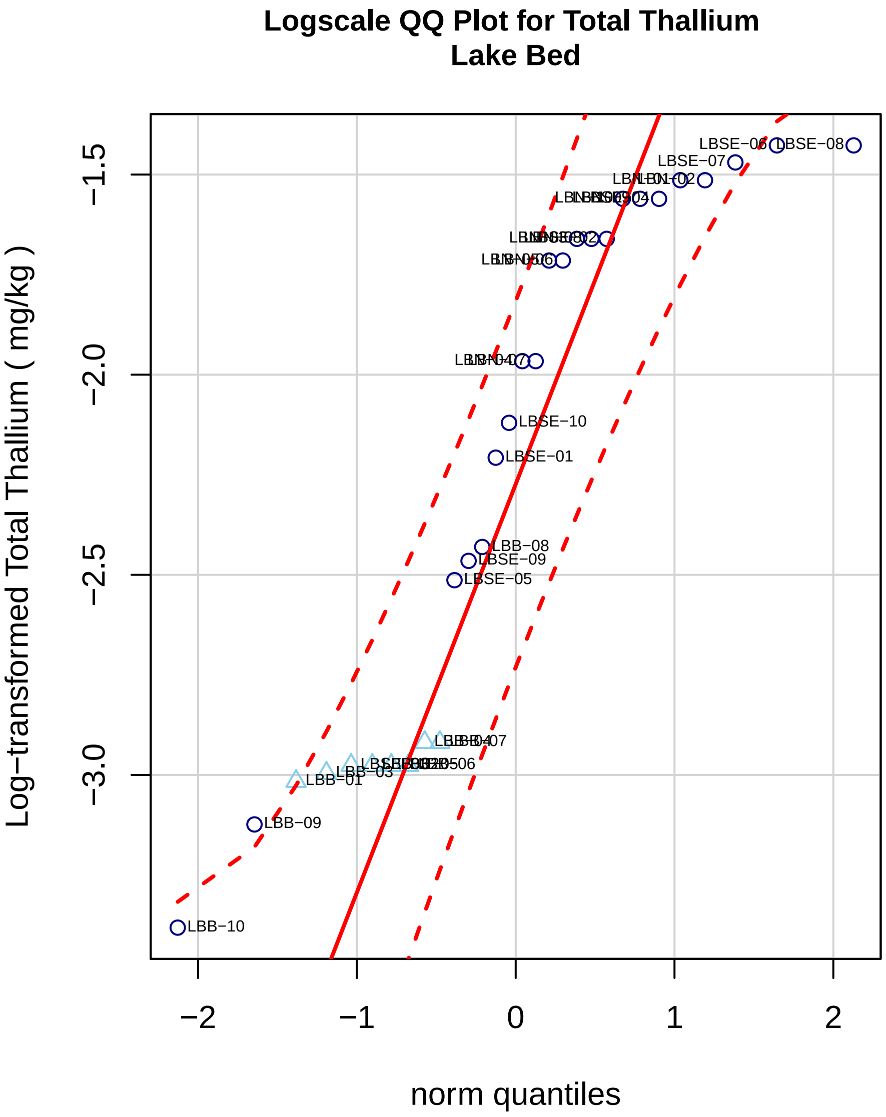


Logscale QQ Plot for Total Silver
Lake Bed

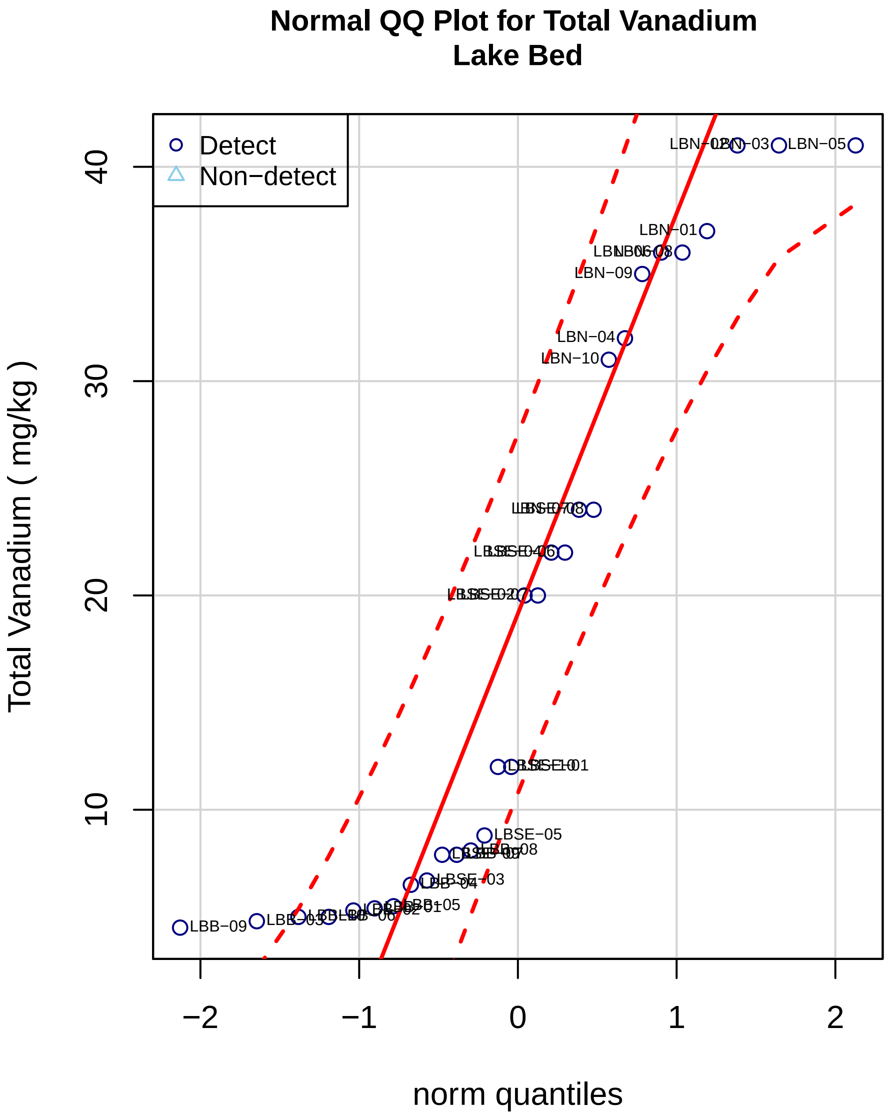




Normal QQ Plot for Total Thallium
Lake Bed



Logscale QQ Plot for Total Thallium
Lake Bed


Normal QQ Plot for Total Vanadium
Lake Bed
Detect
Non−detect
Total Vanadium (mg/kg)
norm quantiles
10
20
30
40
−2
−1
0
1
2
LBN−02
LBN−03
LBN−05
LBN−01
LBN−06
LBN−08
LBN−09
LBN−04
LBN−10
LBSE−07
LBSE−08
LBSE−04
LBSE−06
LBSE−02
LBSE−10
LBSE−01
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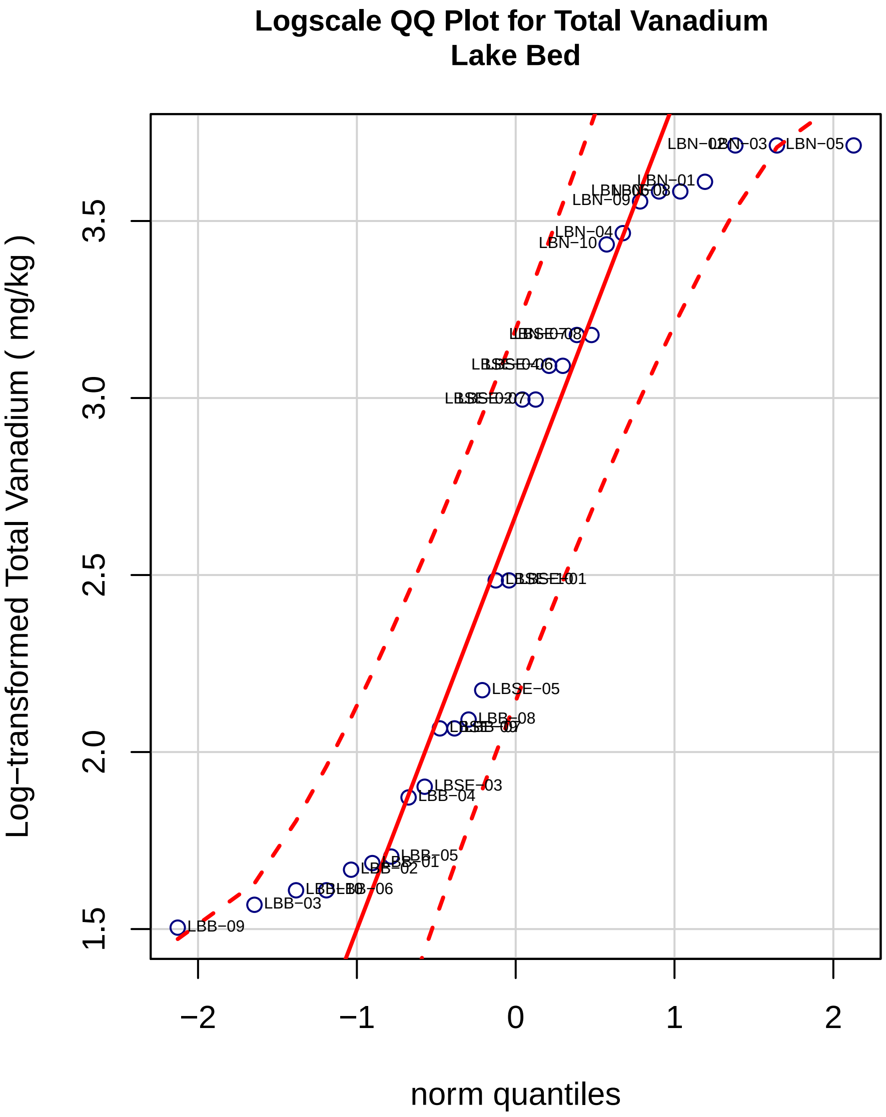
LBB−02
LBB−06
LBB−03
LBB−09


Logscale QQ Plot for Total Vanadium
Lake Bed
Log−transformed Total Vanadium (mg/kg)
norm quantiles
1.5
2.0
2.5
3.0
3.5
−2
−1
0
1
2
LBN−02
LBN−03
LBN−05
LBN−01
LBN−06
LBN−08
LBN−09
LBN−04
LBN−10
LBSE−07
LBSE−08
LBSE−04
LBSE−06
LBSE−02
LBSE−10
LBSE−01
LBSE−05
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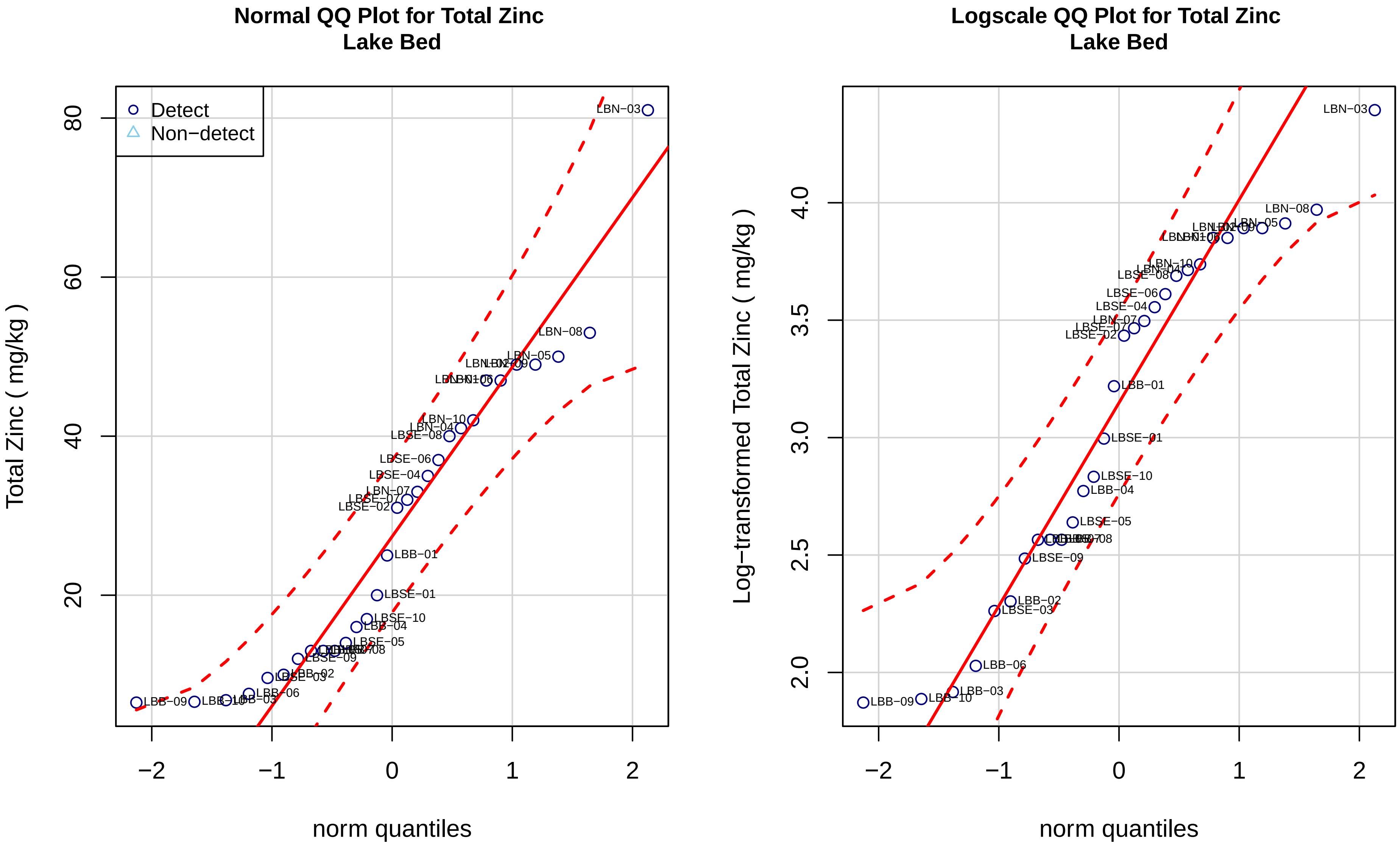
LBB−06
LBB−03
LBB−09



Normal QQ Plot for Total Zinc
Lake Bed

Logscale QQ Plot for Total Zinc
Lake Bed

Attachment C
Geotechnical Association Plots for All Metals

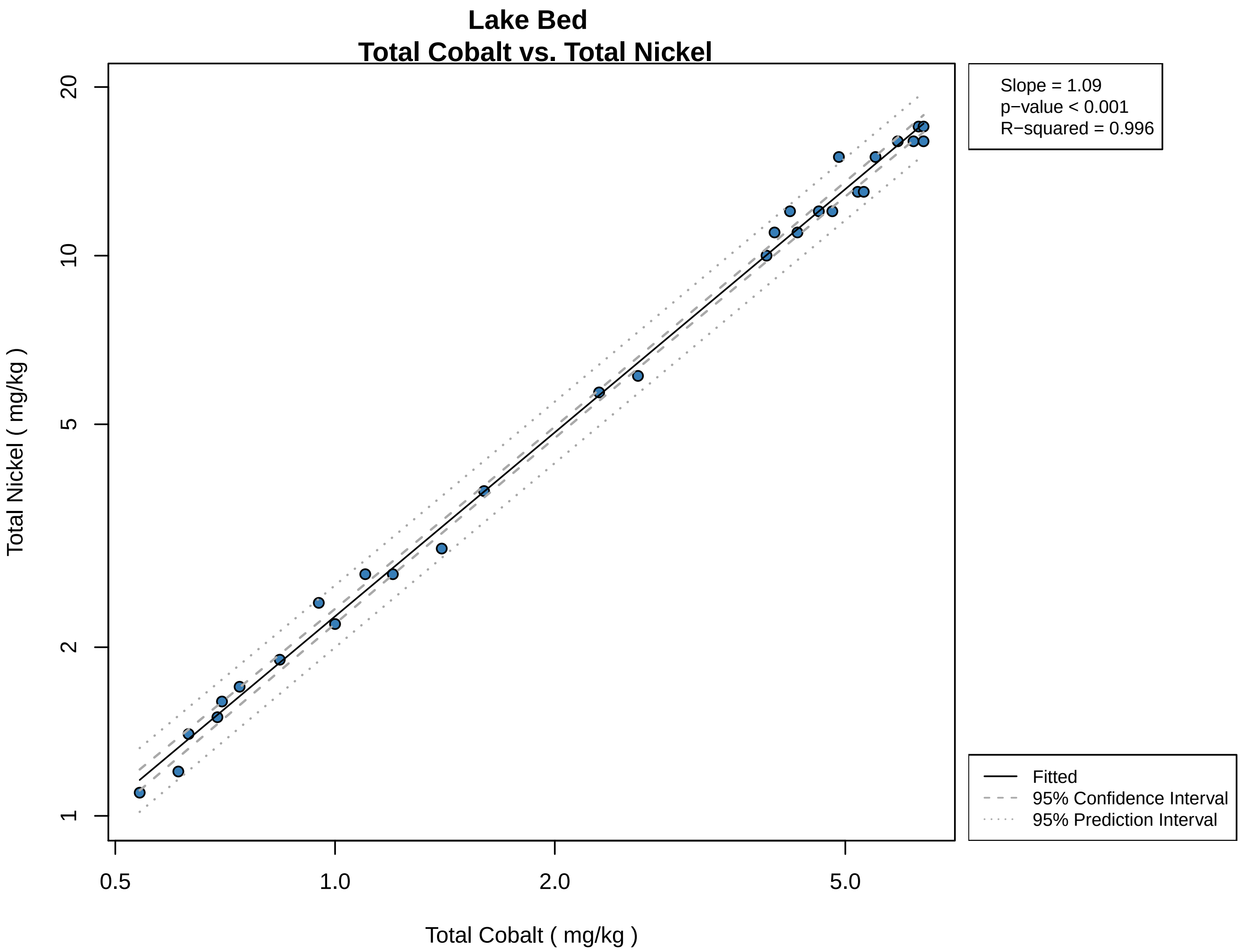


Figure 5.2.1
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

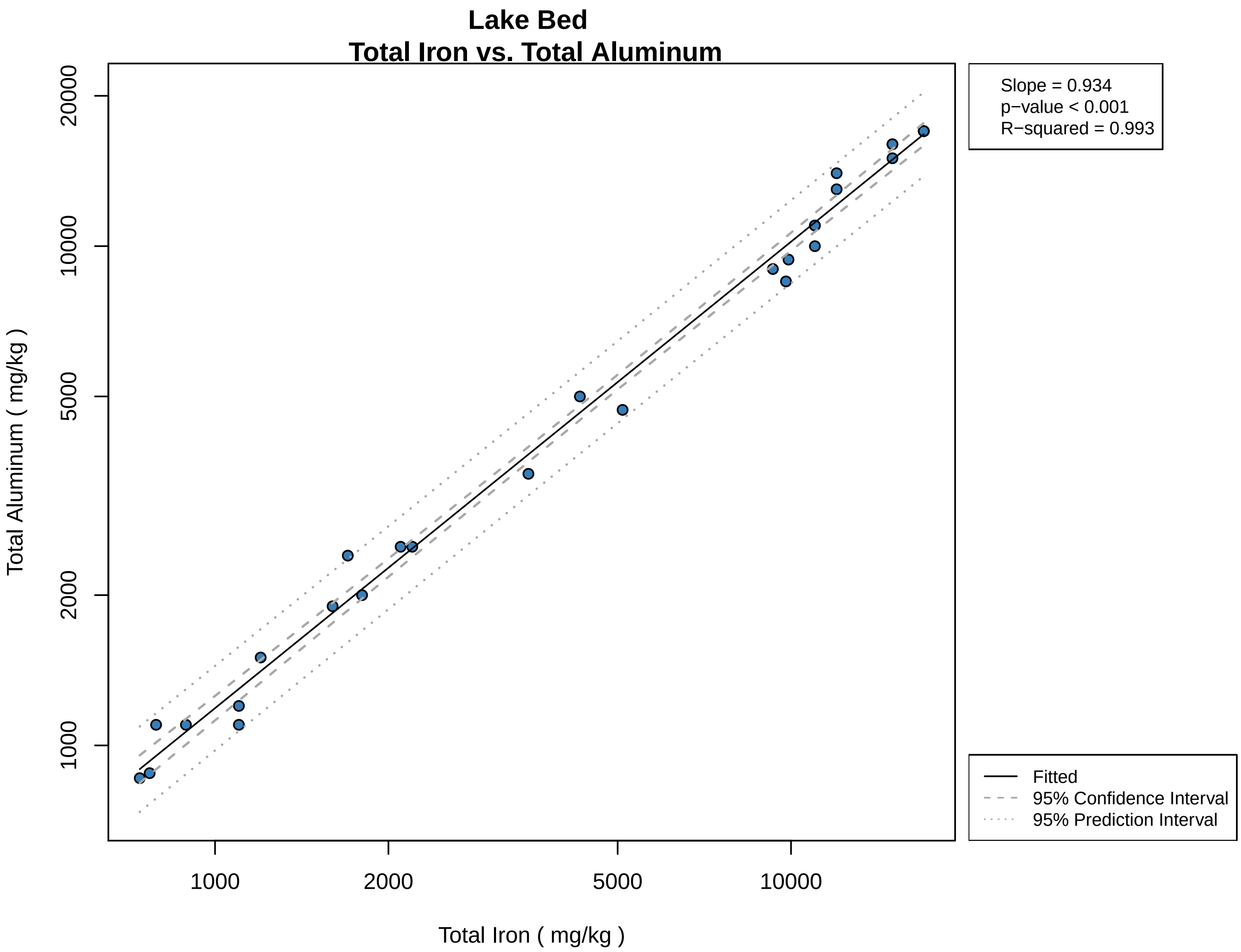


Figure 5.2.2
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

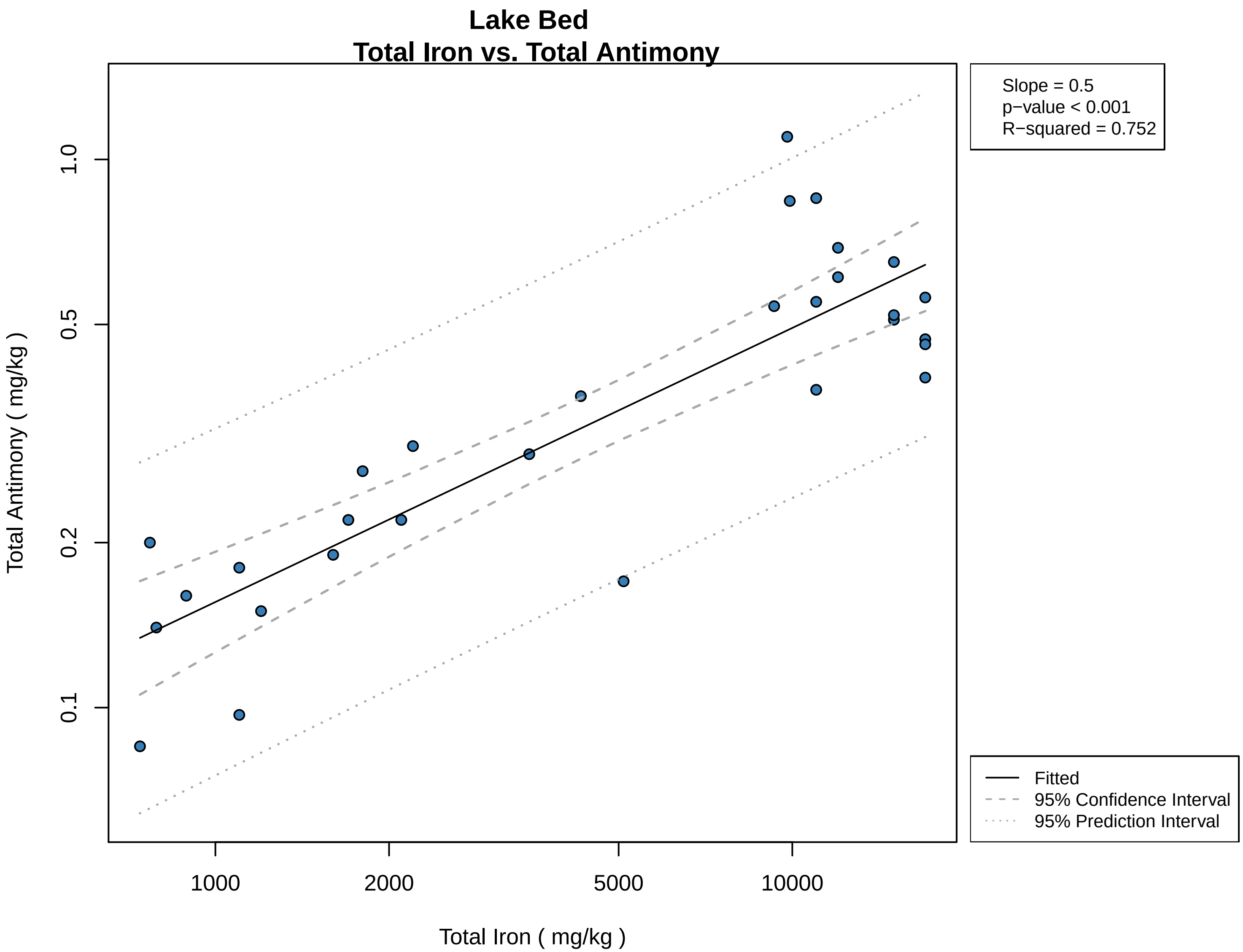


Figure 5.2.3
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

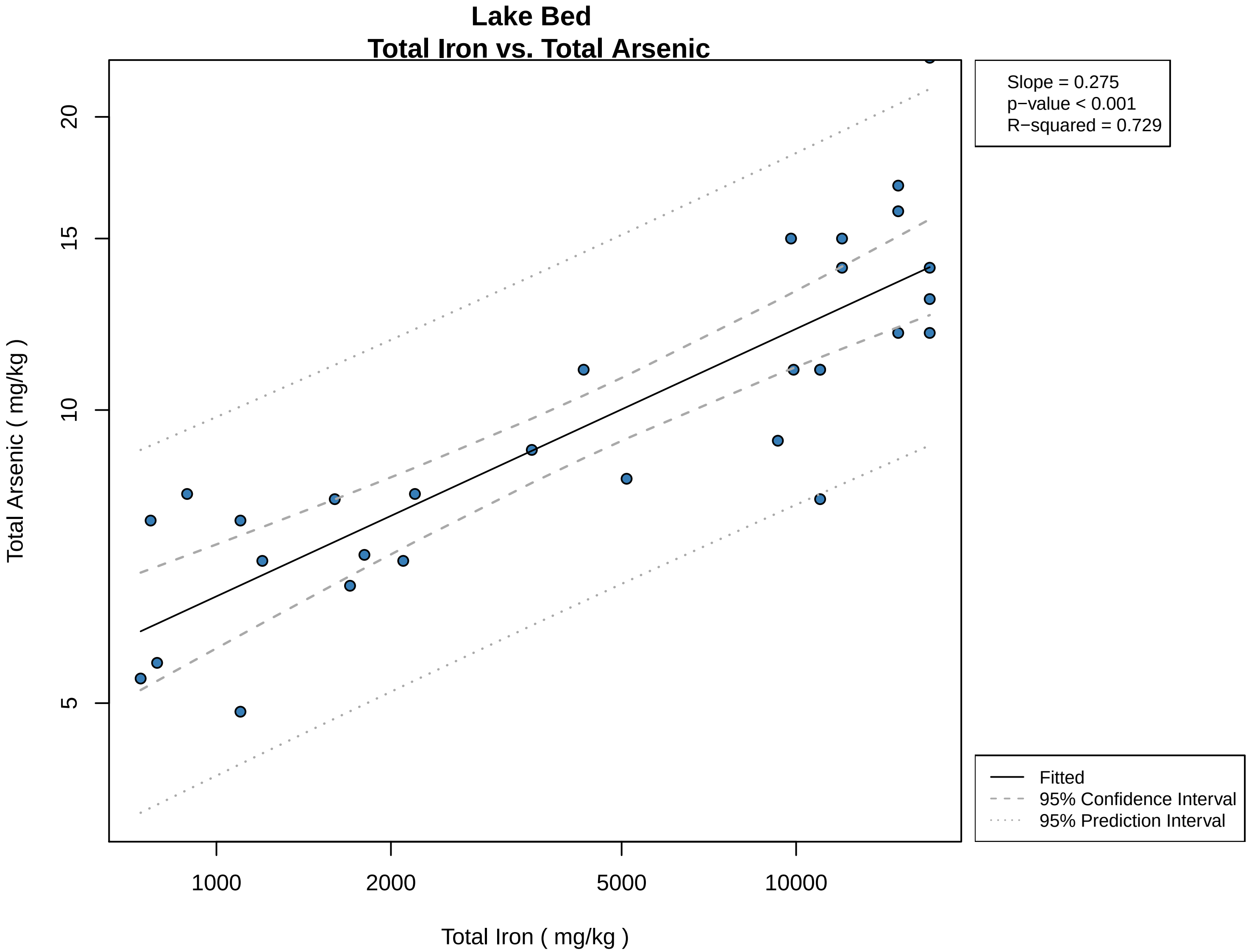

Lake Bed
Total Iron vs. Total Arsenic

Figure 5.2.4
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

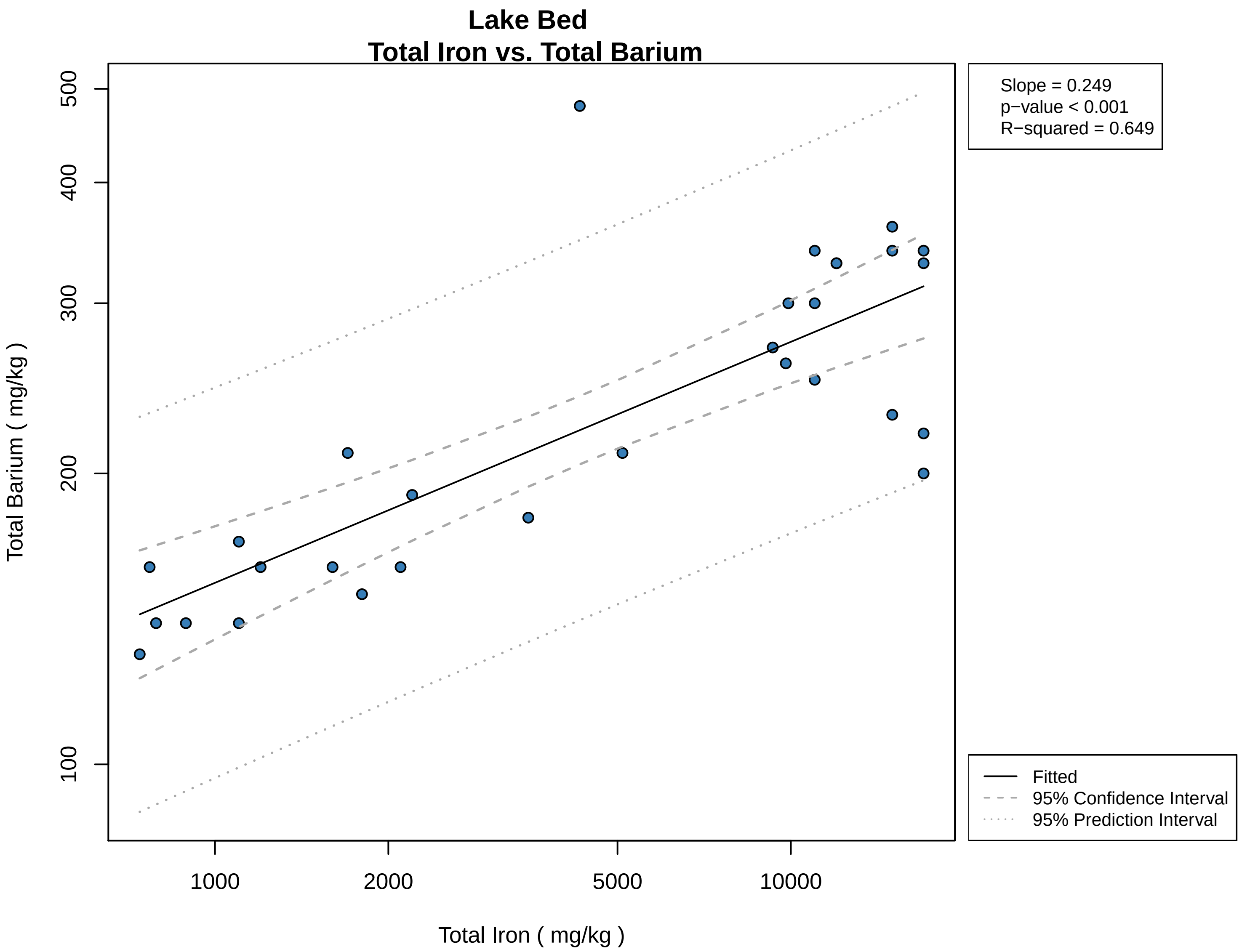


Figure 5.2.5
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

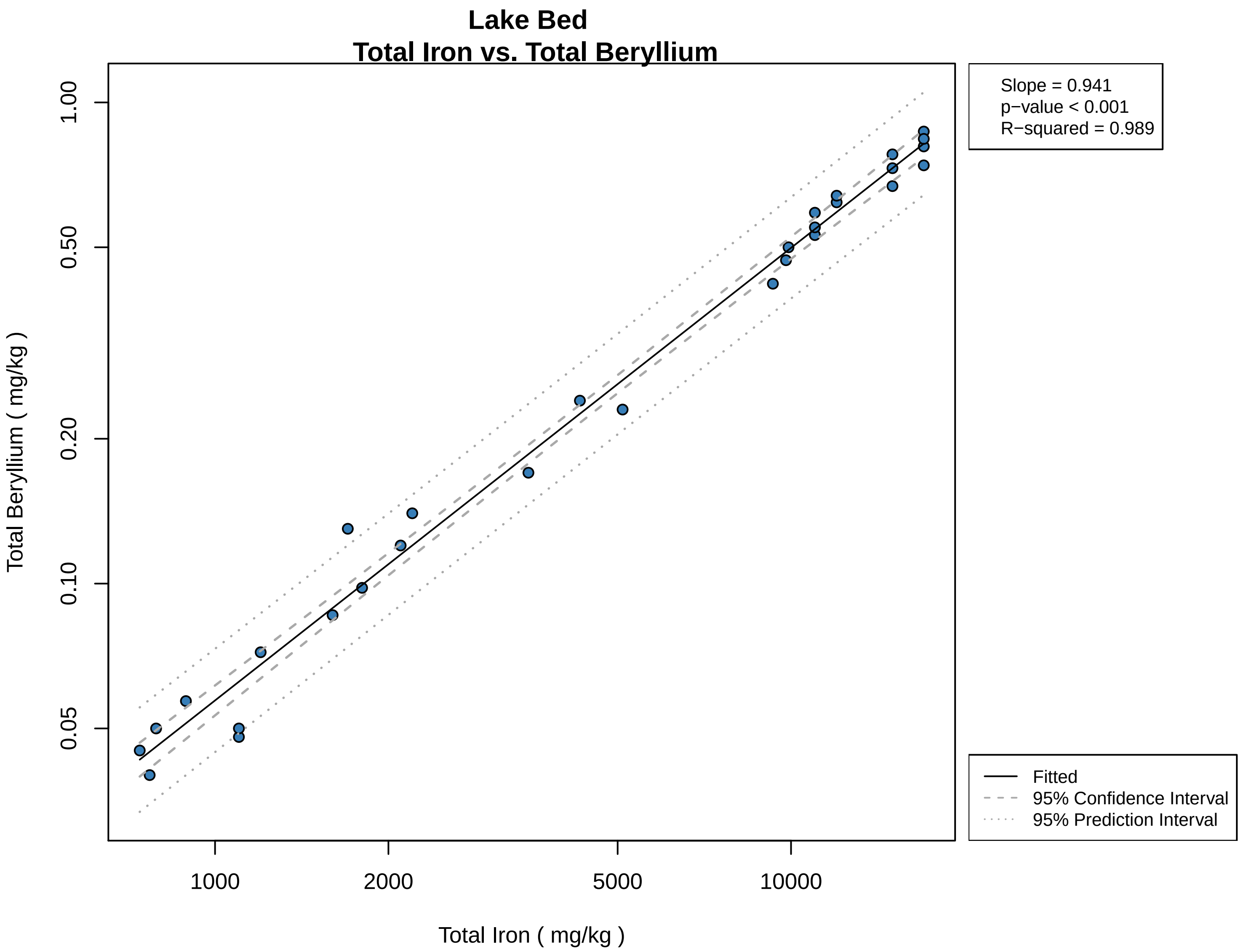


Figure 5.2.6
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

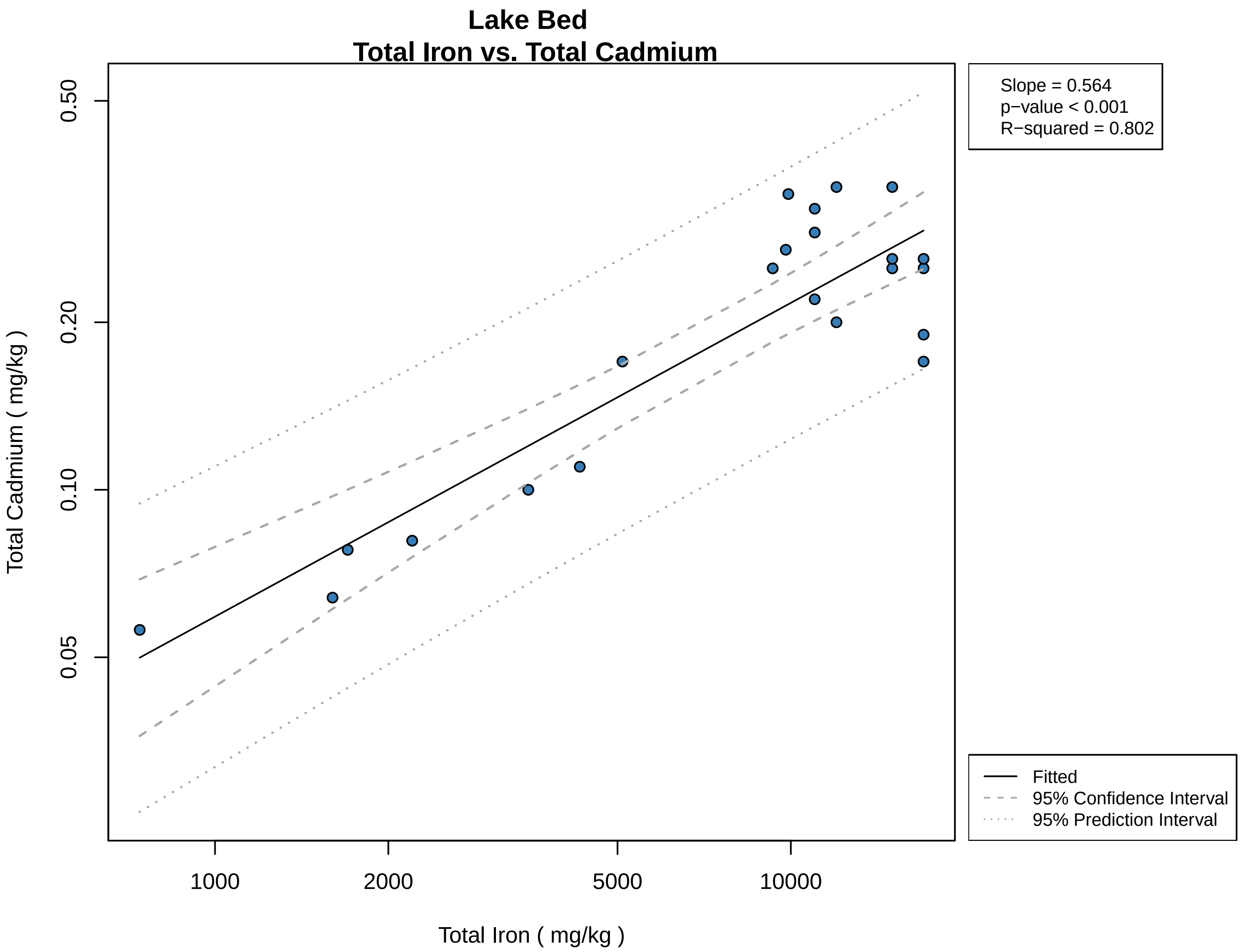


Figure 5.2.7
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

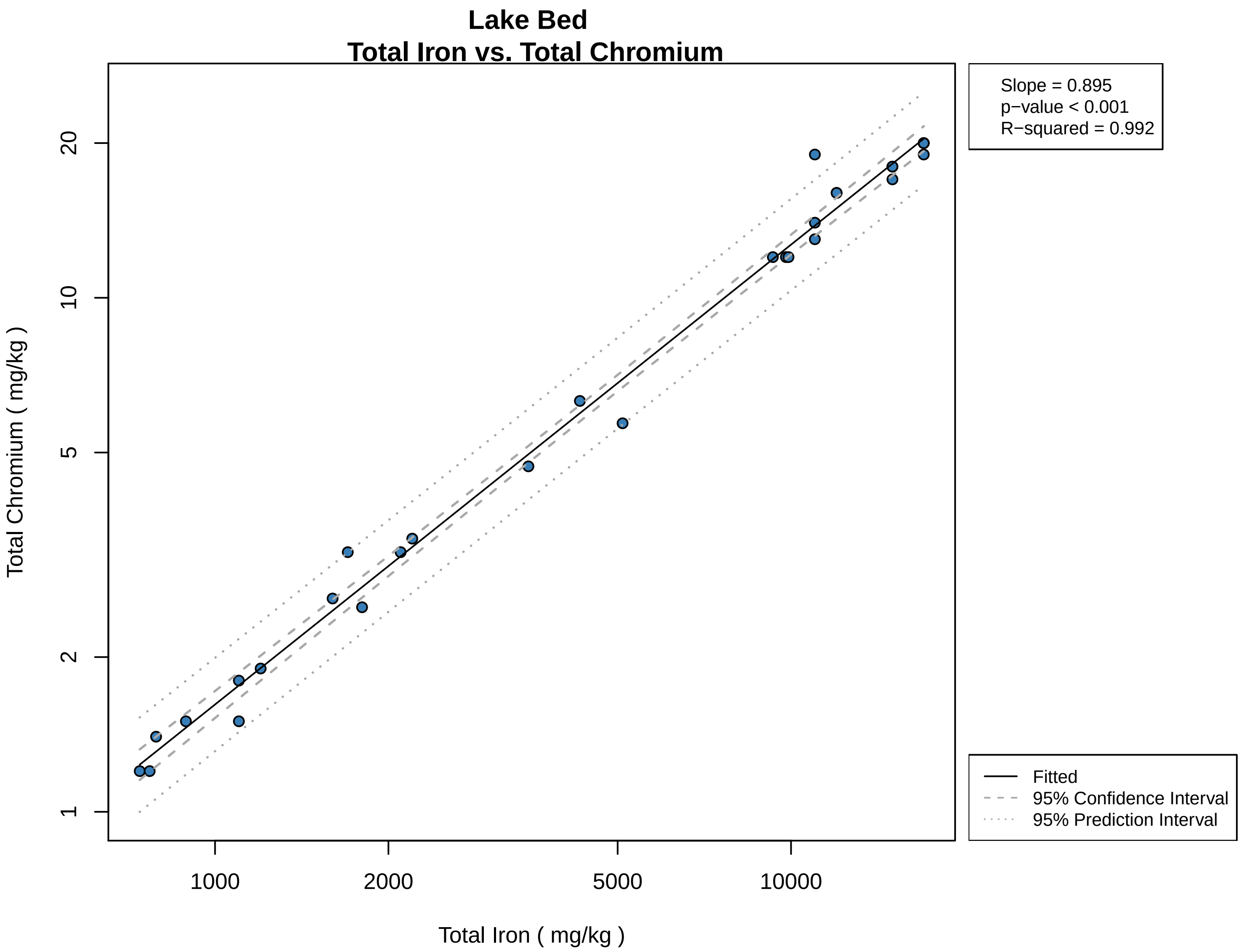


Figure 5.2.8
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

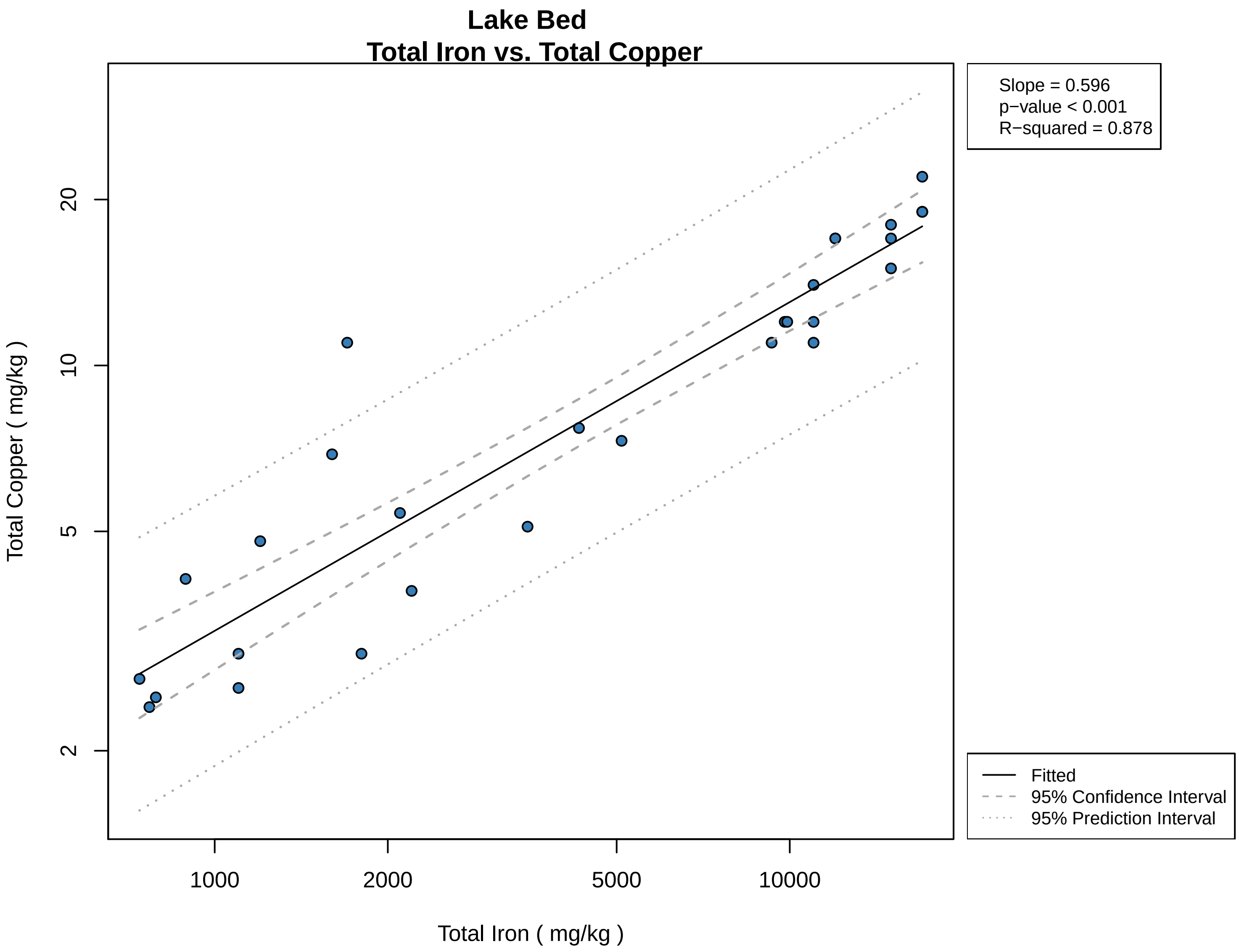


Figure 5.2.9
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

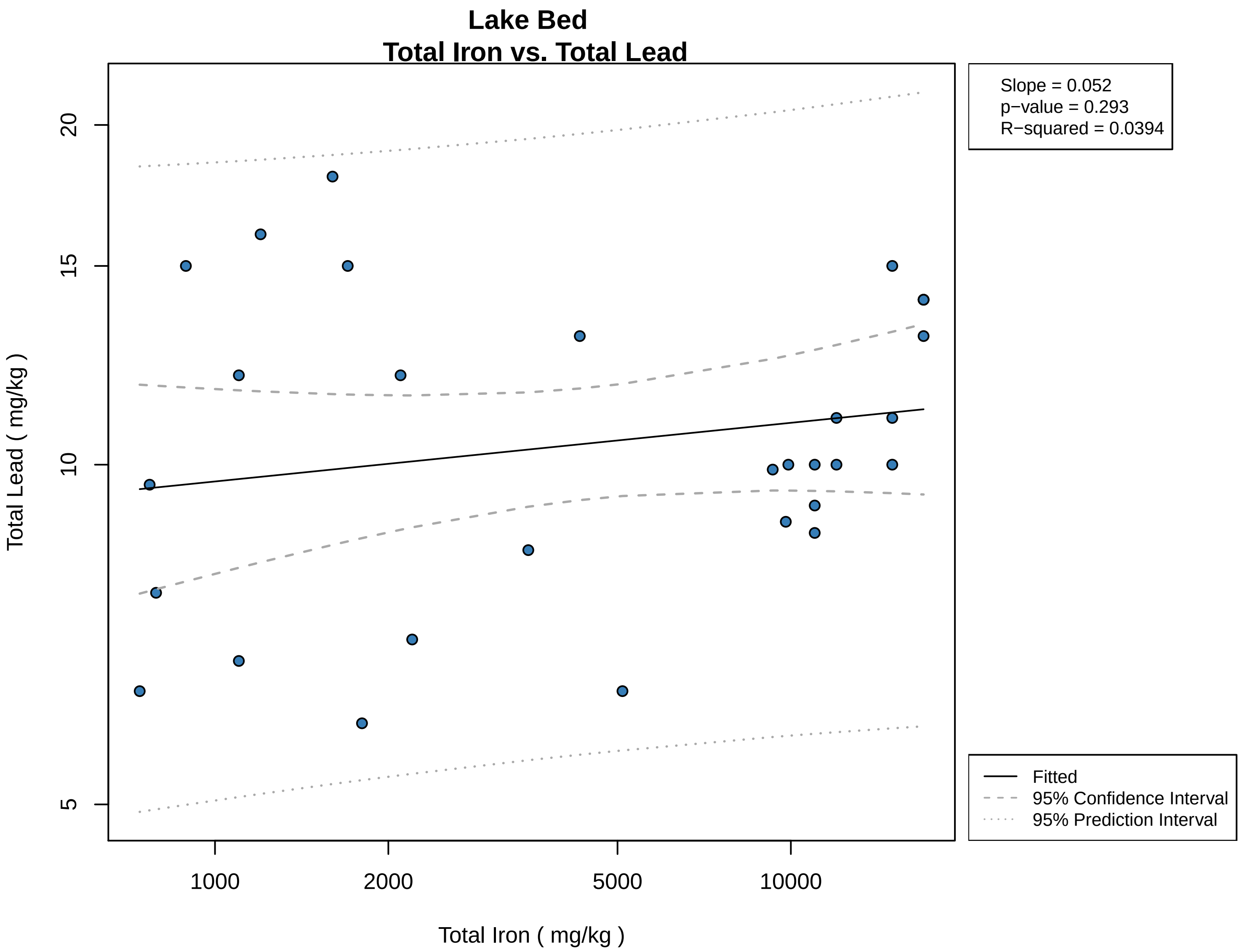


Figure 5.2.10
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

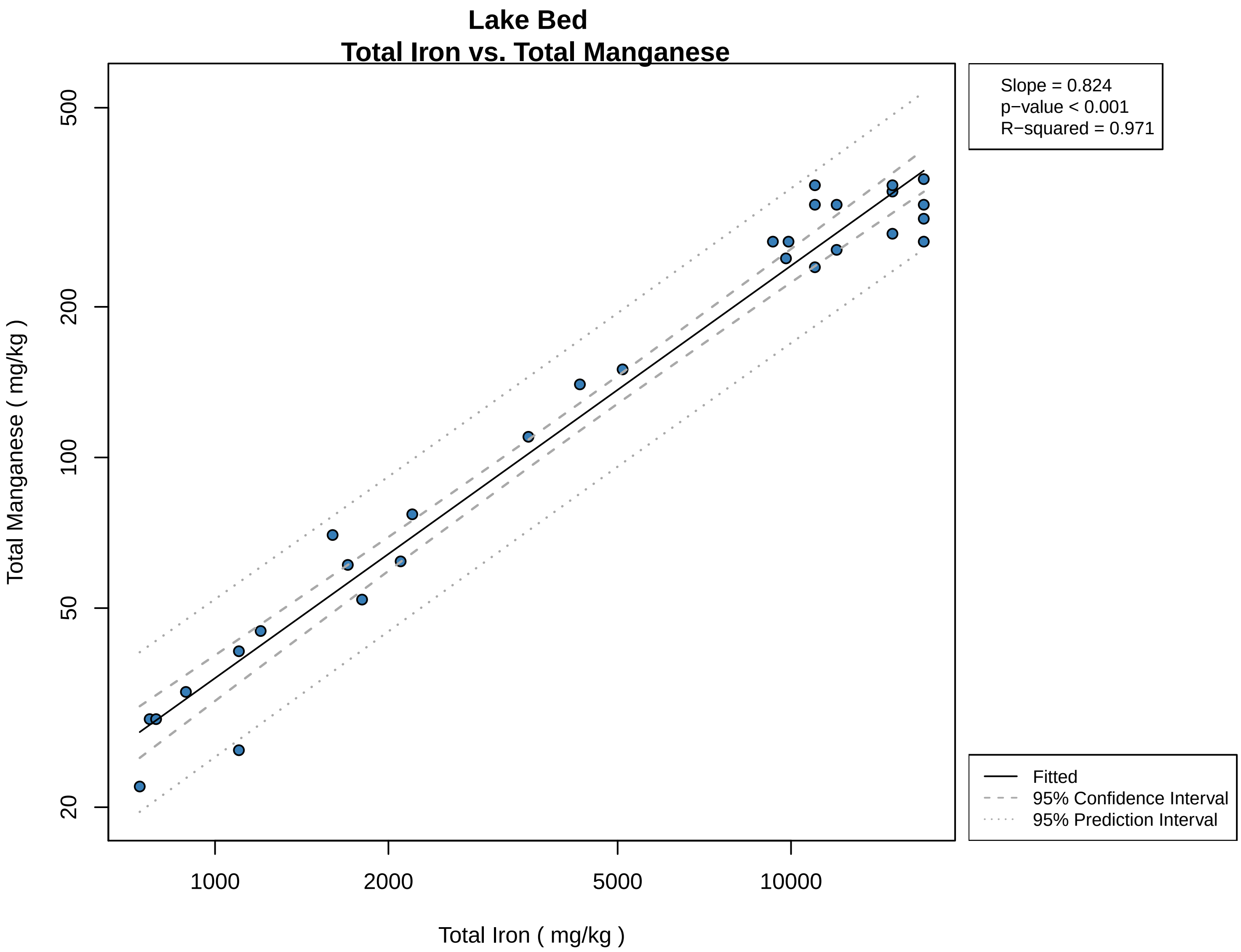


Figure 5.2.11
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

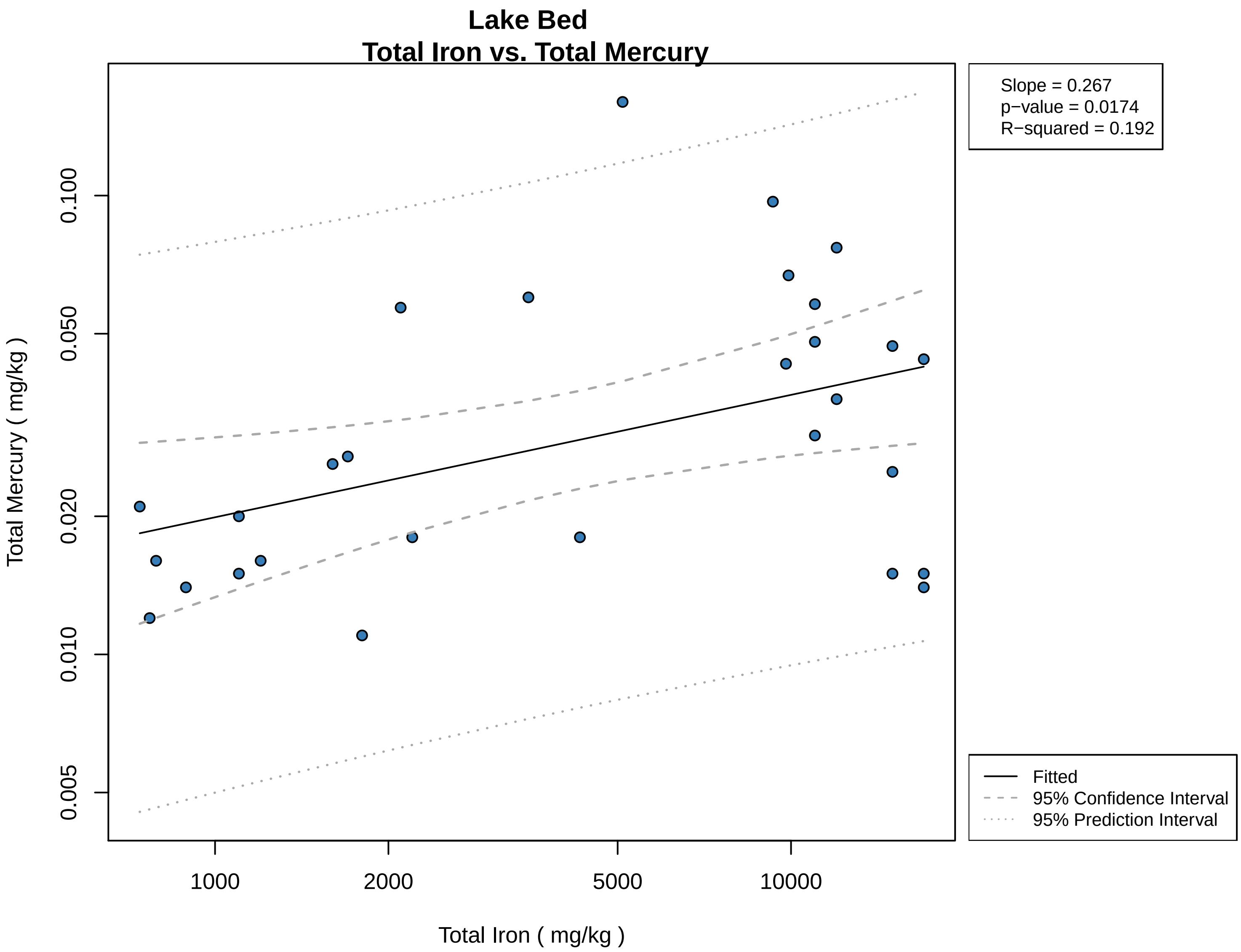


Figure 5.2.12
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

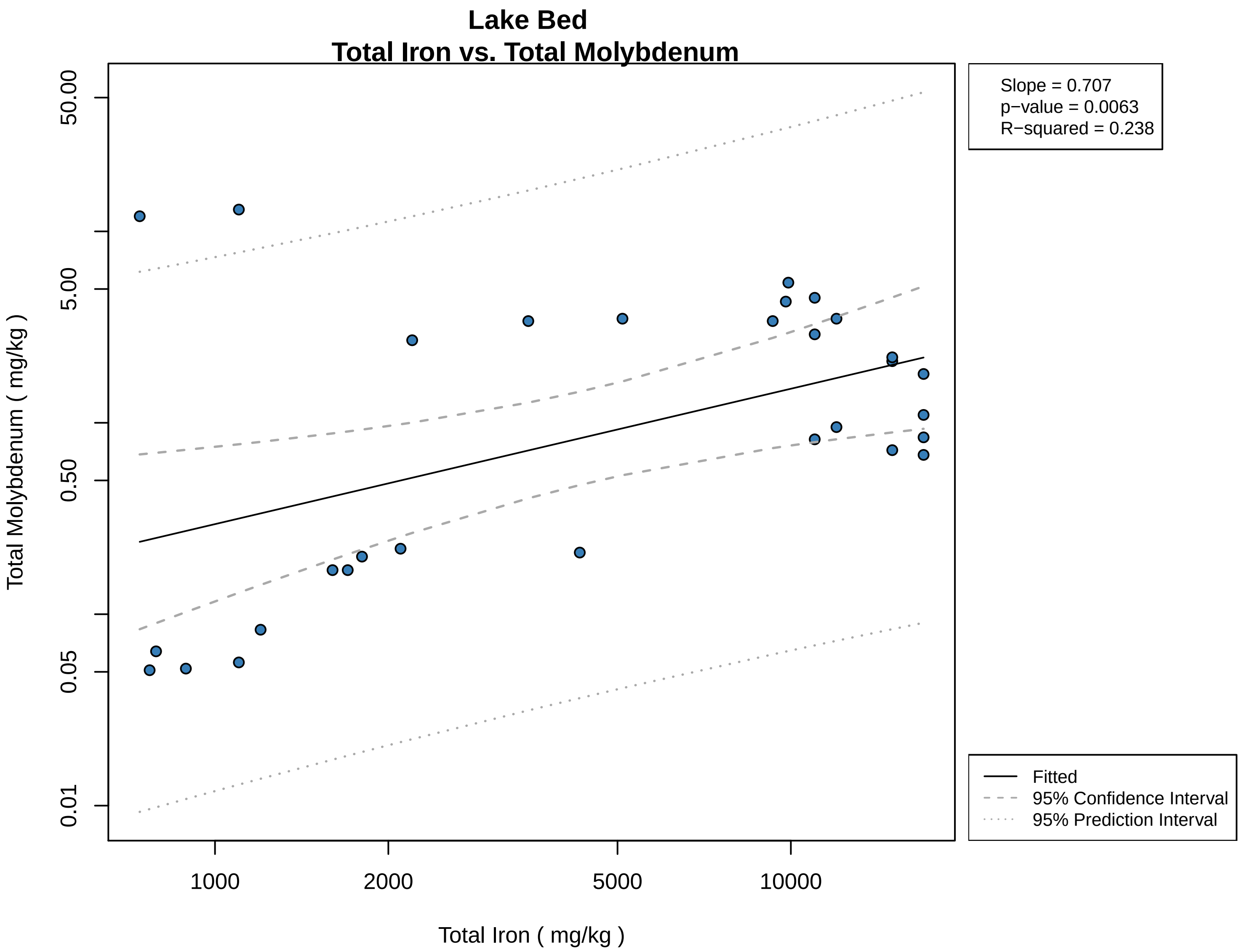


Figure 5.2.13
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

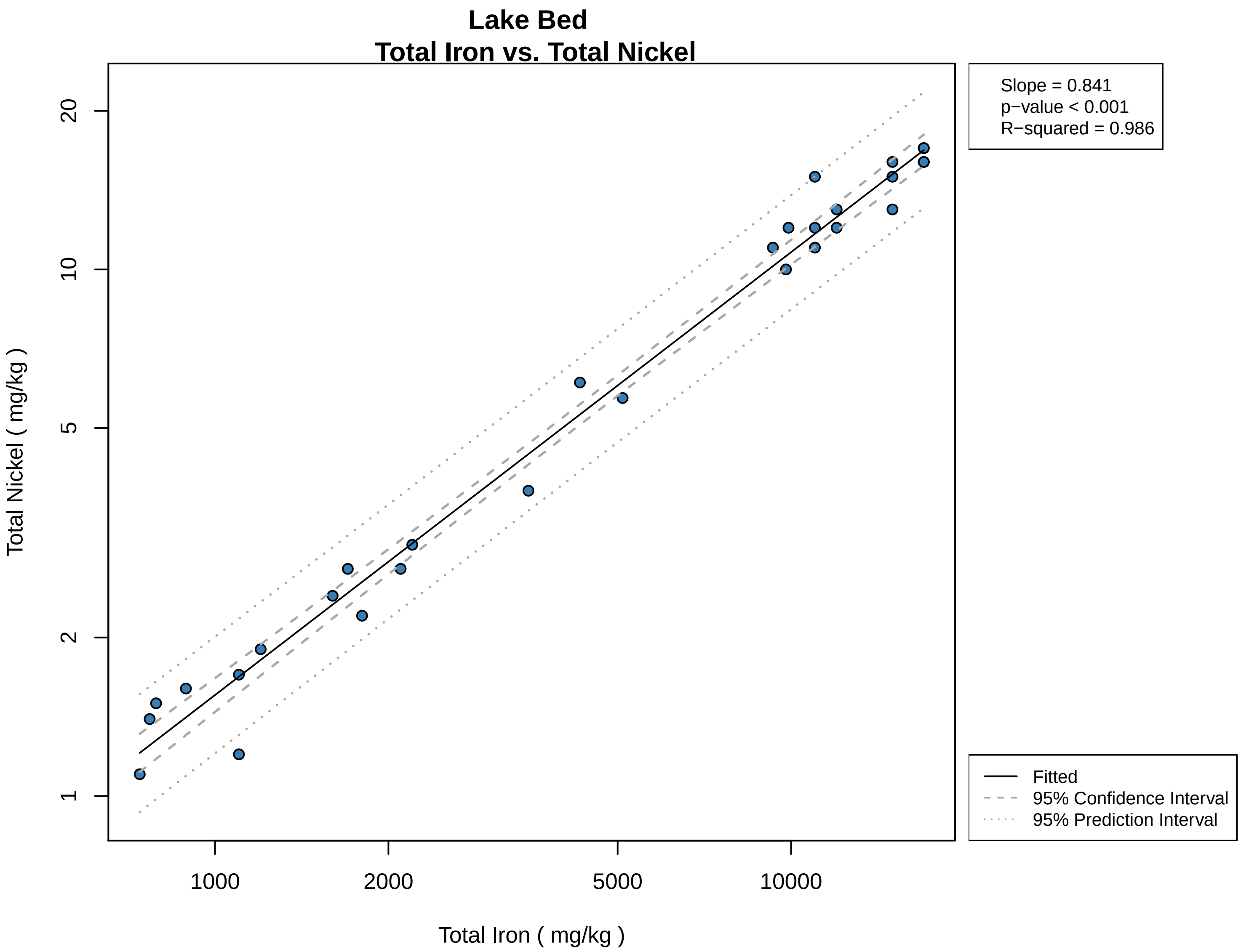


Figure 5.2.14
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

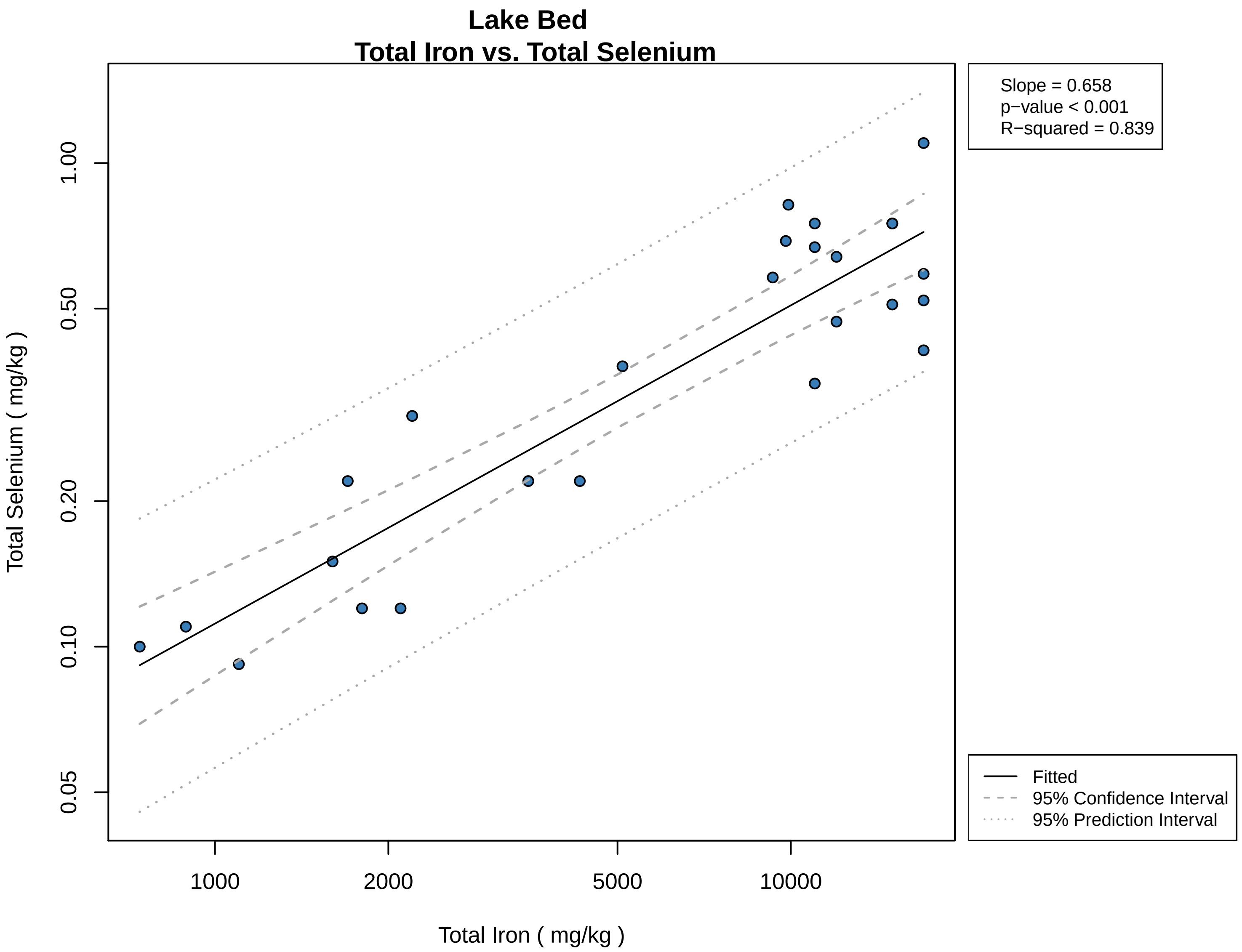


Figure 5.2.15
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

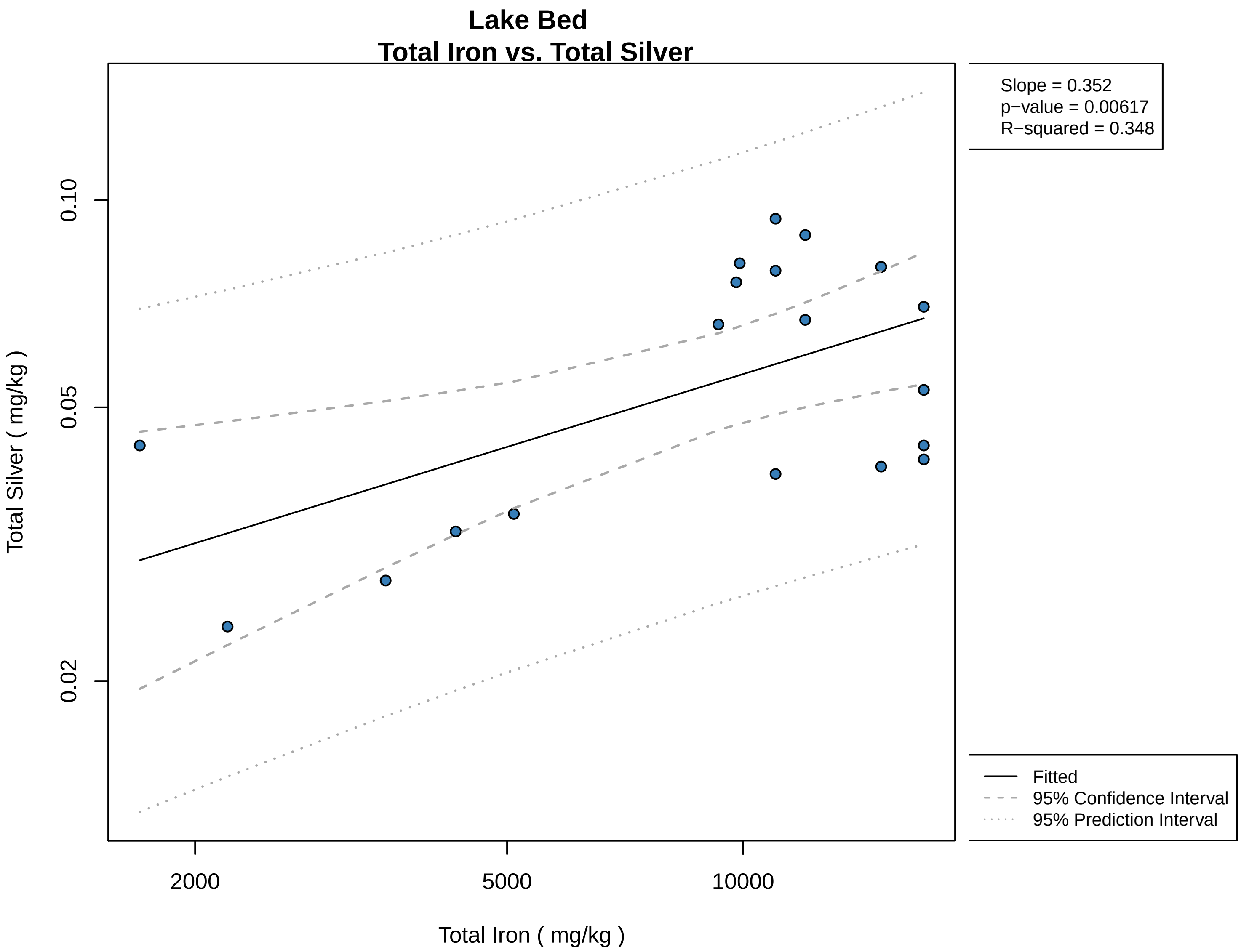


Figure 5.2.16
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

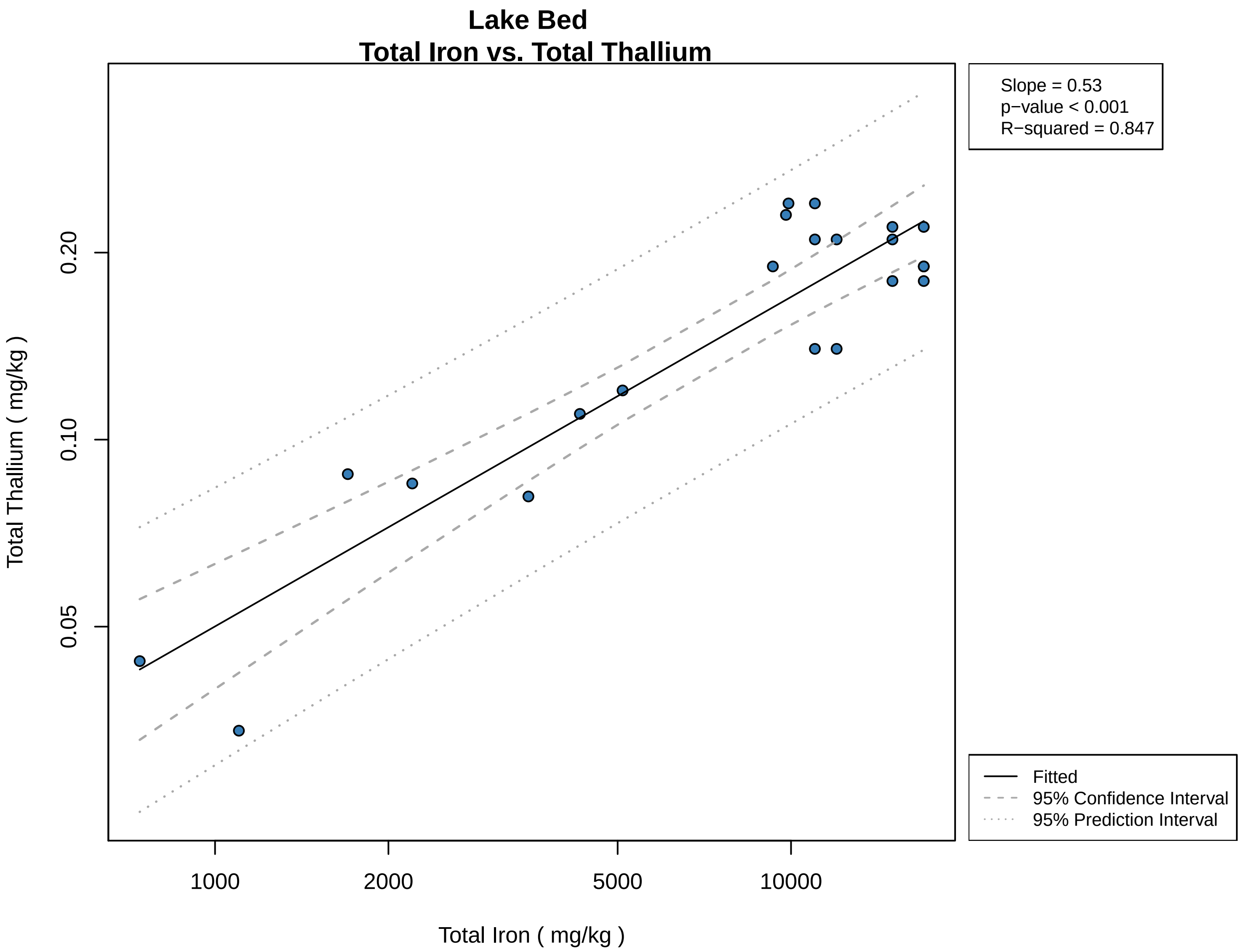


Figure 5.2.17
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

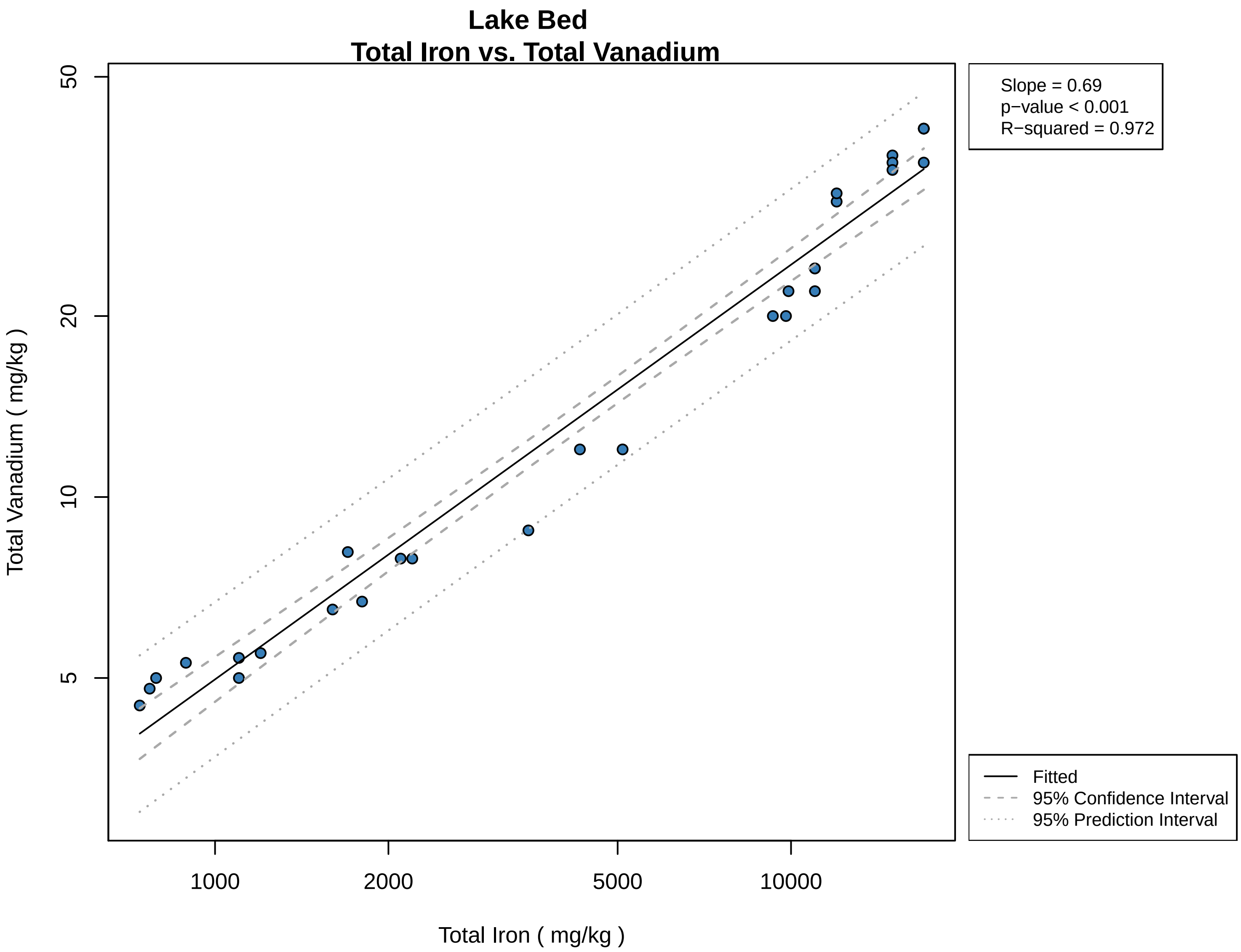


Figure 5.2.18
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

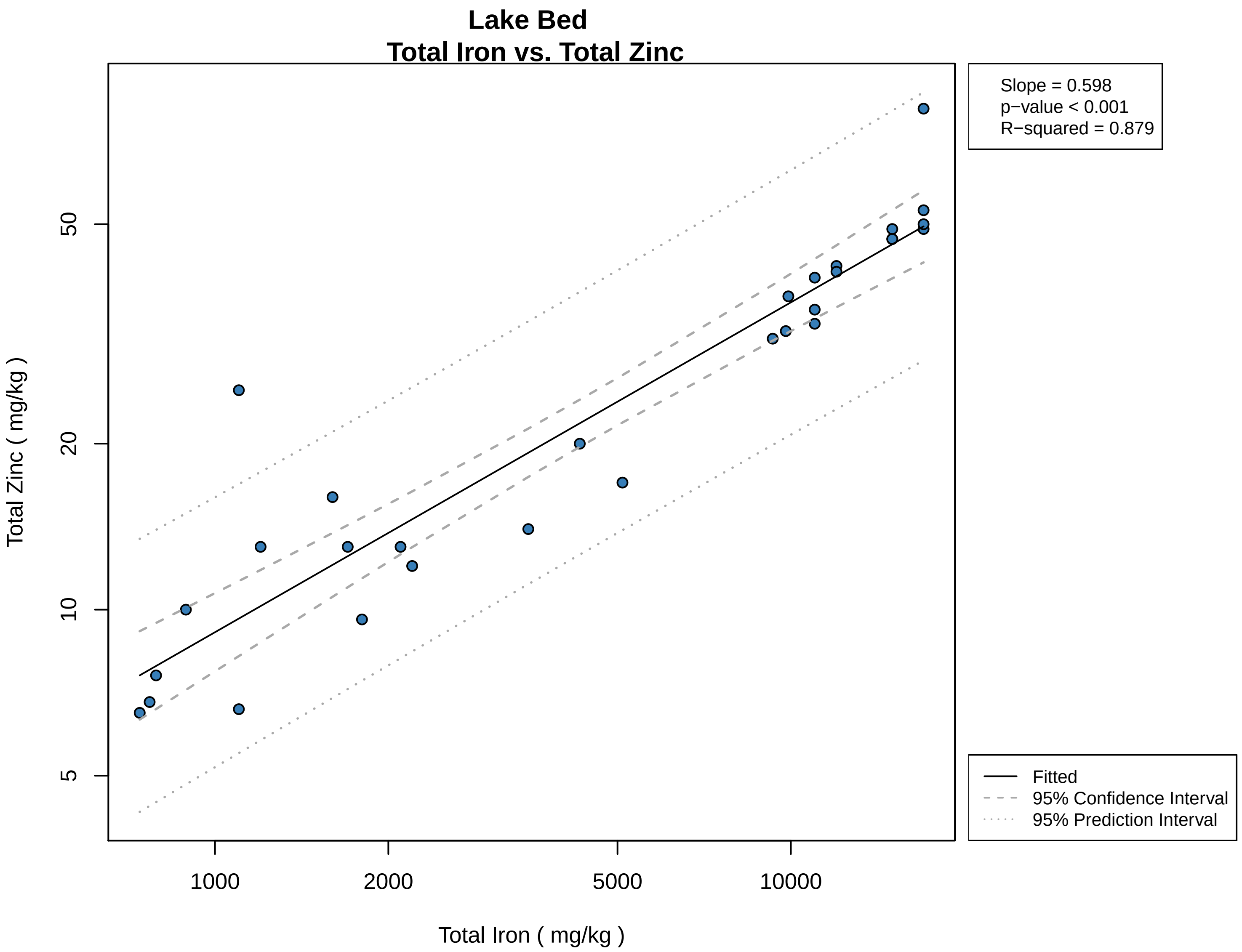


Figure 5.2.19
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

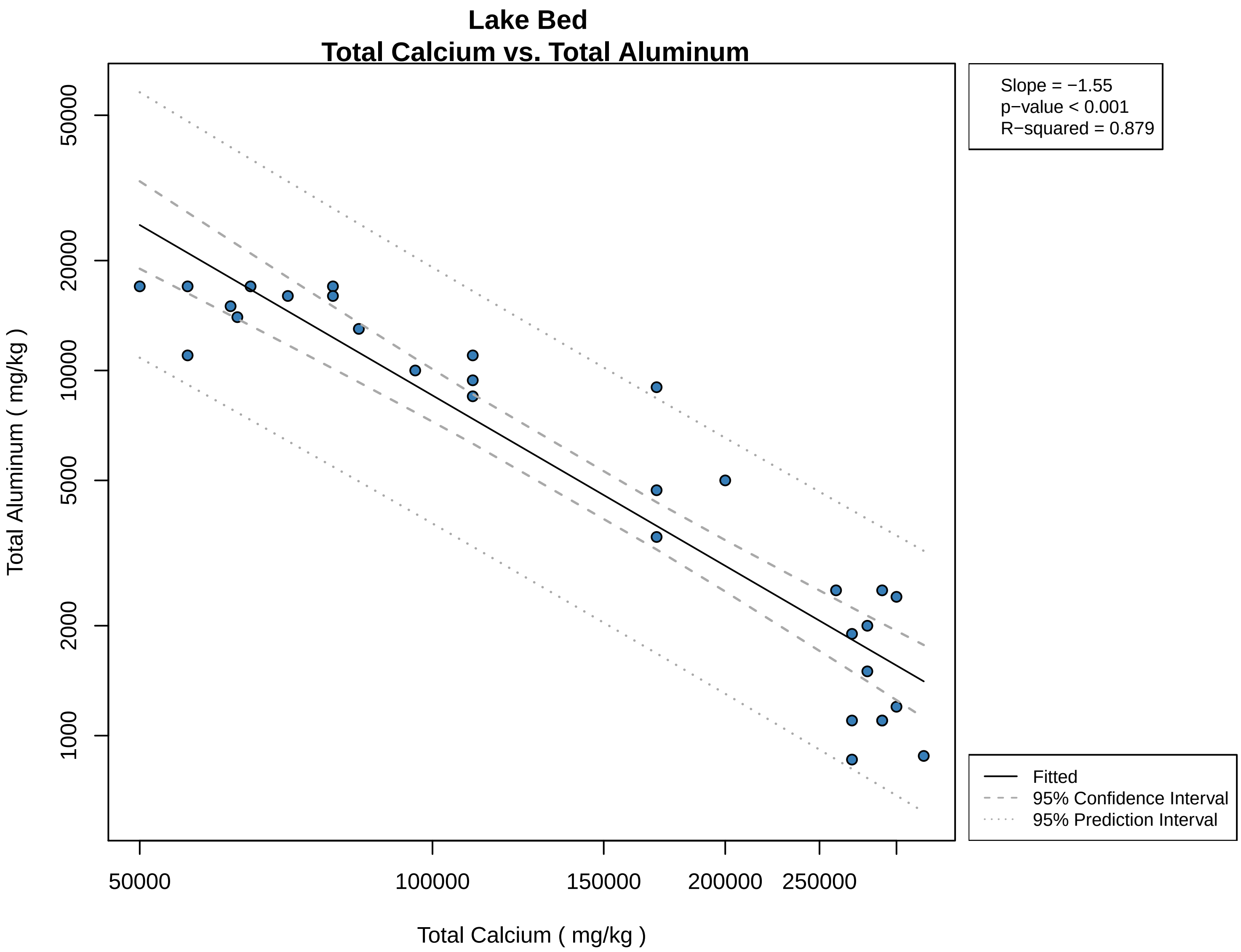


Figure 5.2.20
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

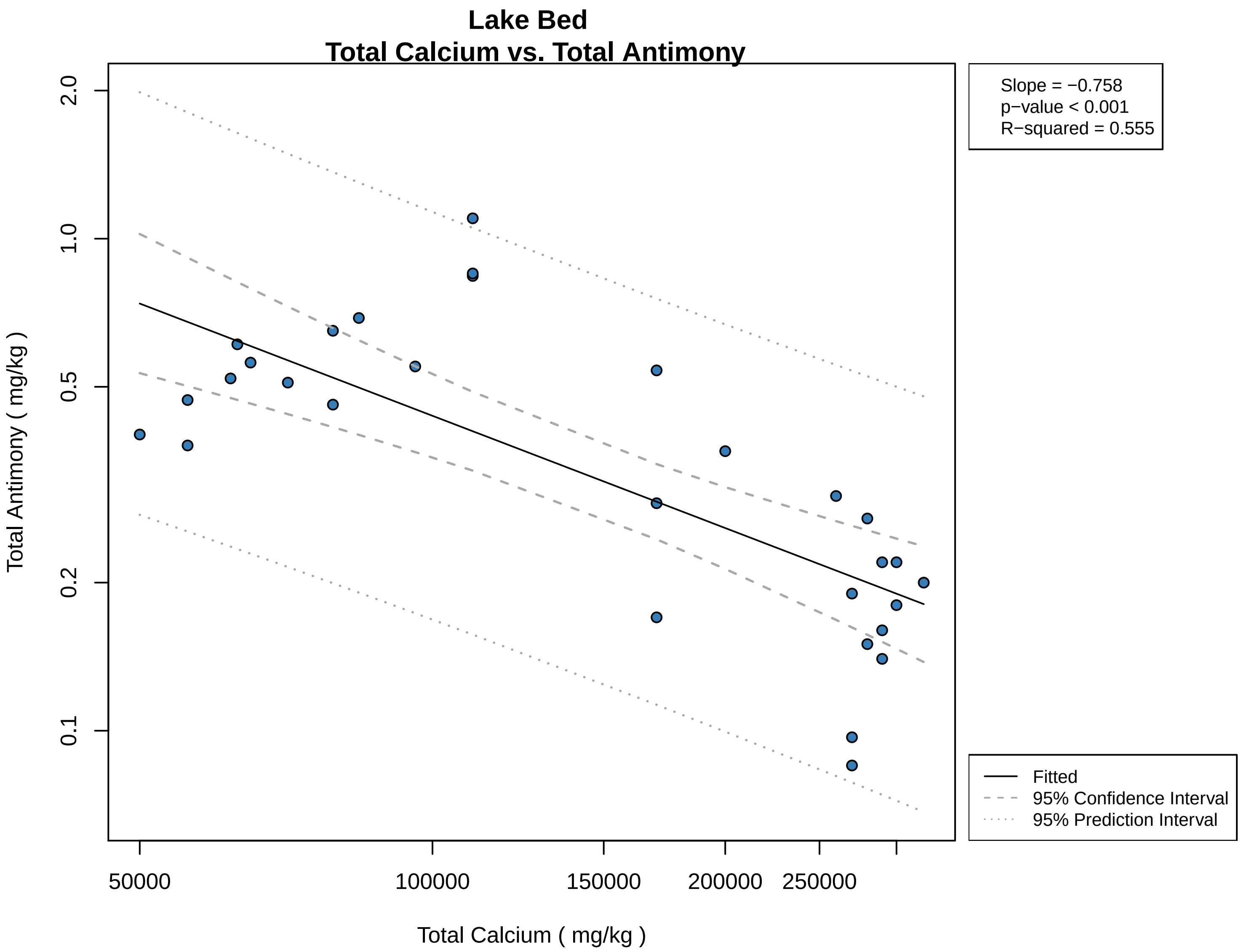


Figure 5.2.21
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

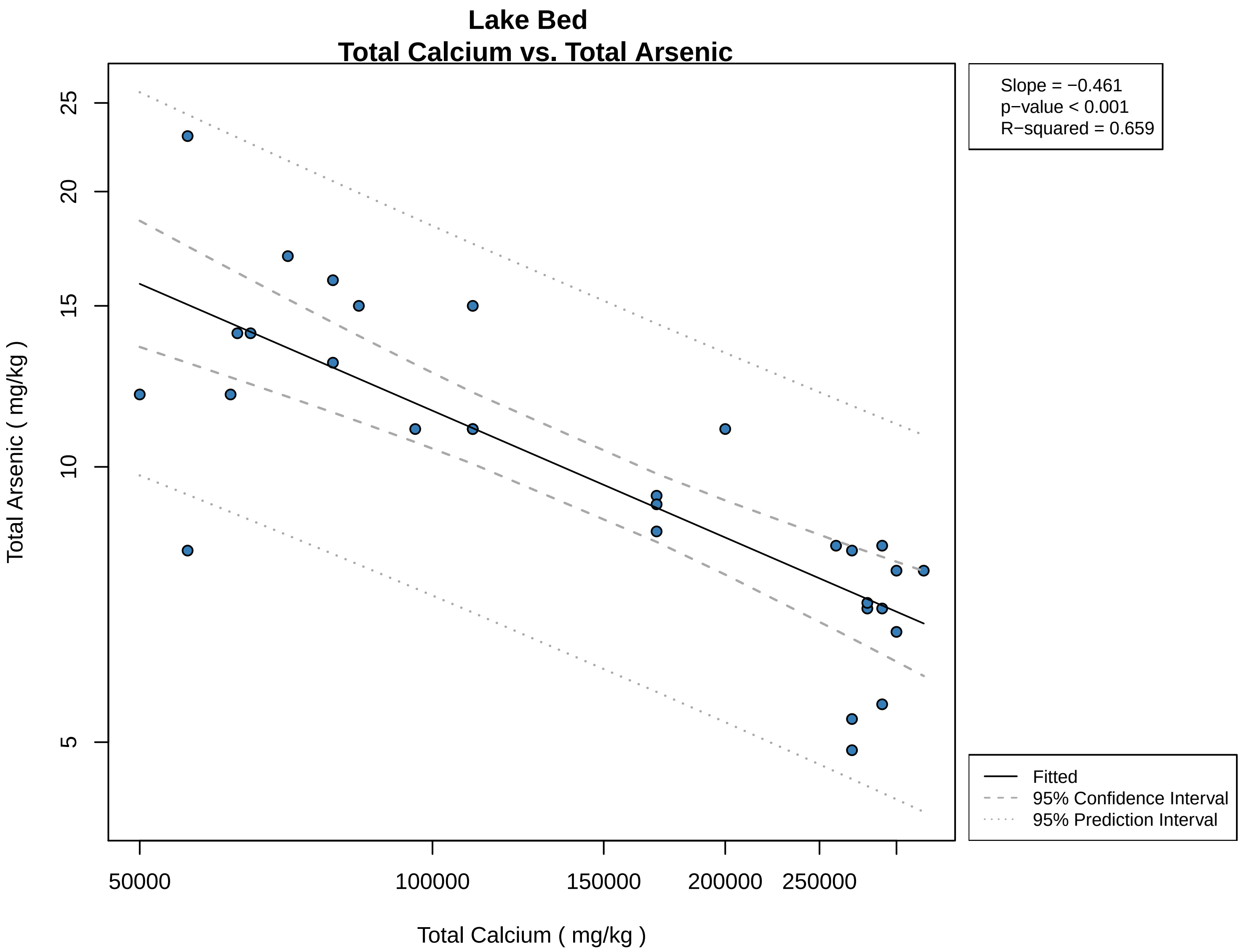


Figure 5.2.22
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

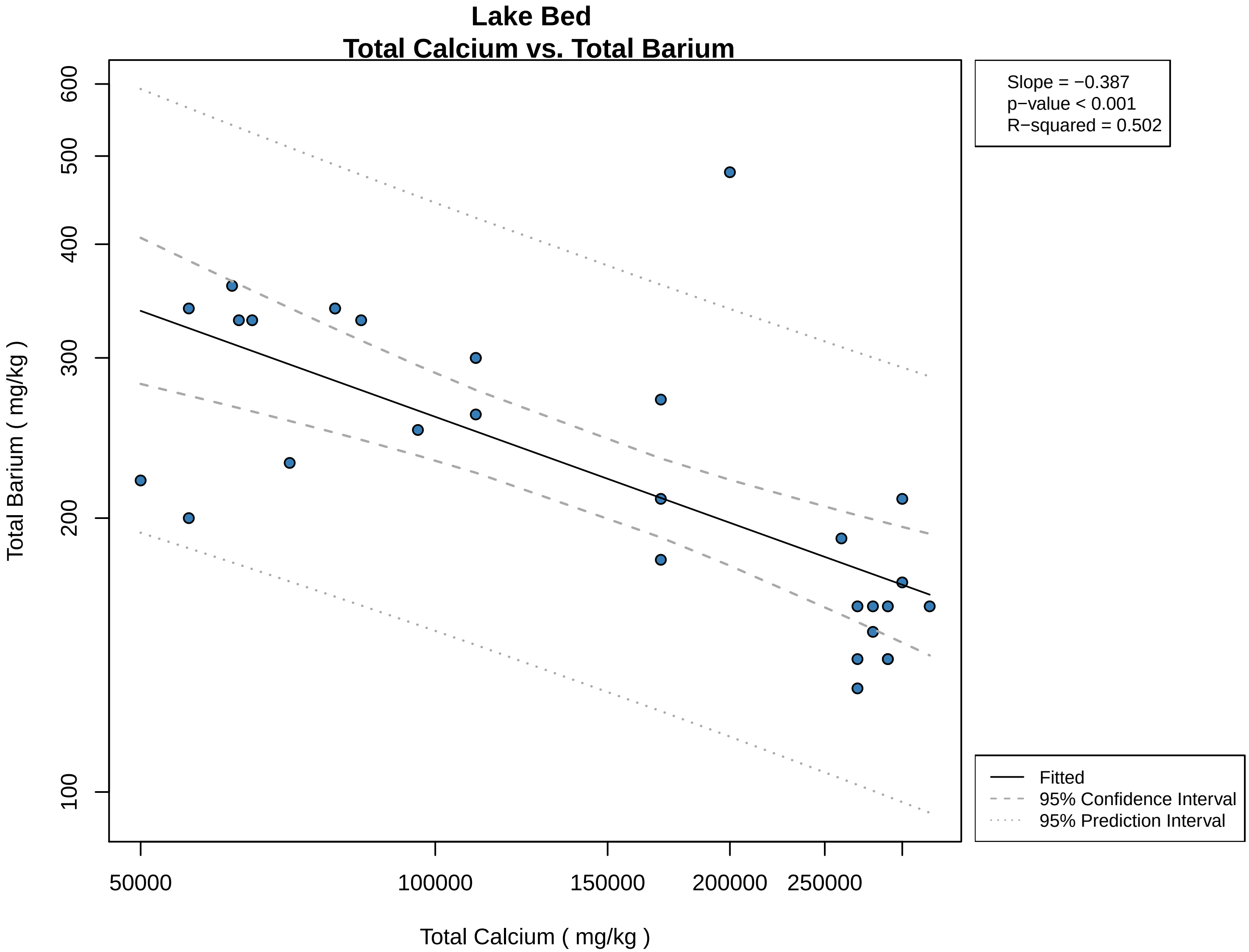


Figure 5.2.23
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

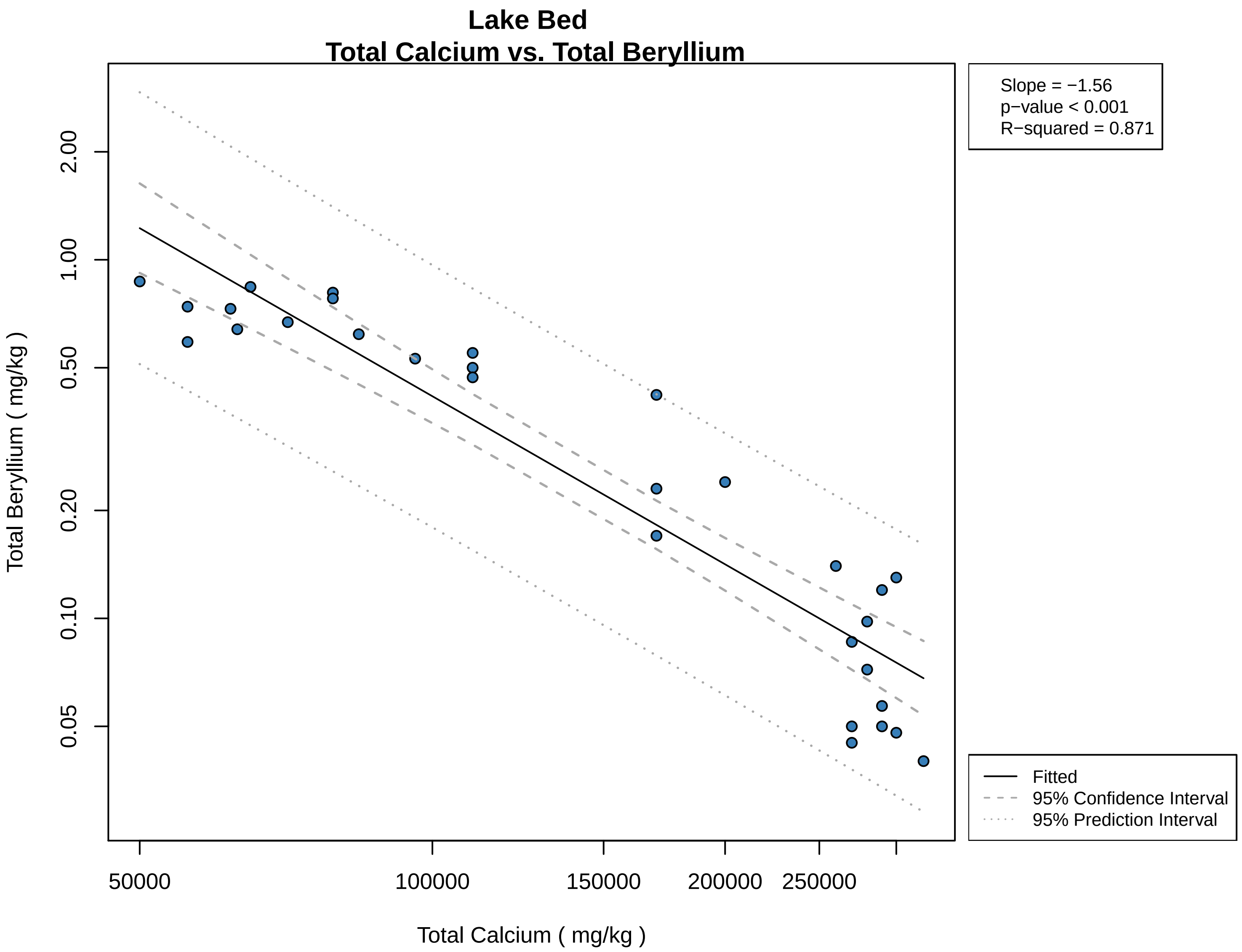


Figure 5.2.24
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

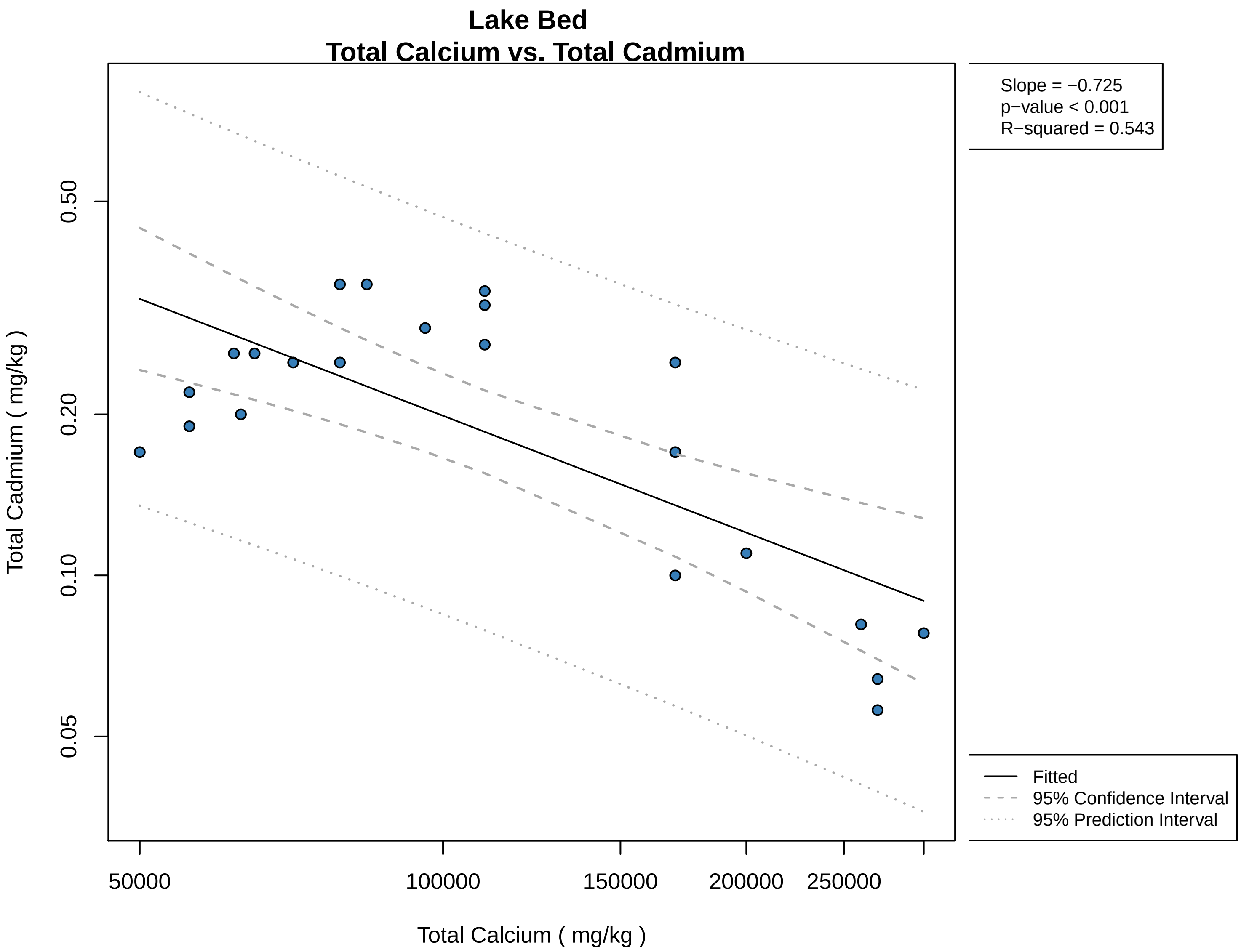


Figure 5.2.25
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

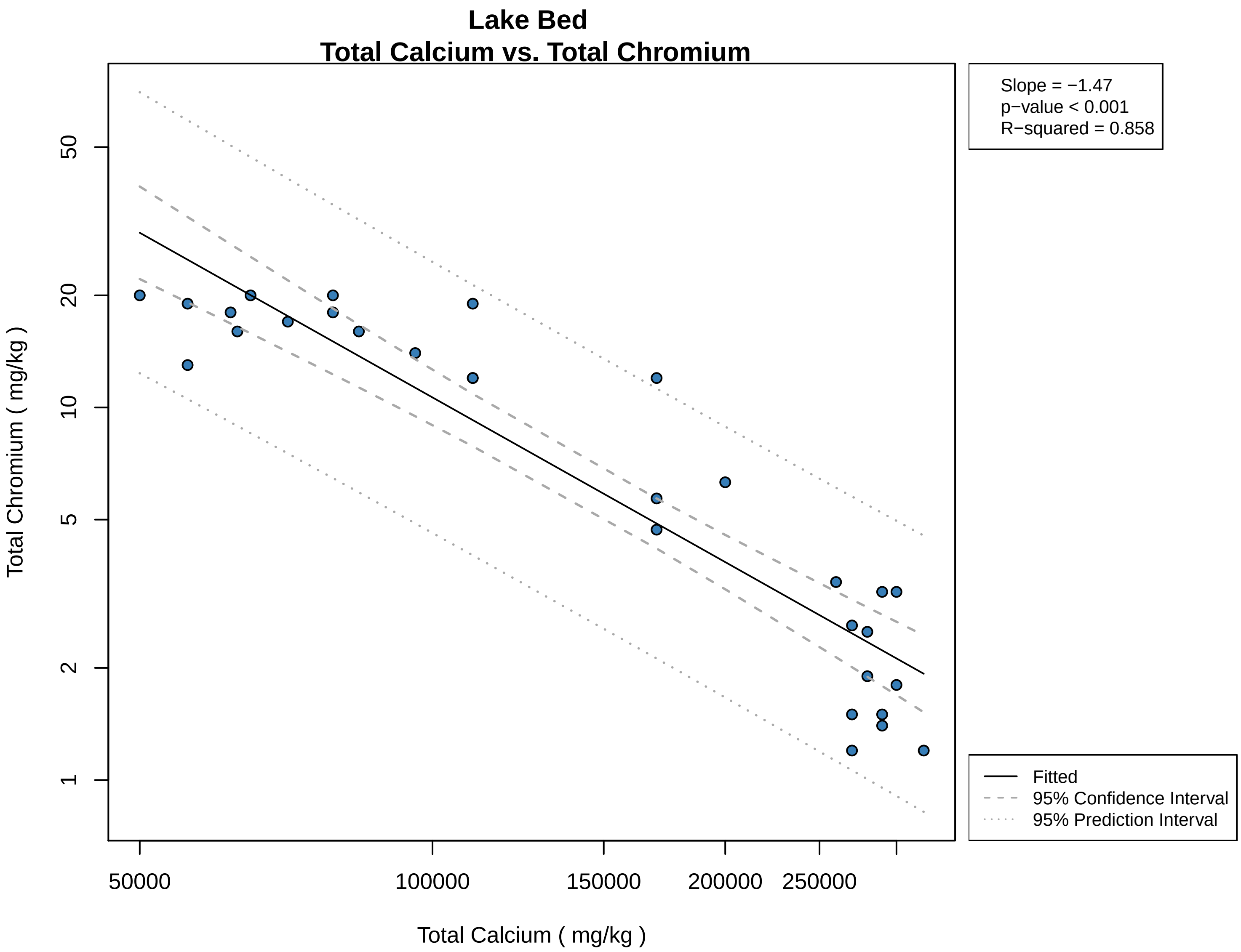


Figure 5.2.26
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

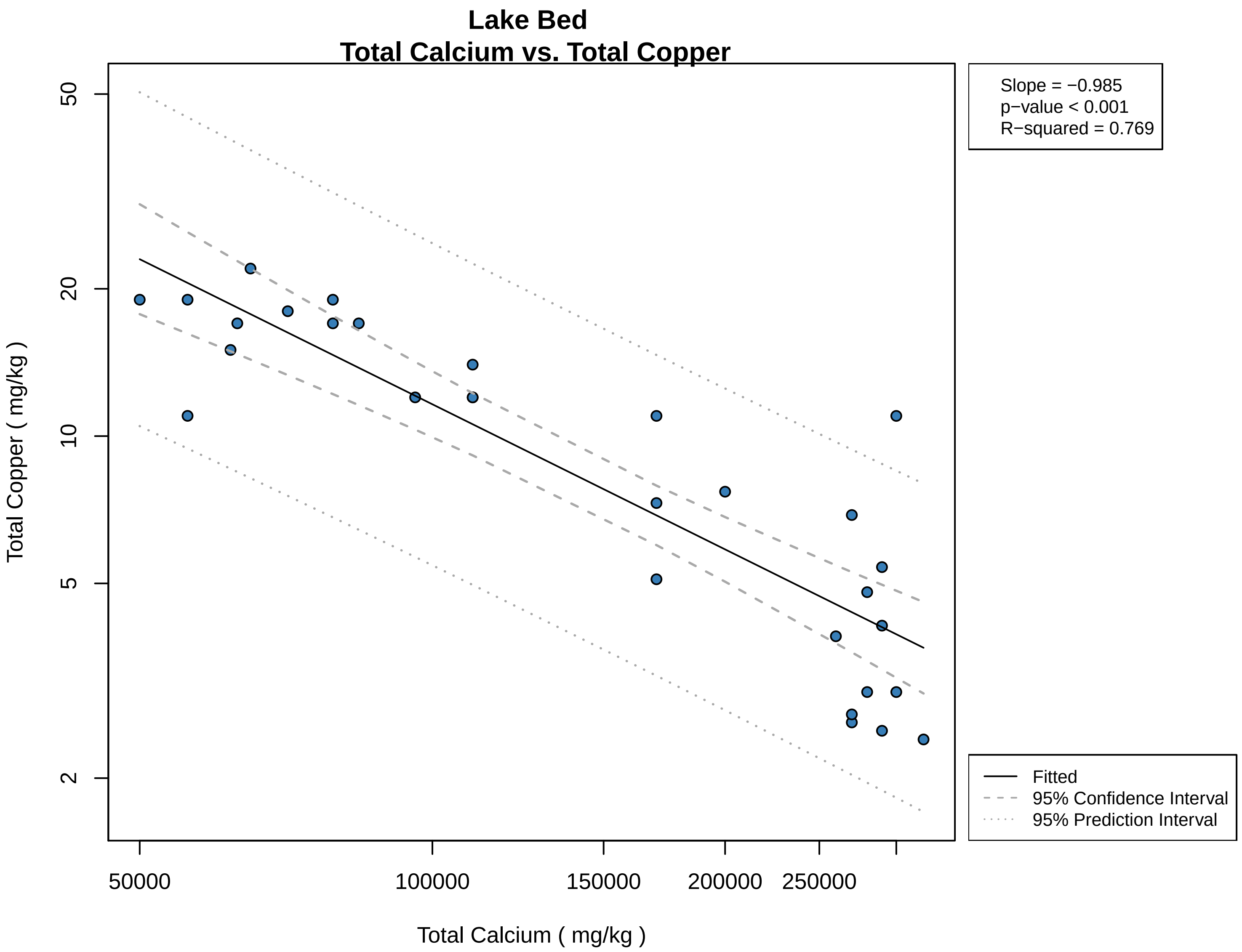


Figure 5.2.27
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

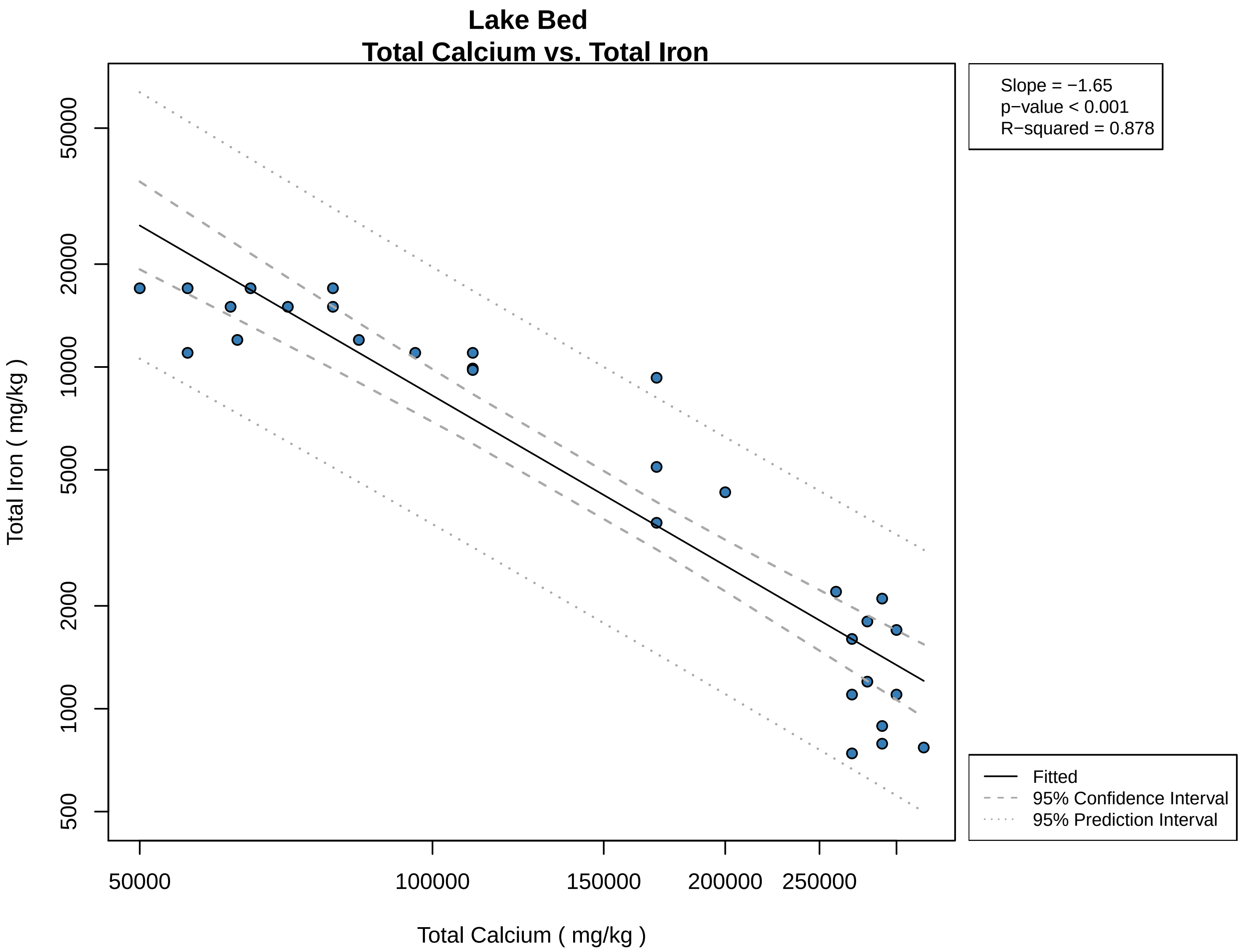


Figure 5.2.28
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

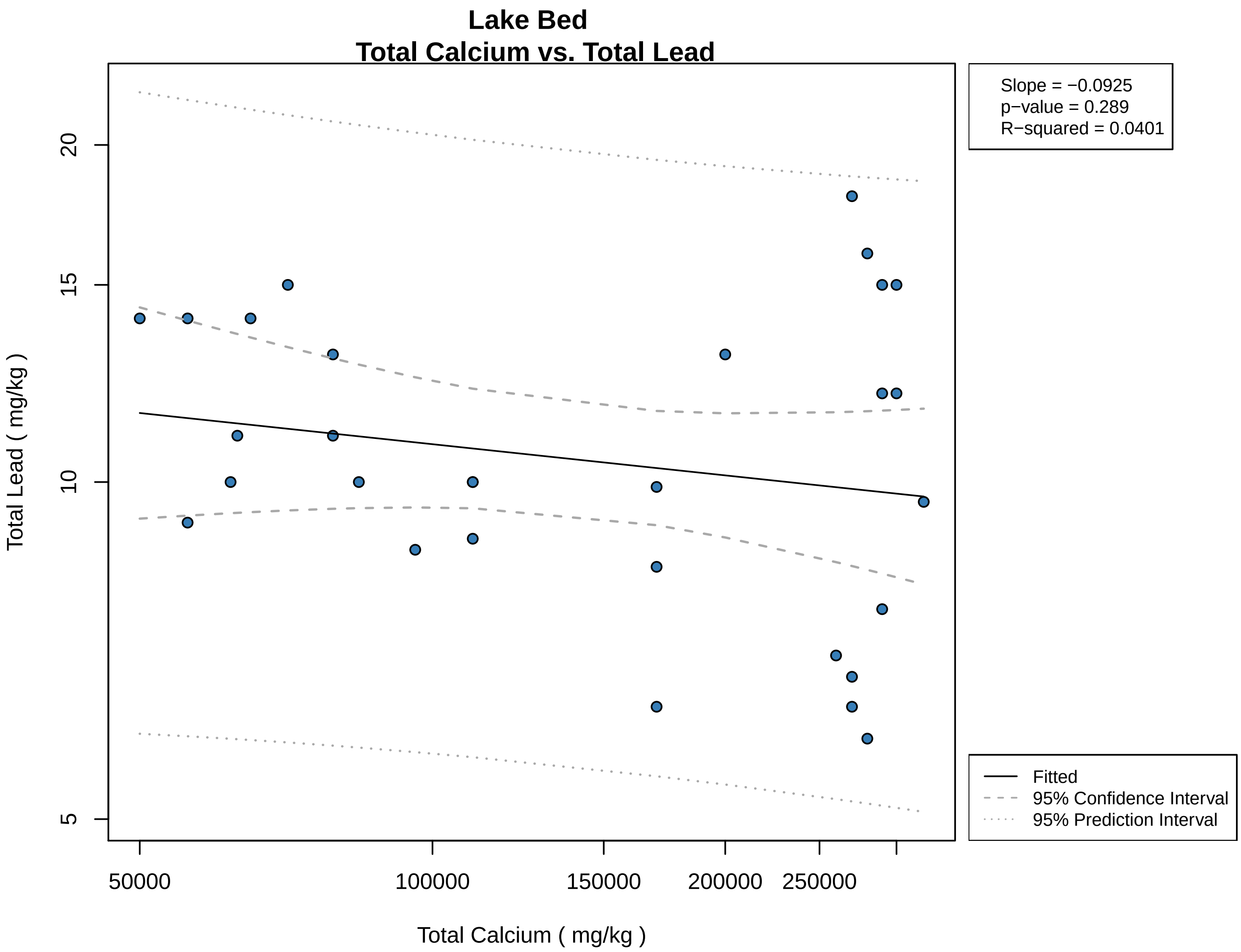


Figure 5.2.29
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

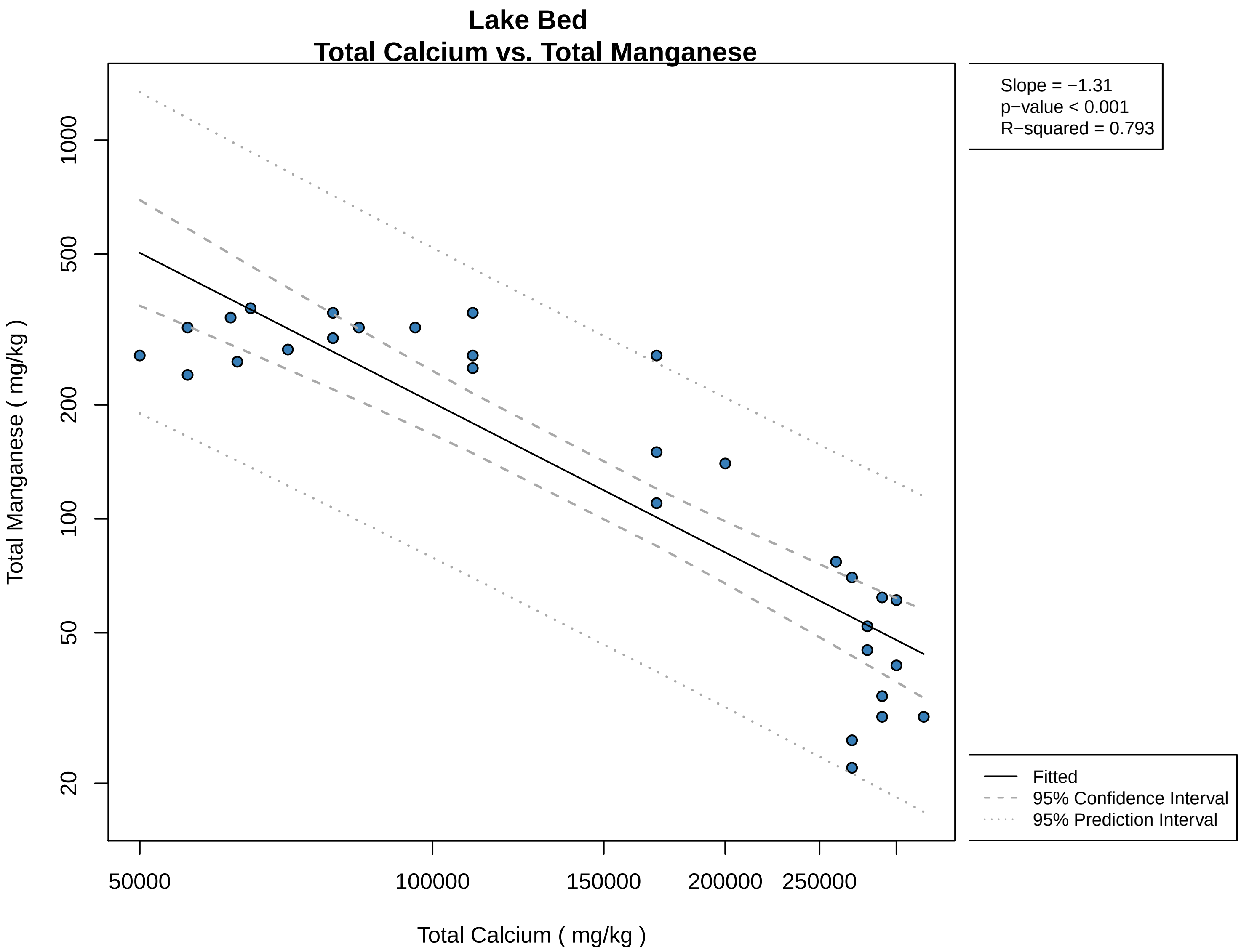


Figure 5.2.30
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

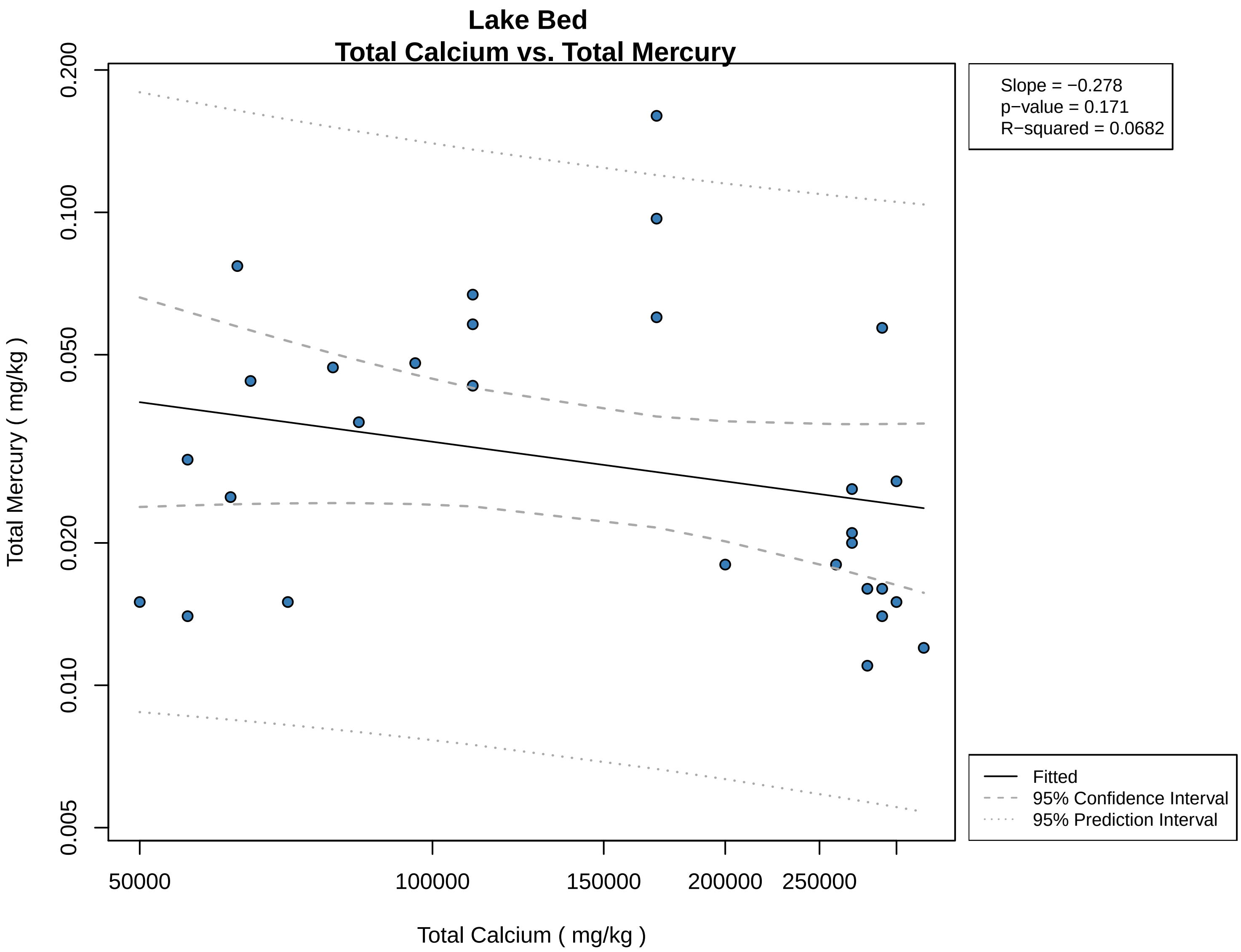


Figure 5.2.31
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

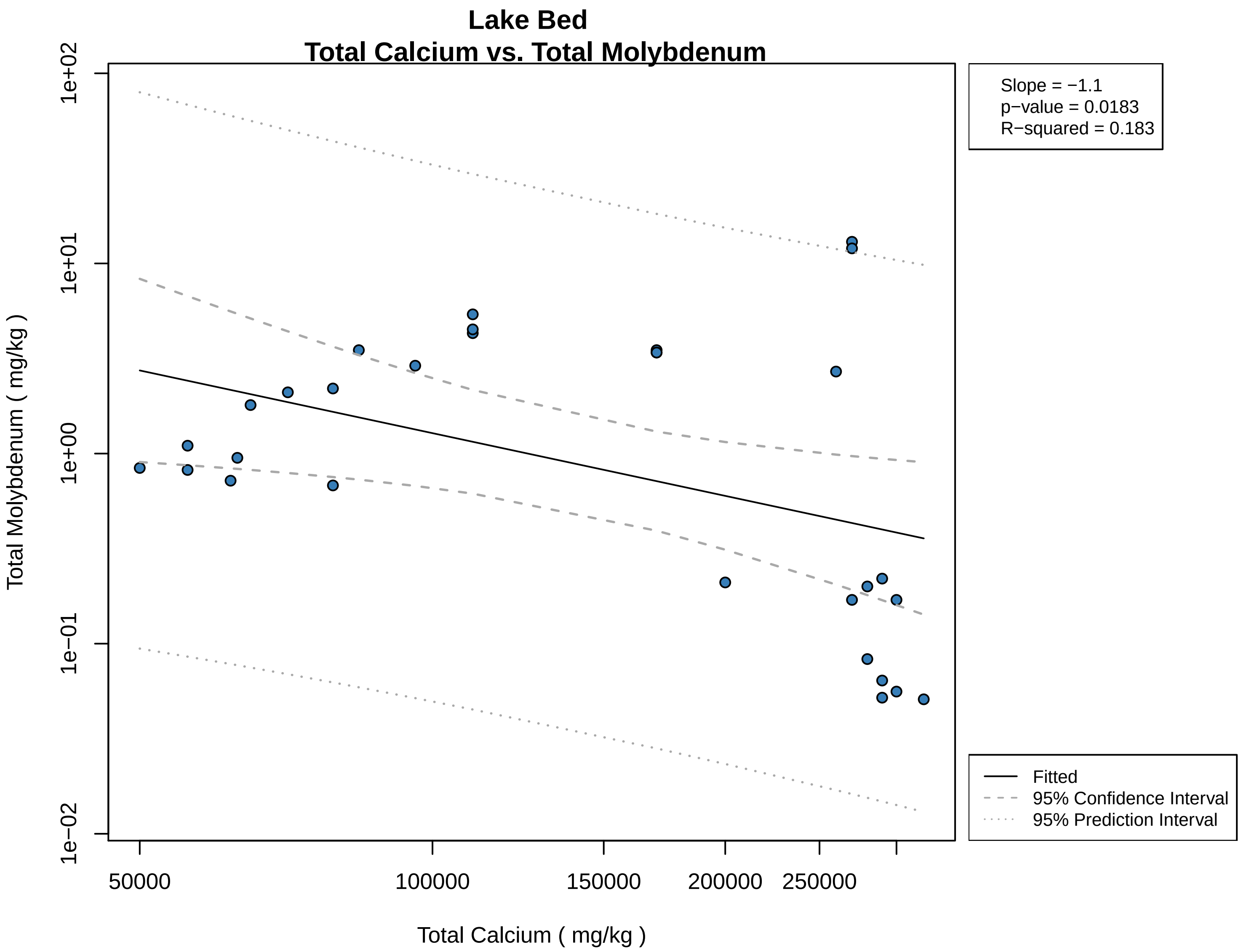


Figure 5.2.32
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

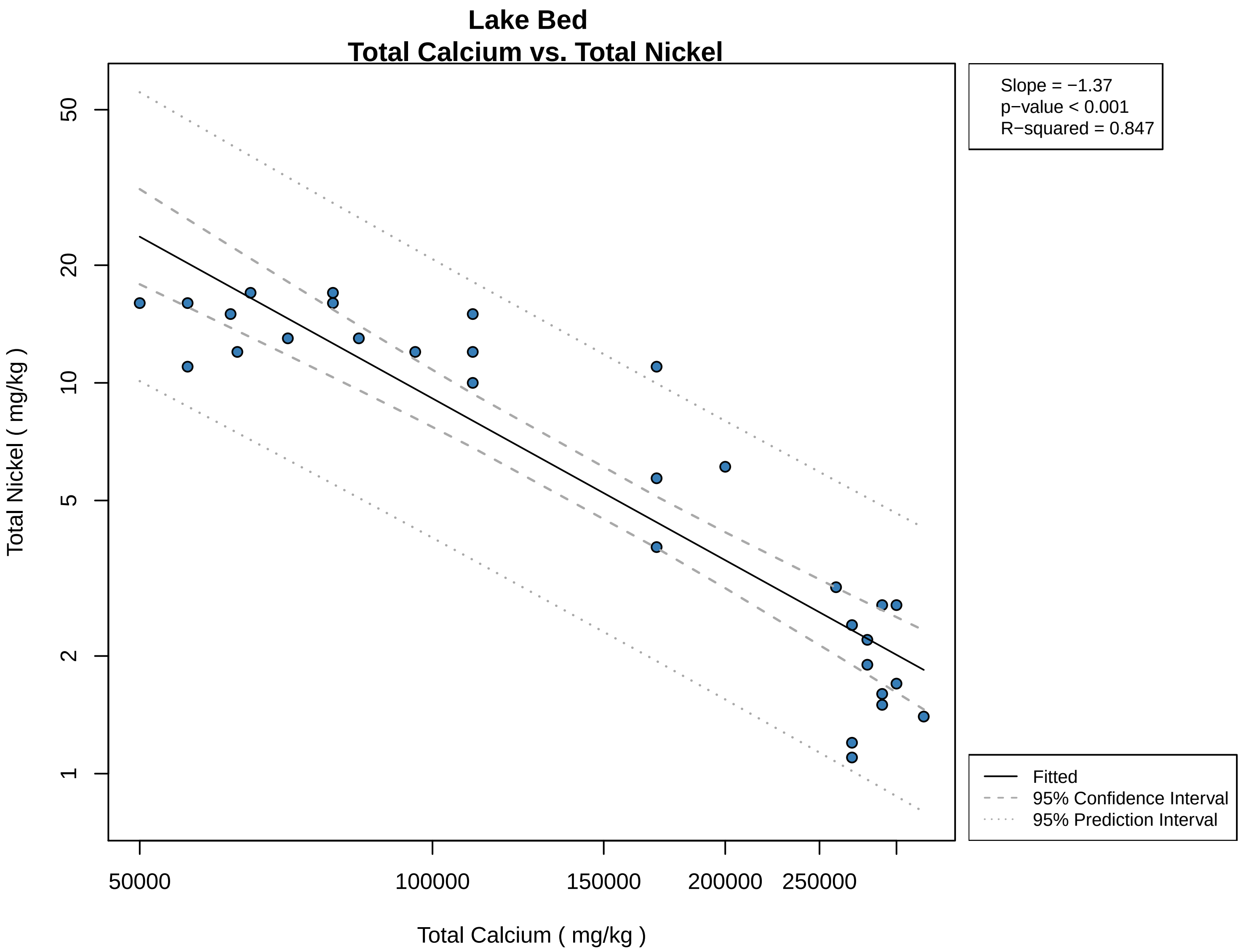


Figure 5.2.33
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

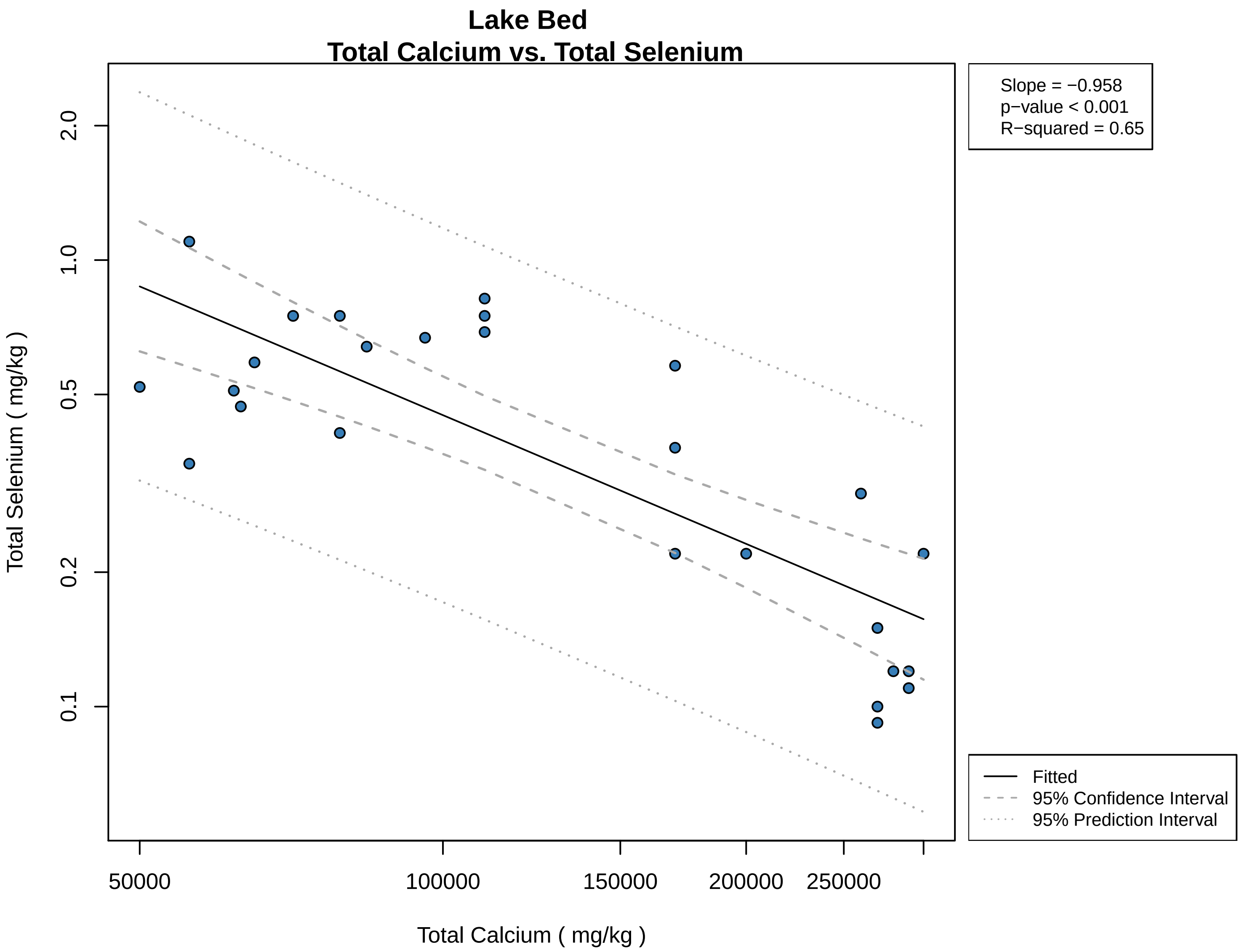


Figure 5.2.34
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

Lake Bed
Total Calcium vs. Total Silver

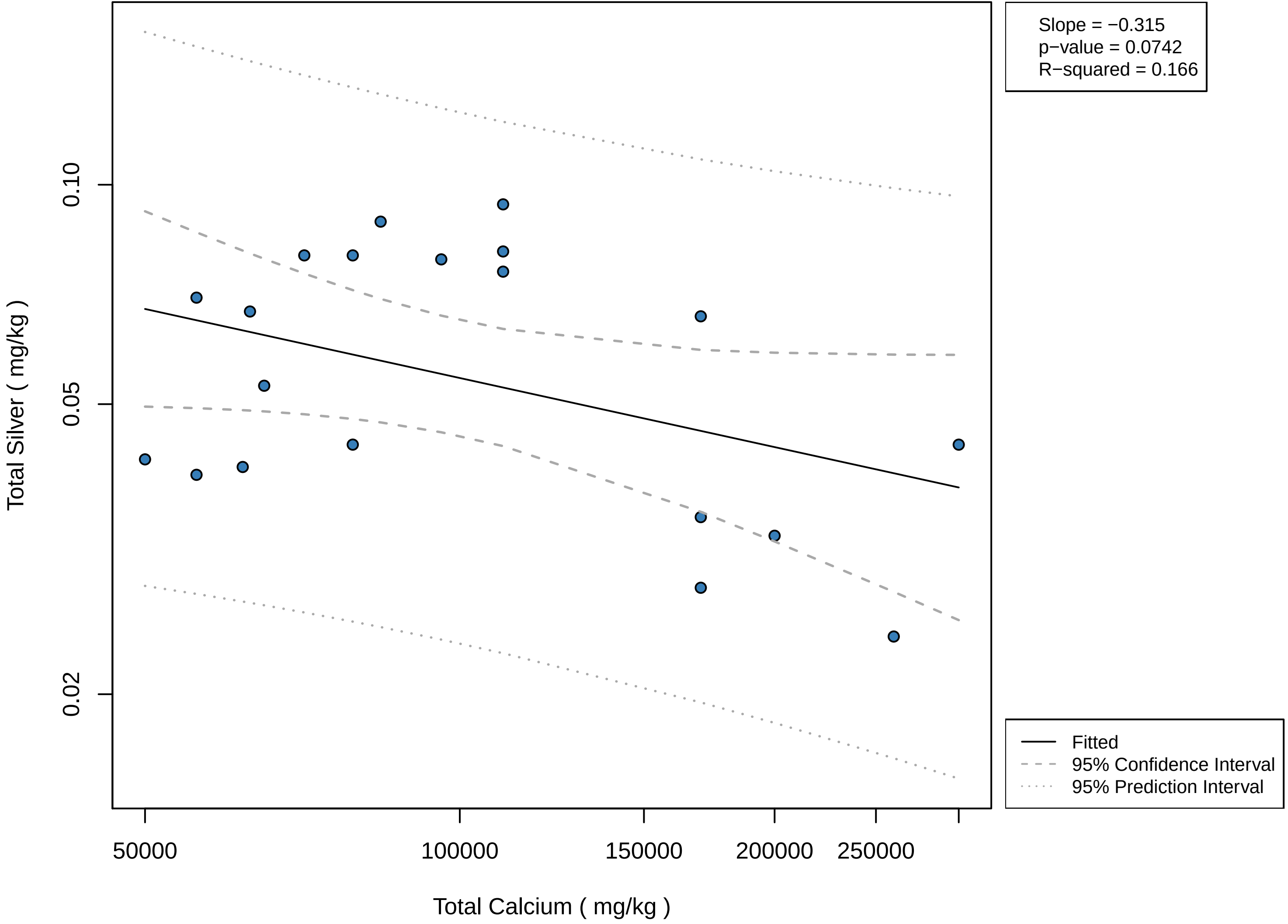


Figure 5.2.35
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

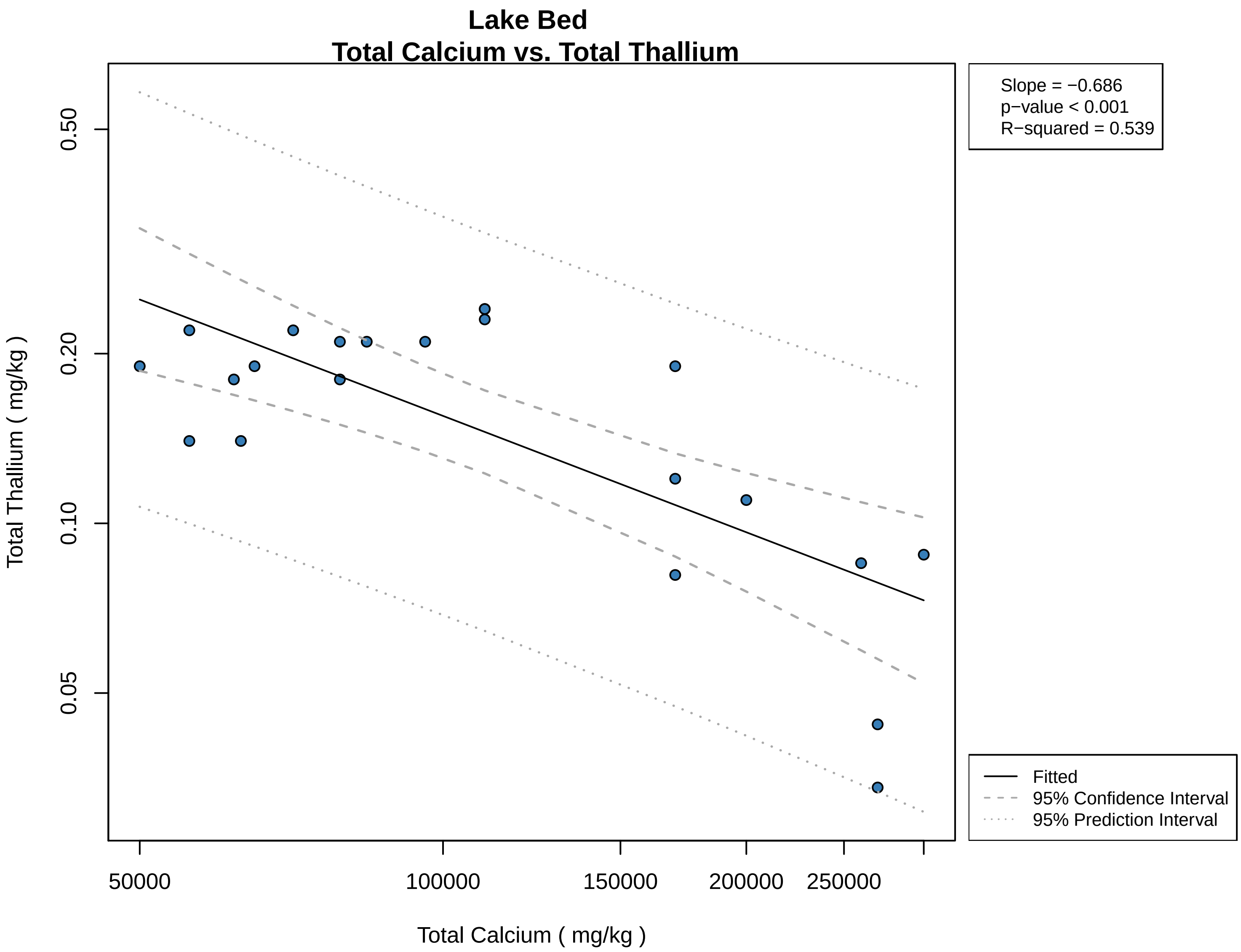


Figure 5.2.36
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

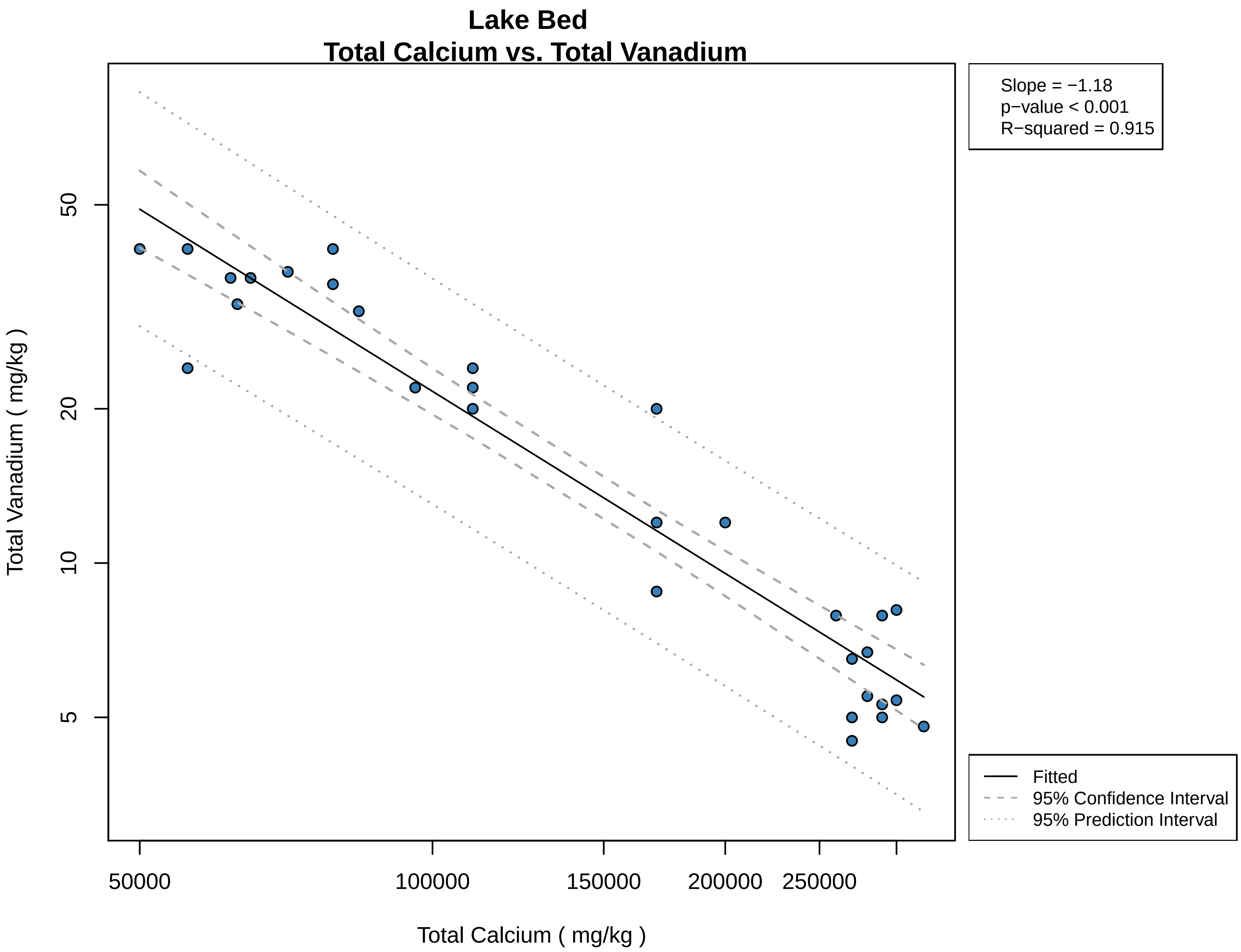


Figure 5.2.37
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

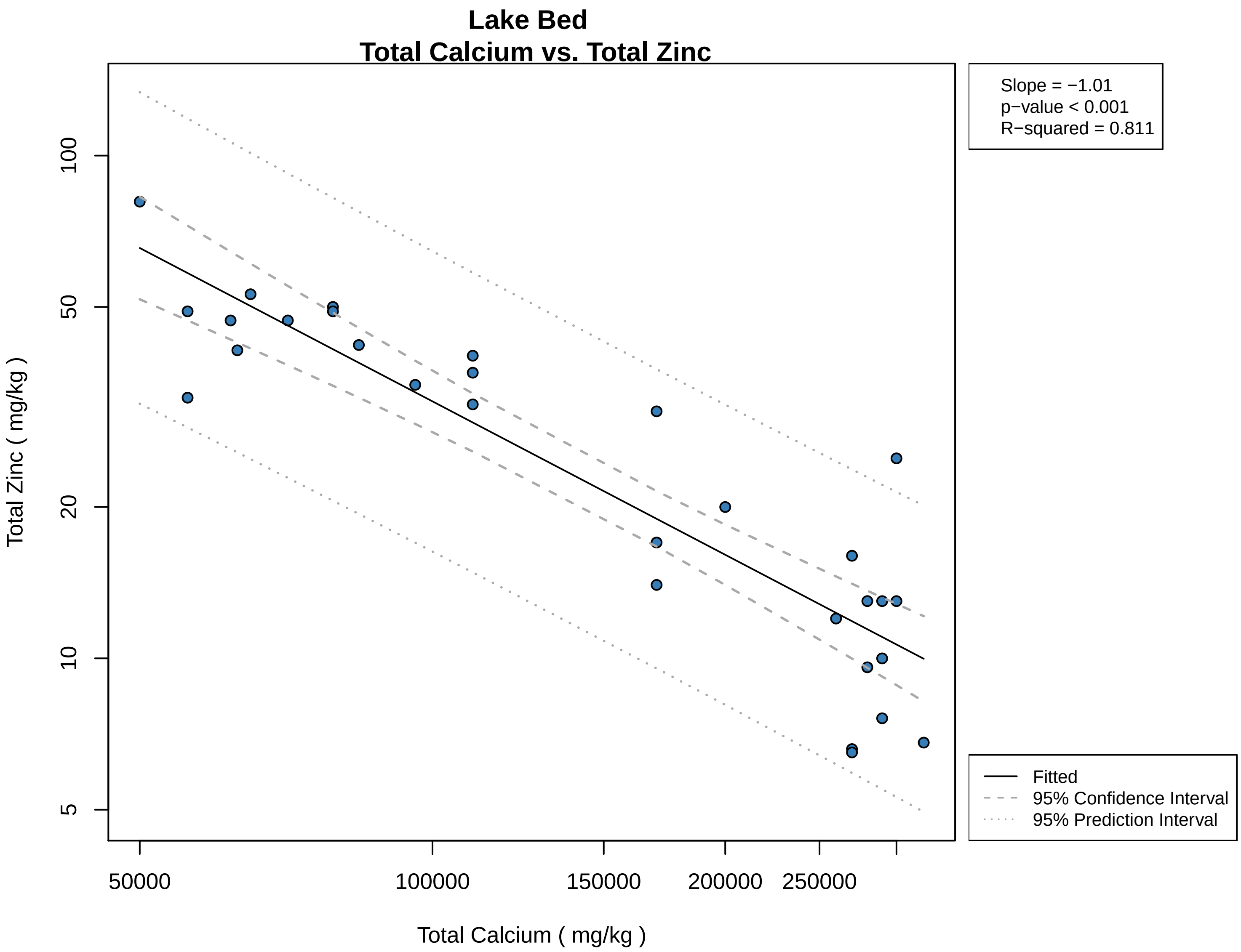


Figure 5.2.38
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

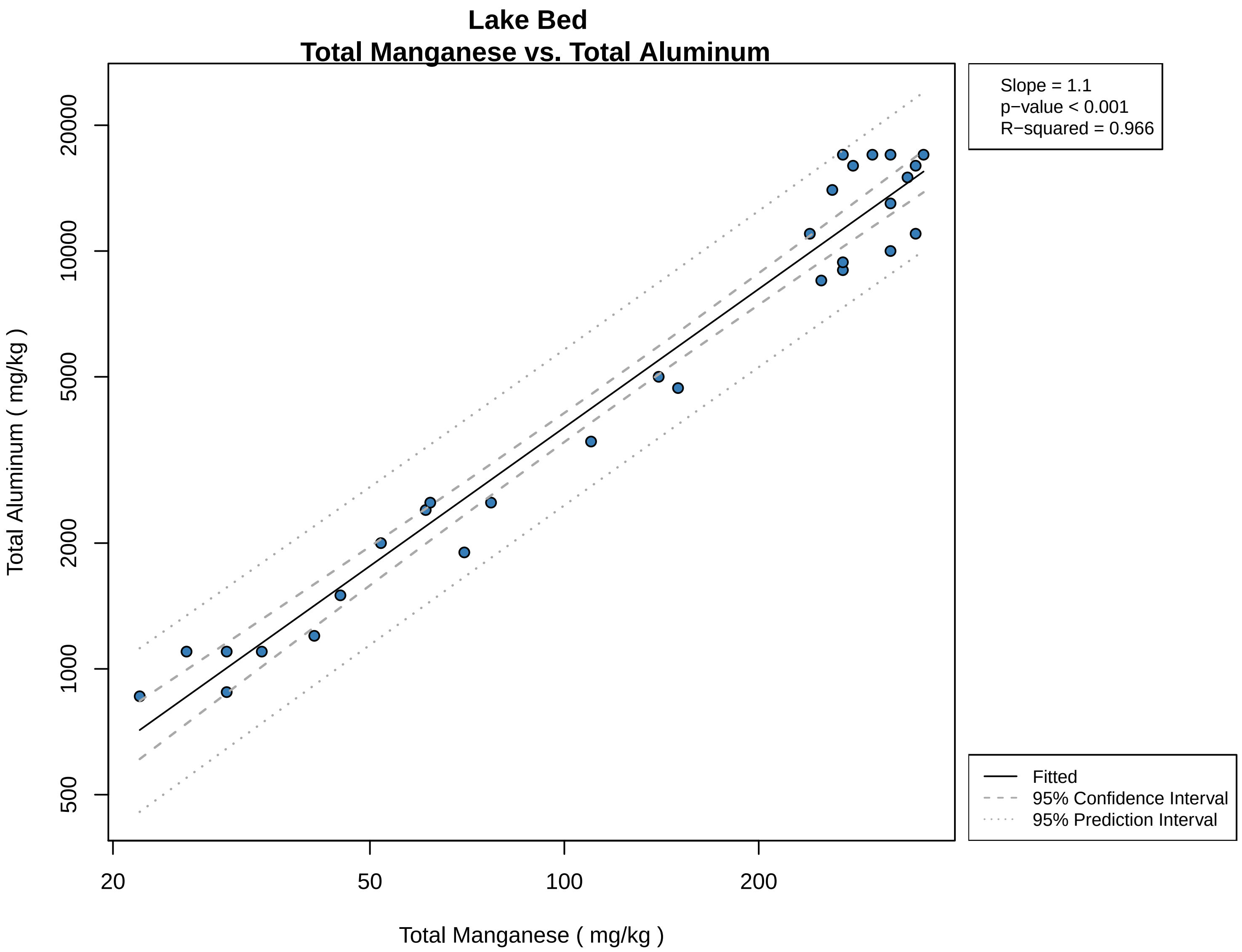


Figure 5.2.39
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

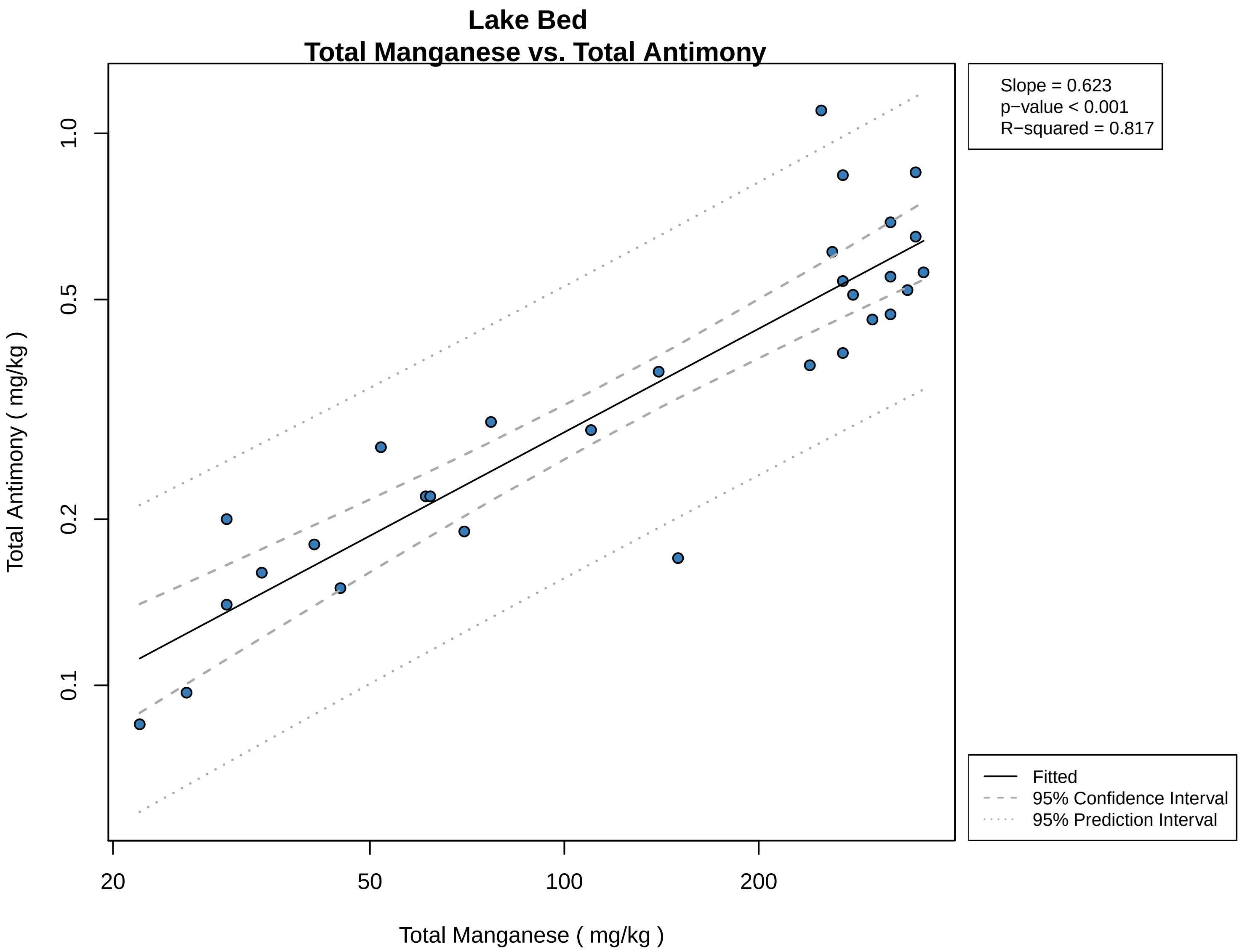


Figure 5.2.40
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

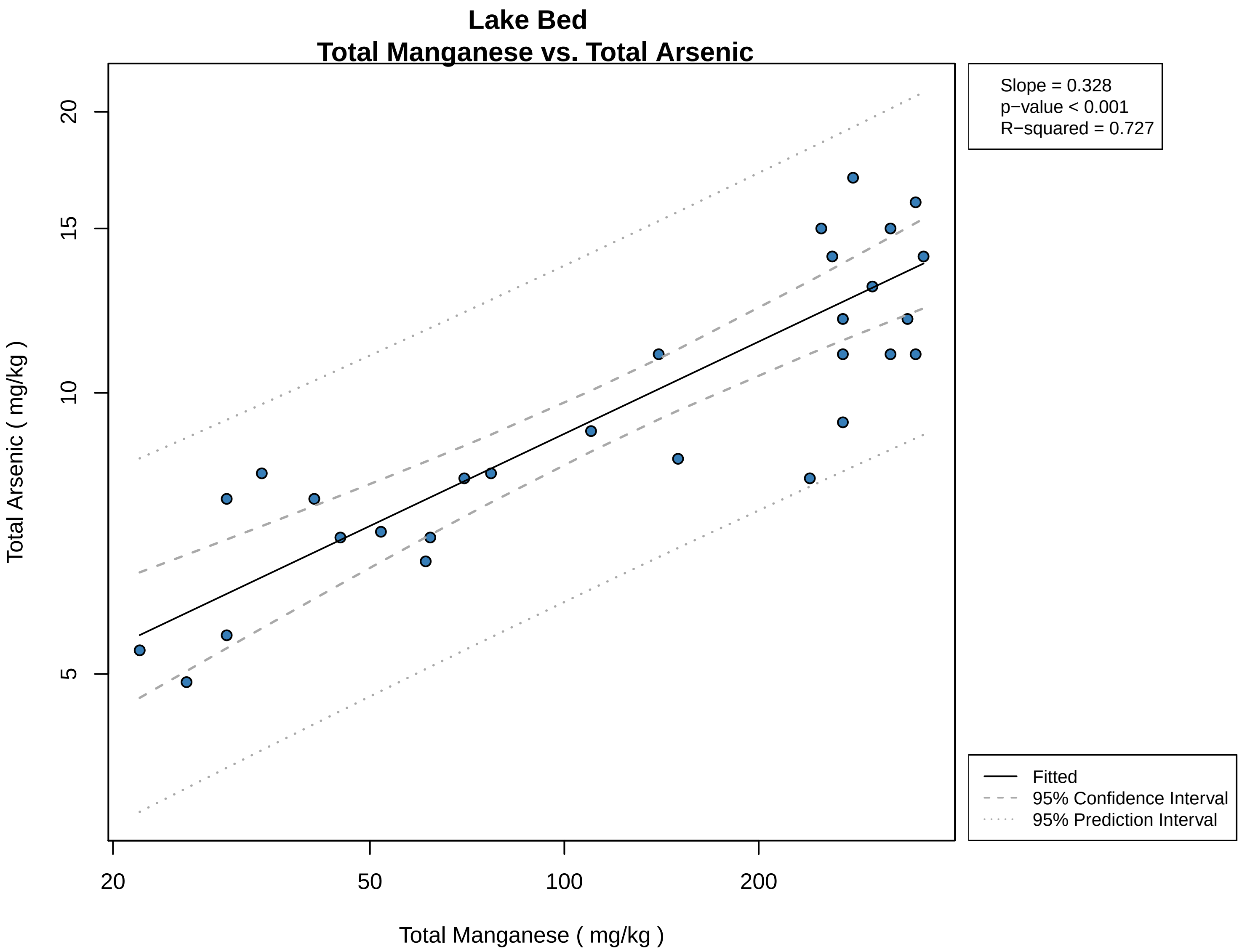


Figure 5.2.41
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

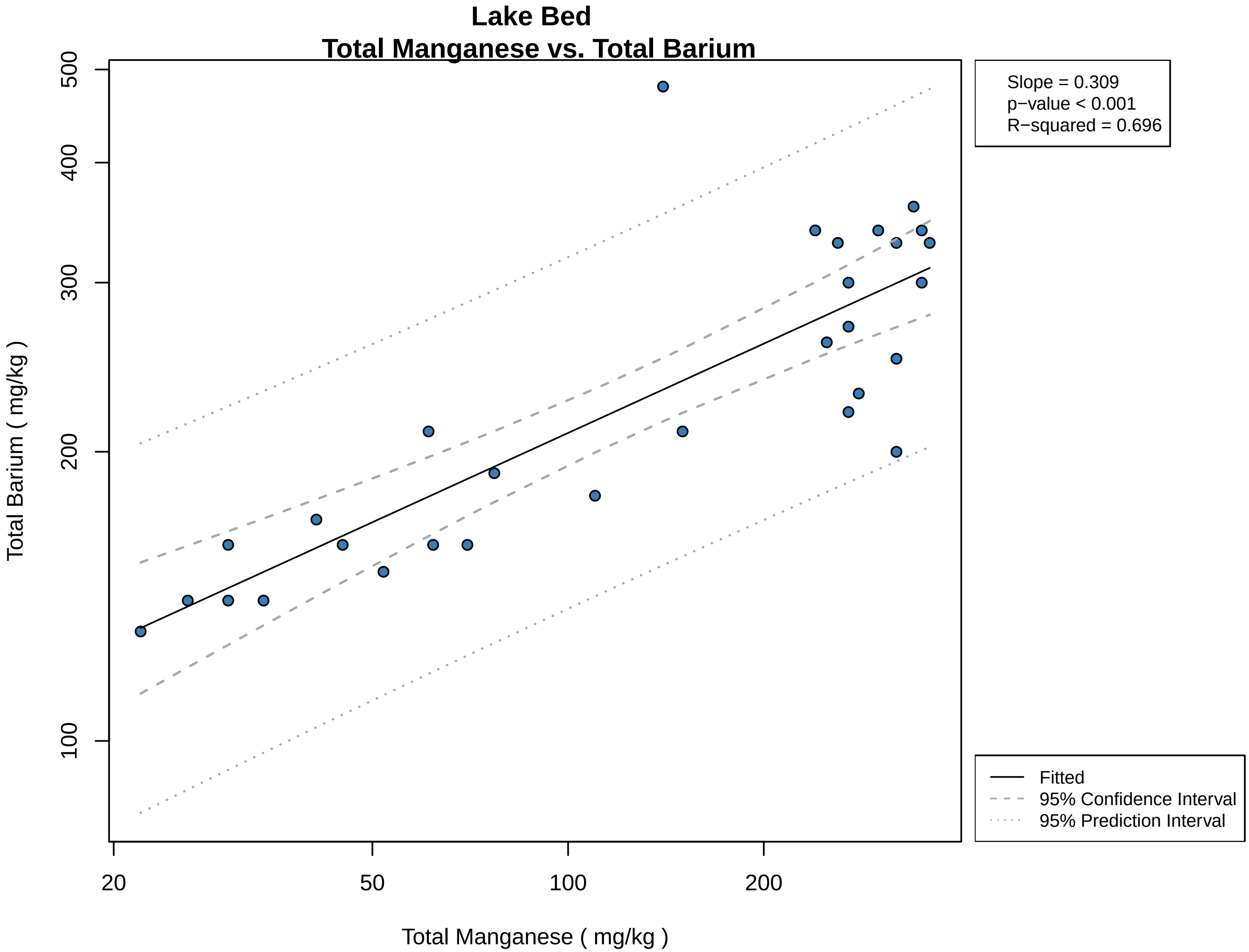


Figure 5.2.42
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

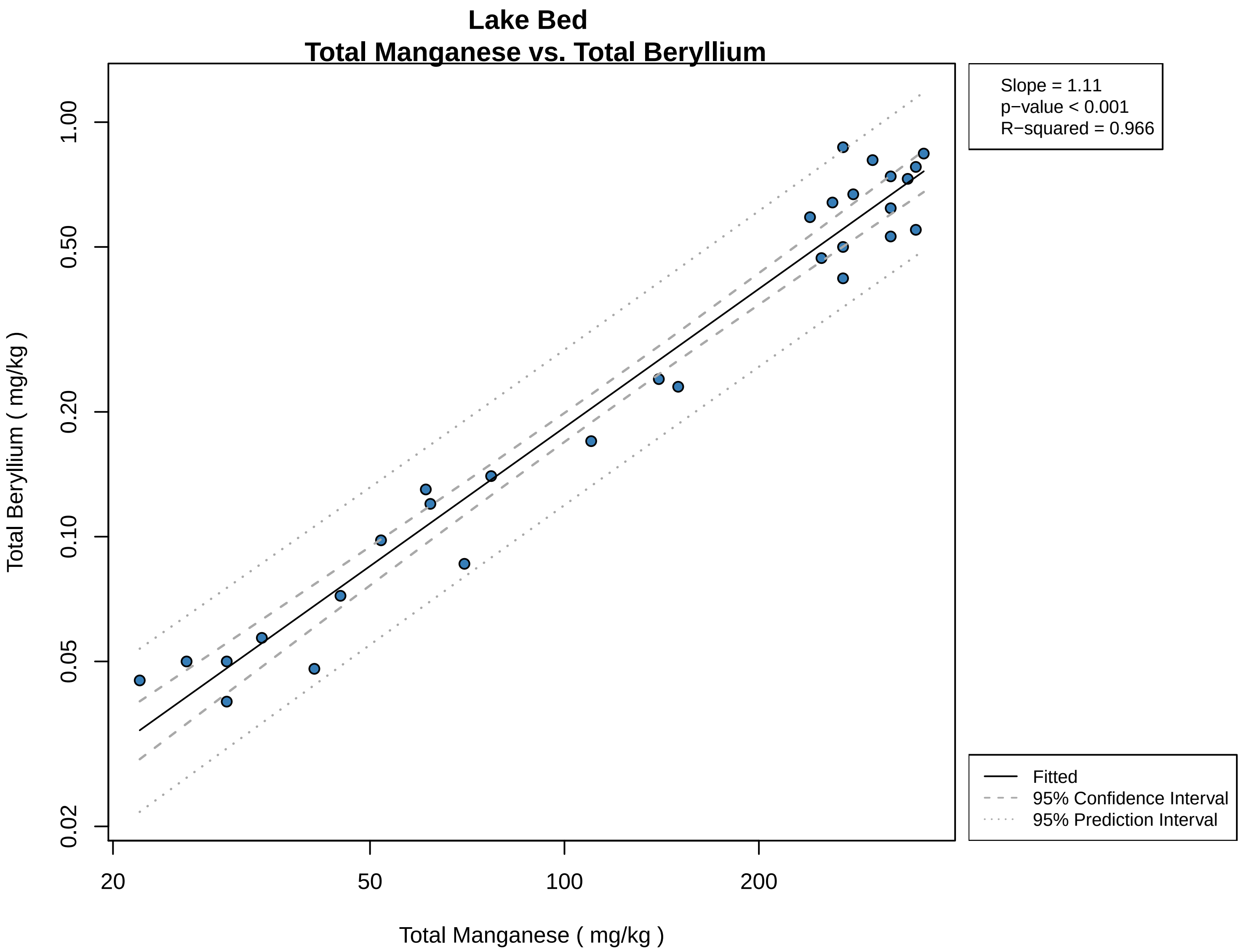


Figure 5.2.43
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

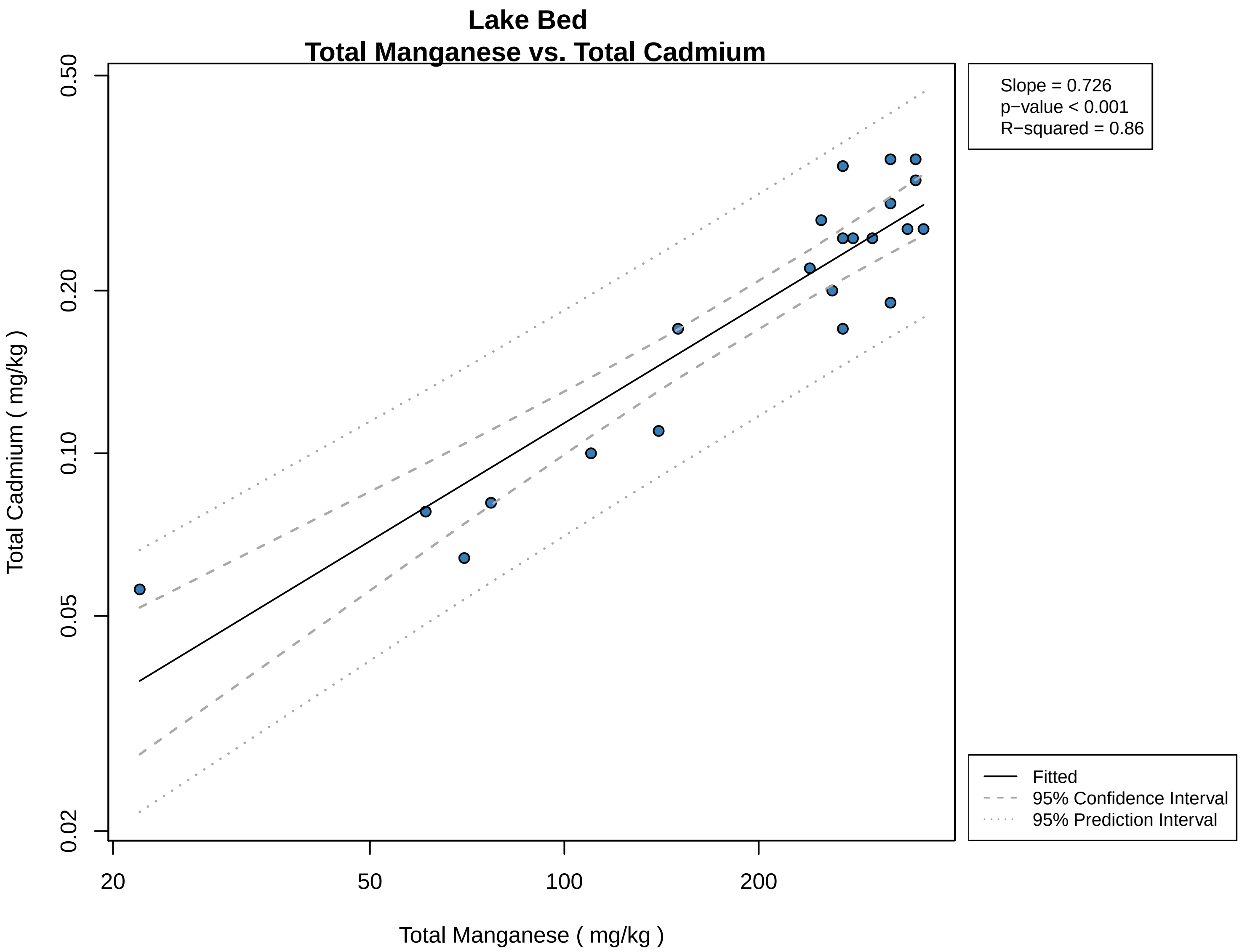


Figure 5.2.44
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

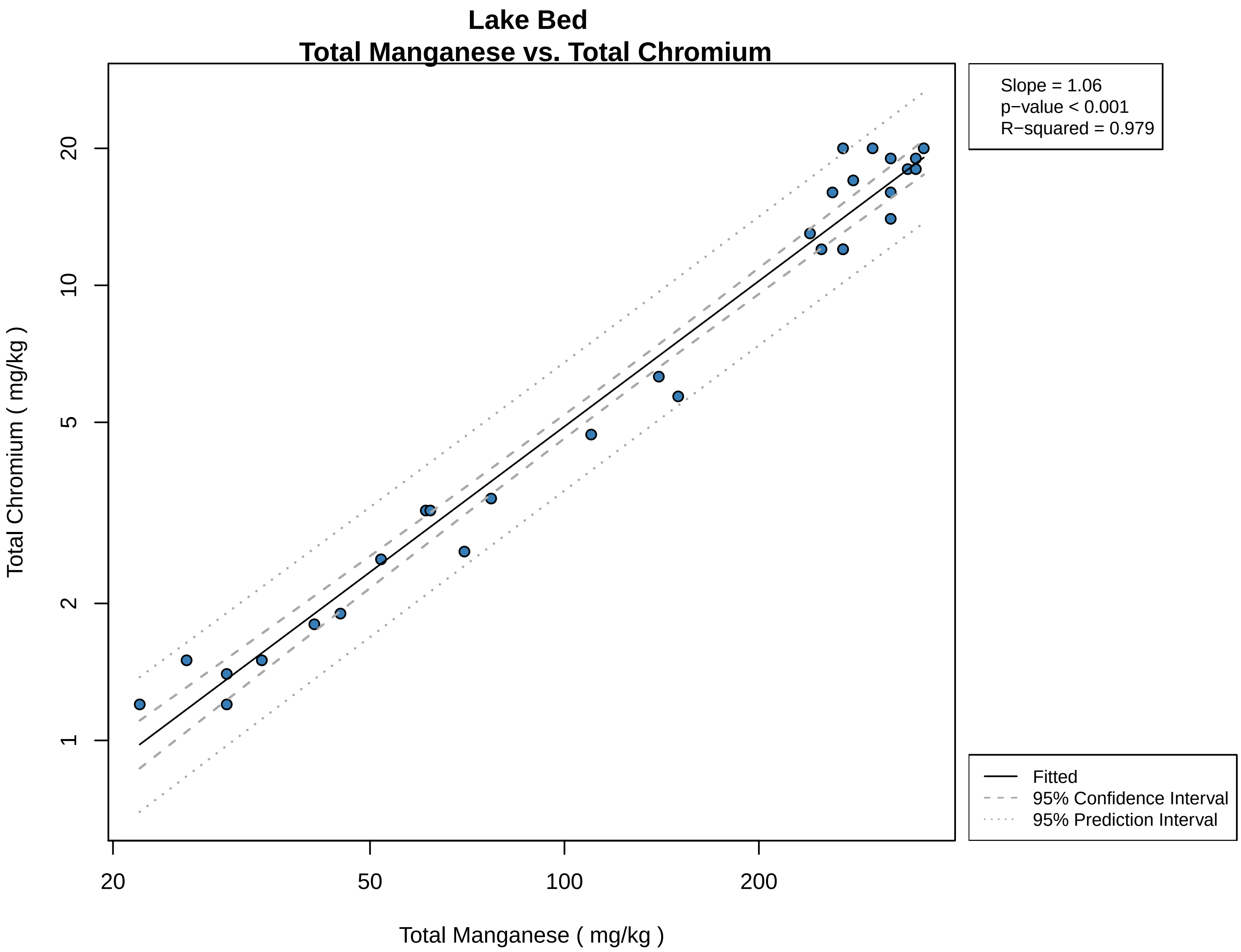


Figure 5.2.45
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

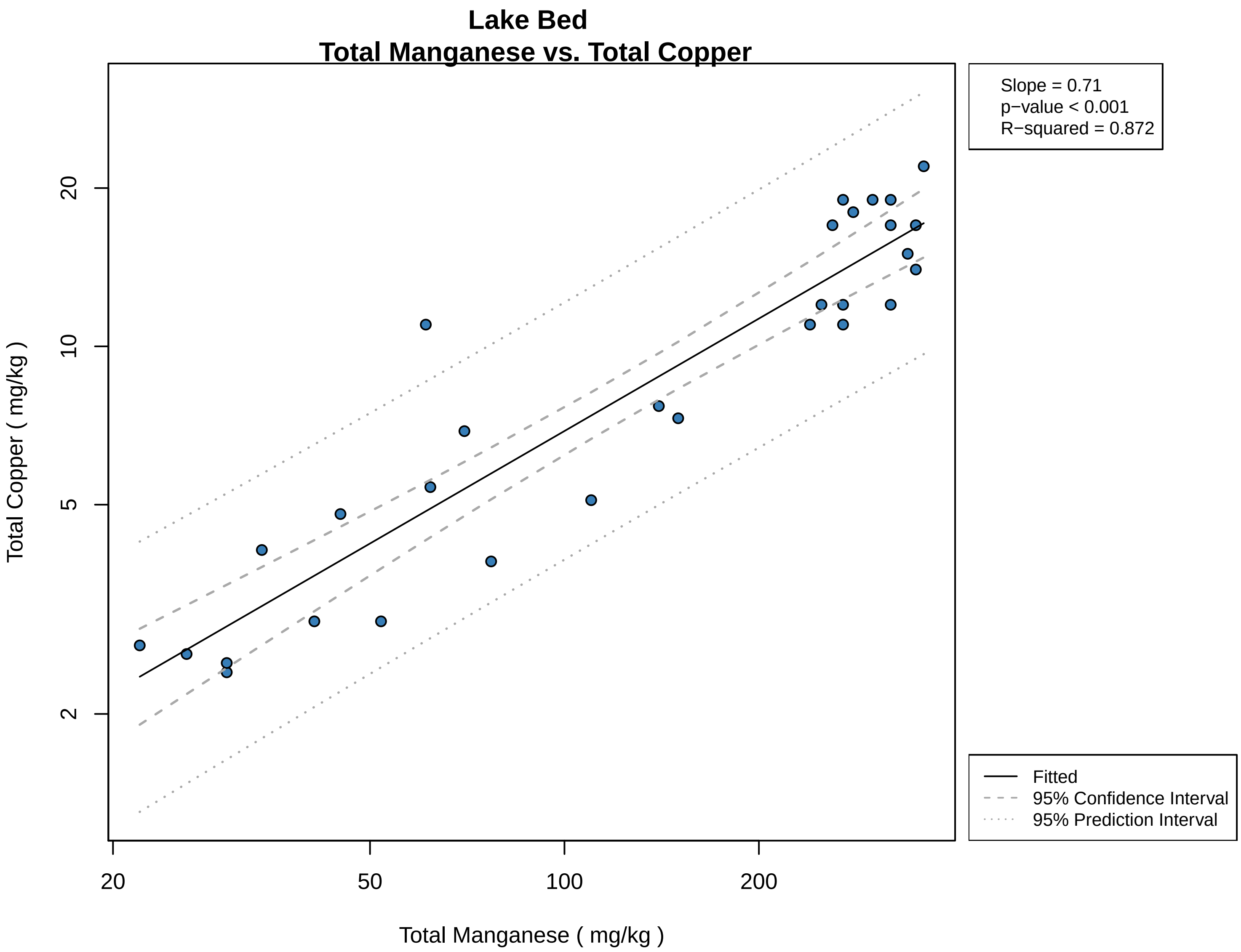


Figure 5.2.46
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

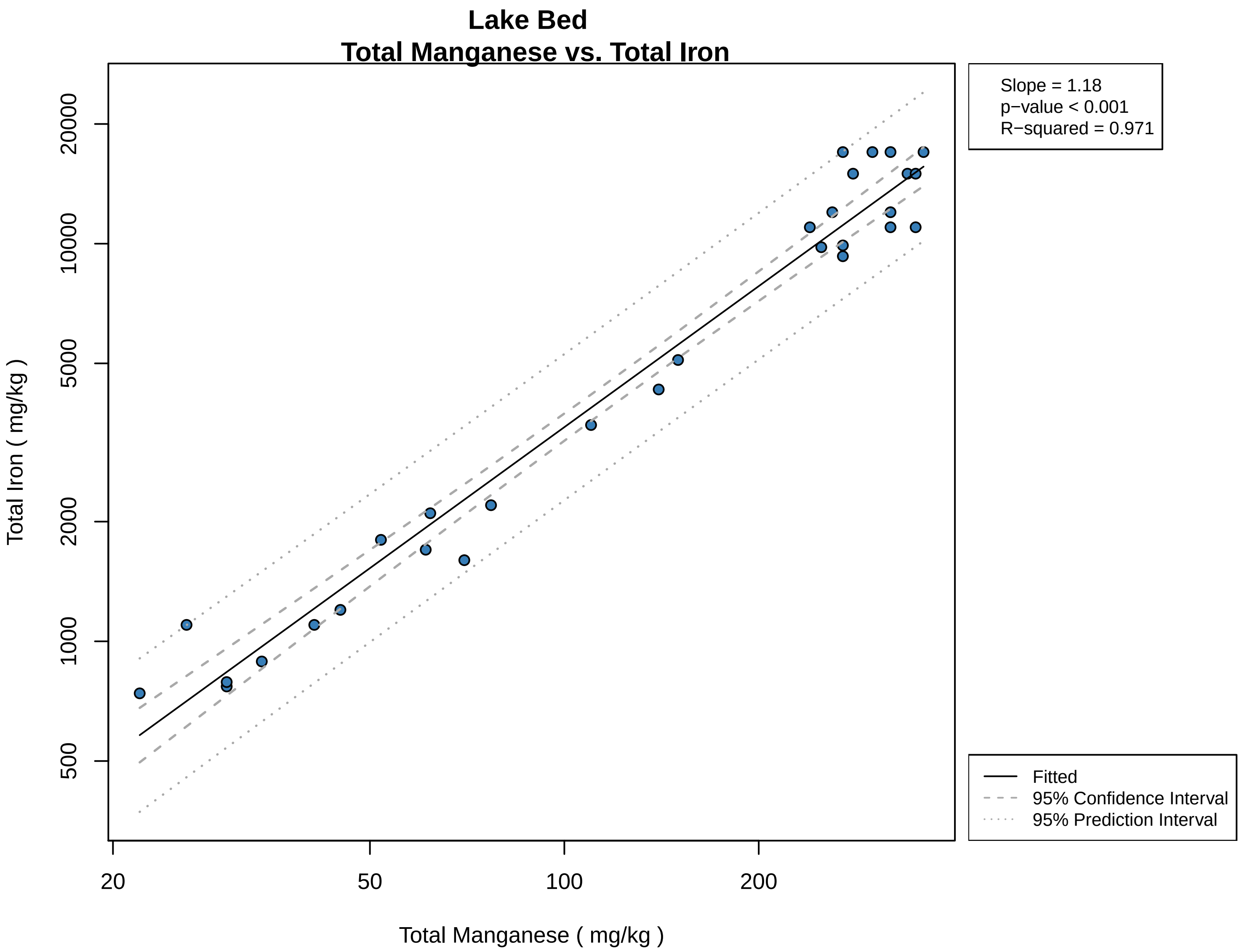


Figure 5.2.47
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

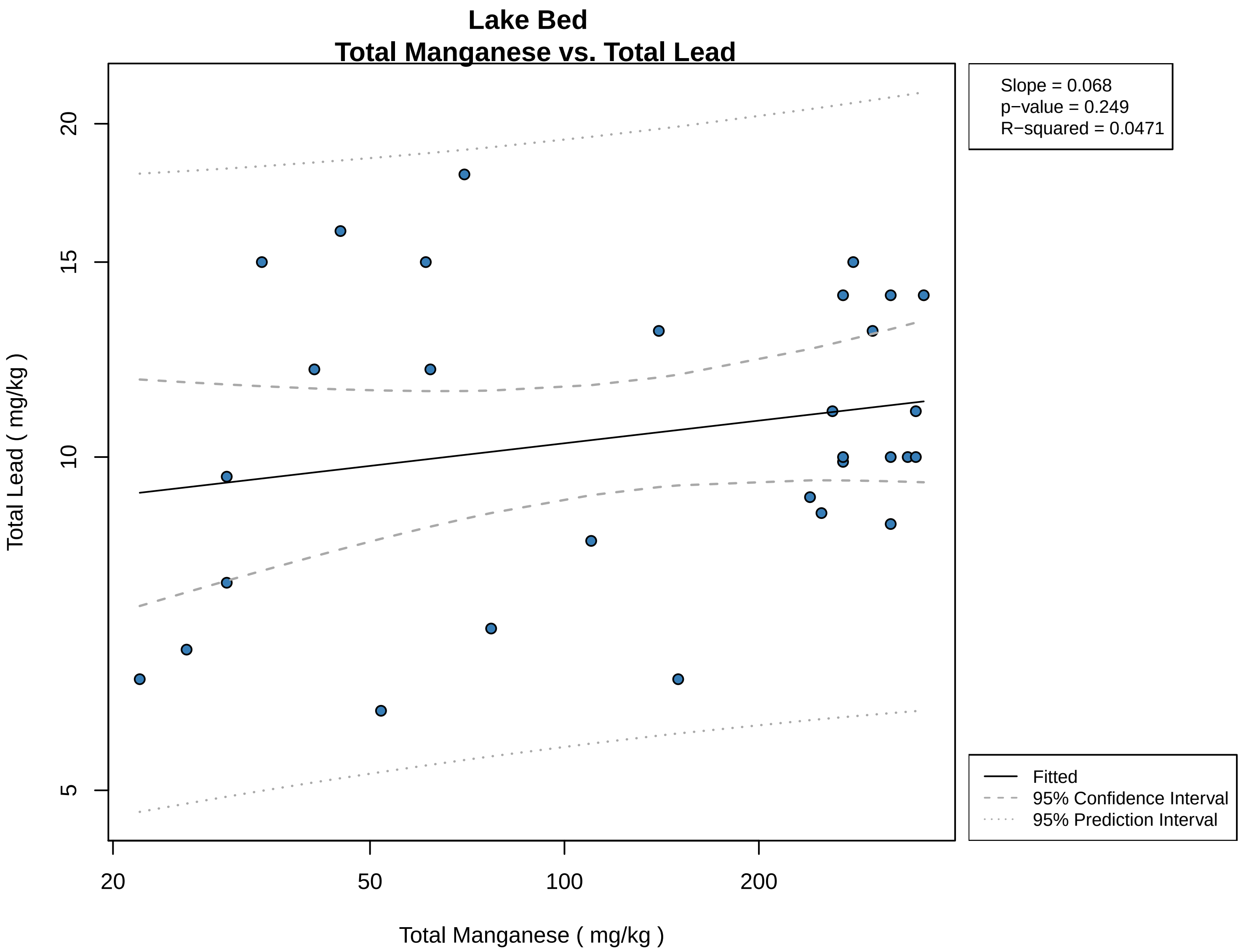


Figure 5.2.48
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

Figure 5.2.49
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

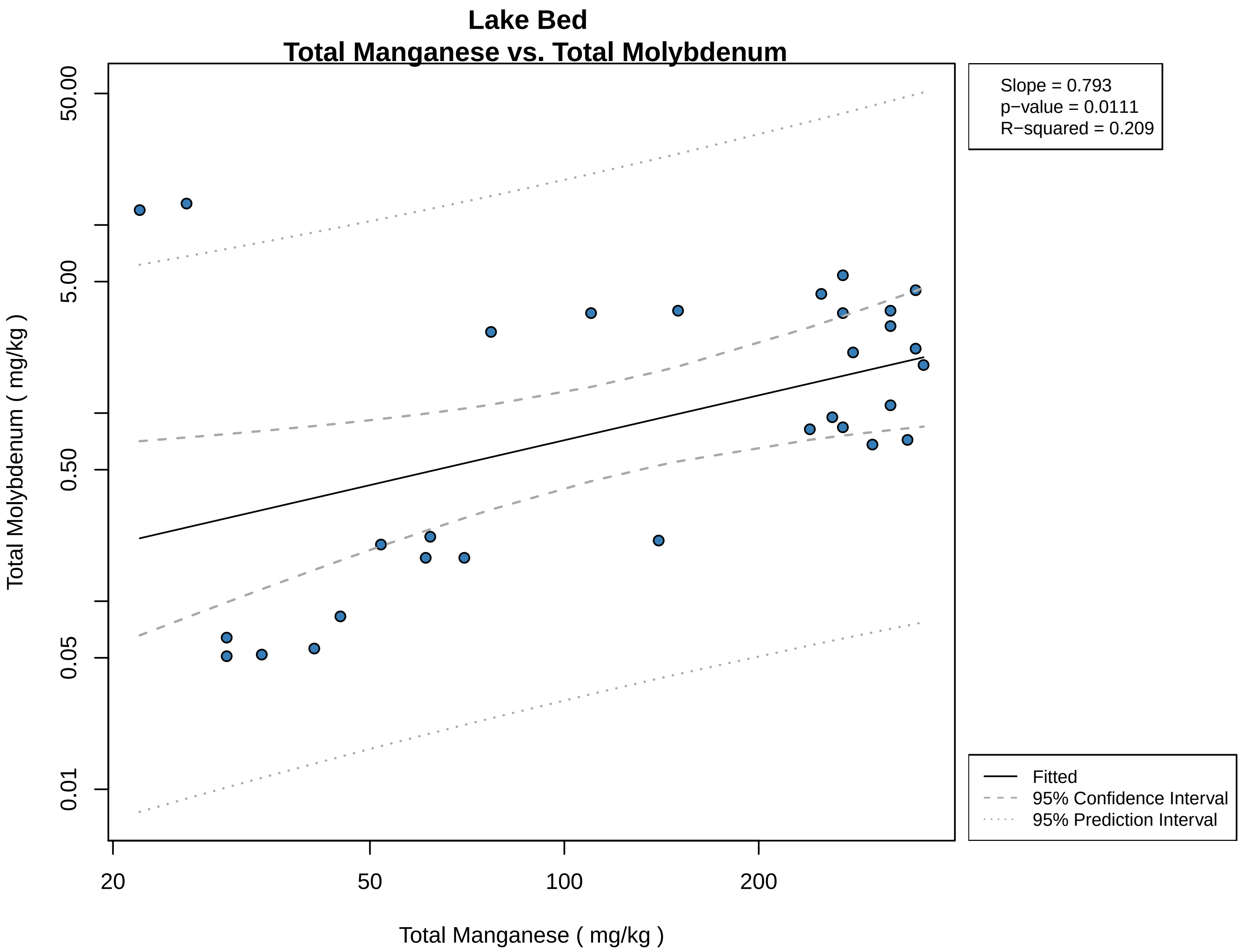


Figure 5.2.50
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

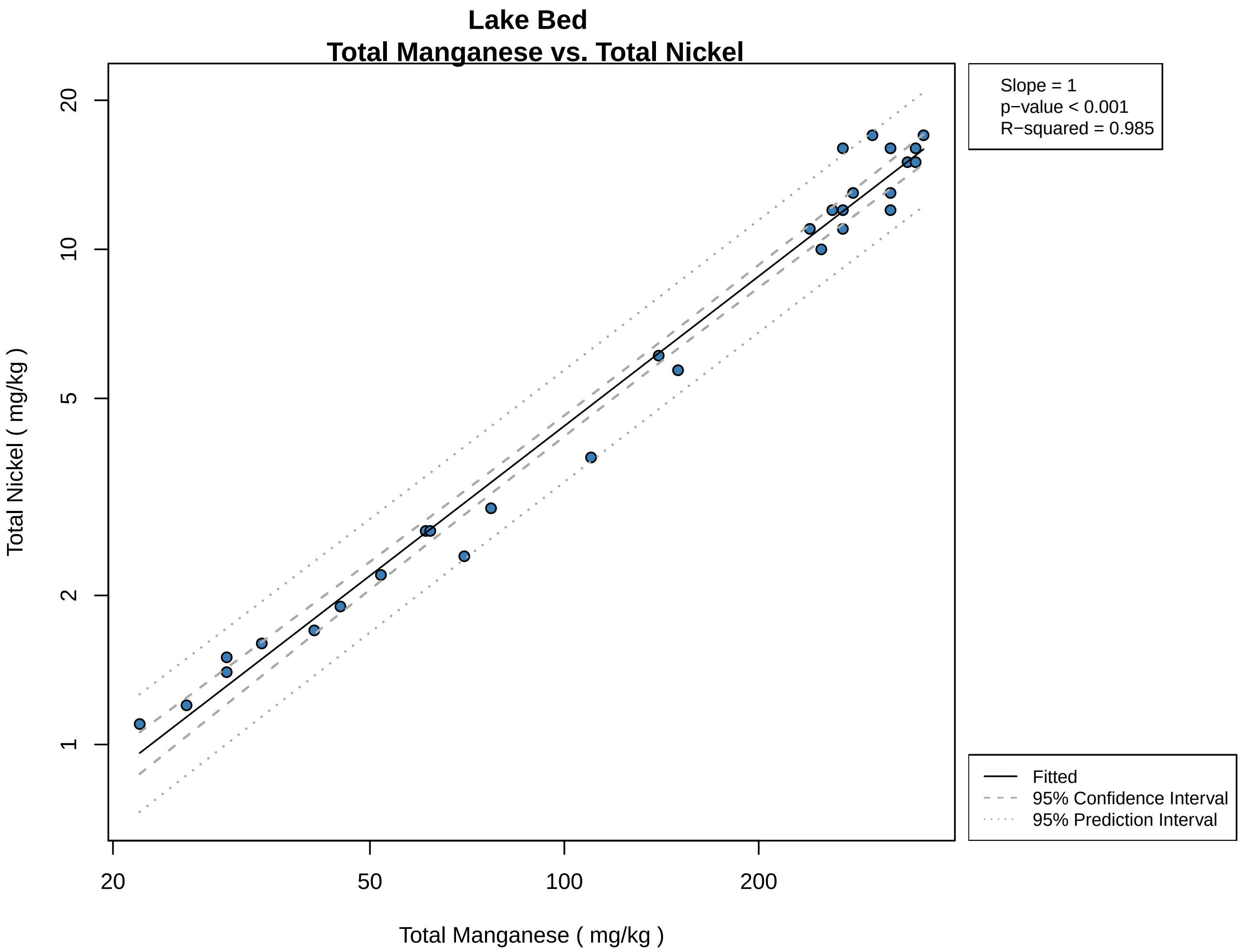


Figure 5.2.51
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

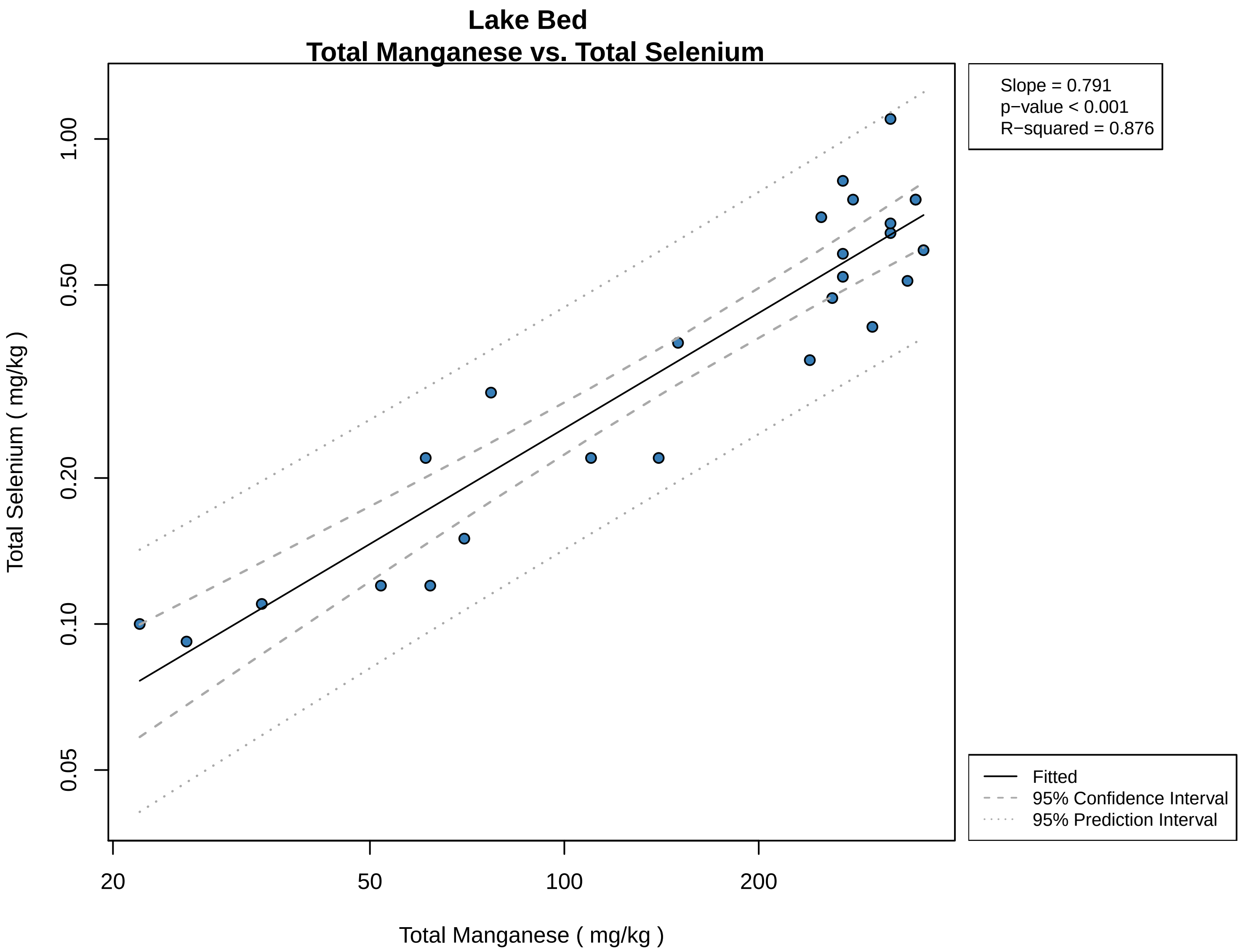


Figure 5.2.52
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

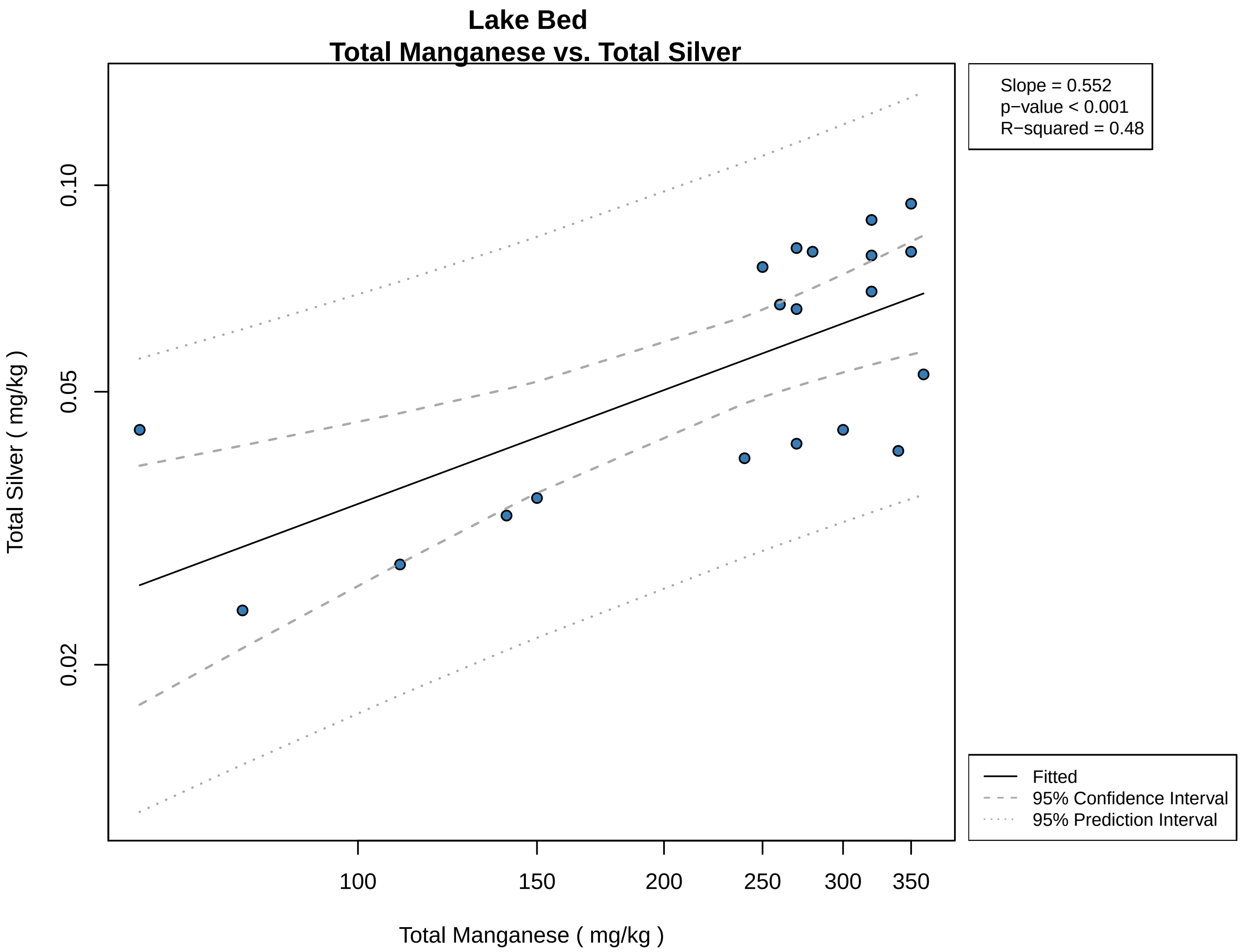


Figure 5.2.53
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

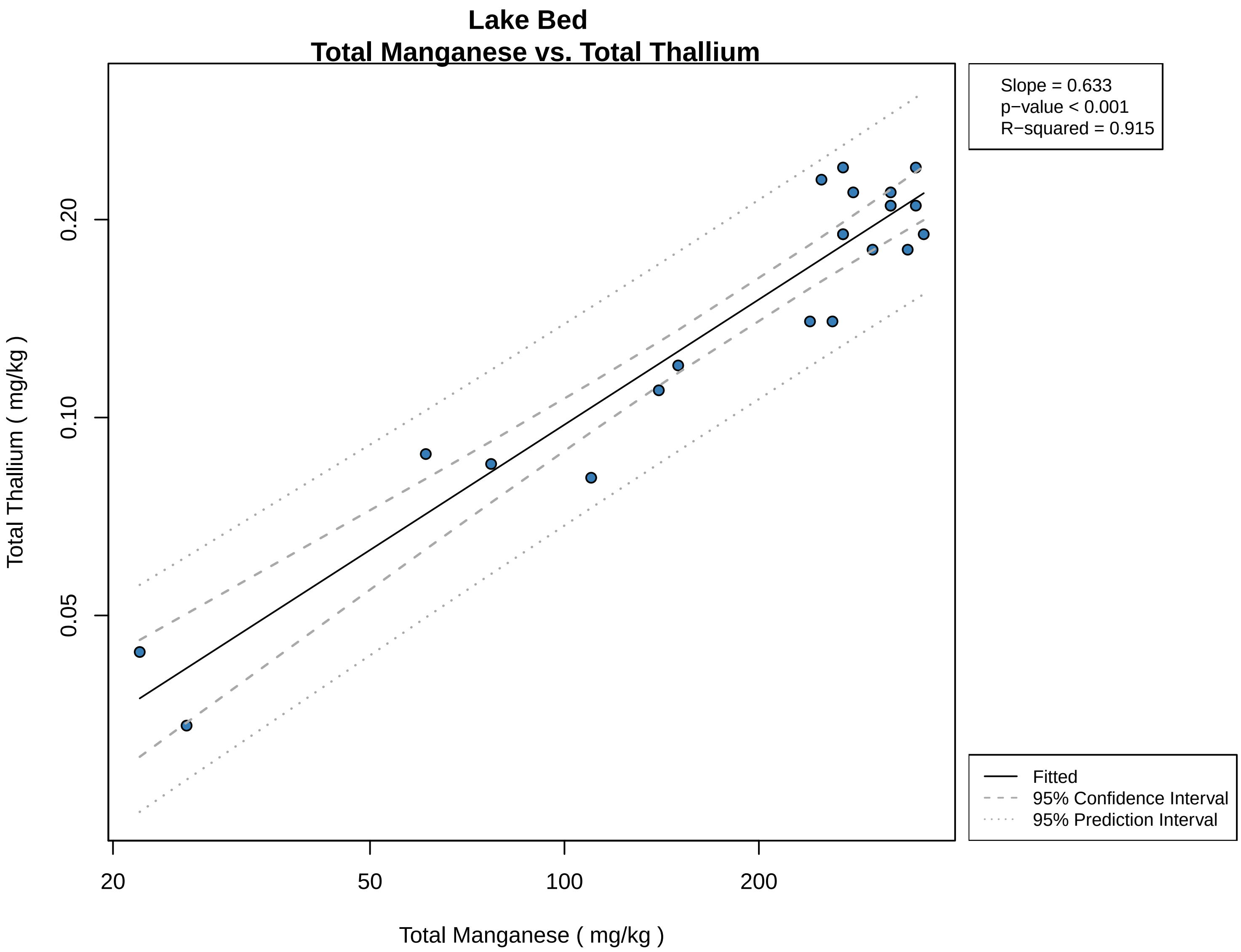


Figure 5.2.54
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

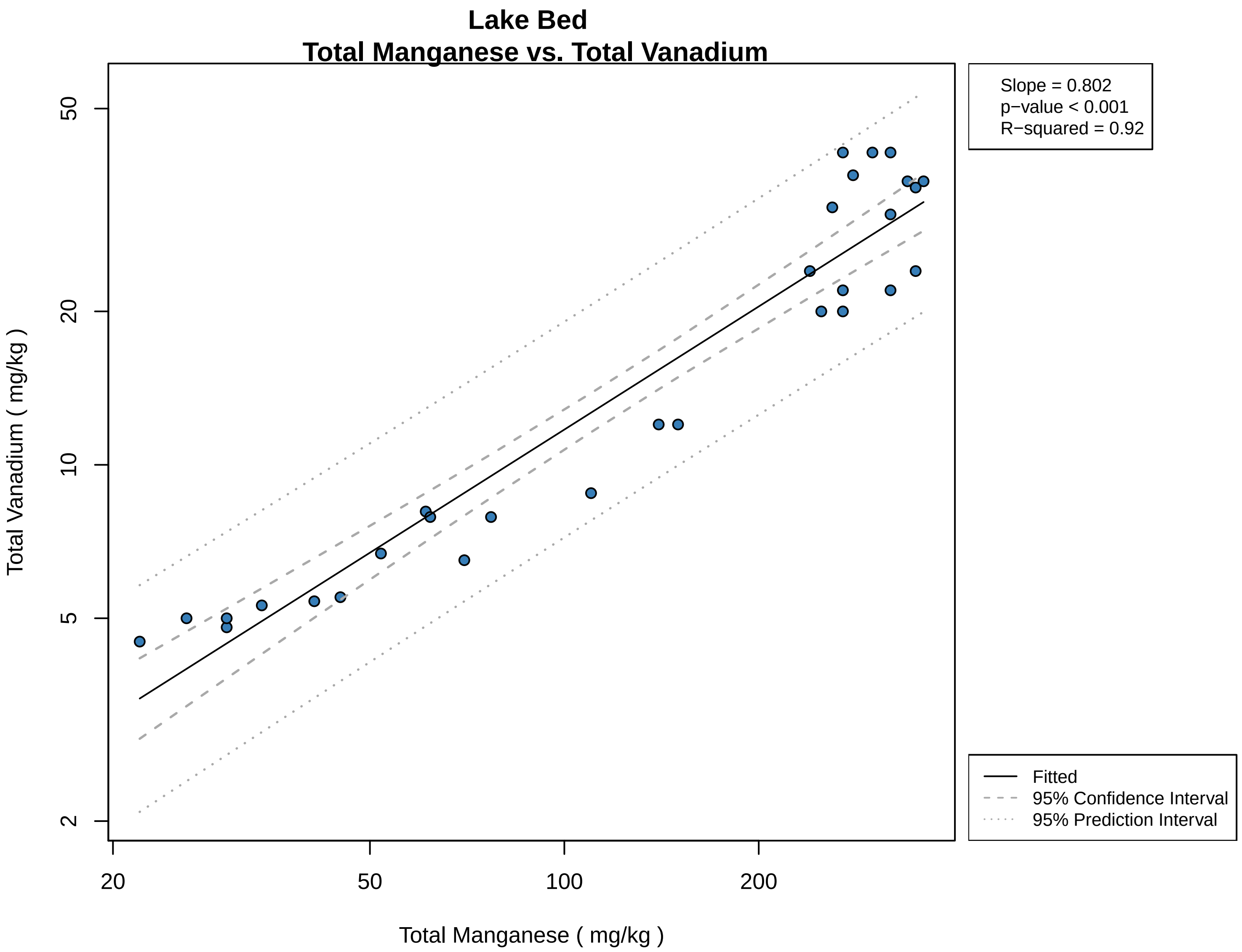


Figure 5.2.55
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

Figure 5.2.56
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

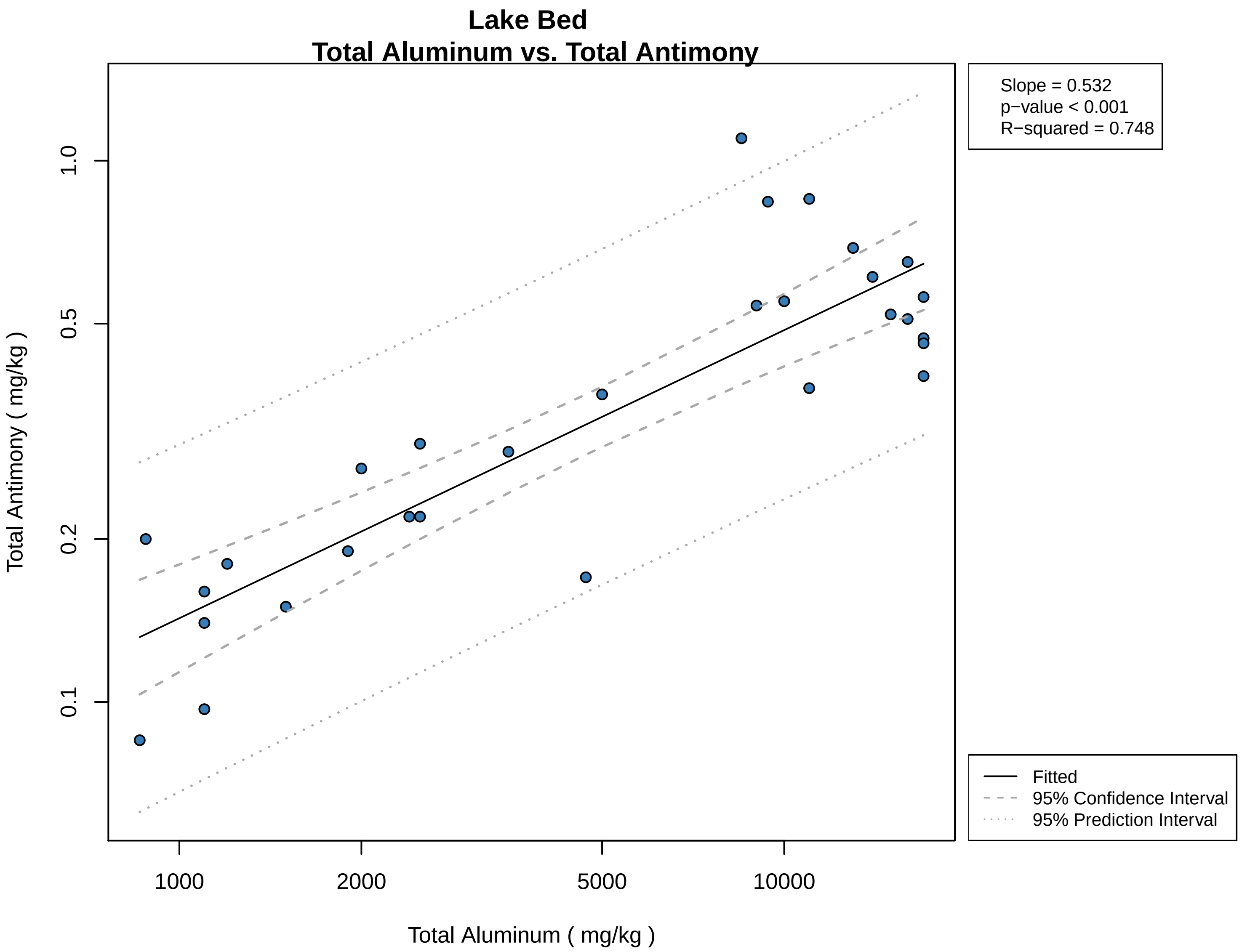


Figure 5.2.57
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

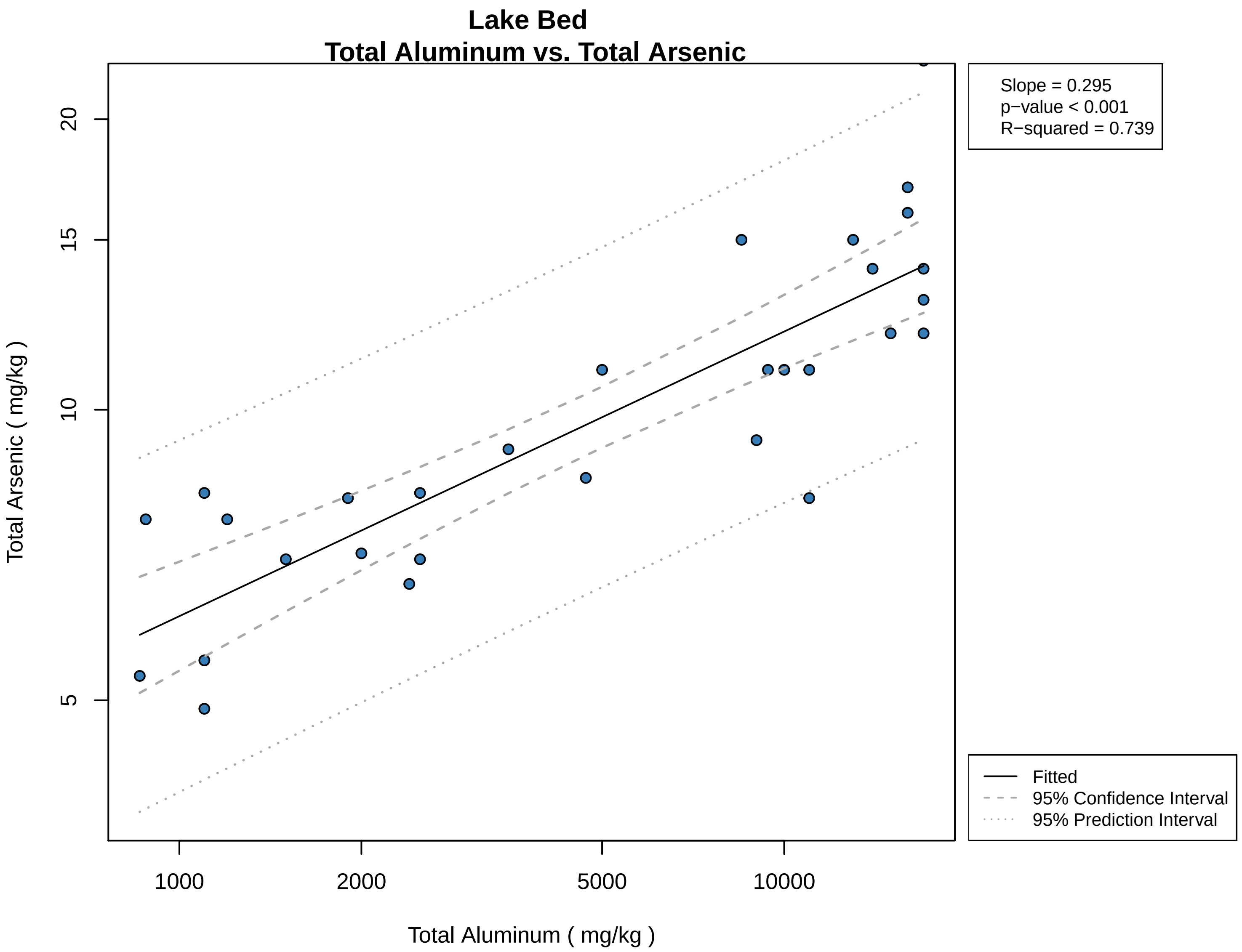


Figure 5.2.58
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

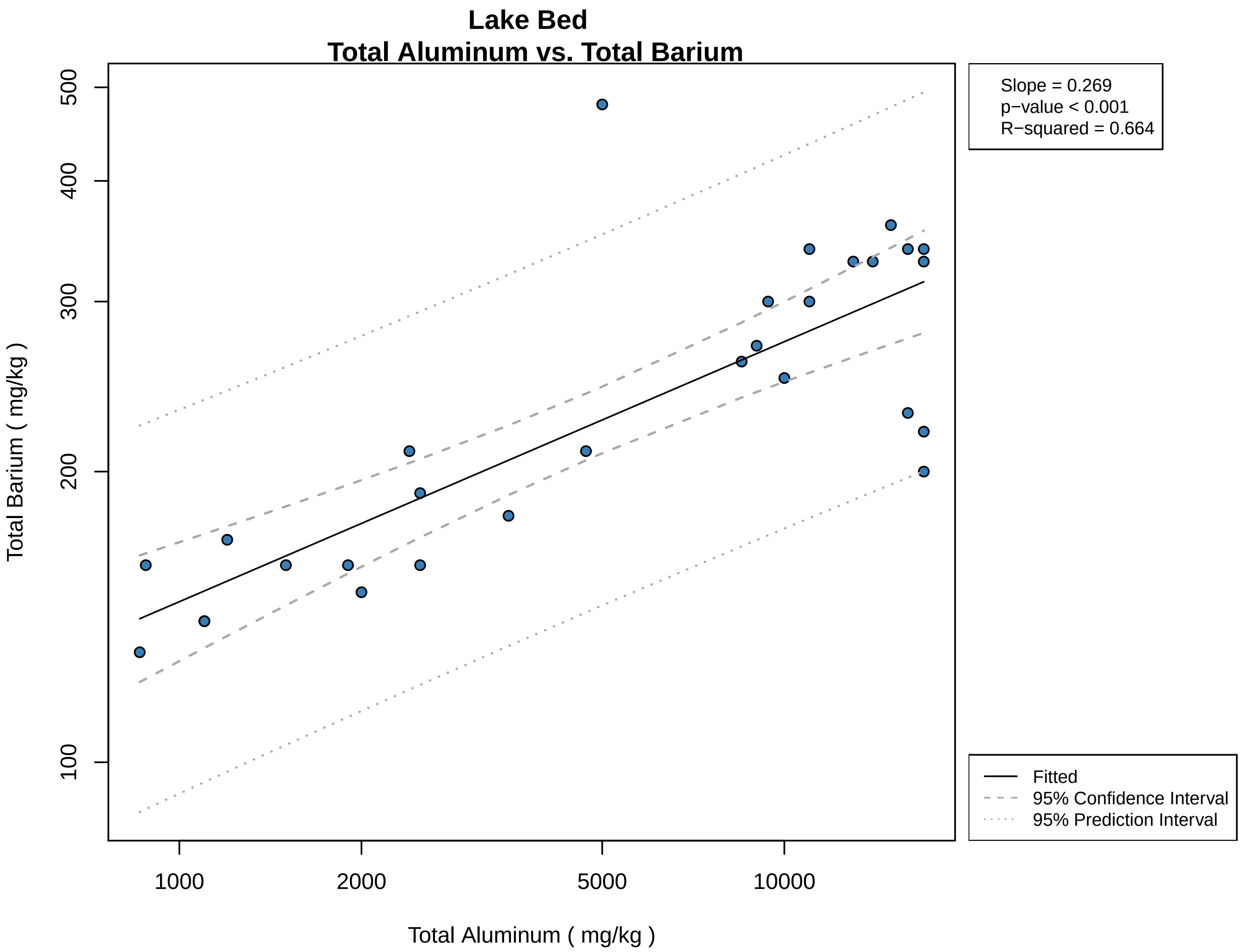


Figure 5.2.59
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

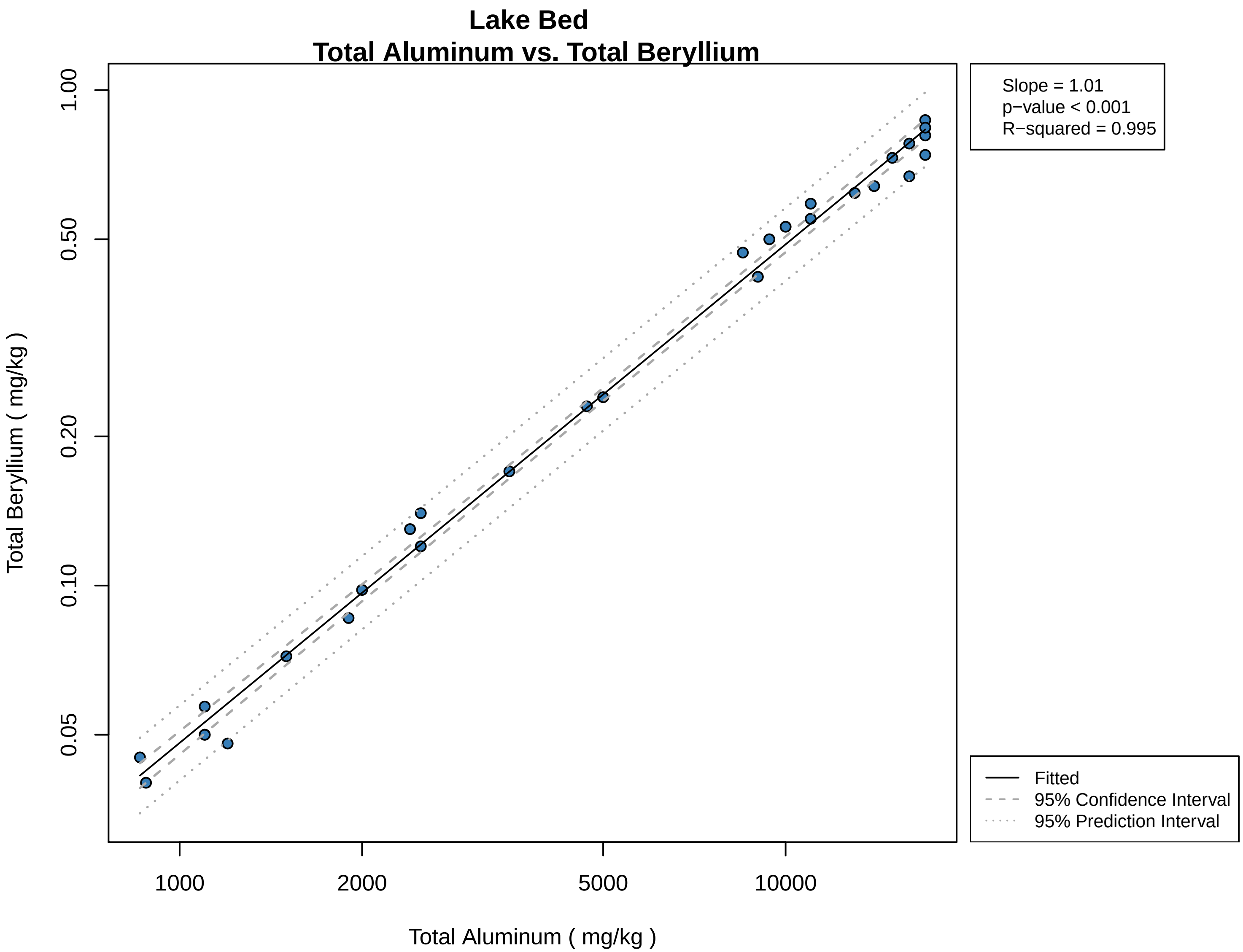


Figure 5.2.60
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

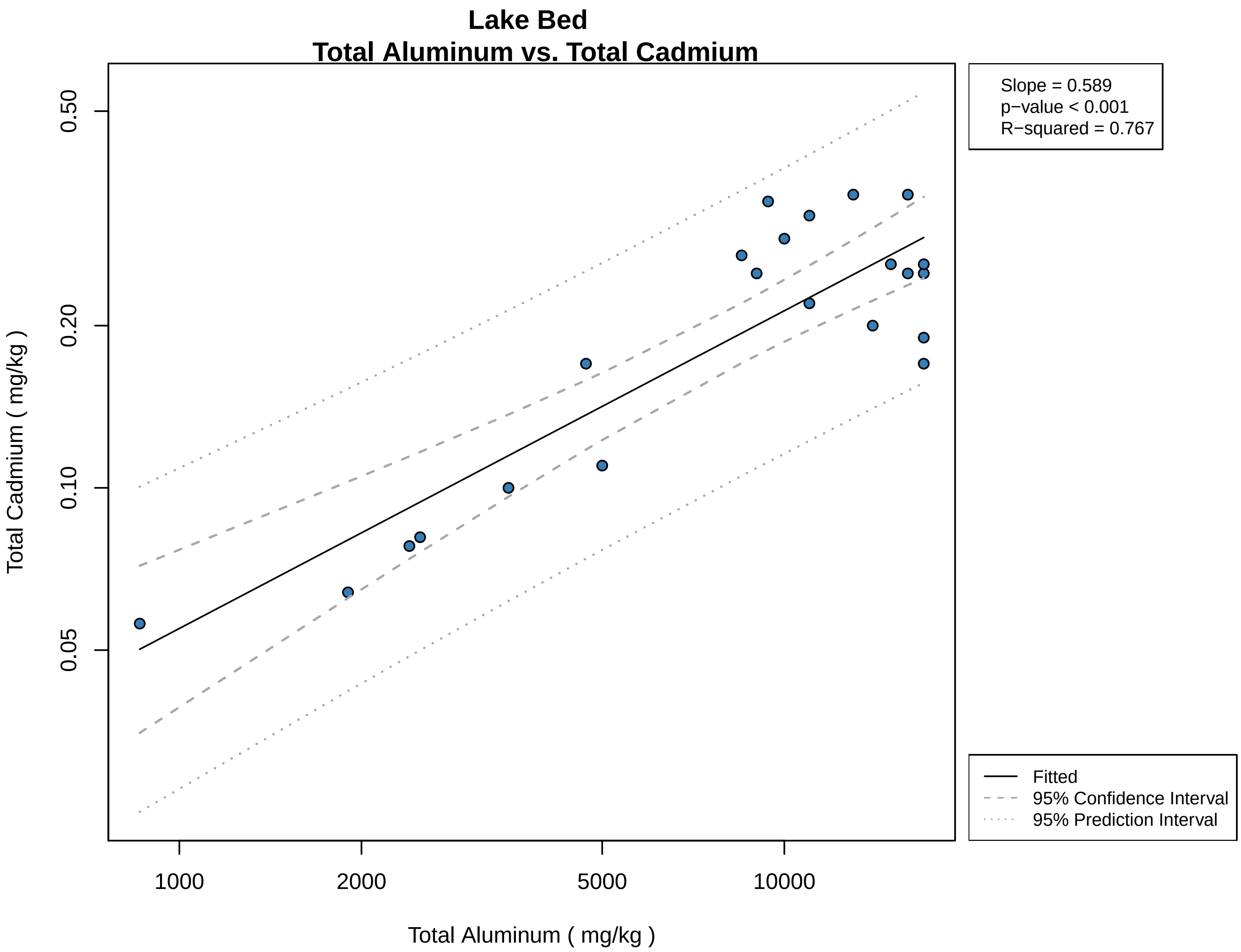


Figure 5.2.61
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

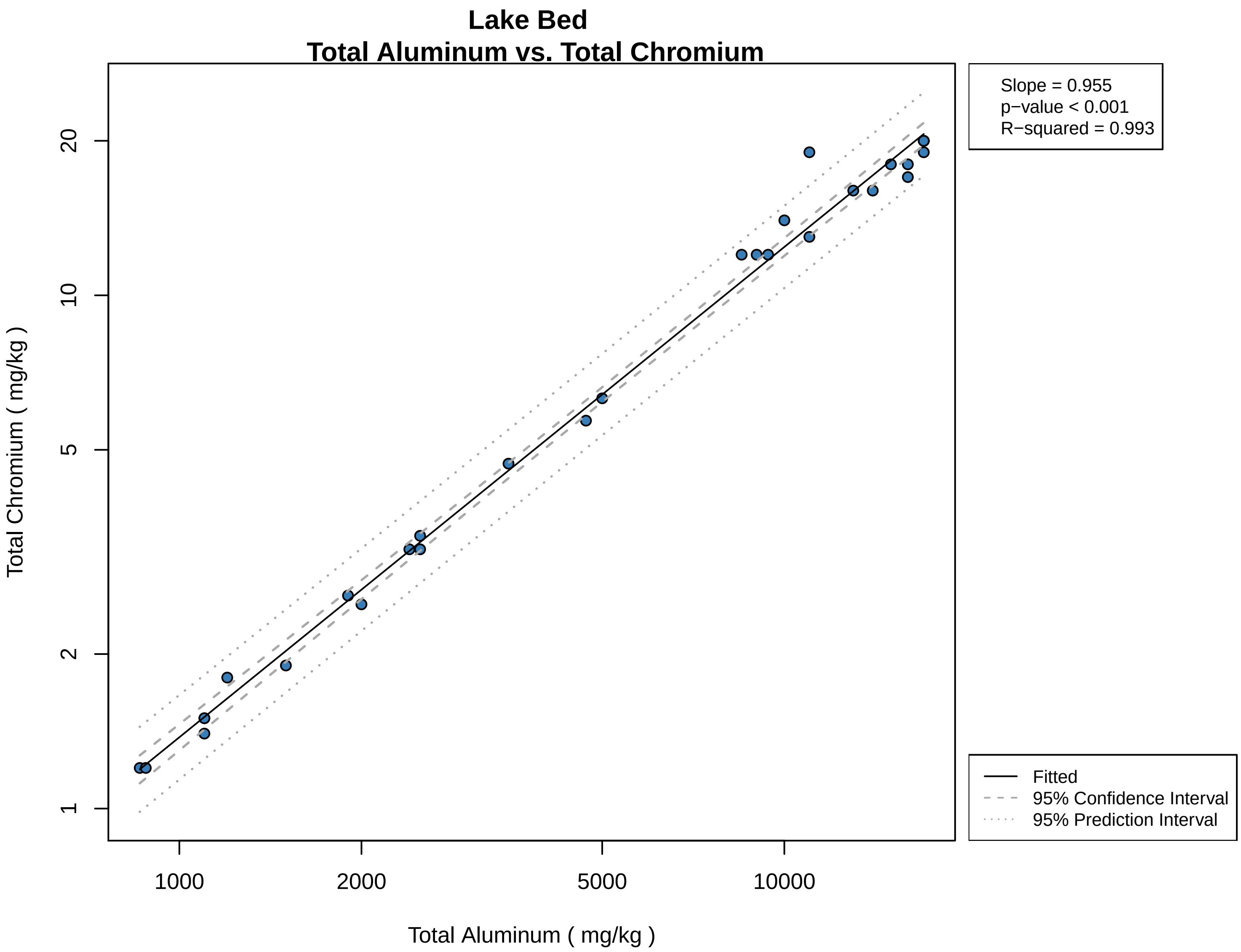


Figure 5.2.62
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

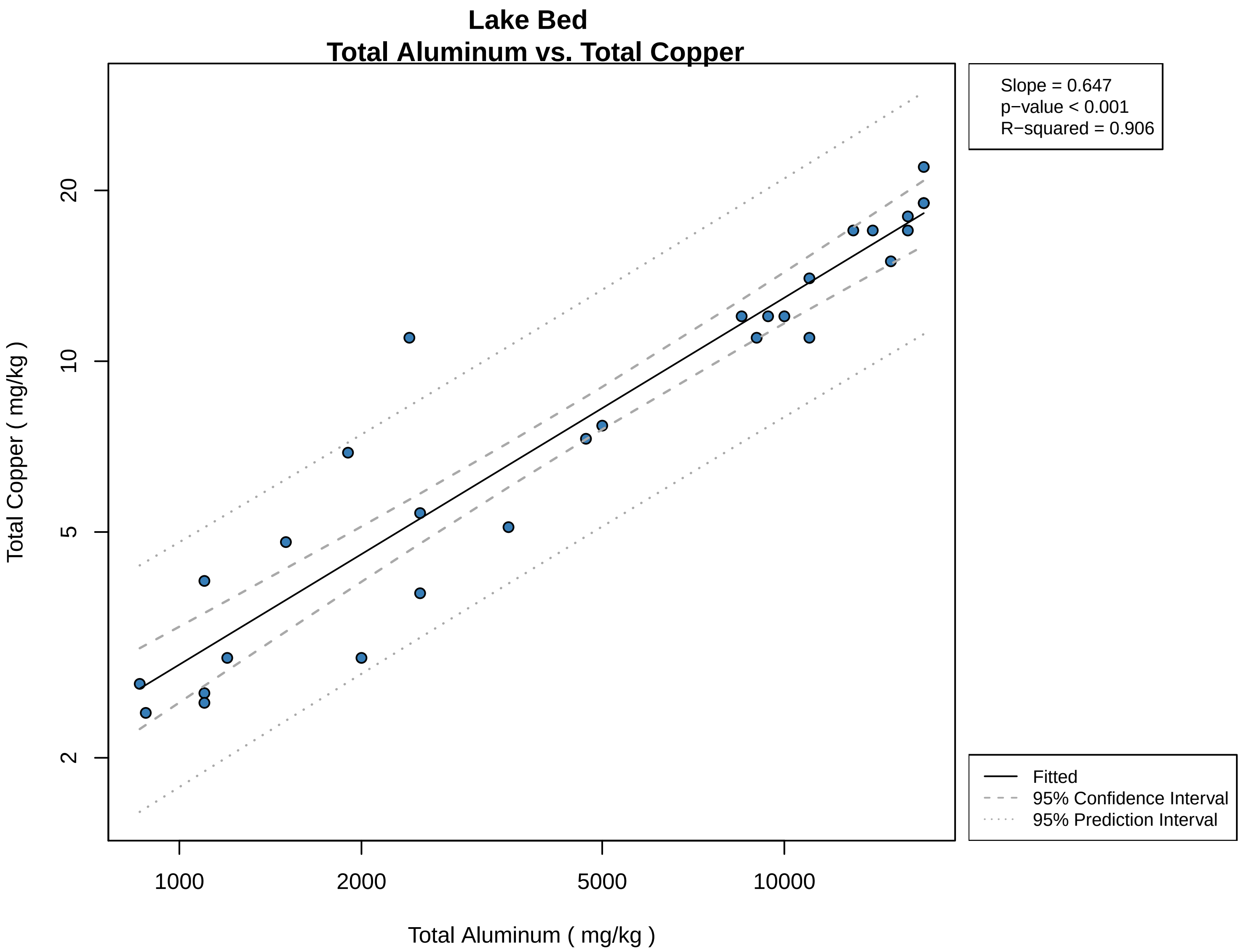


Figure 5.2.63
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

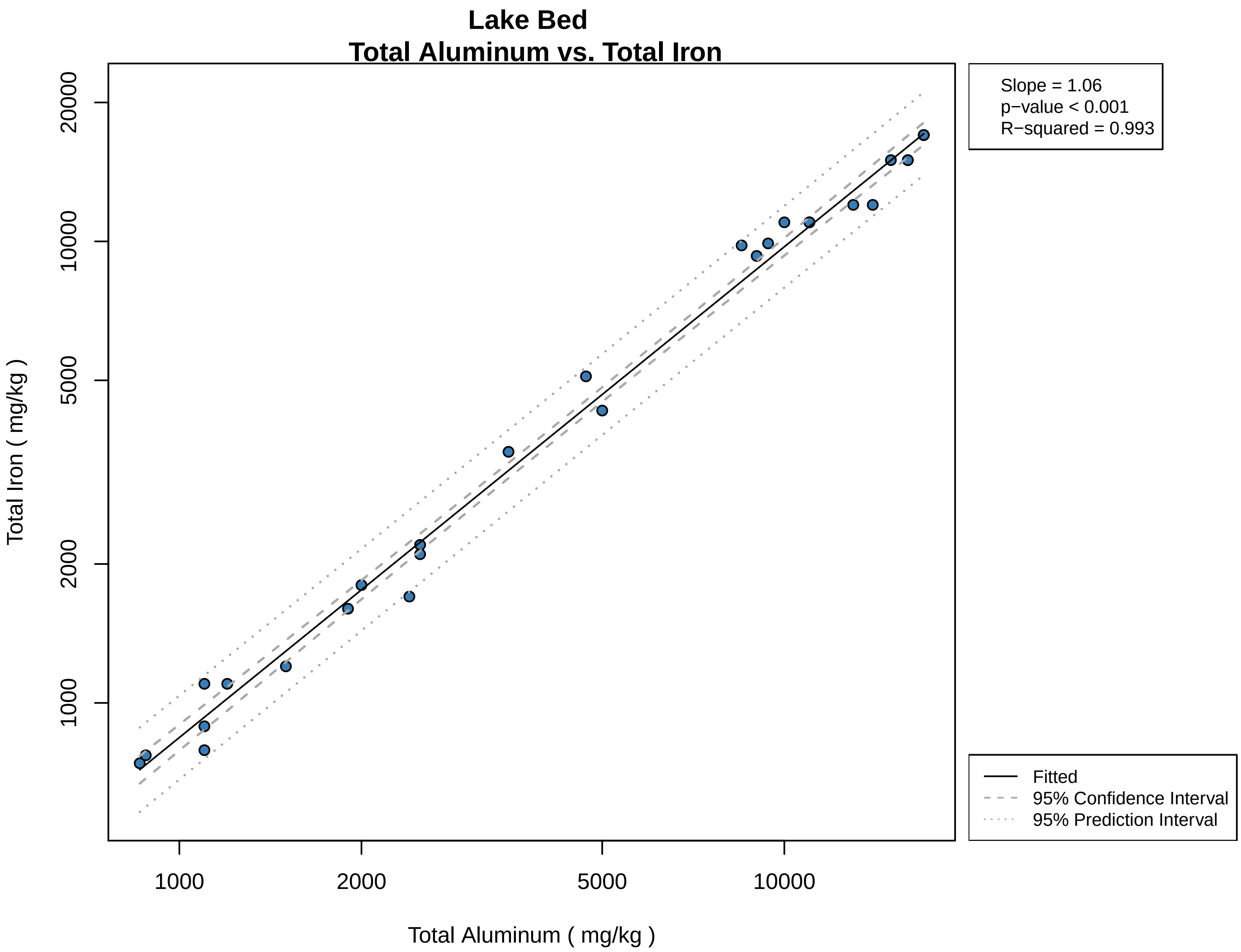


Figure 5.2.64
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

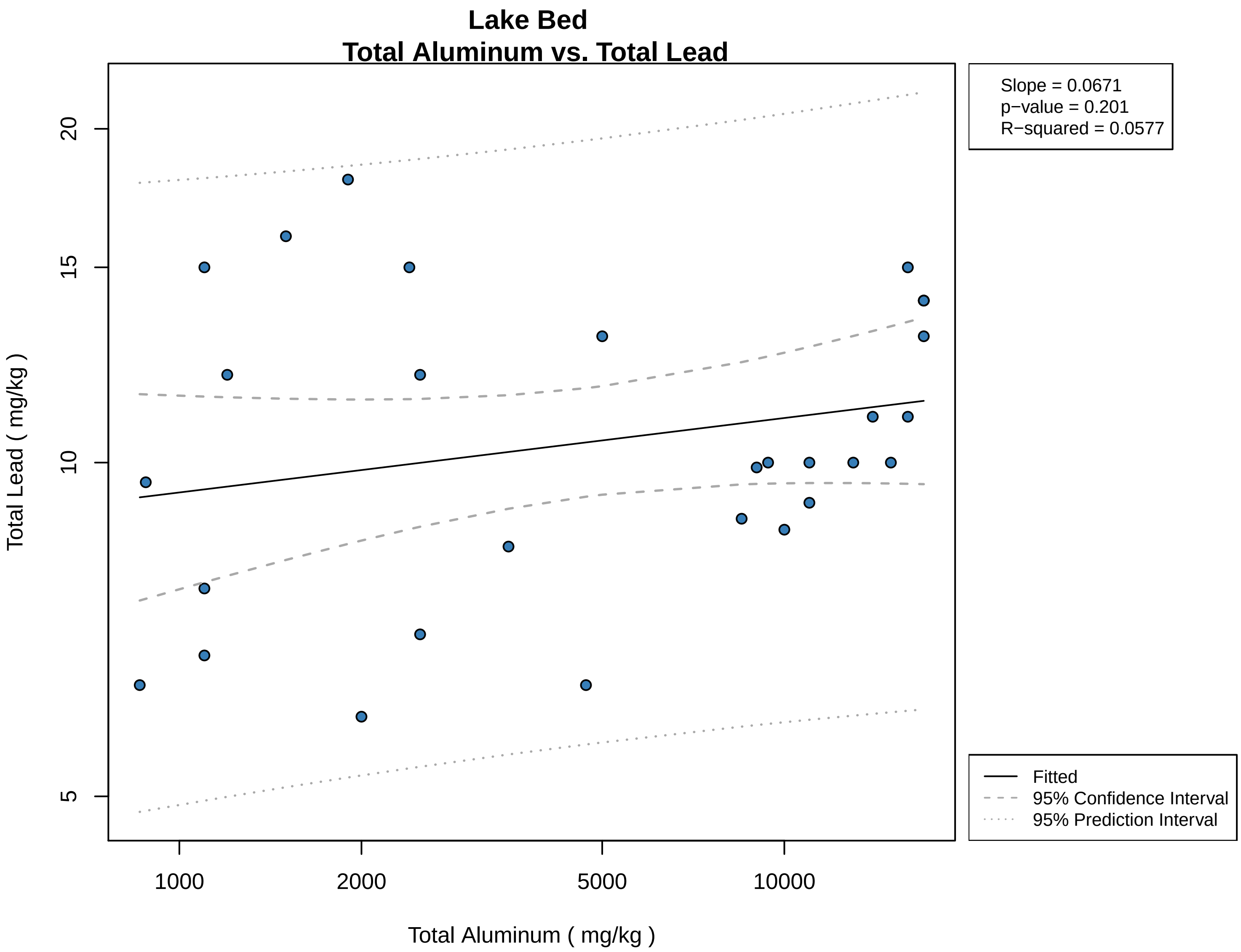


Figure 5.2.65
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

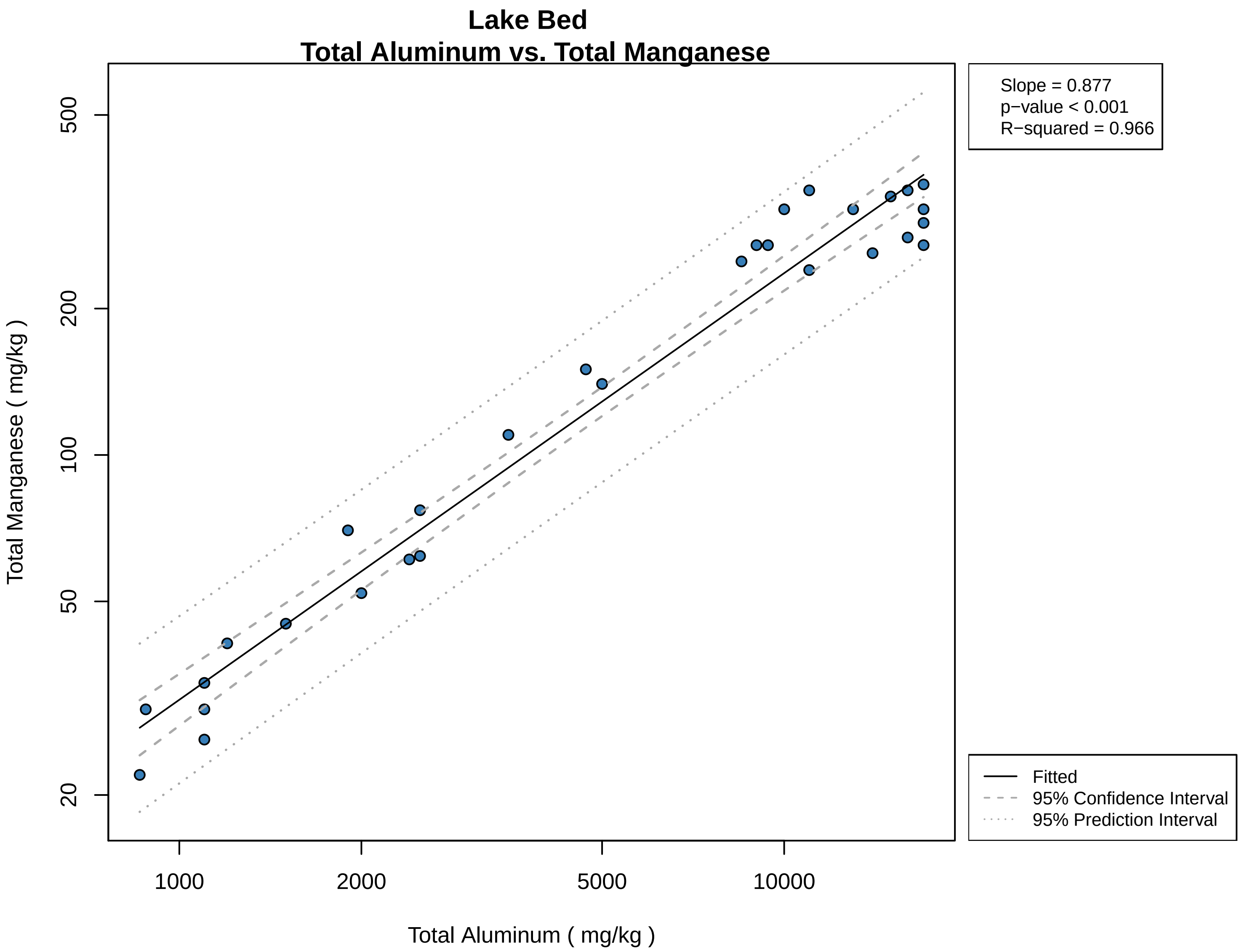


Figure 5.2.66
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

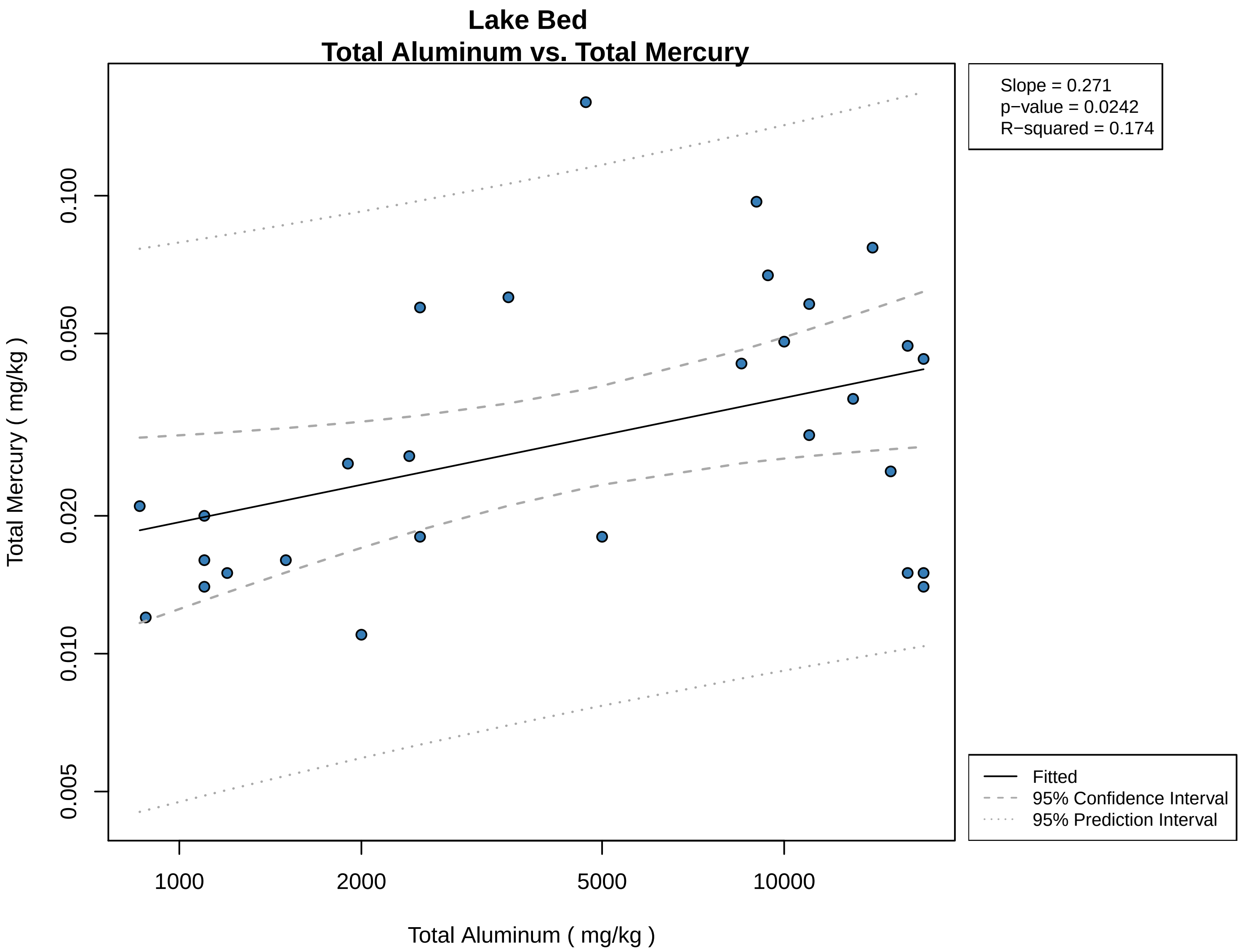


Figure 5.2.67
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

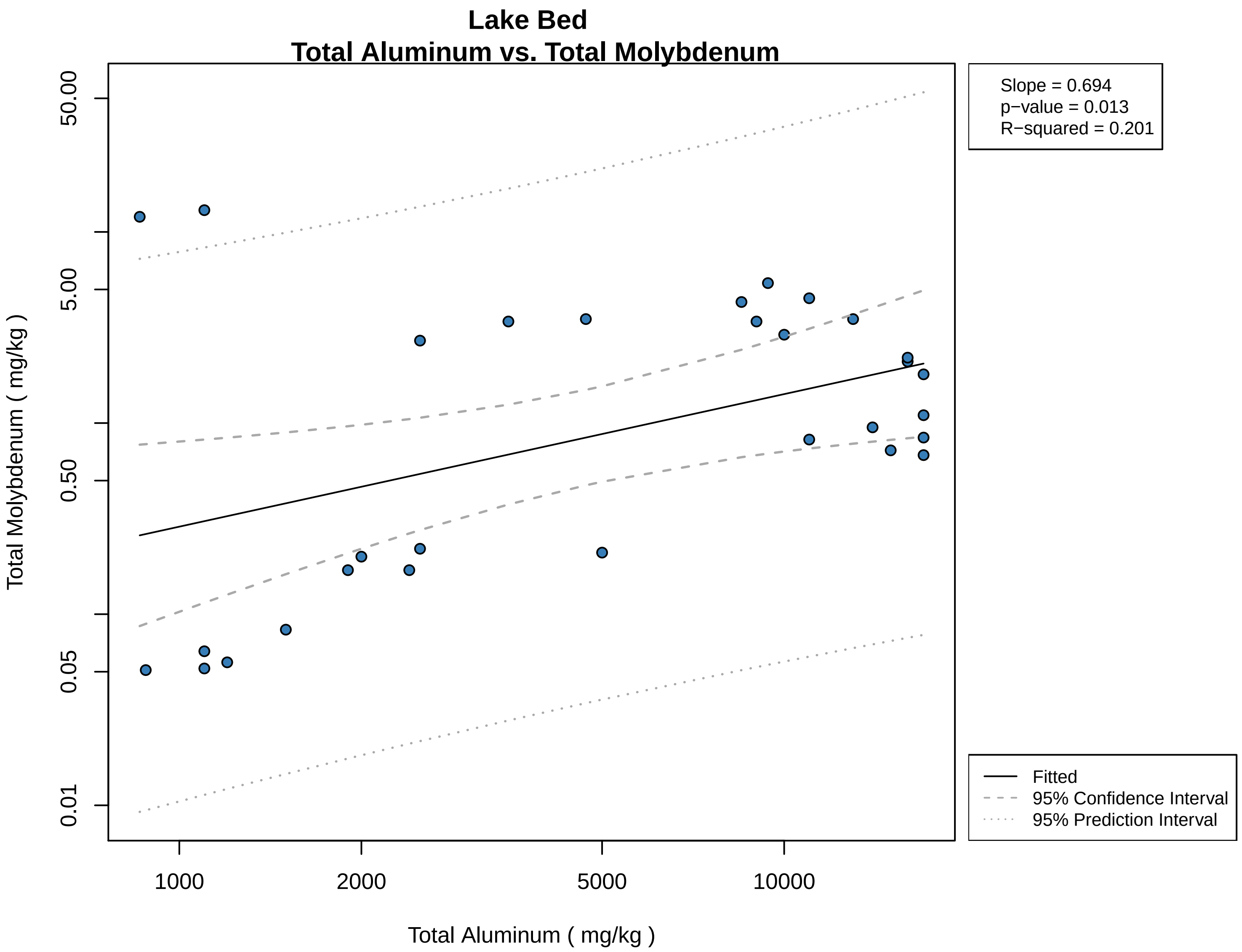


Figure 5.2.68
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

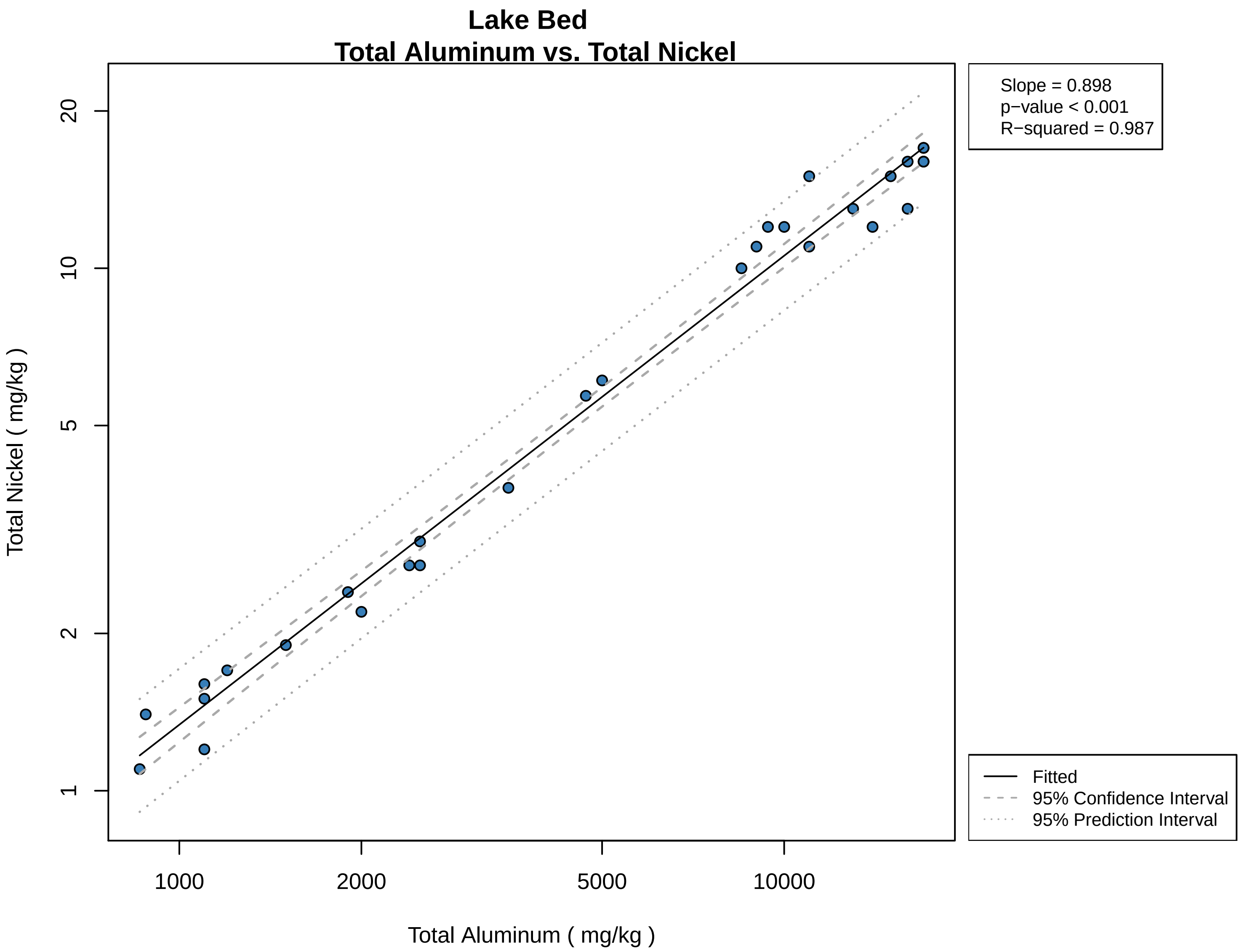


Figure 5.2.69
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

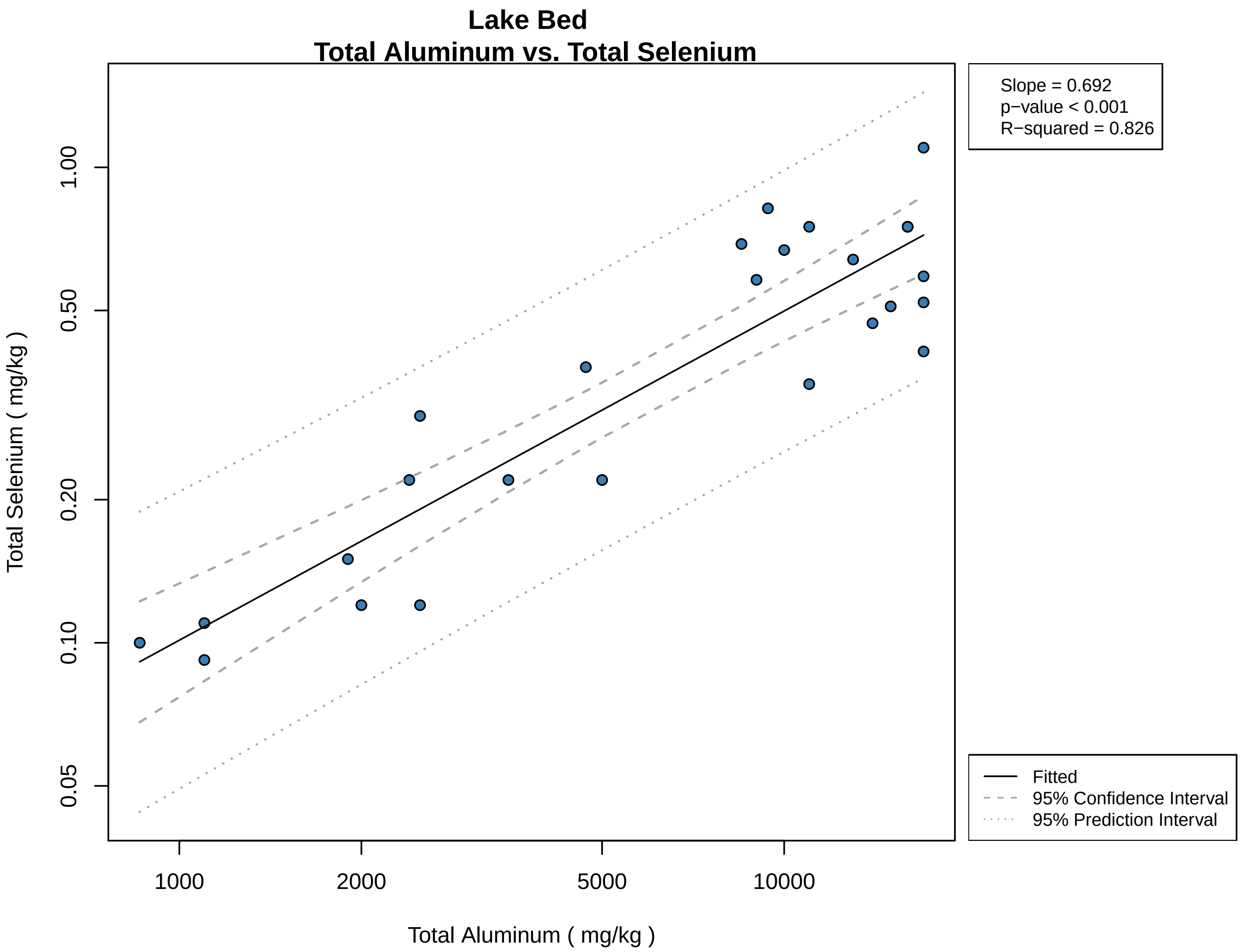


Figure 5.2.70
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

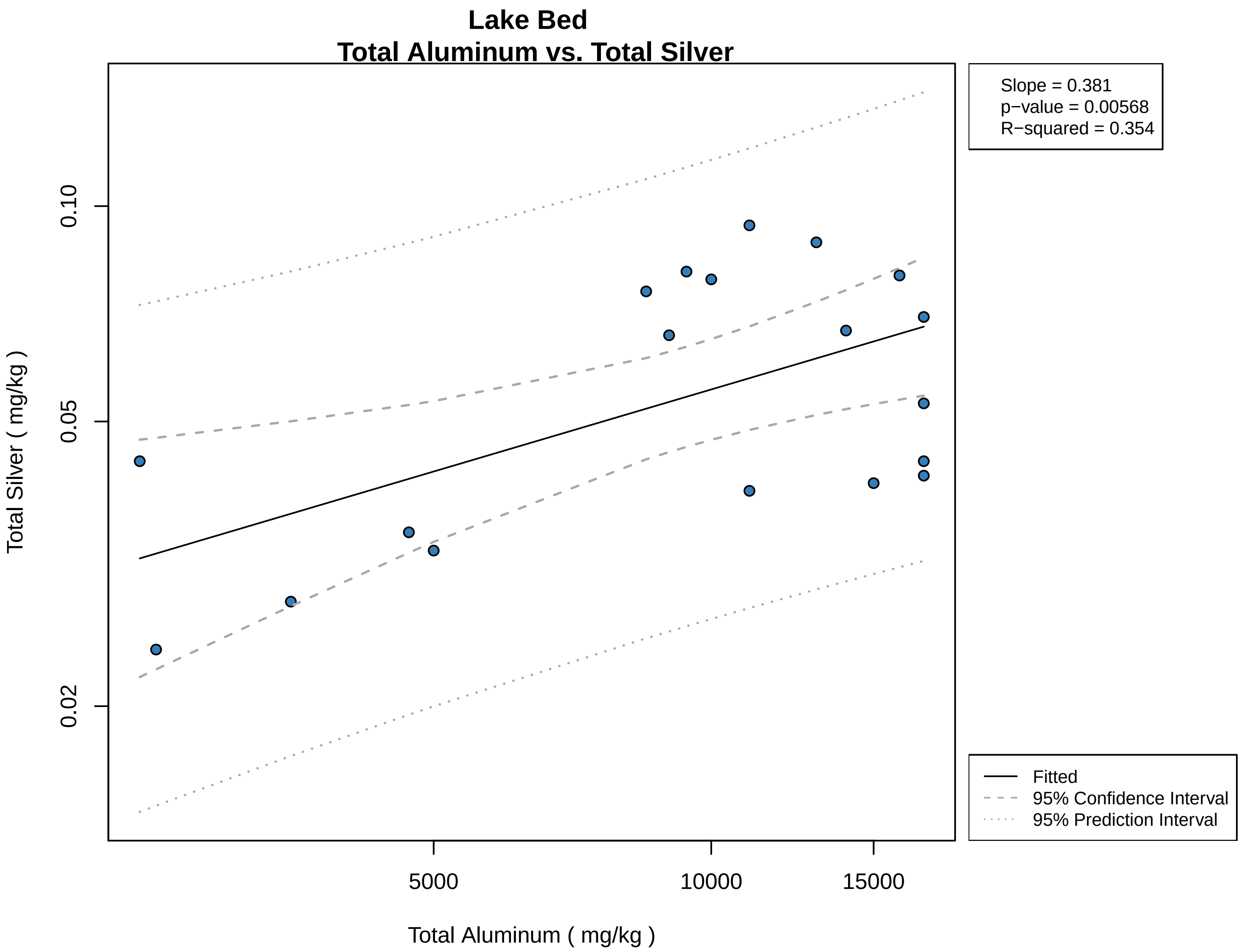


Figure 5.2.71
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

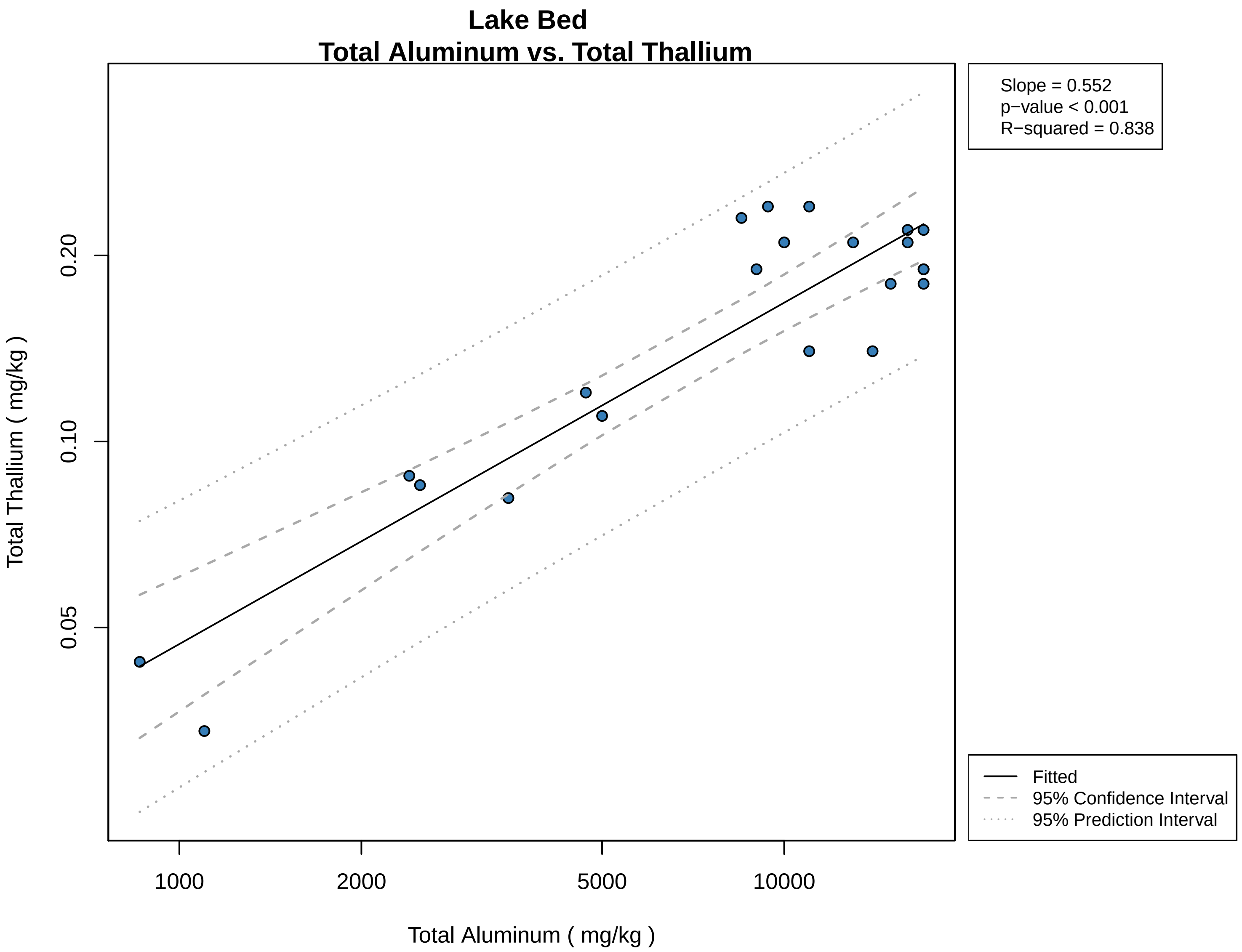


Figure 5.2.72
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

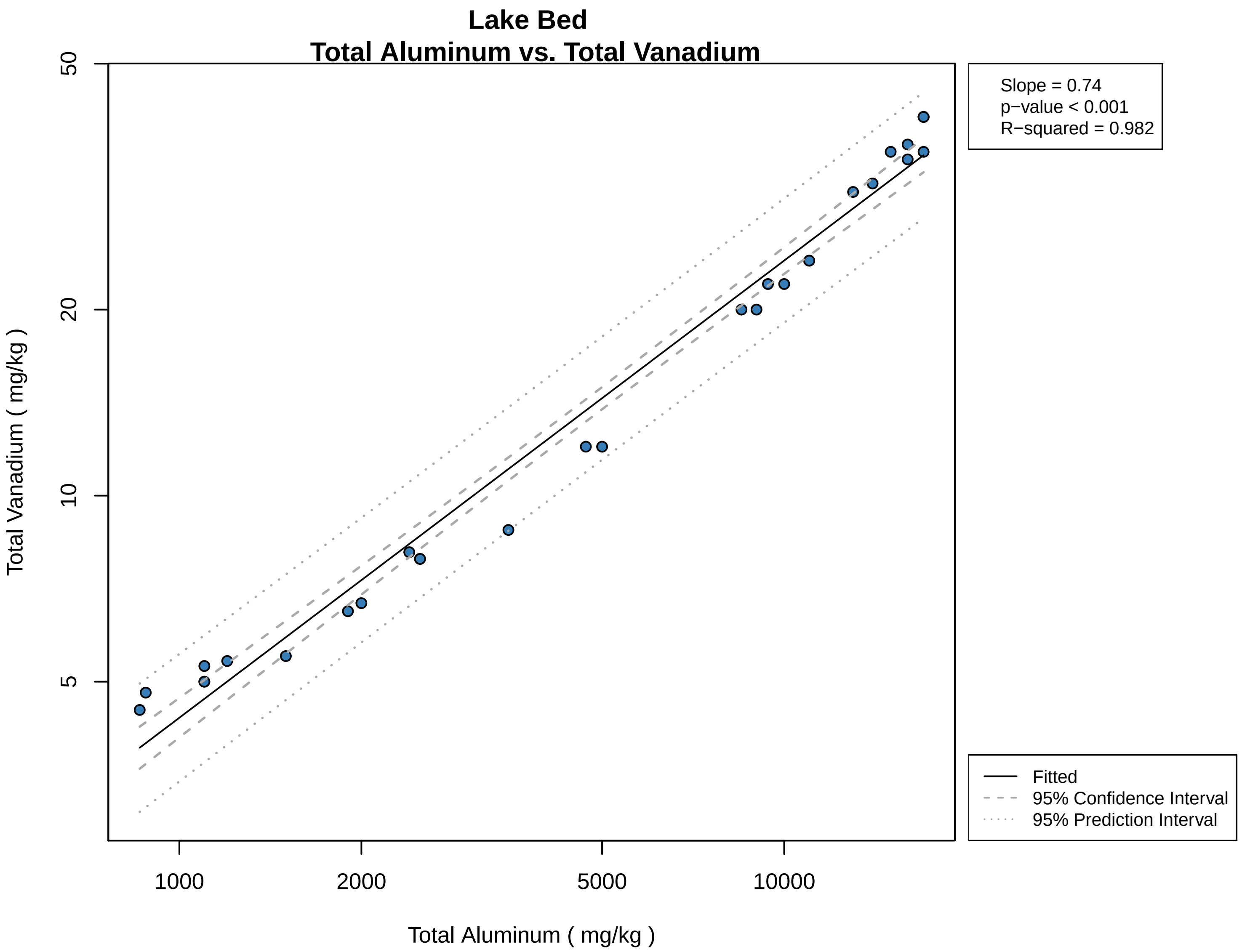


Figure 5.2.73
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

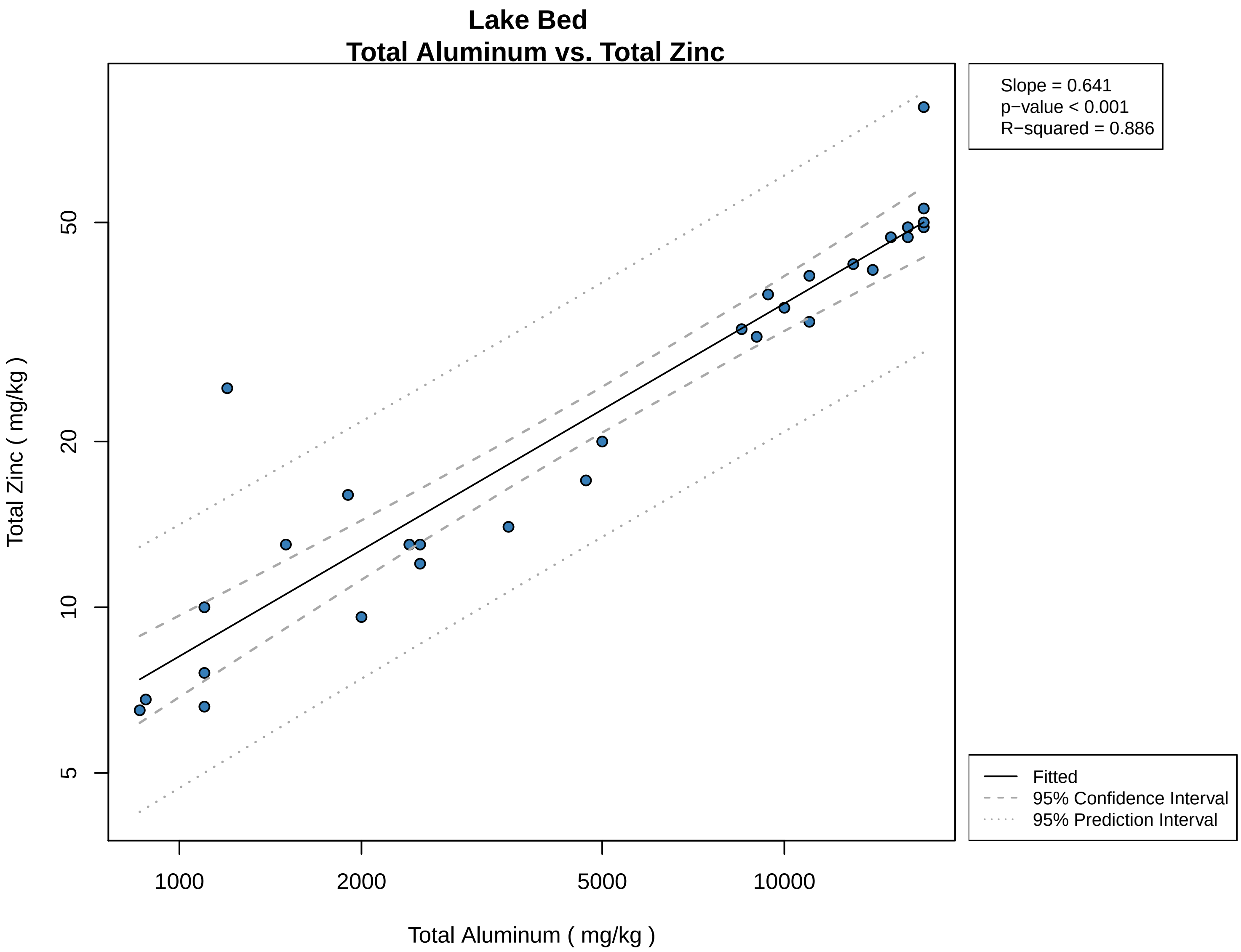
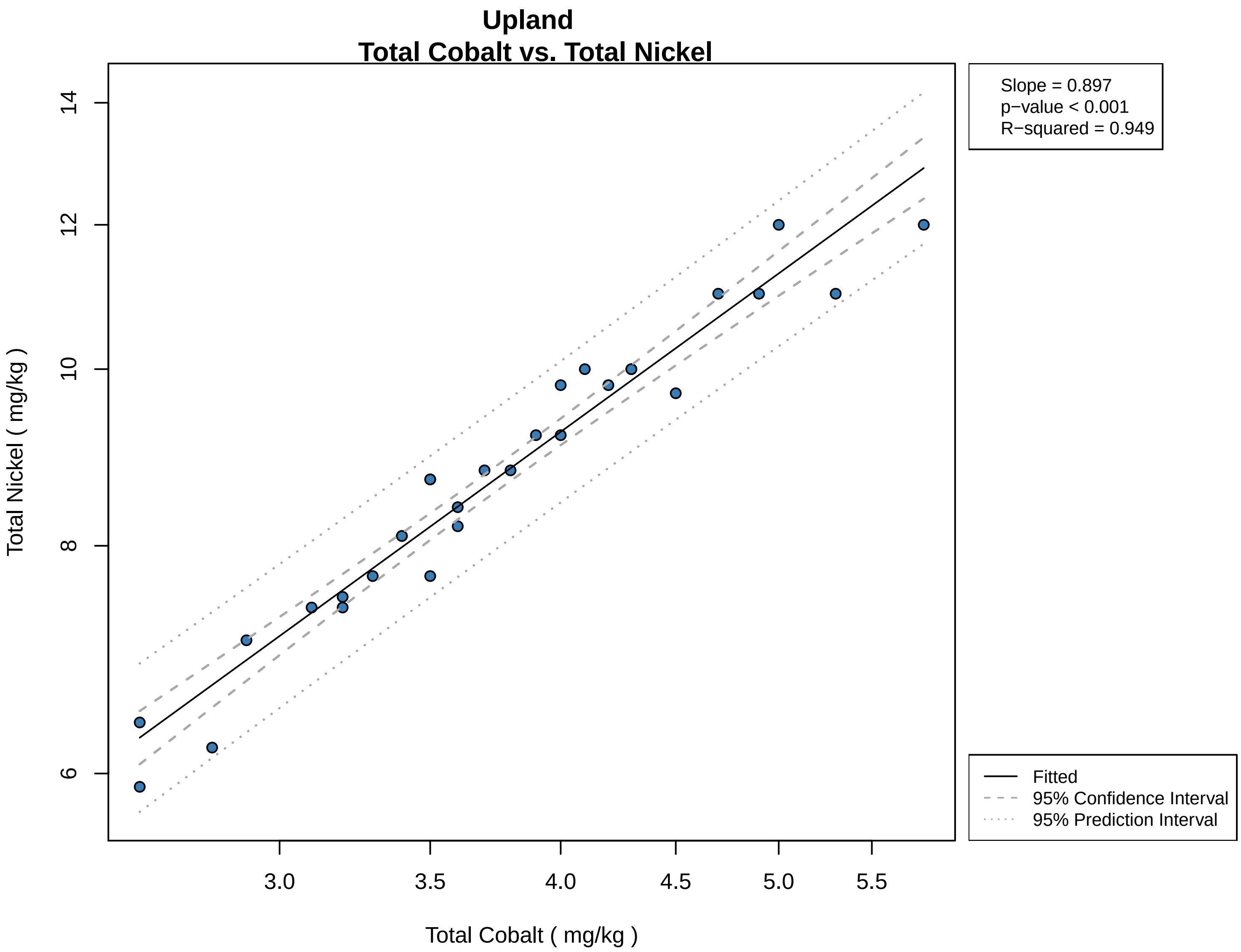


Figure 5.2.74
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah



Upland
Total Cobalt vs. Total Nickel

Figure 5.2.1
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

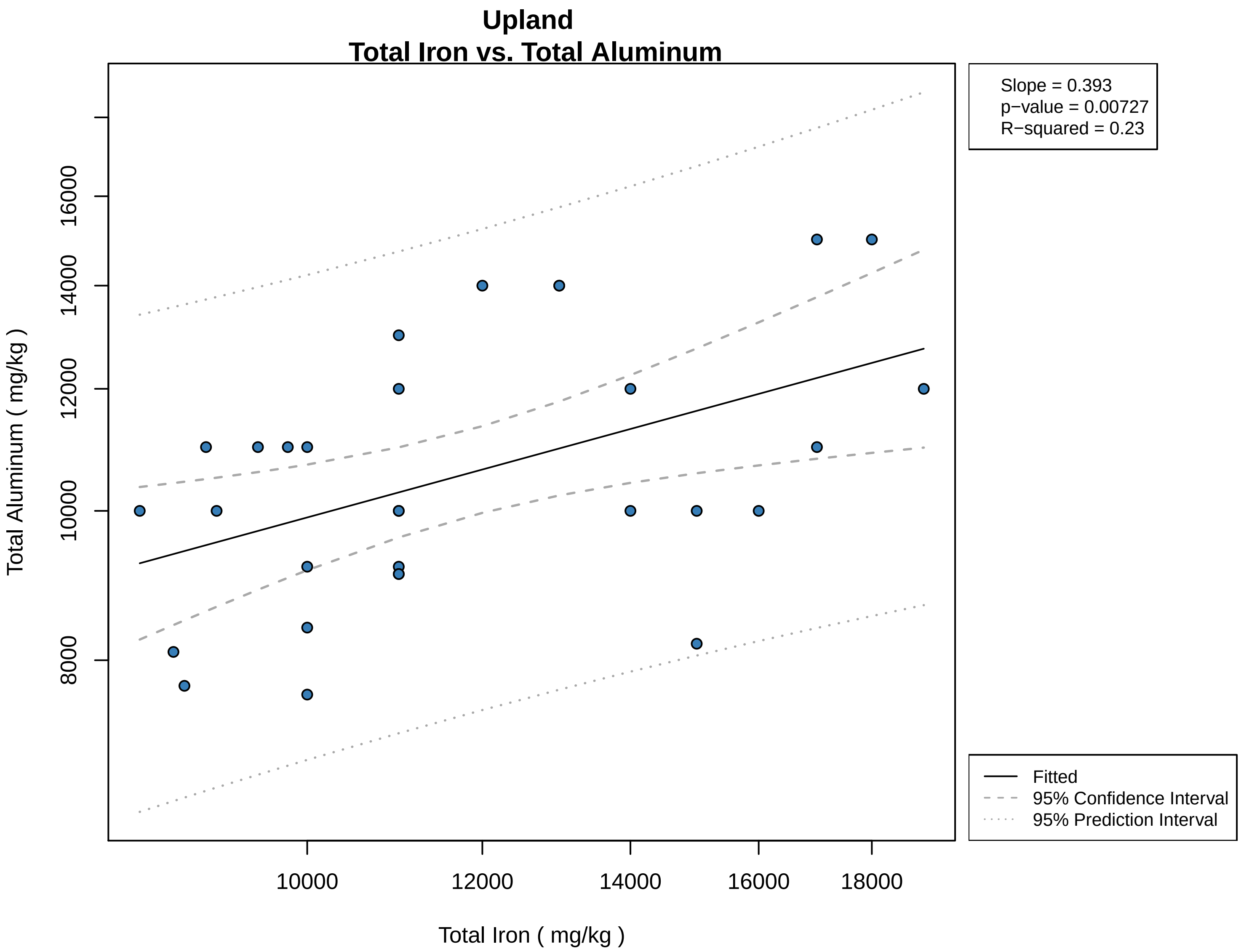


Figure 5.2.2
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

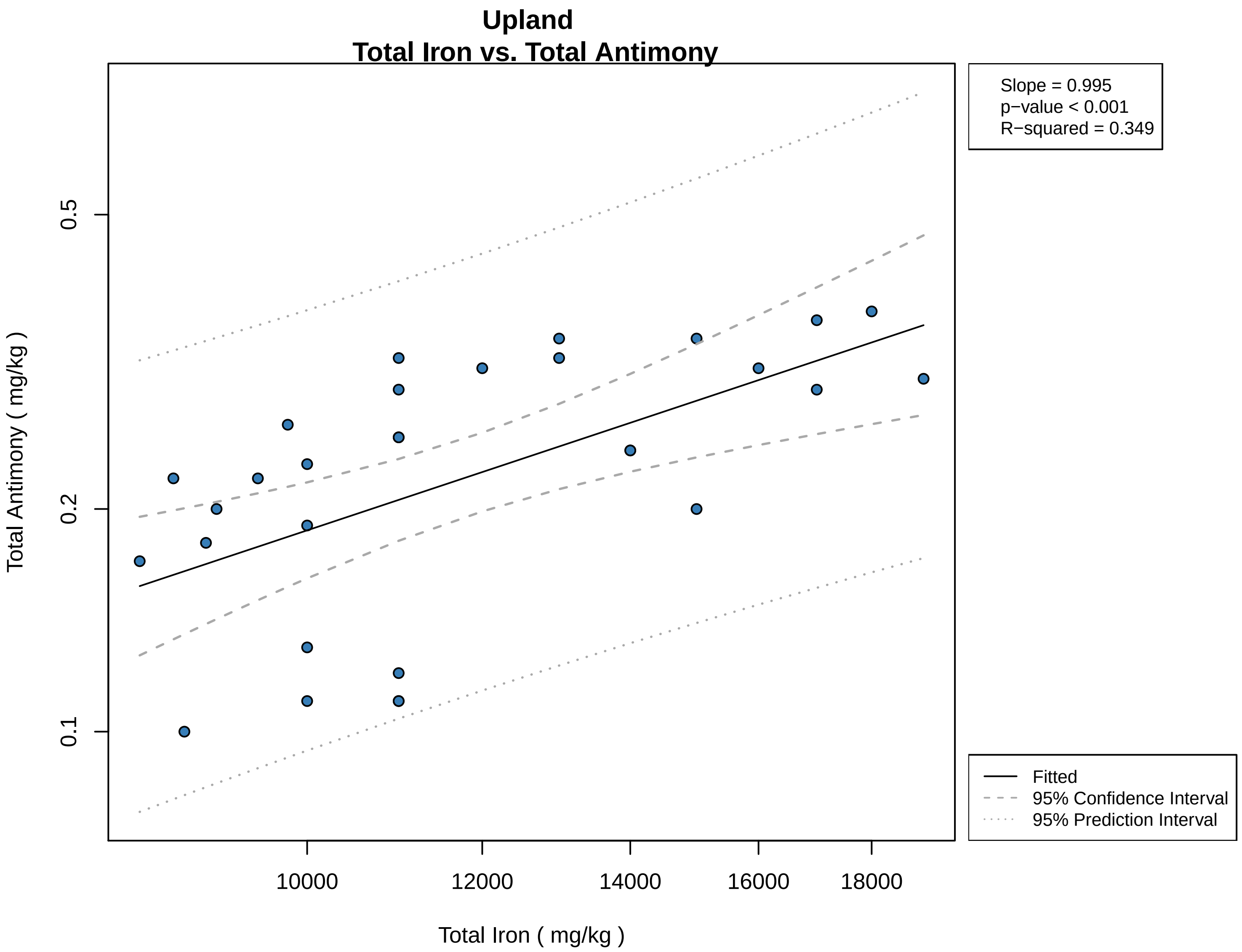


Figure 5.2.3
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

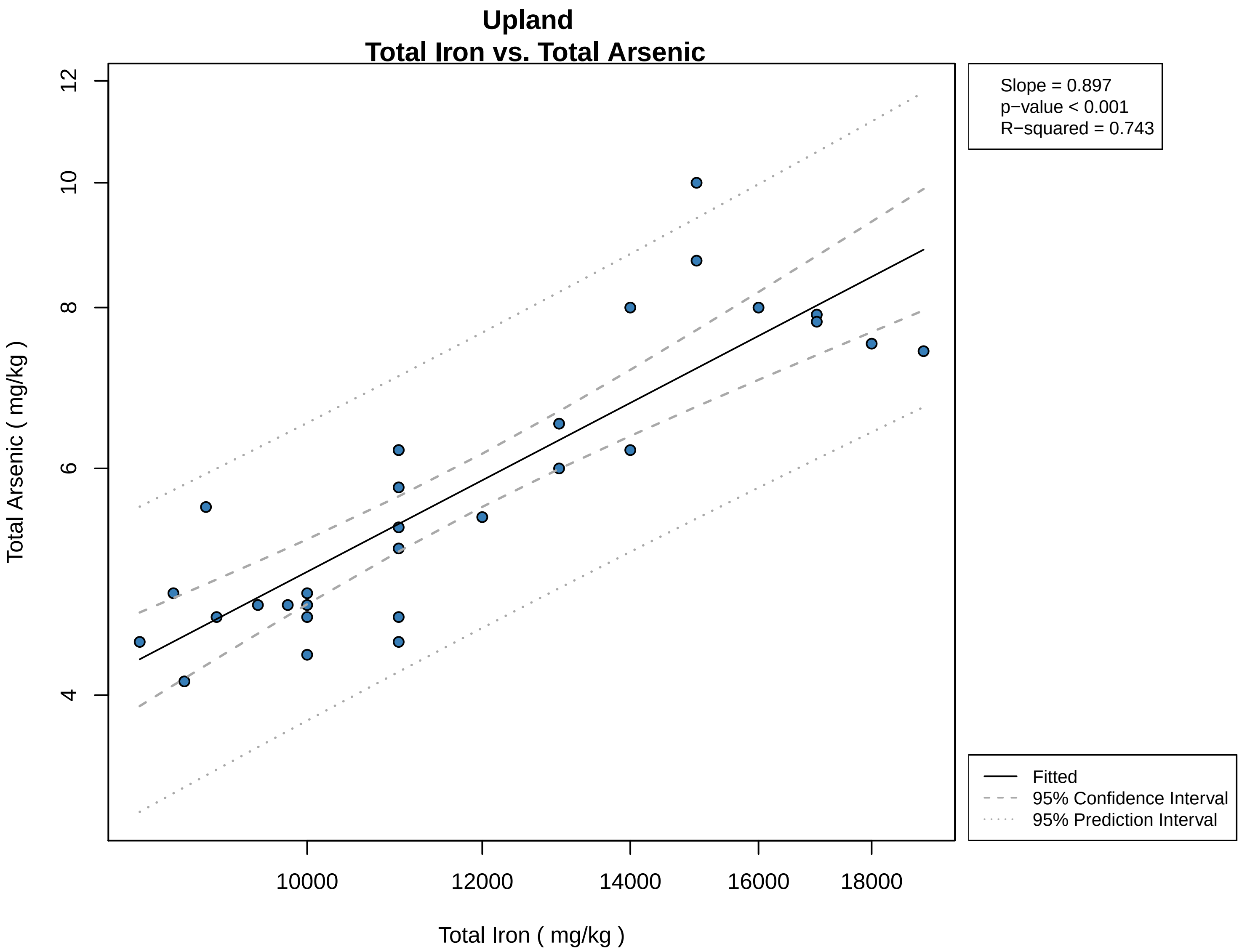


Figure 5.2.4
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

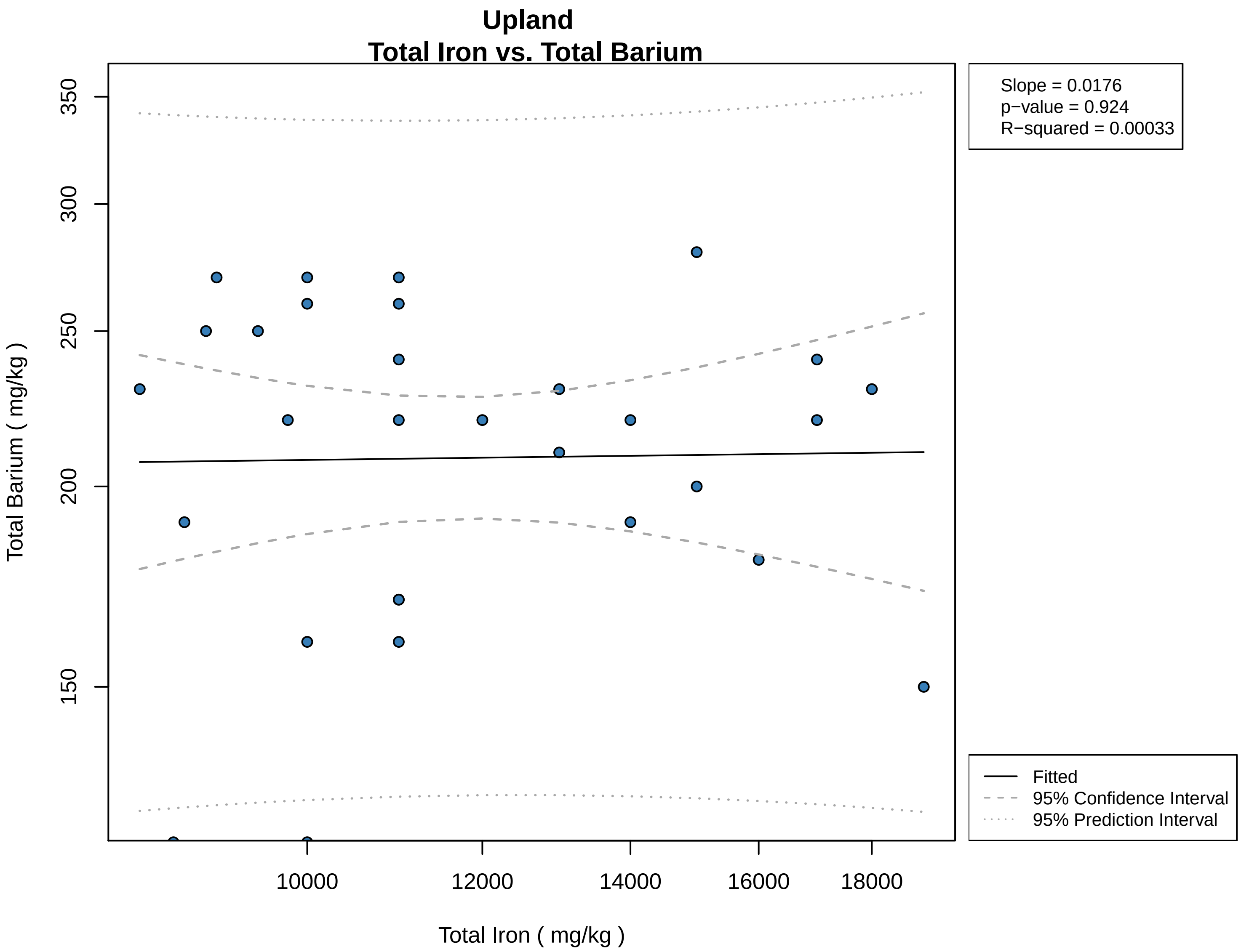


Figure 5.2.5
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

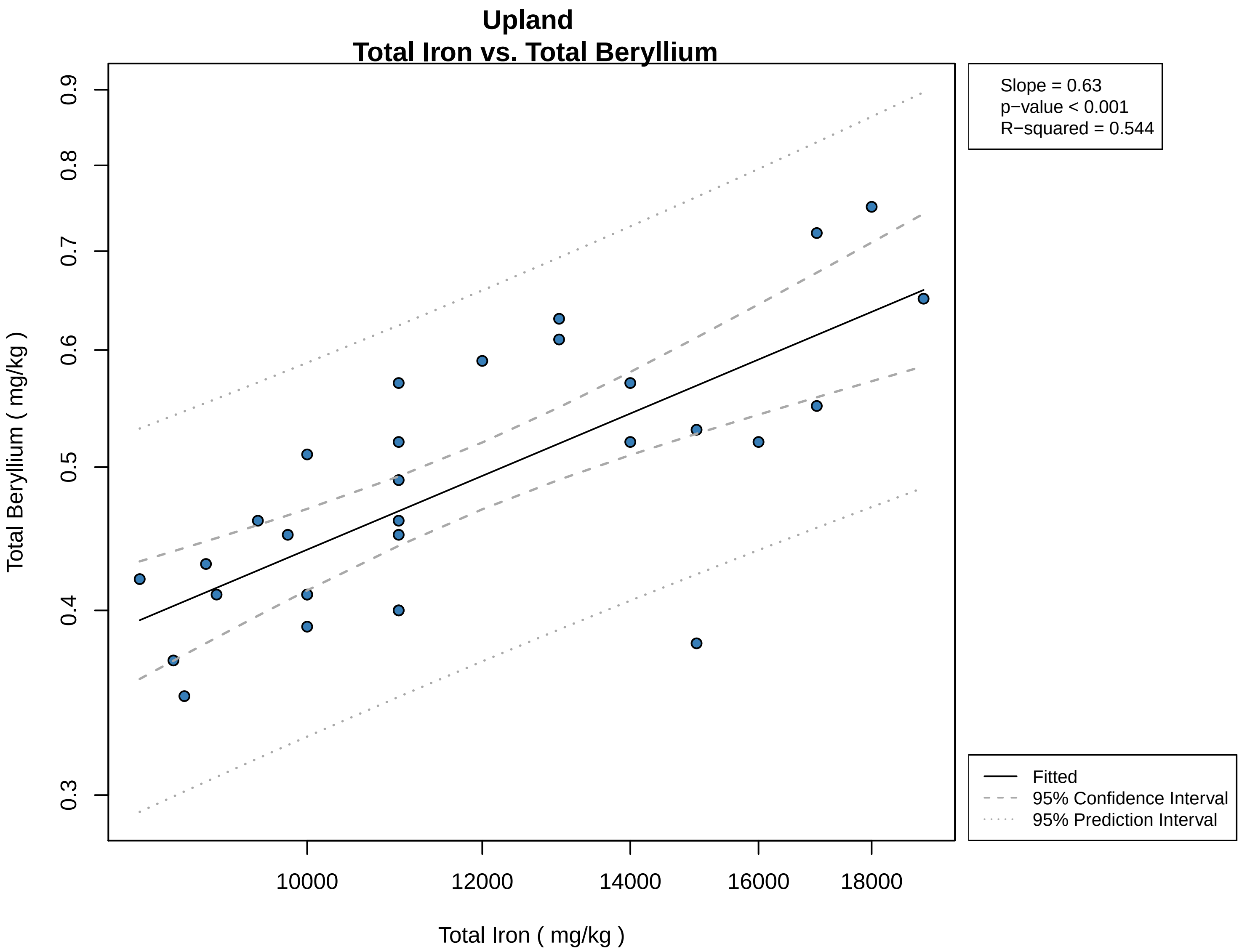


Figure 5.2.6
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

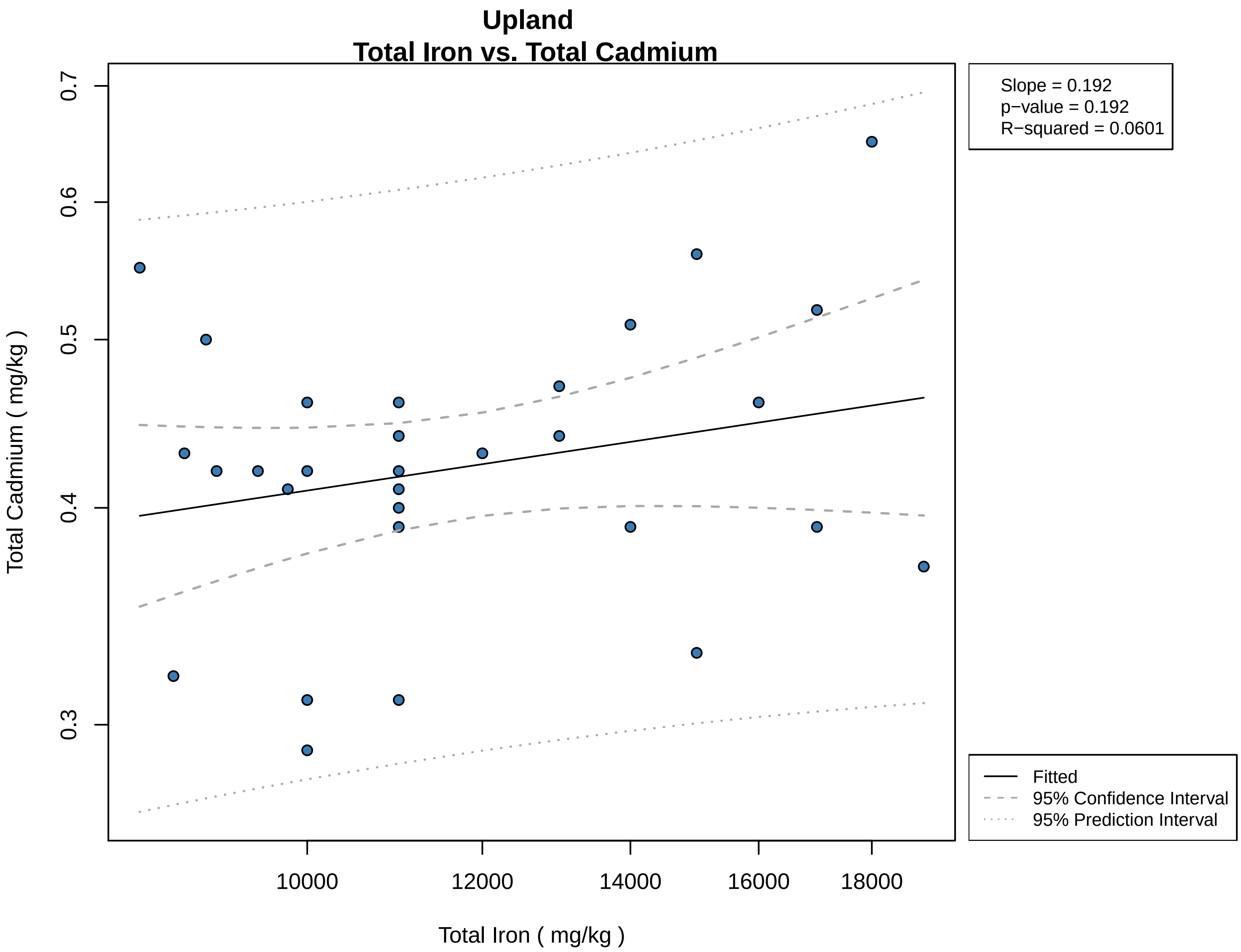


Figure 5.2.7
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

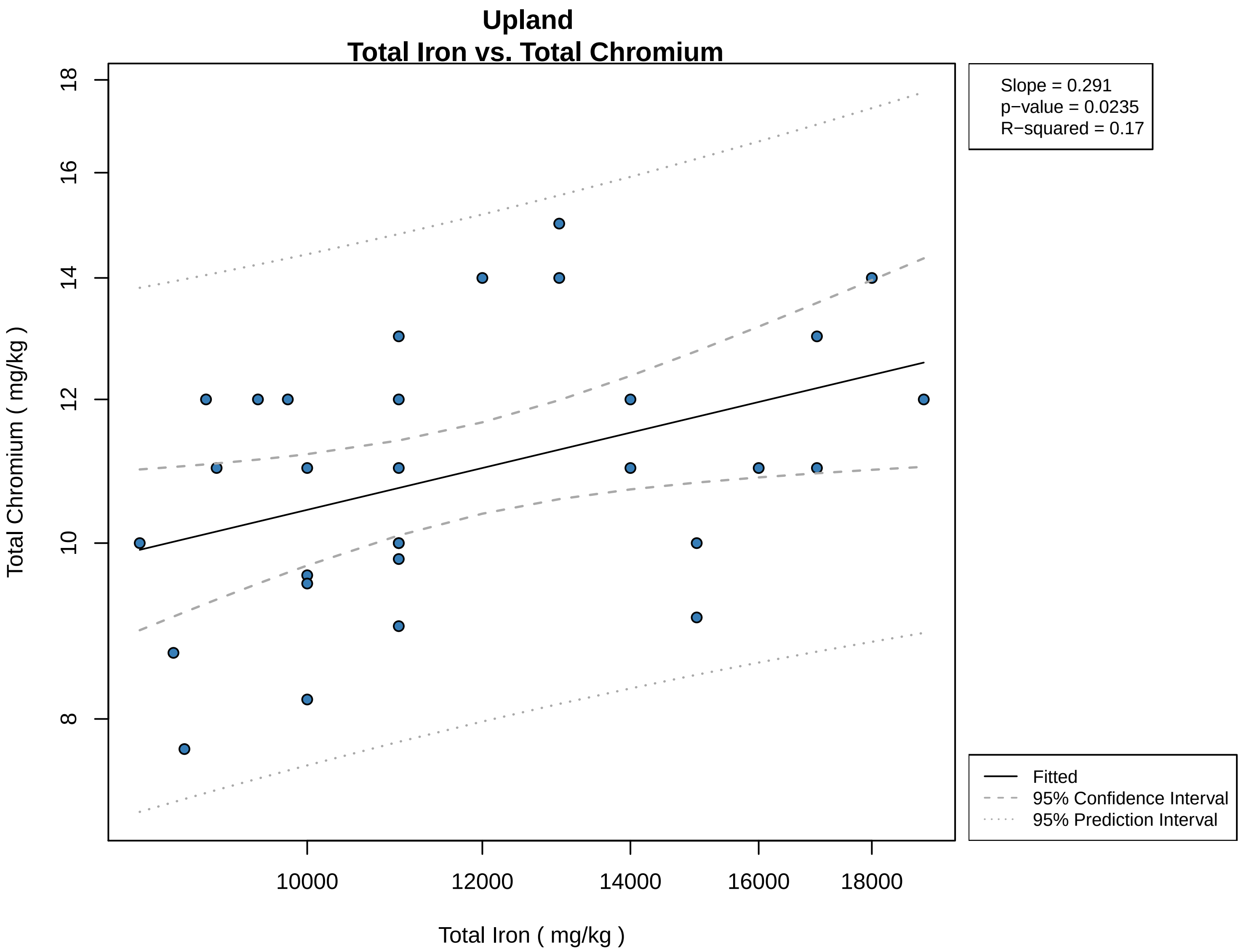


Figure 5.2.8
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

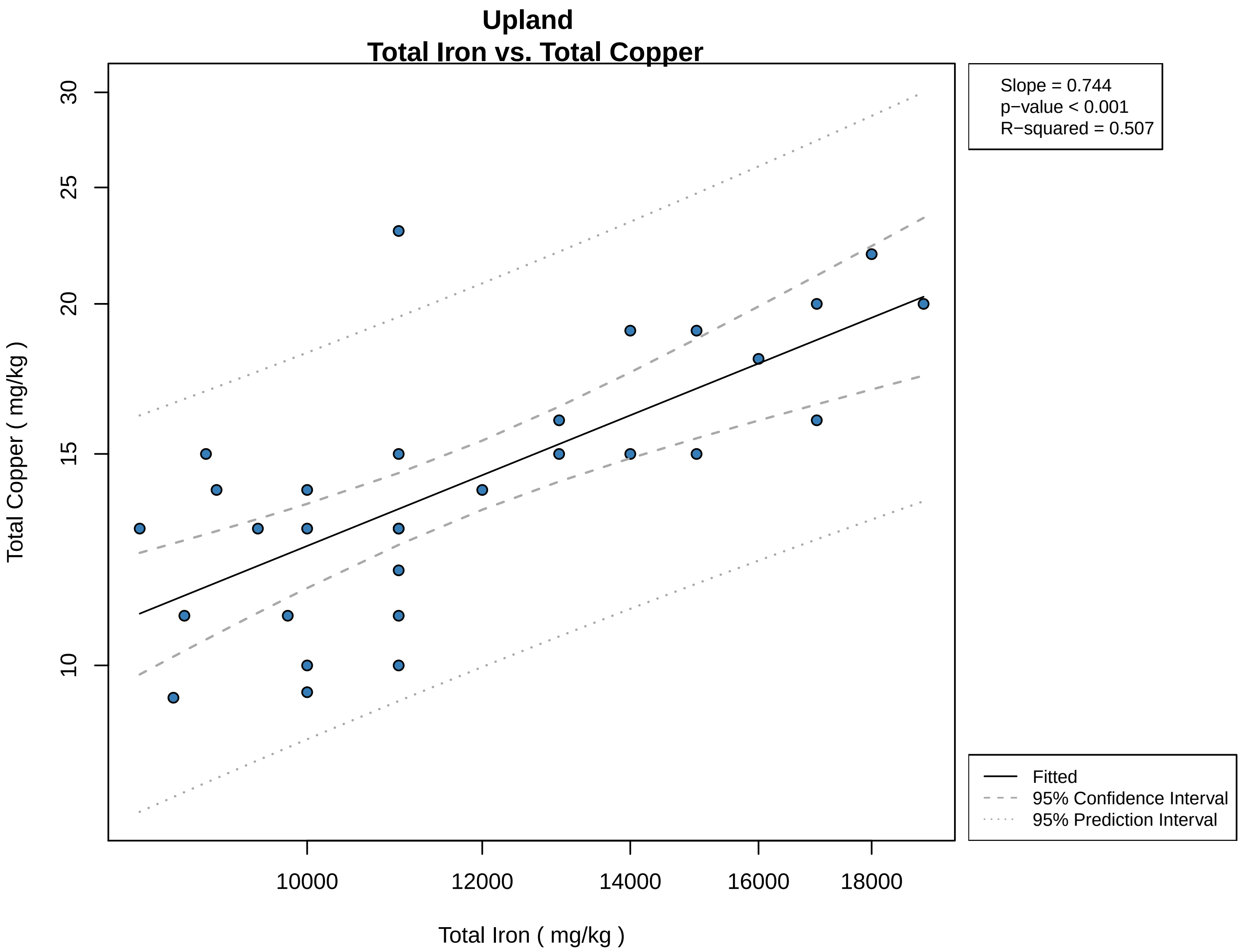


Figure 5.2.9
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

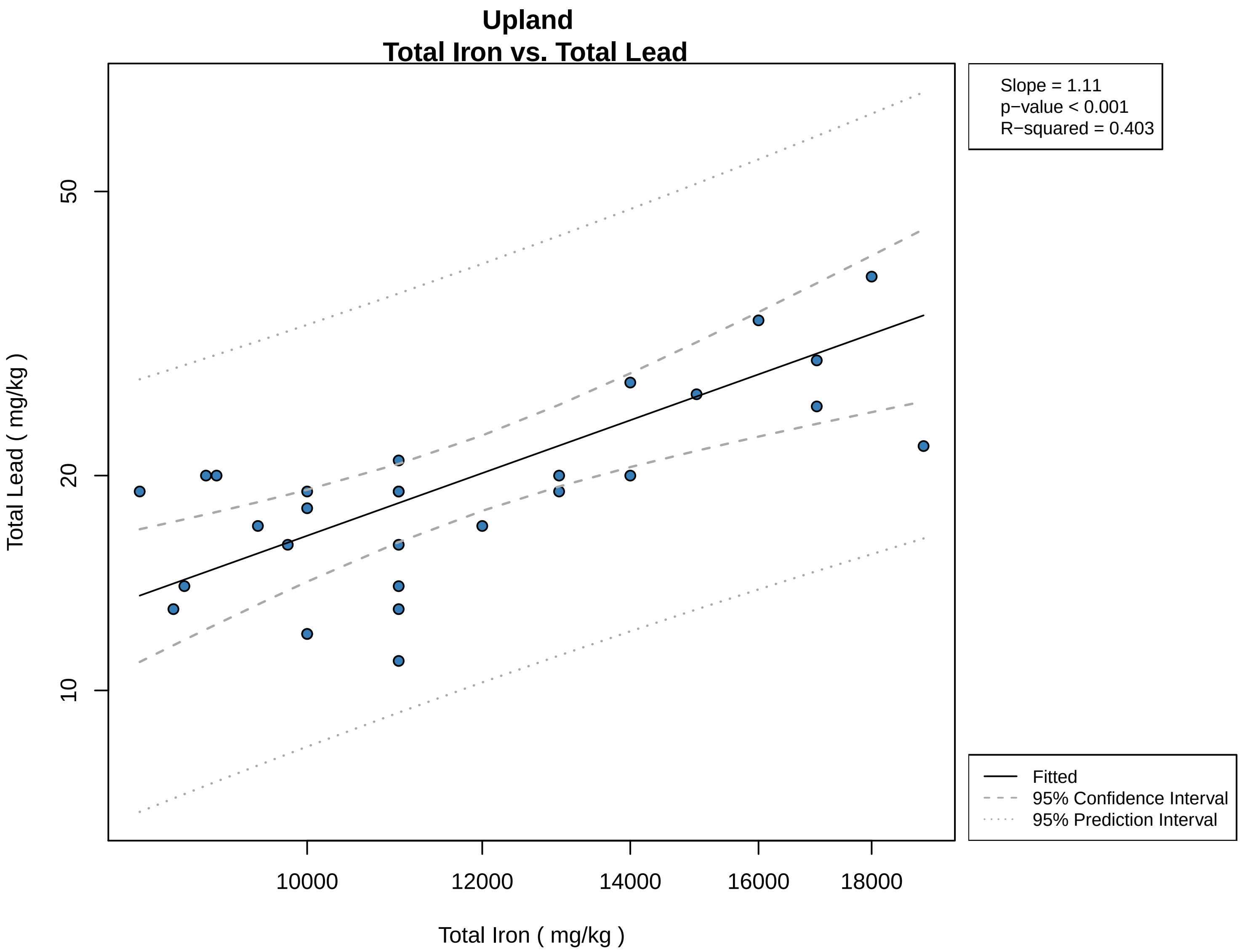


Figure 5.2.10
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

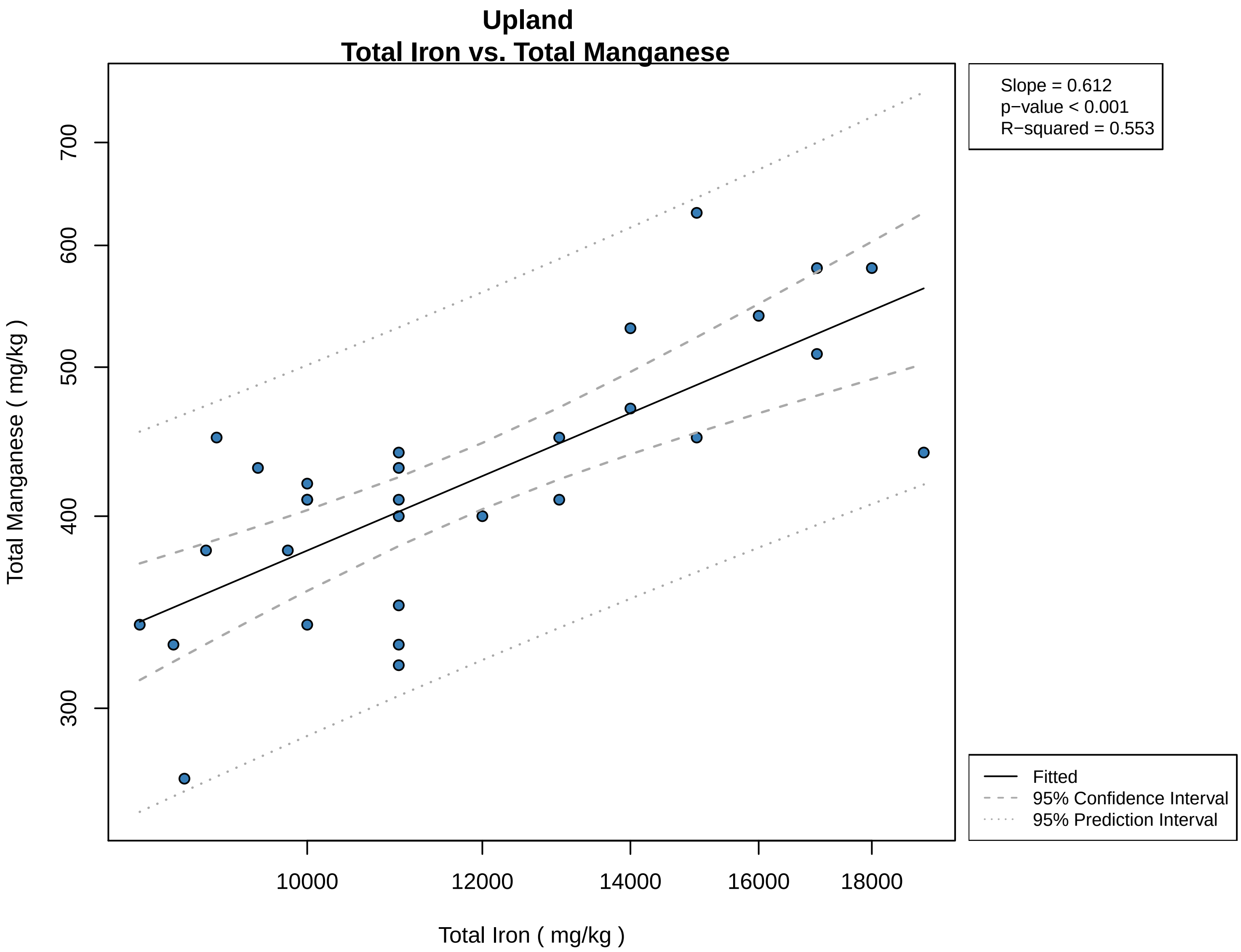


Figure 5.2.11
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

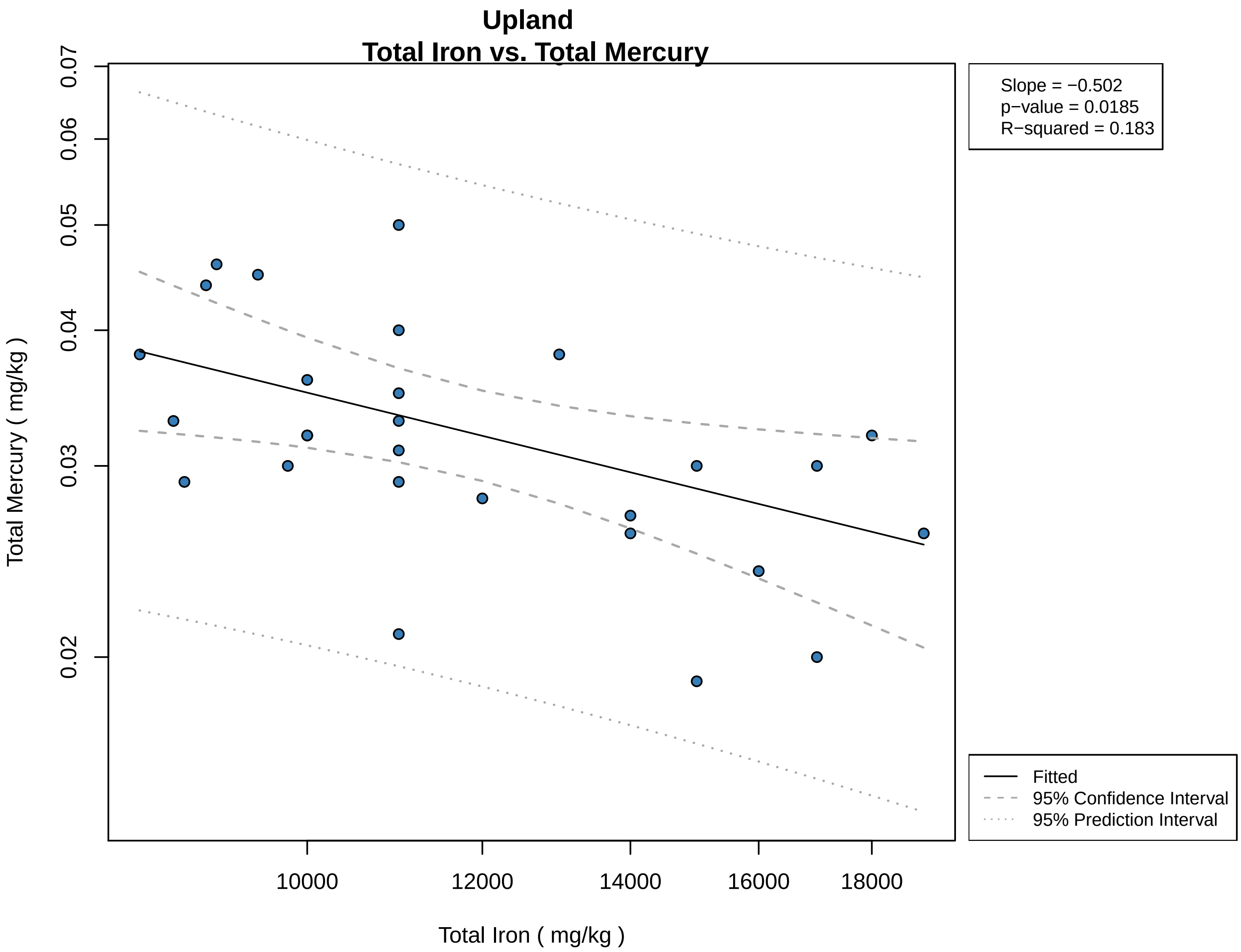


Figure 5.2.12
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

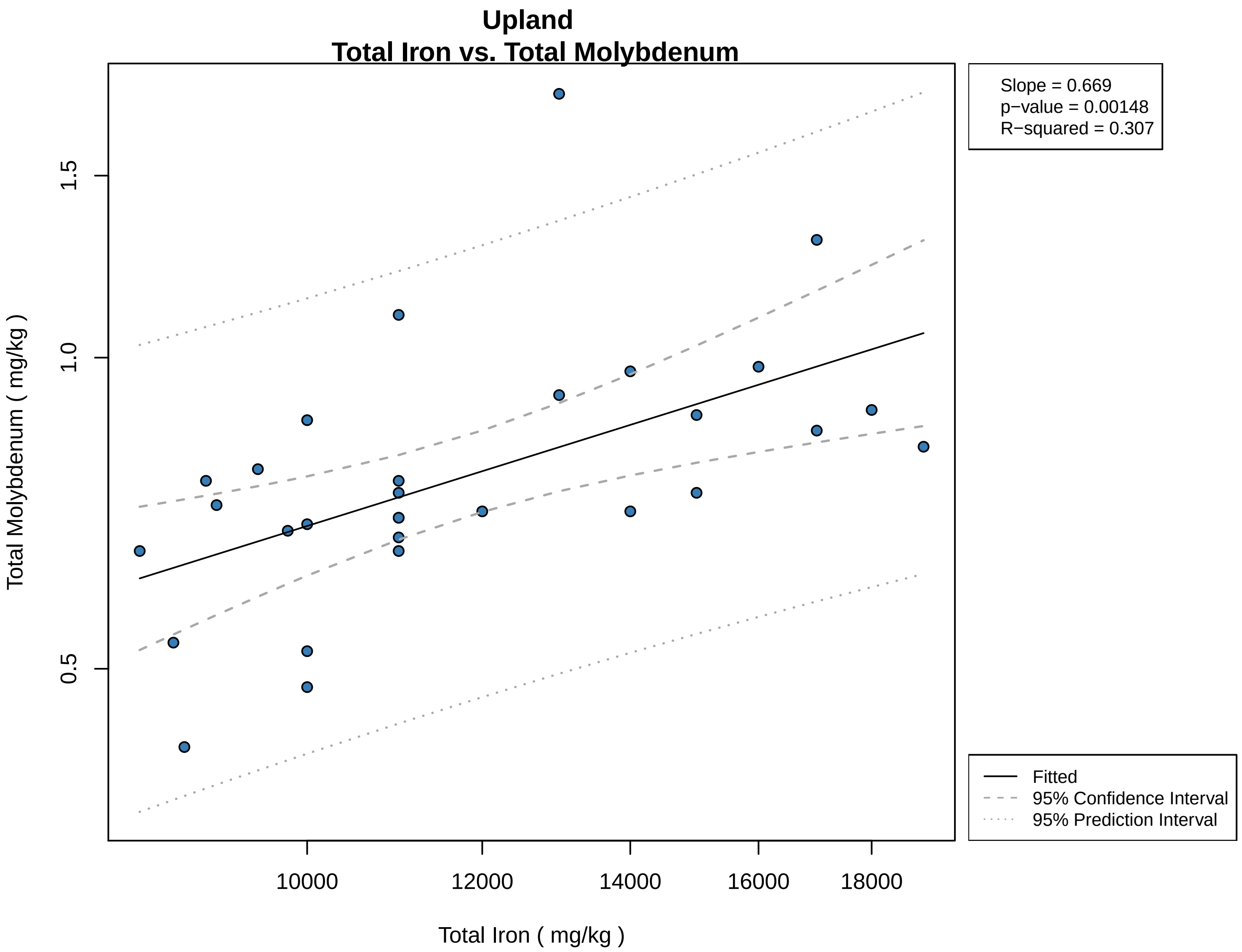


Figure 5.2.13
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

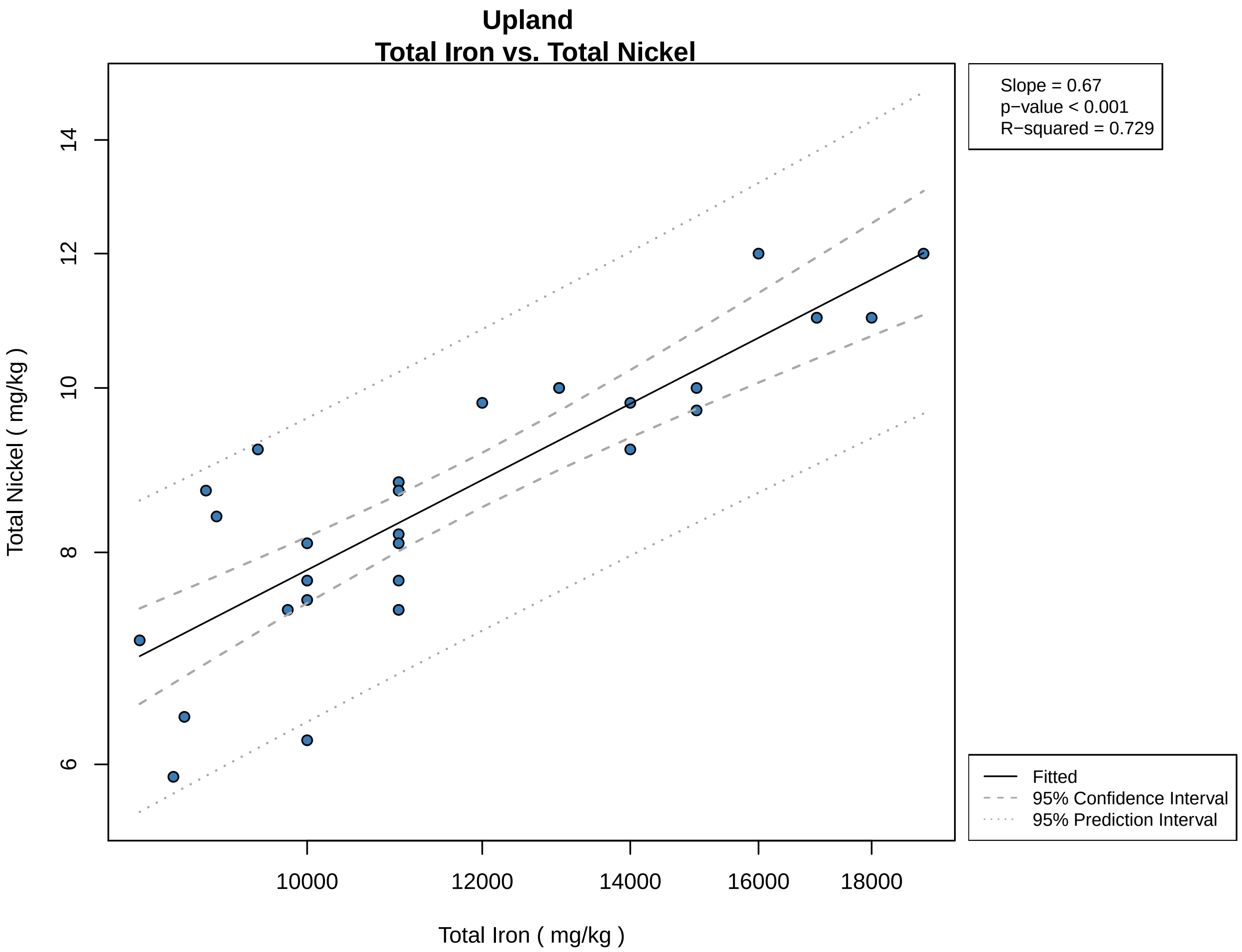


Figure 5.2.14
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

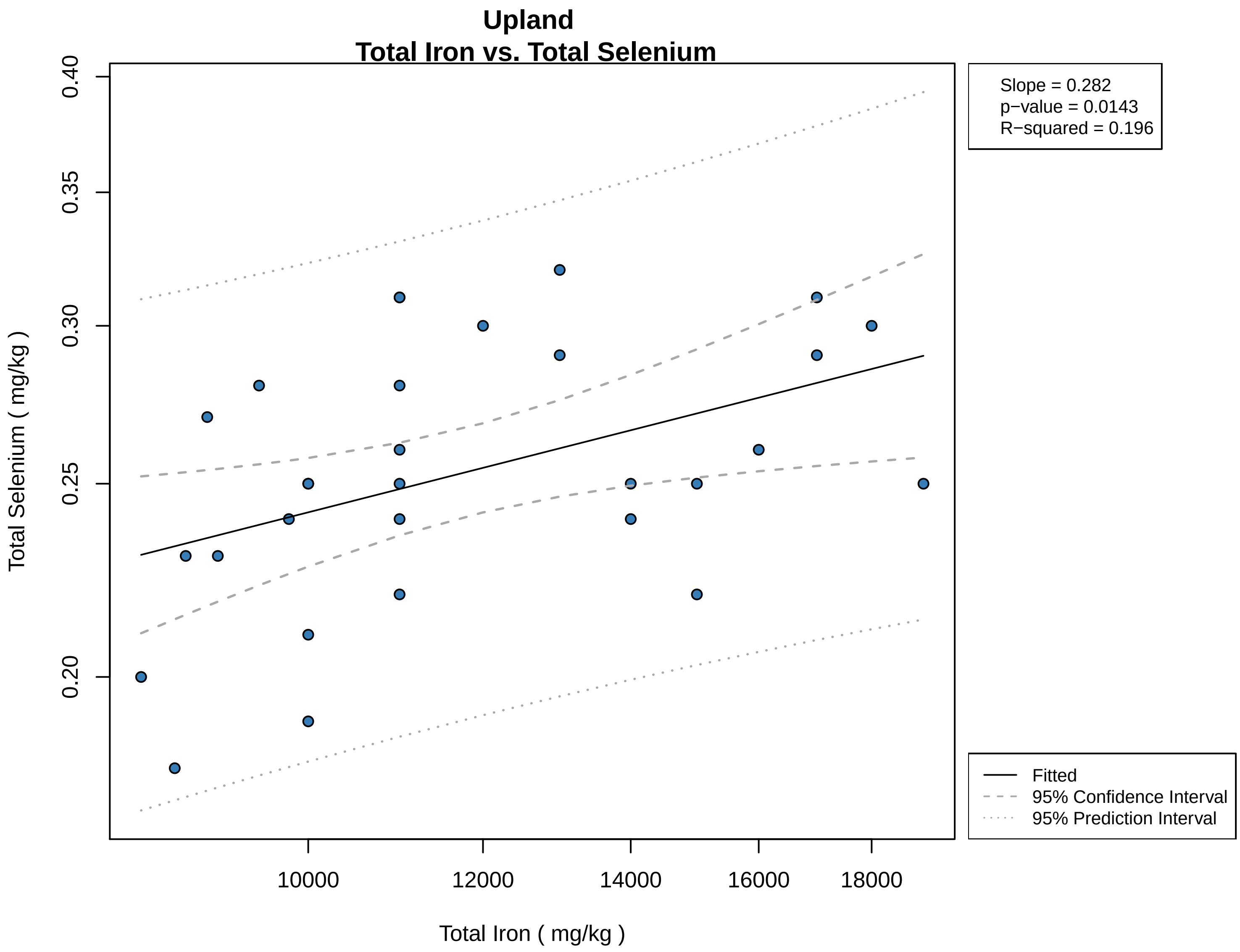


Figure 5.2.15
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

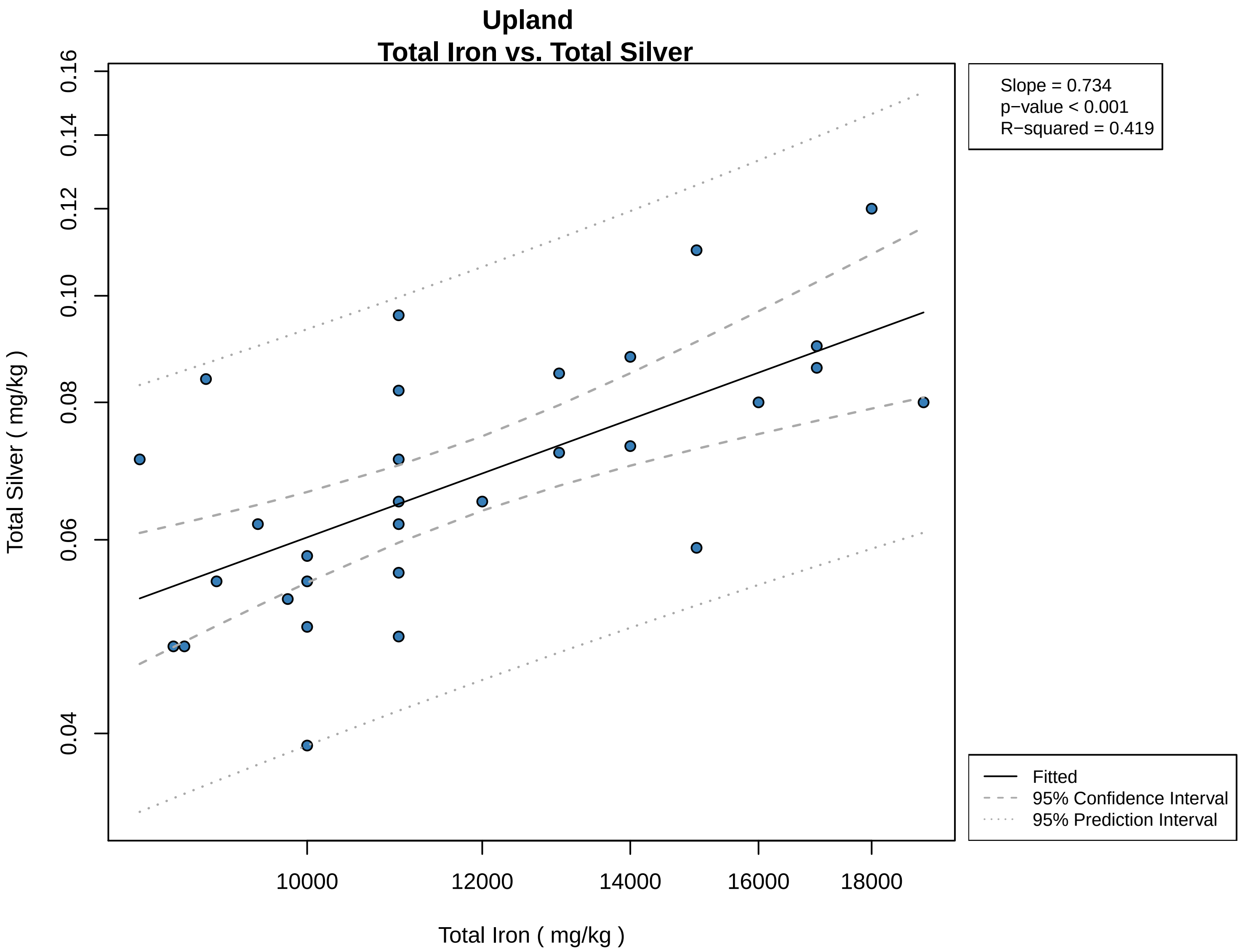


Figure 5.2.16
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

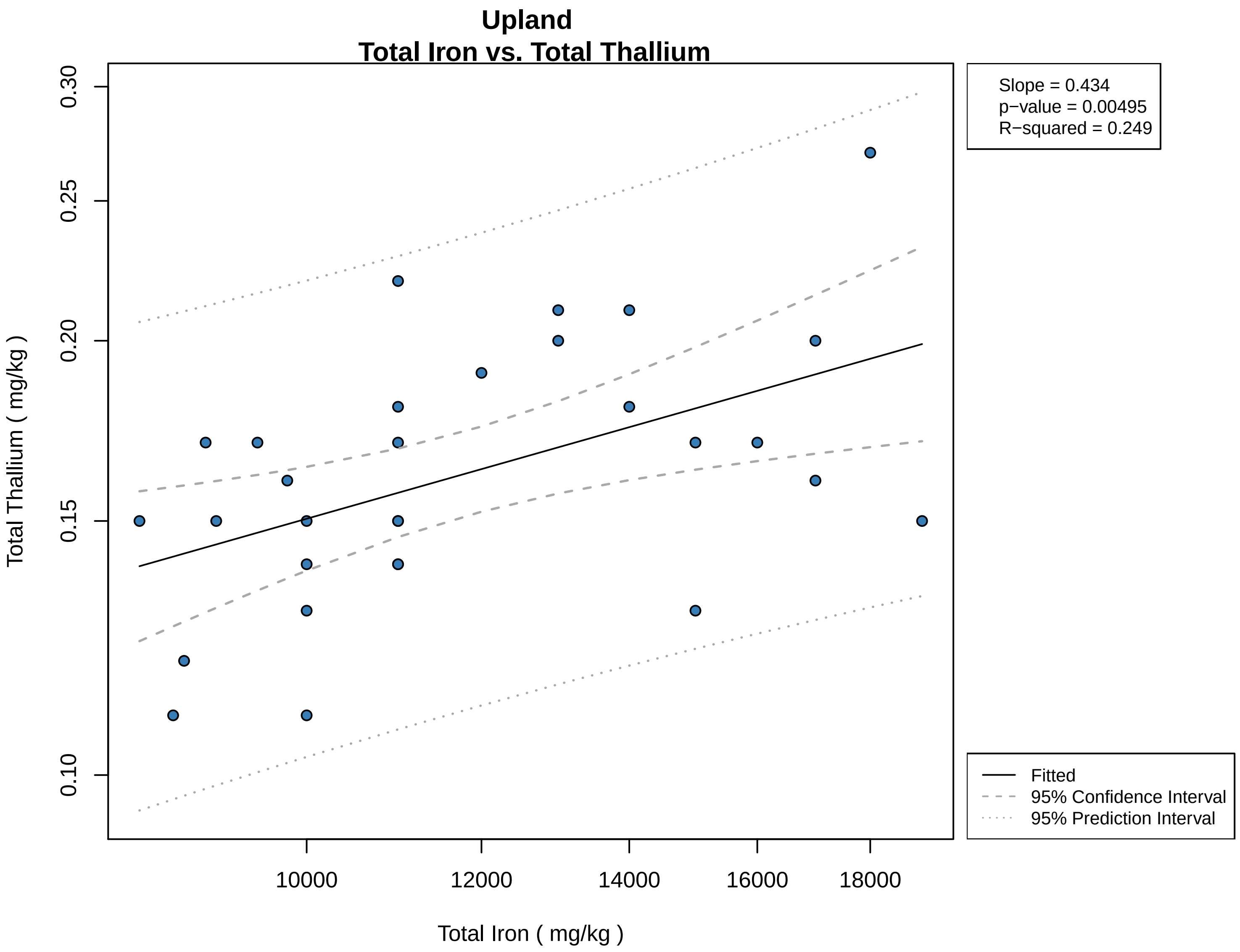


Figure 5.2.17
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

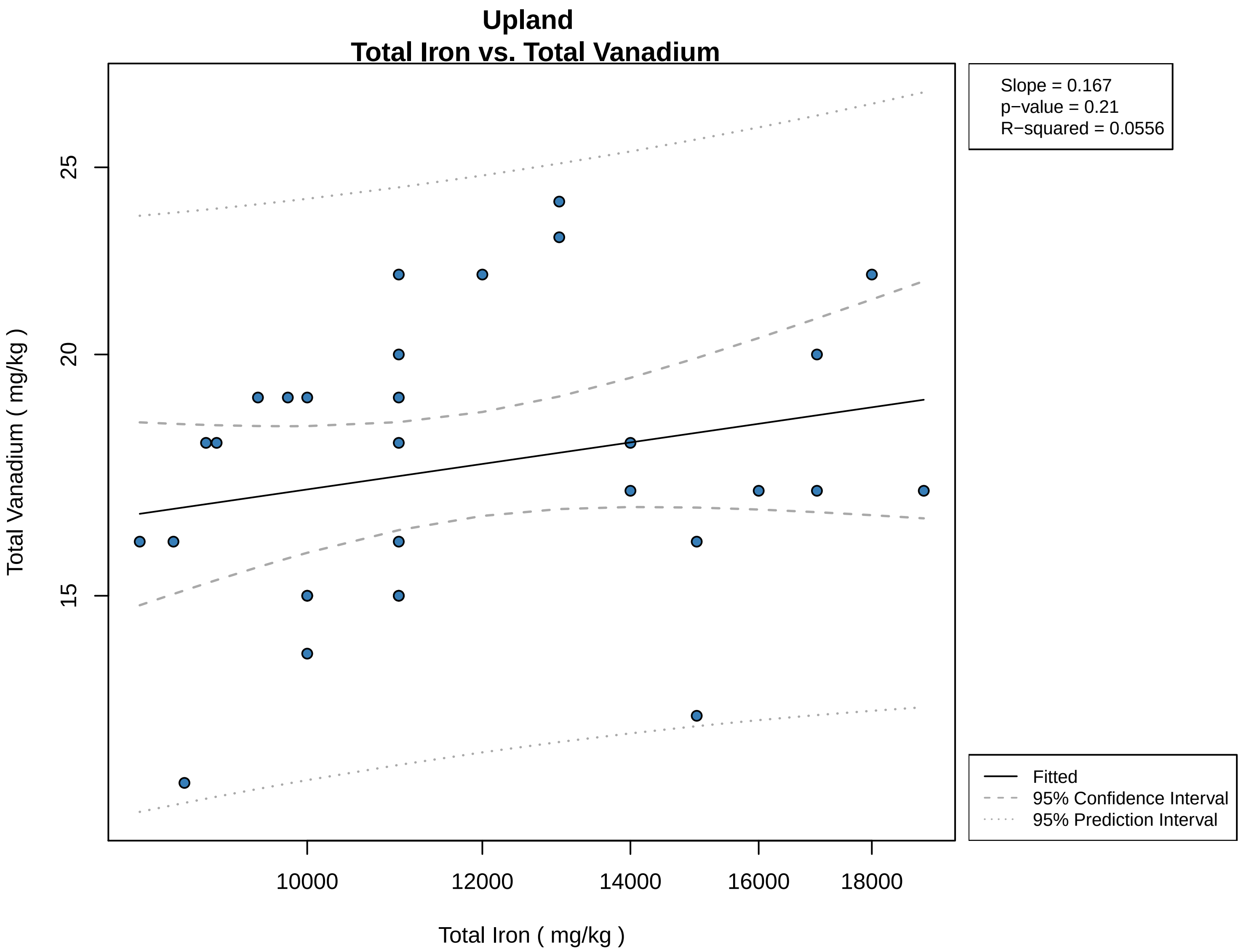


Figure 5.2.18
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

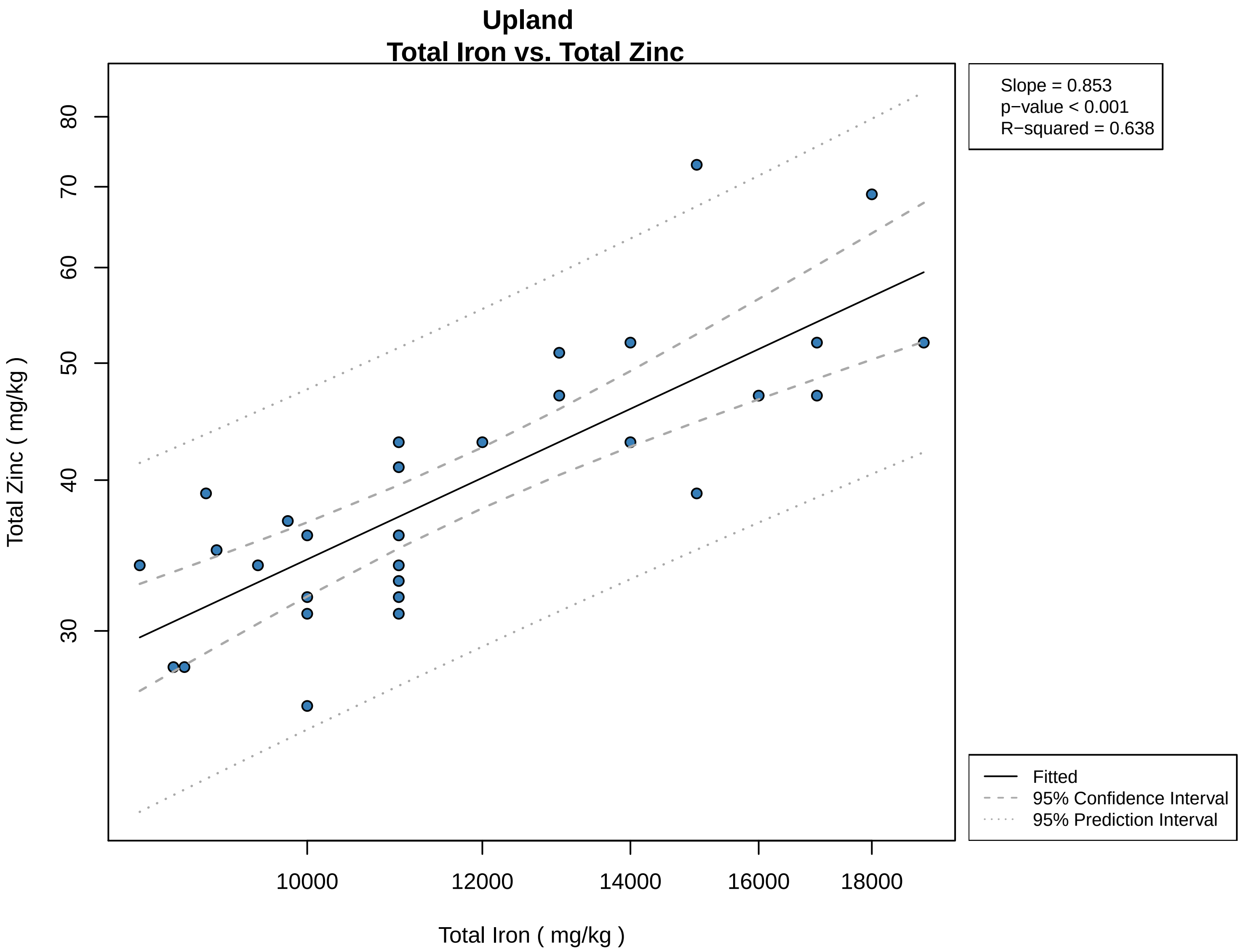


Figure 5.2.19
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

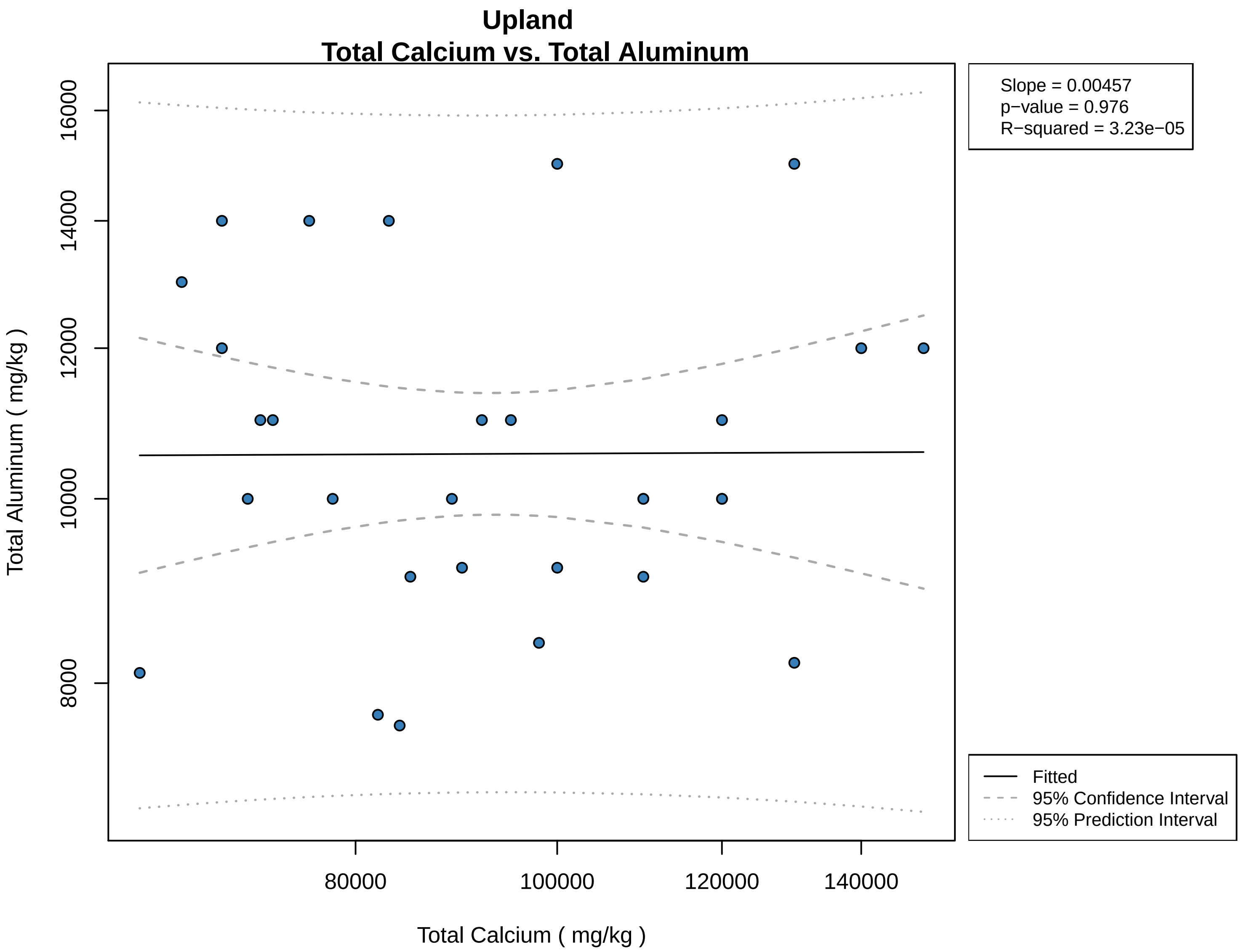


Figure 5.2.20
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

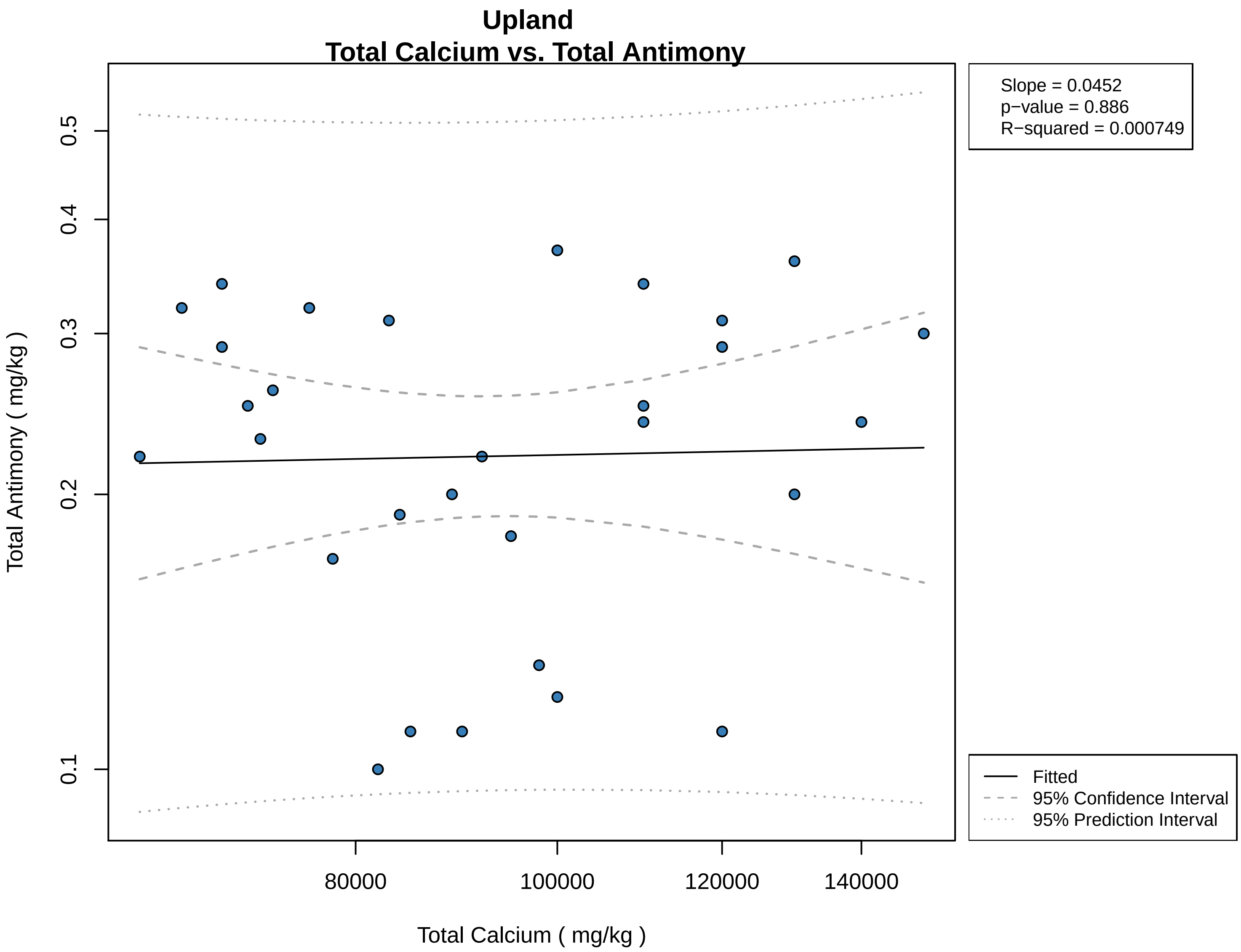
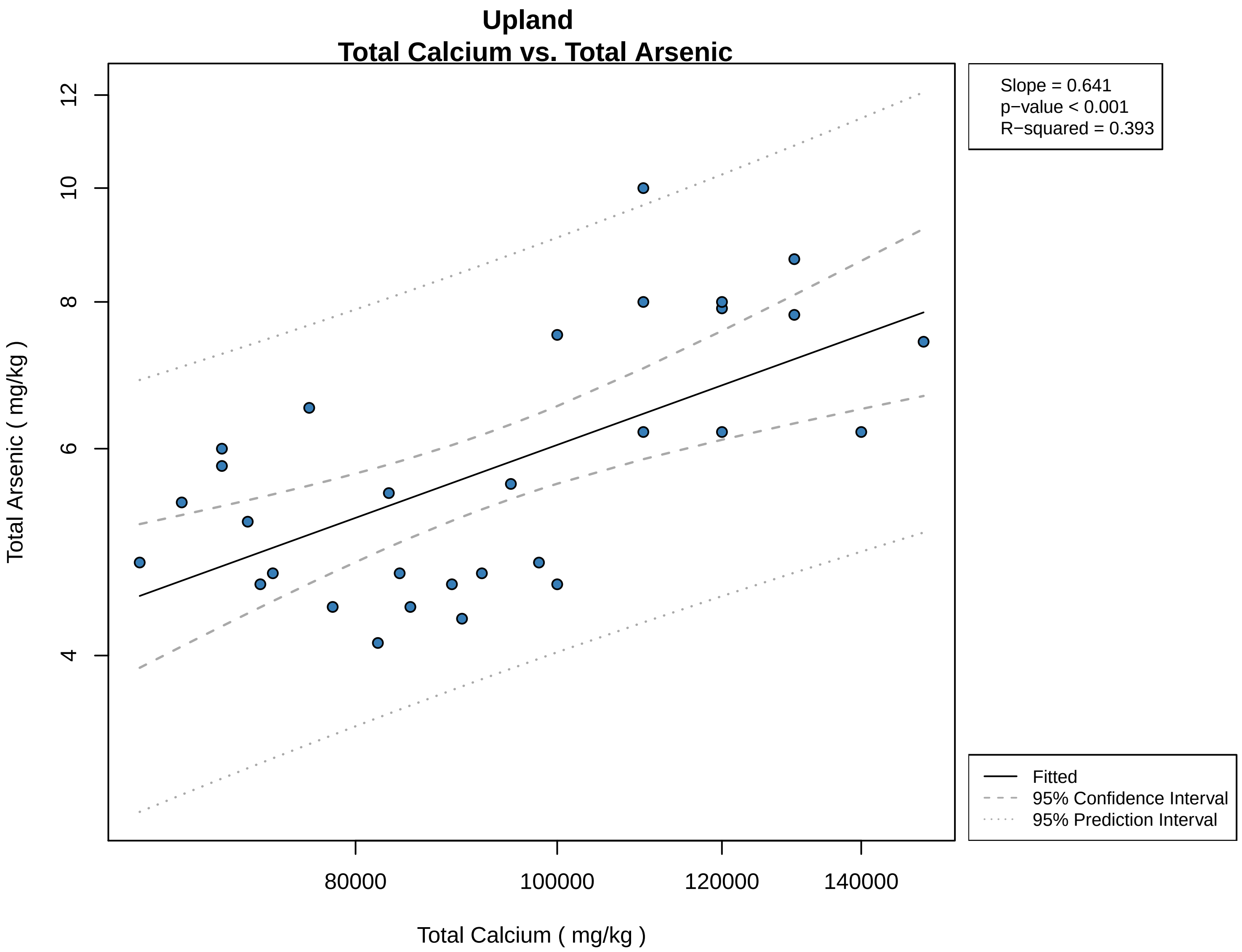


Figure 5.2.21
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah



Upland
Total Calcium vs. Total Arsenic

Figure 5.2.22
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

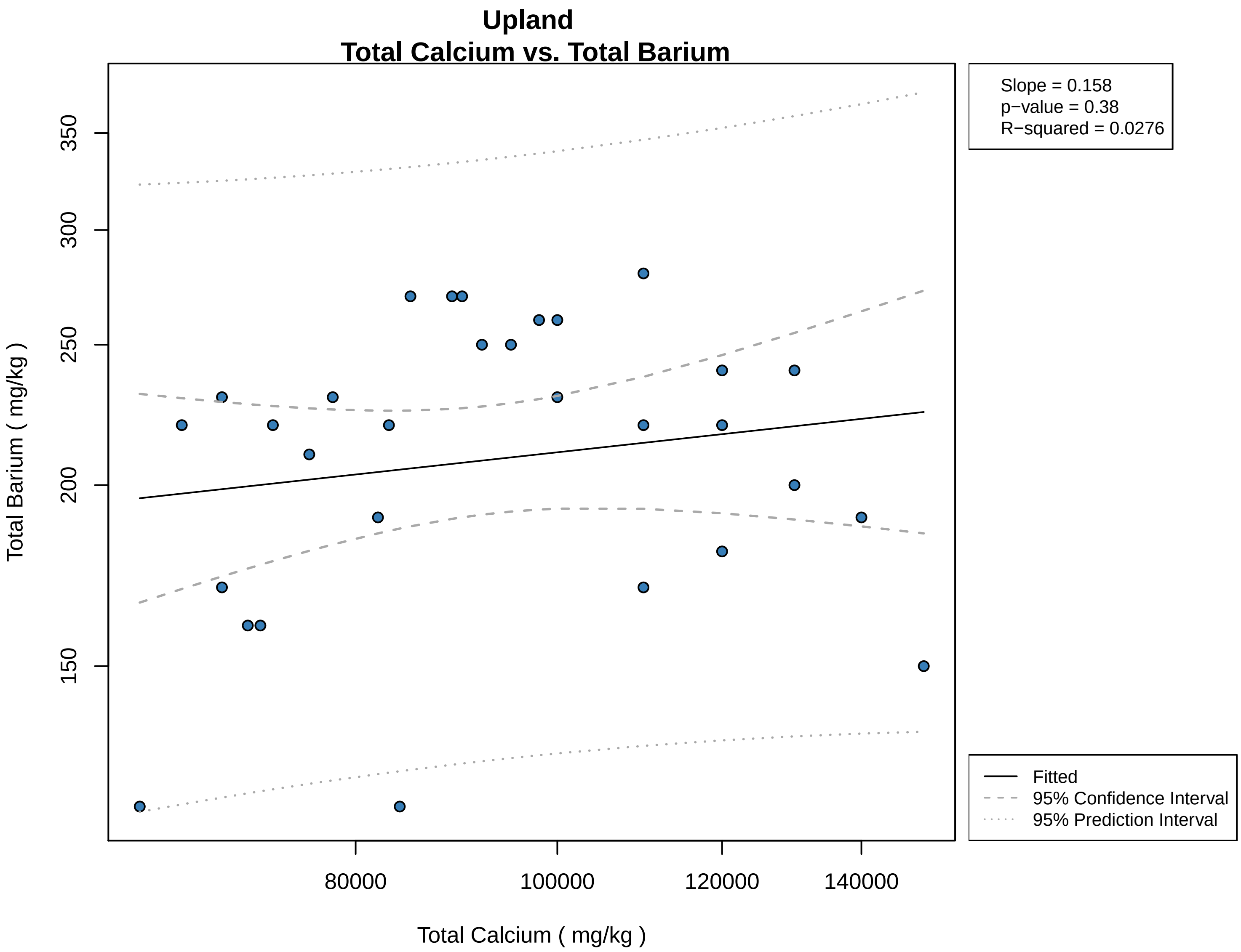


Figure 5.2.23
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

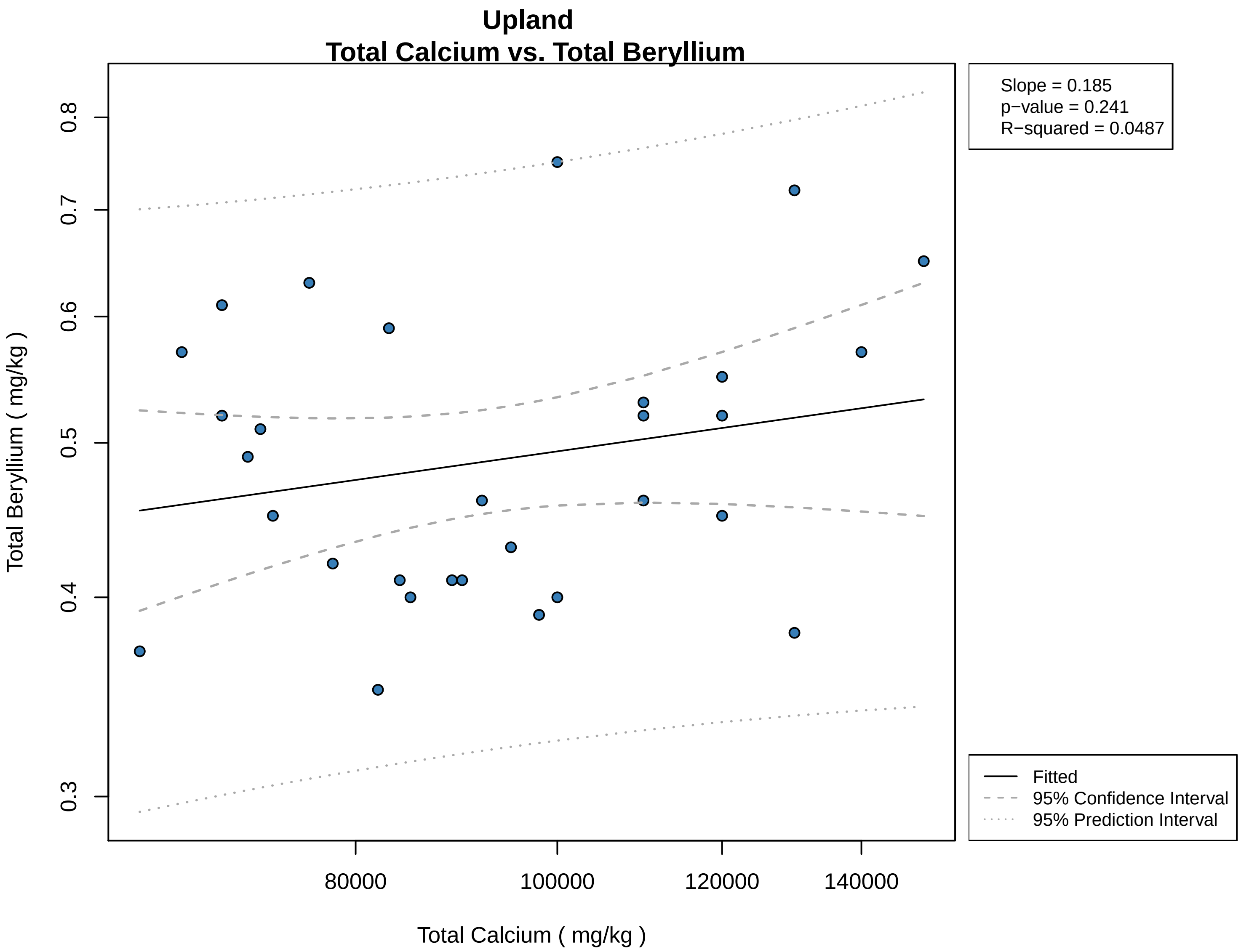


Figure 5.2.24
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

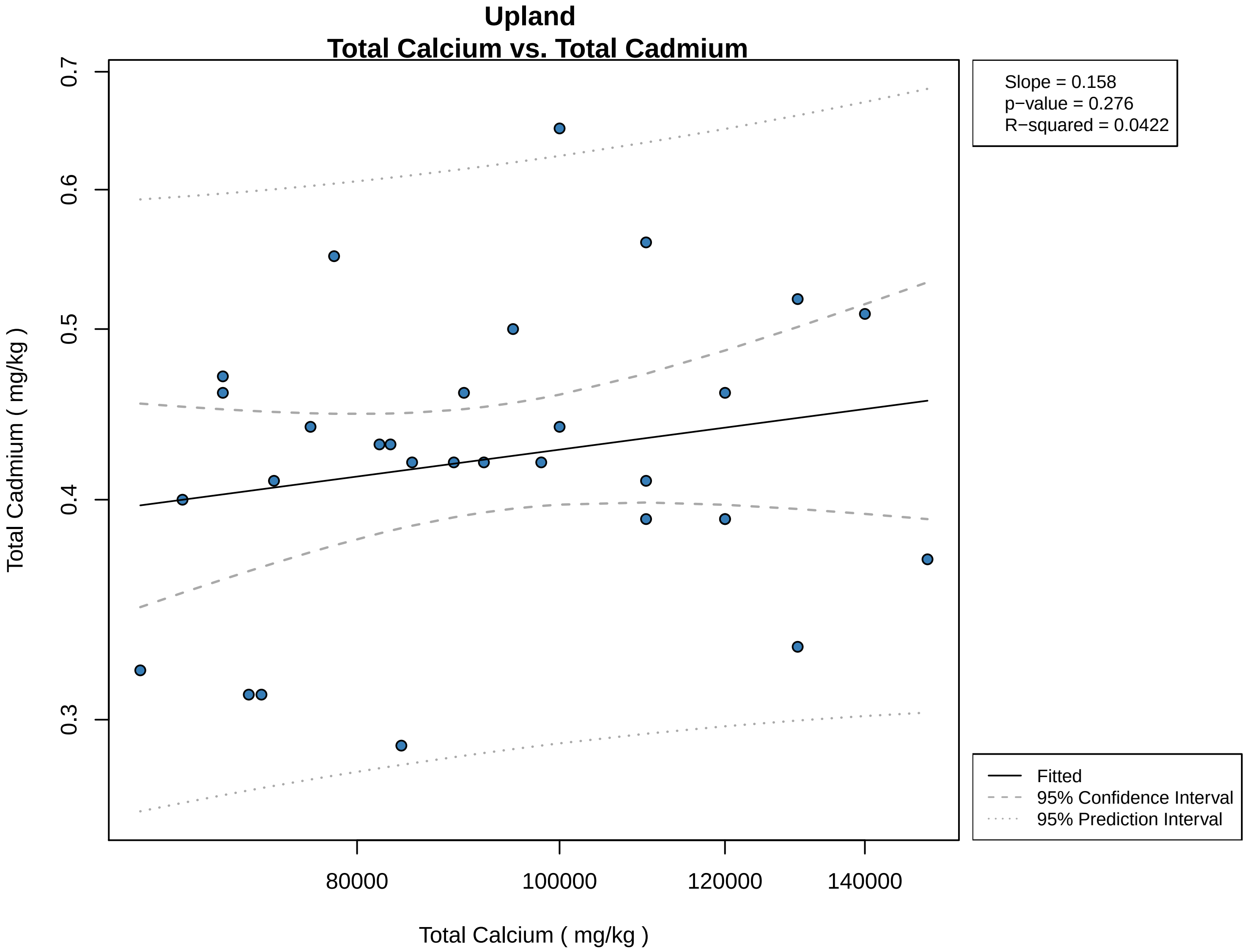


Figure 5.2.25
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

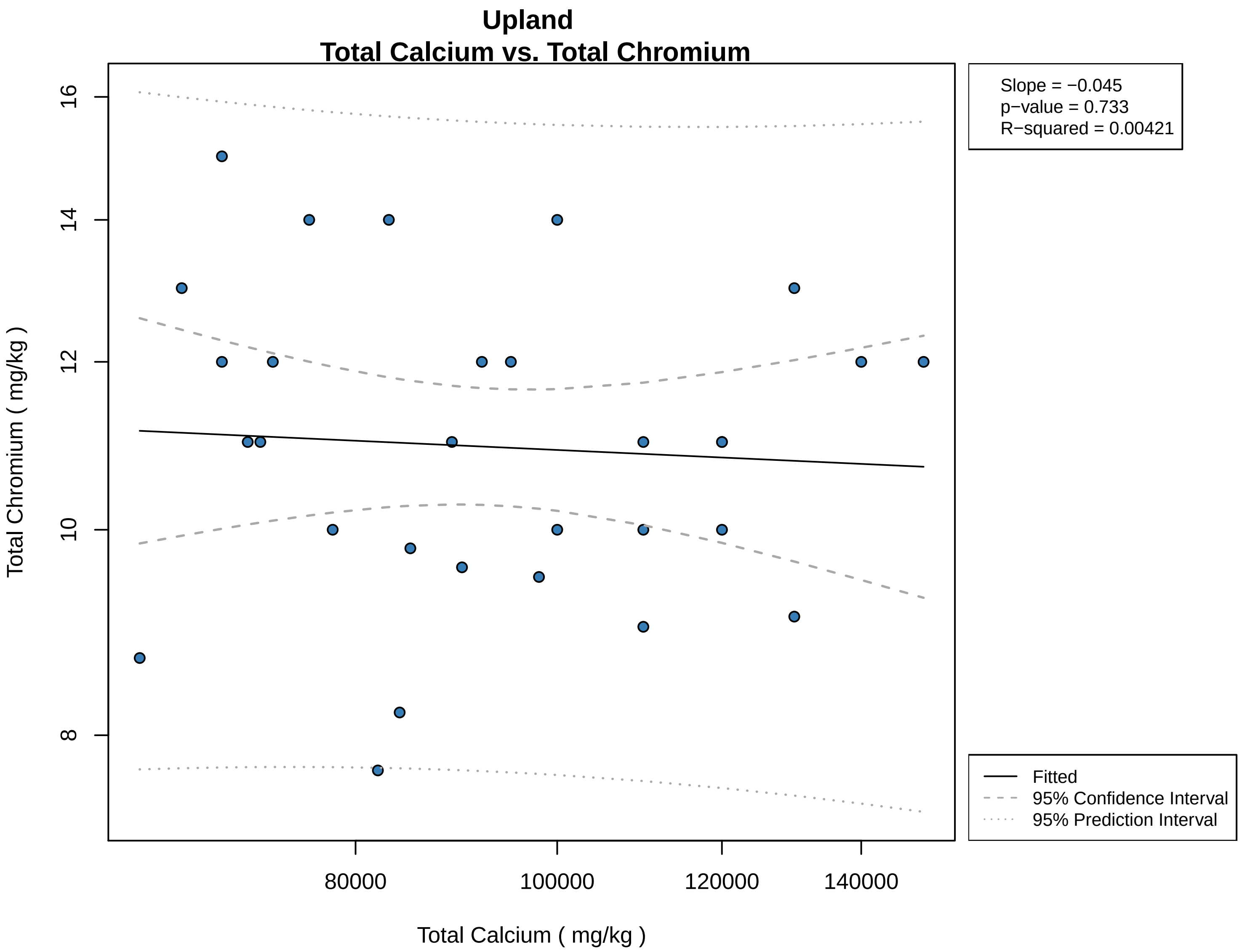


Figure 5.2.26
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

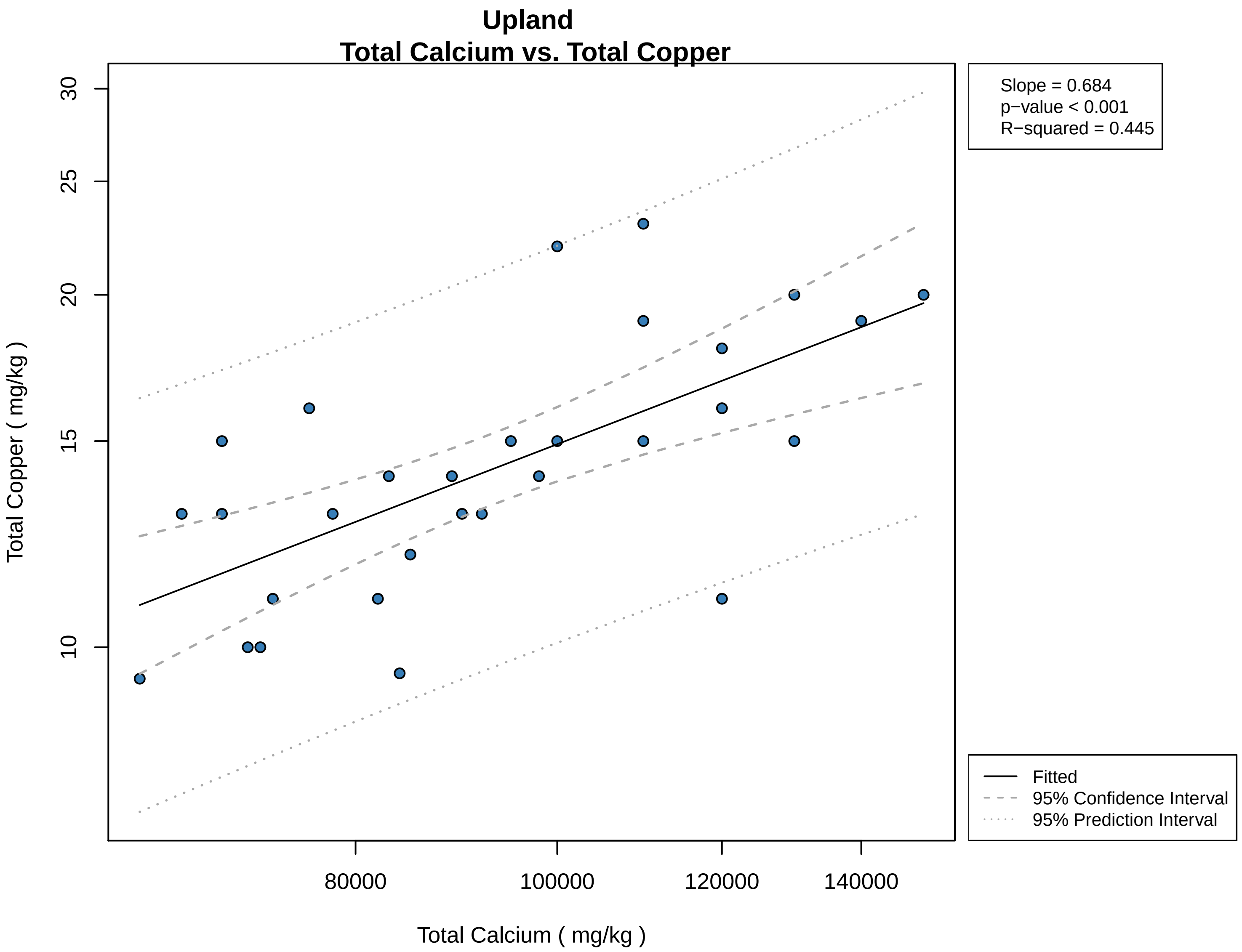


Figure 5.2.27
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

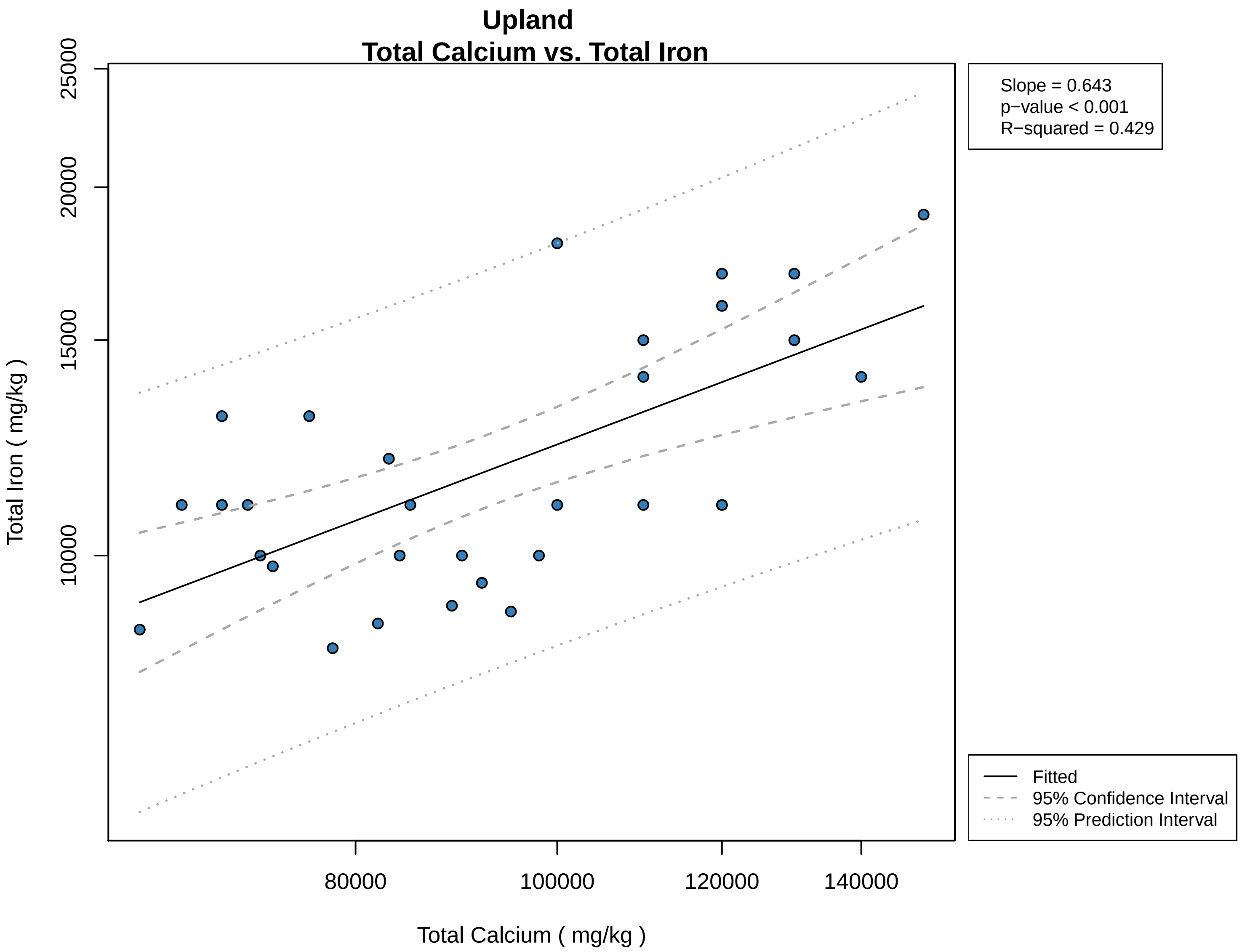


Figure 5.2.28
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

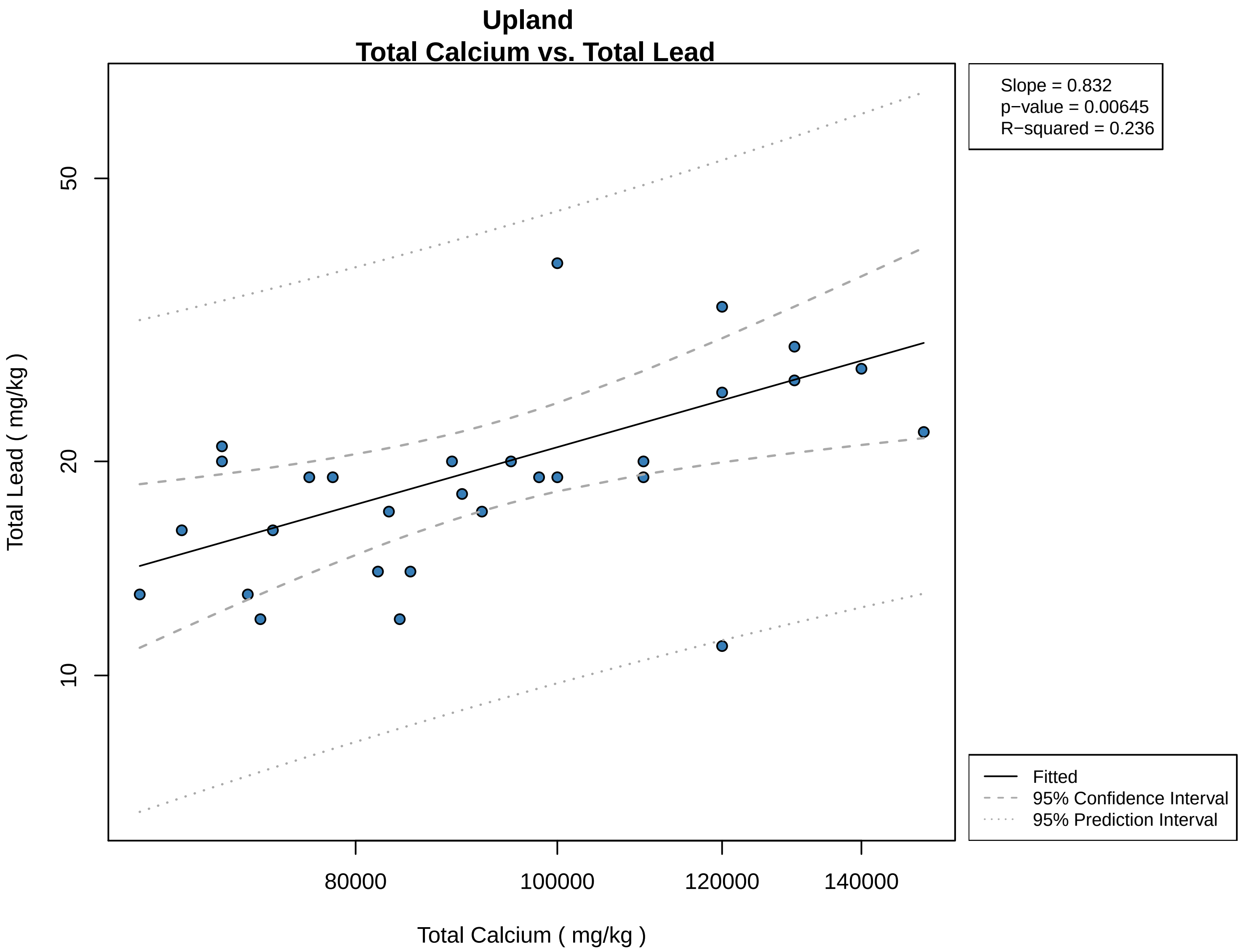


Figure 5.2.29
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

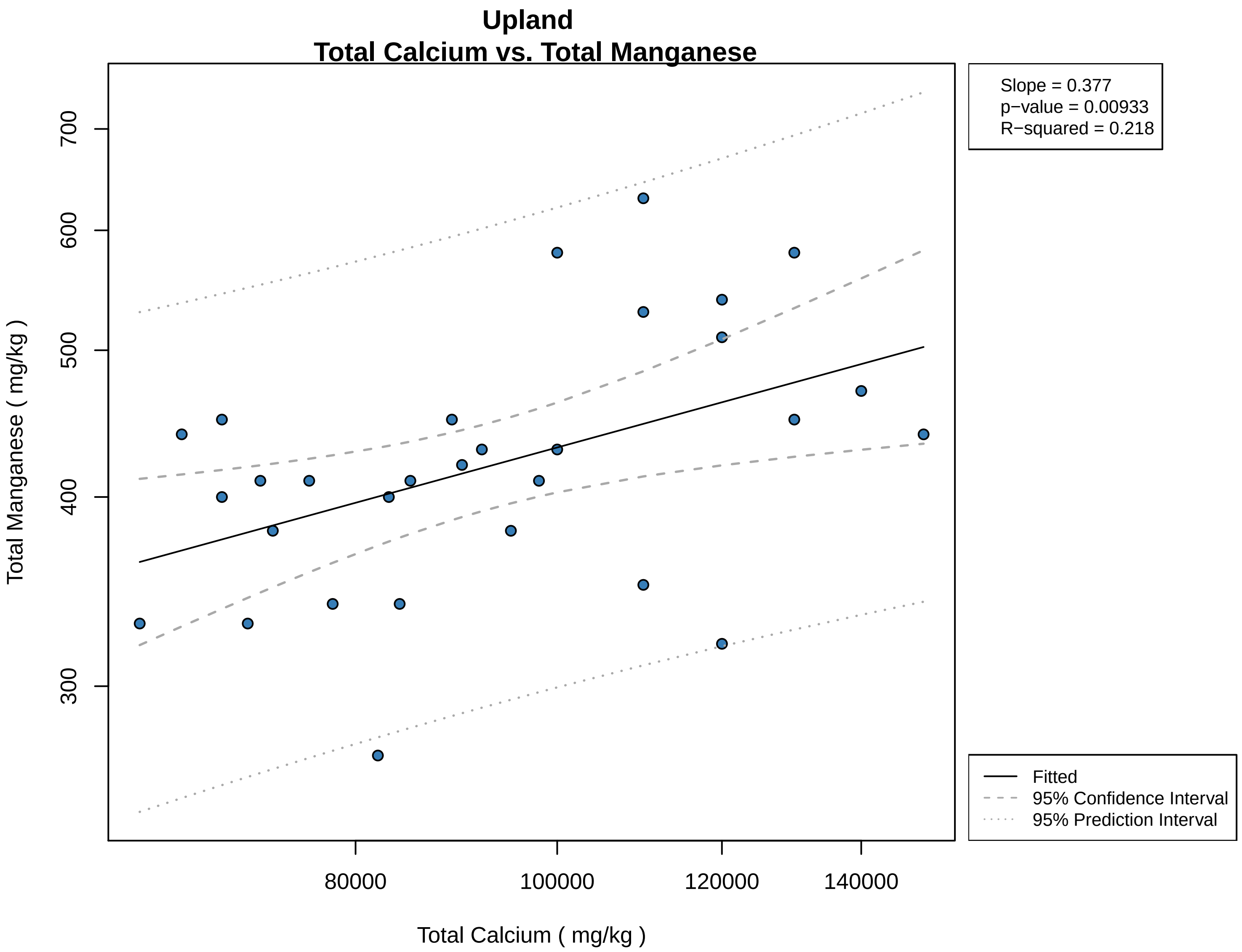


Figure 5.2.30
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

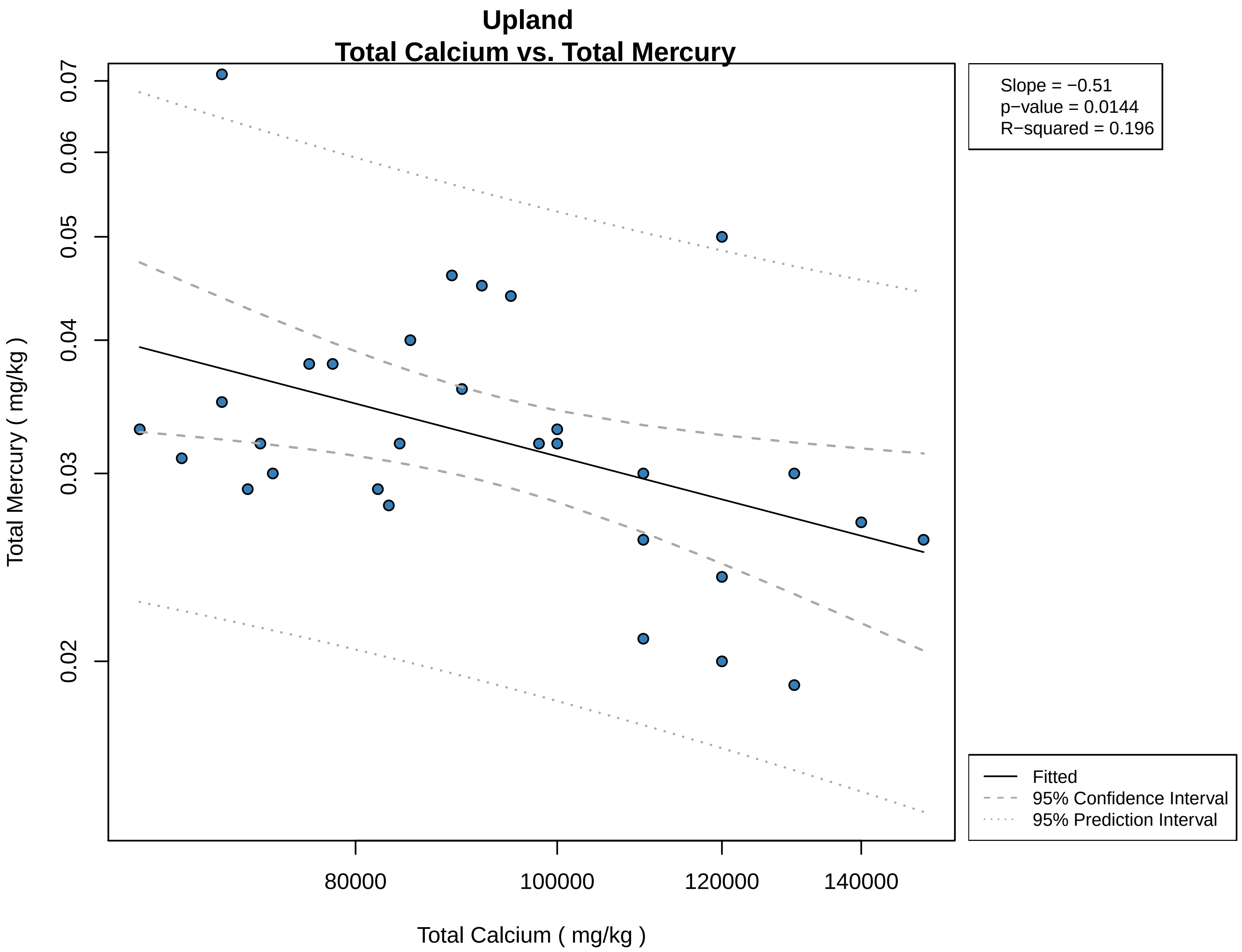


Figure 5.2.31
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

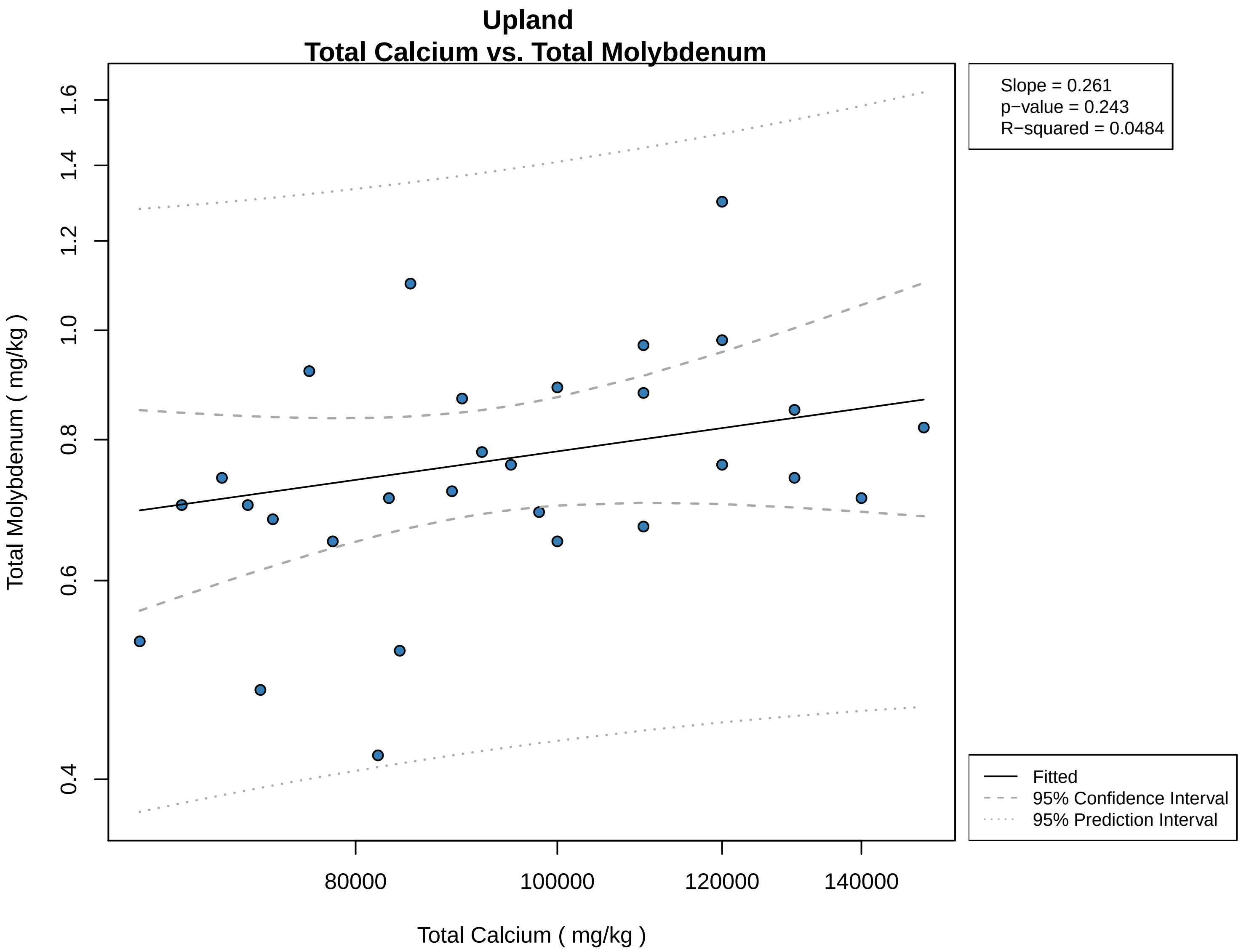


Figure 5.2.32
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

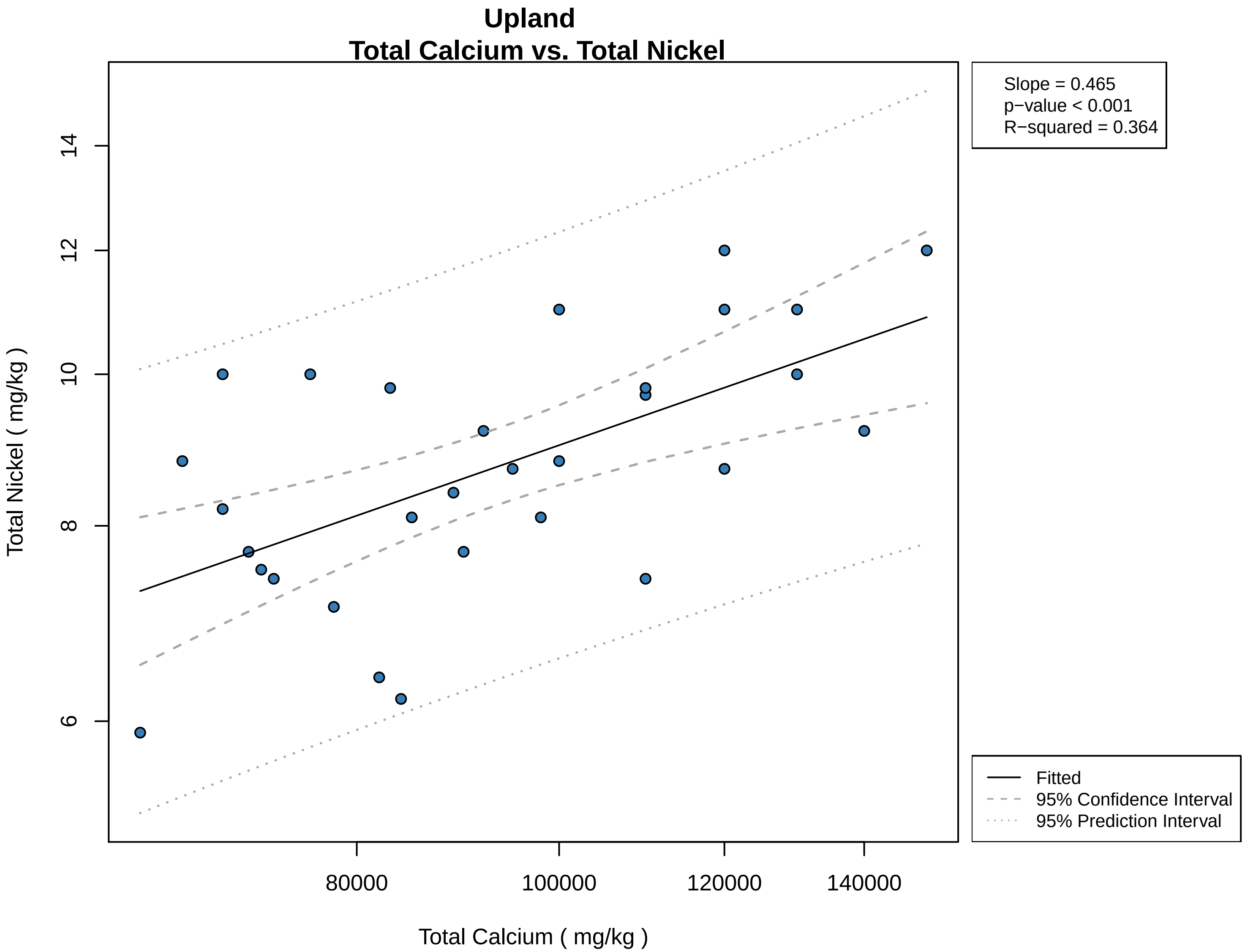


Figure 5.2.33
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

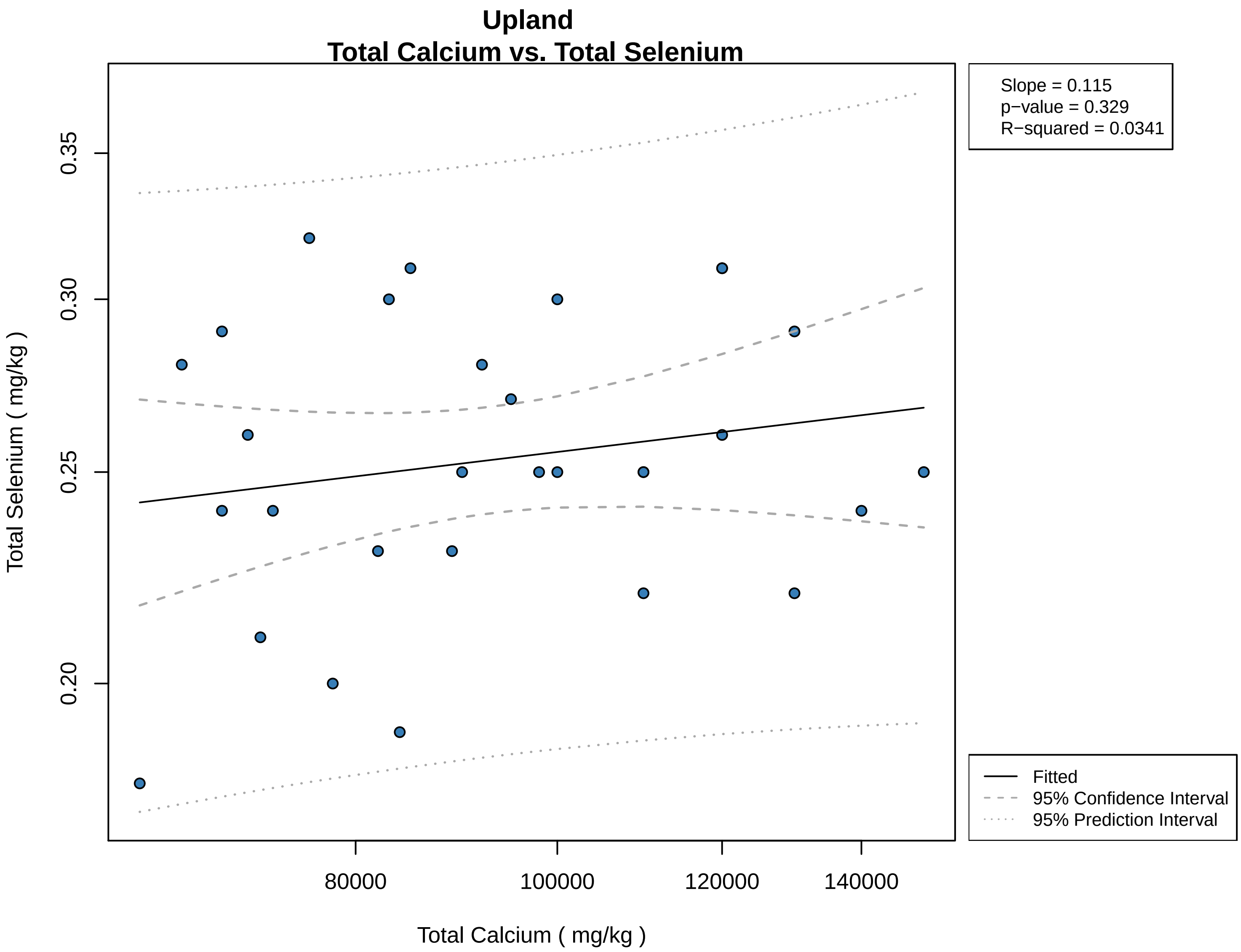


Figure 5.2.34
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

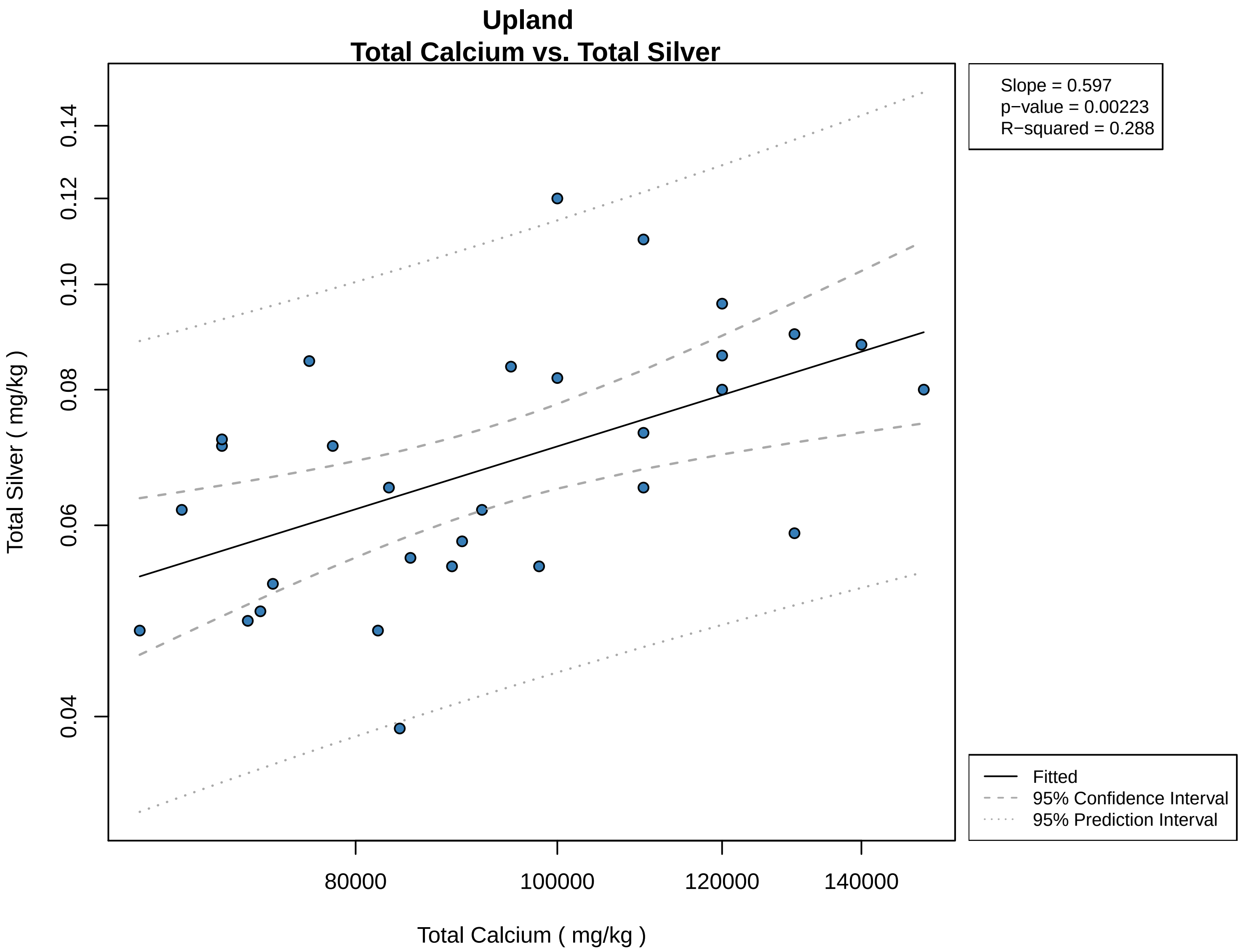


Figure 5.2.35
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

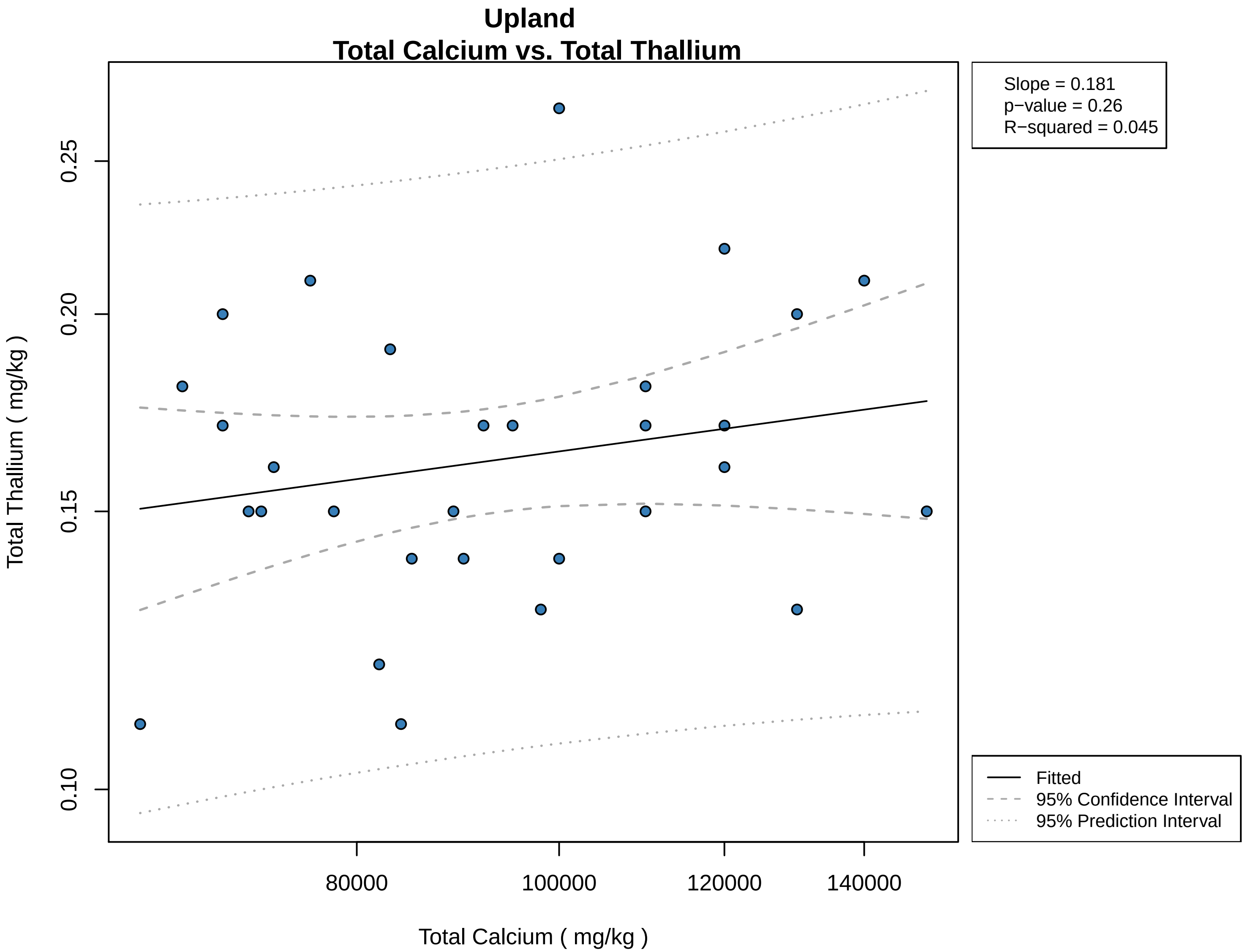


Figure 5.2.36
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

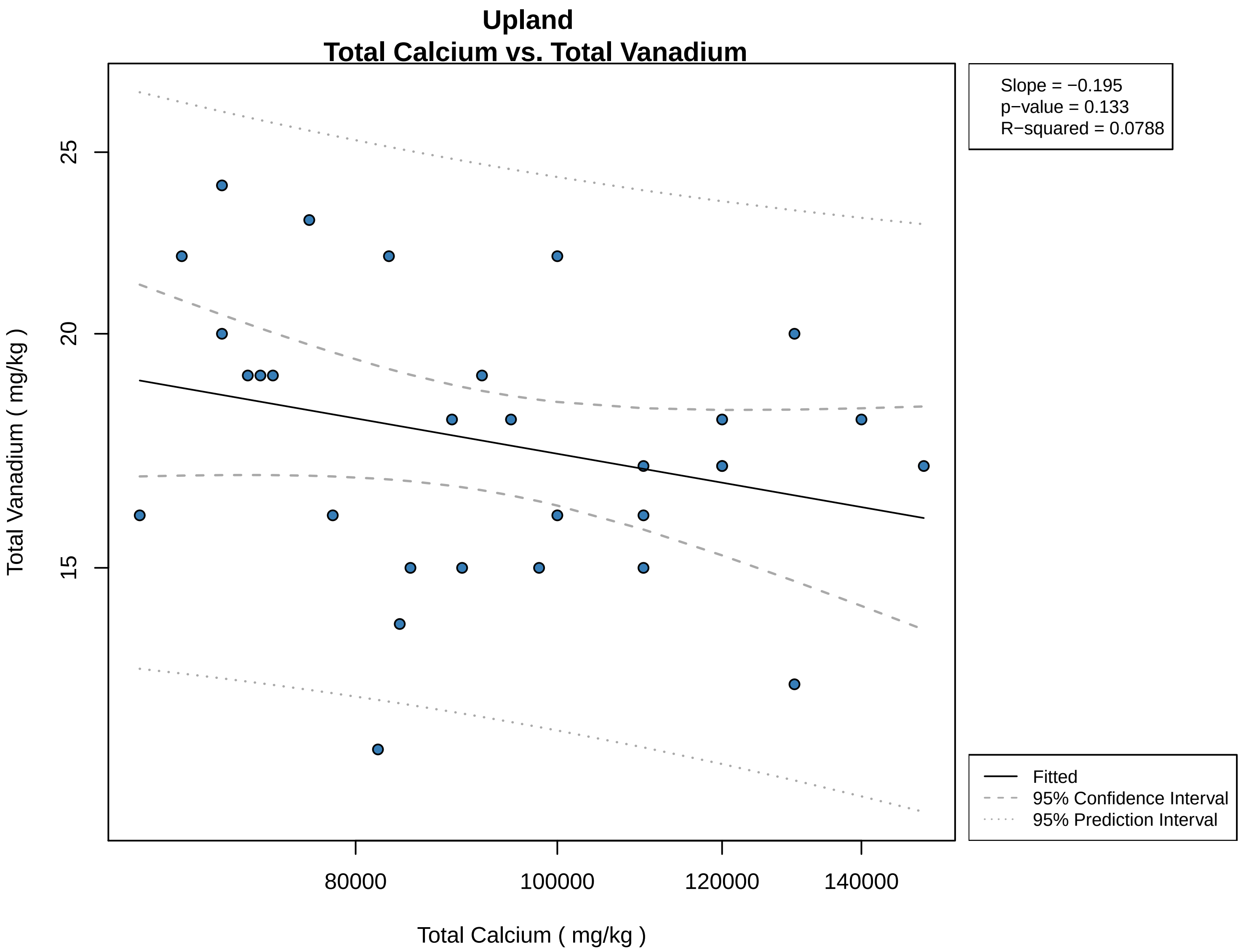


Figure 5.2.37
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

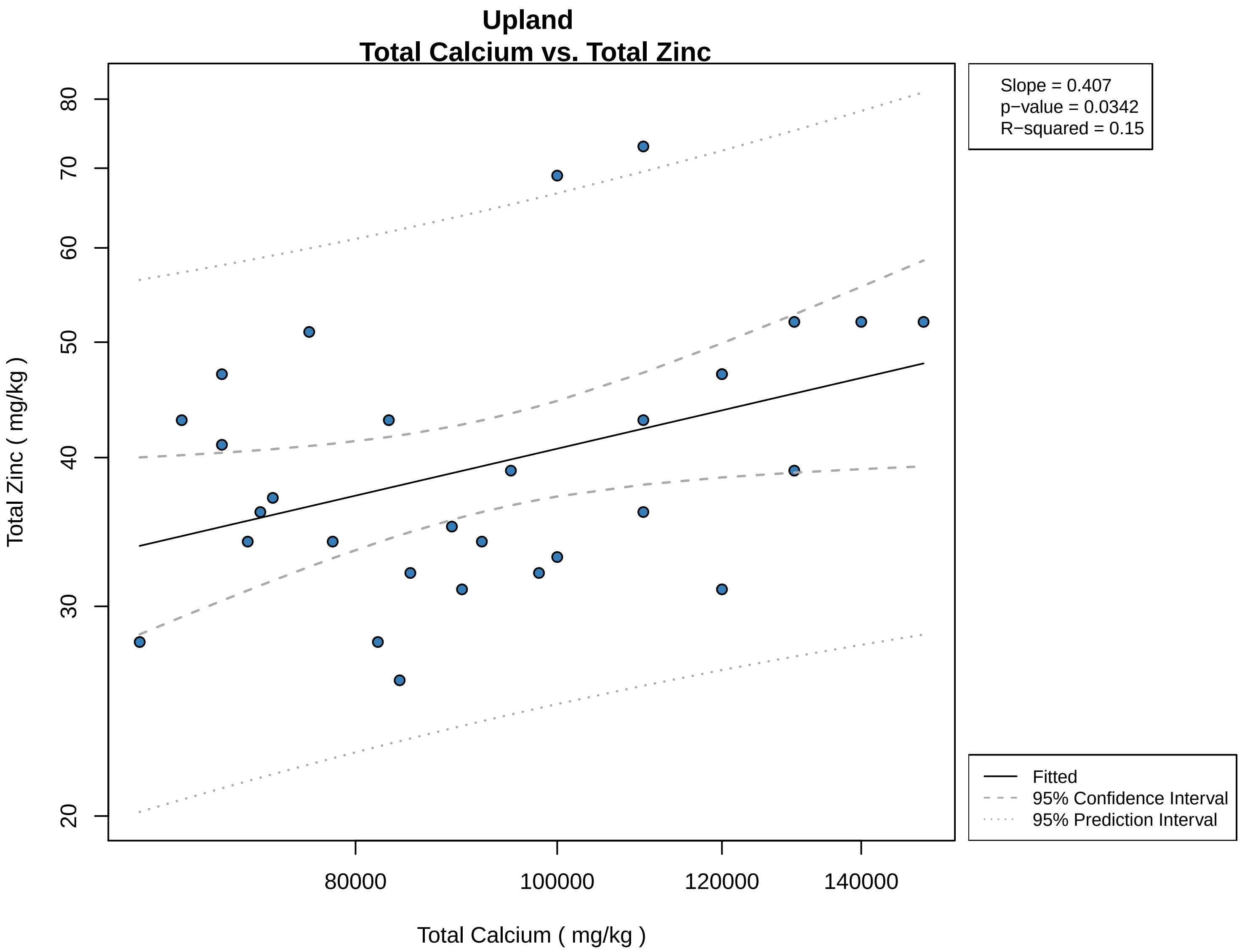


Figure 5.2.38
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

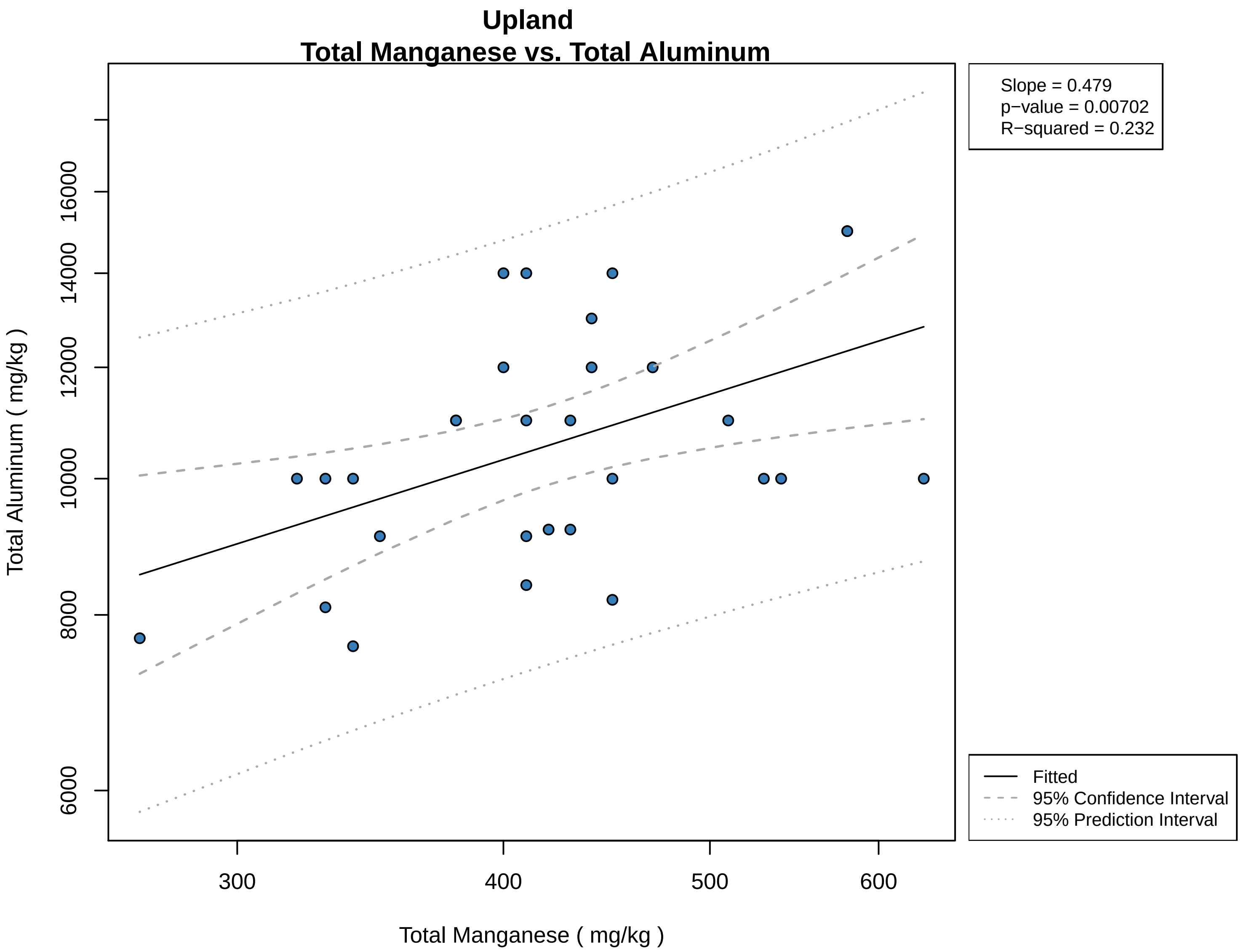


Figure 5.2.39
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

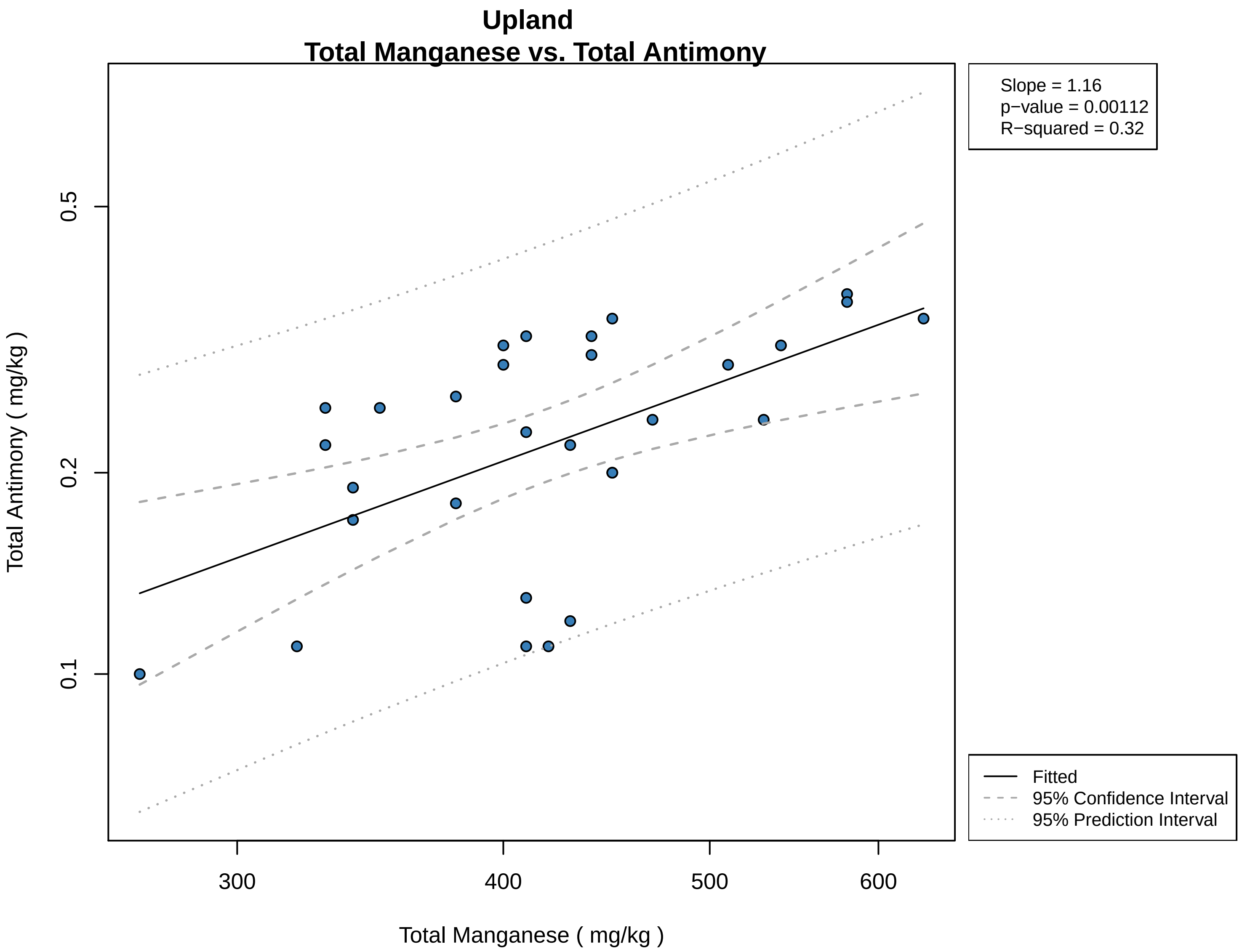


Figure 5.2.40
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

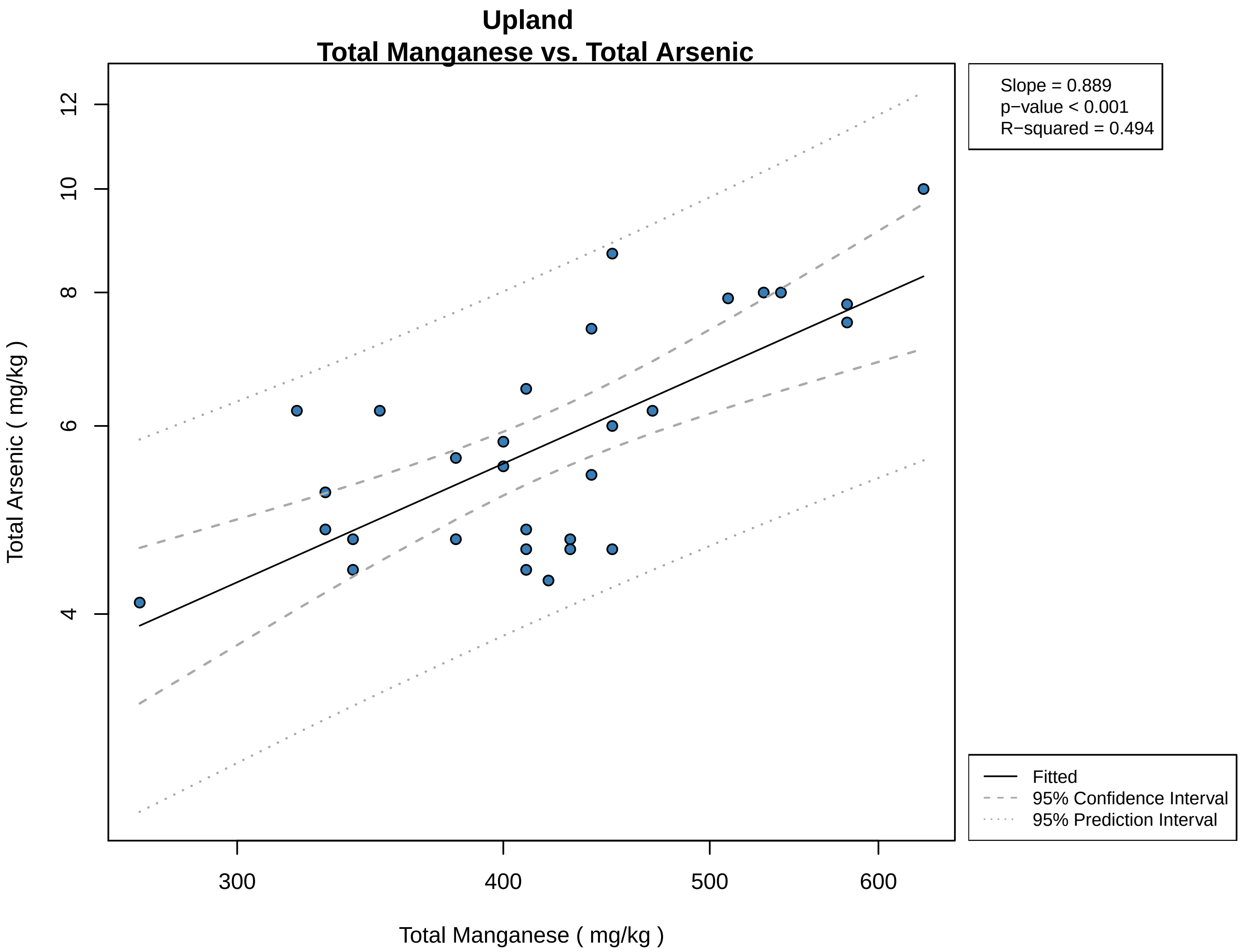


Figure 5.2.41
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

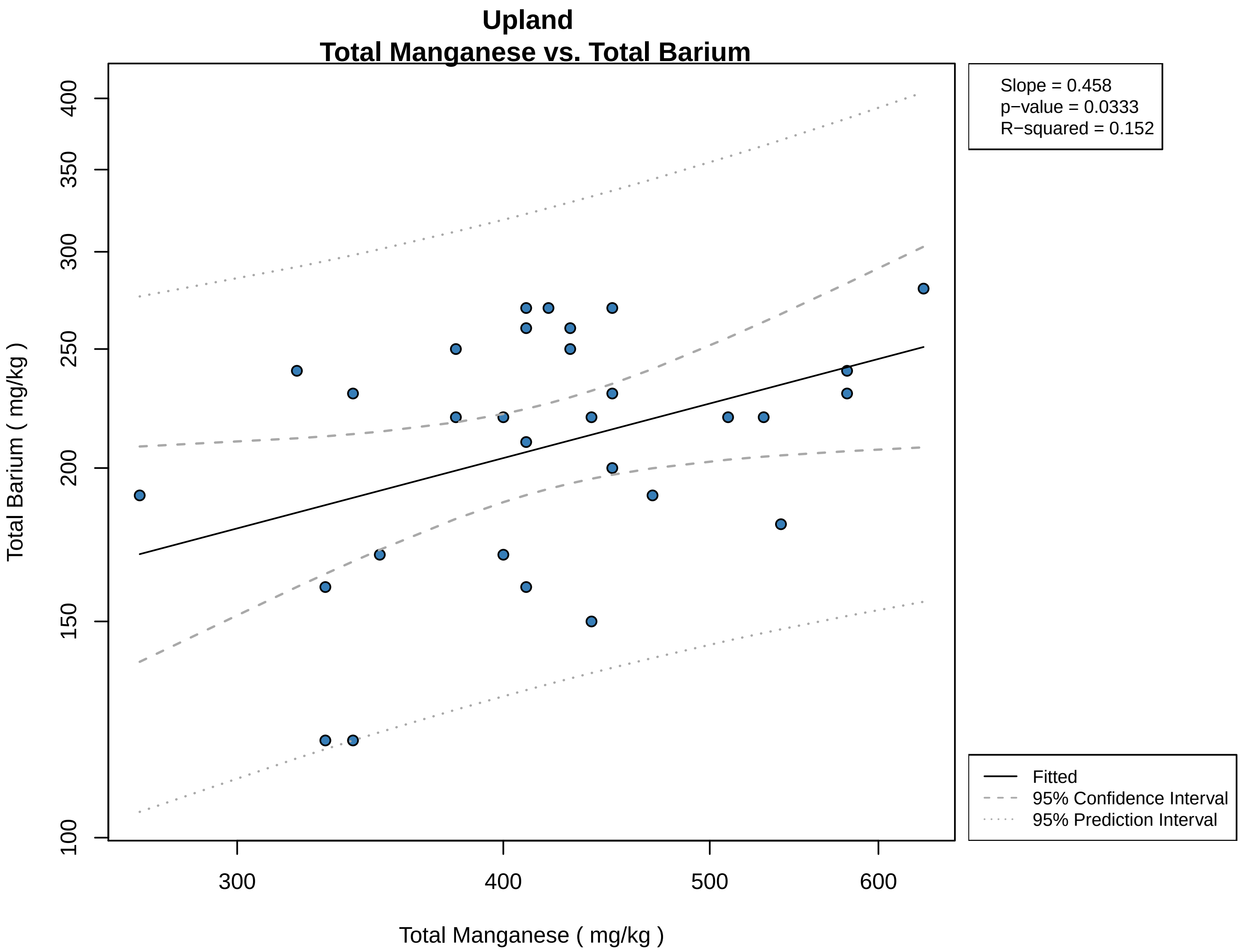


Figure 5.2.42
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

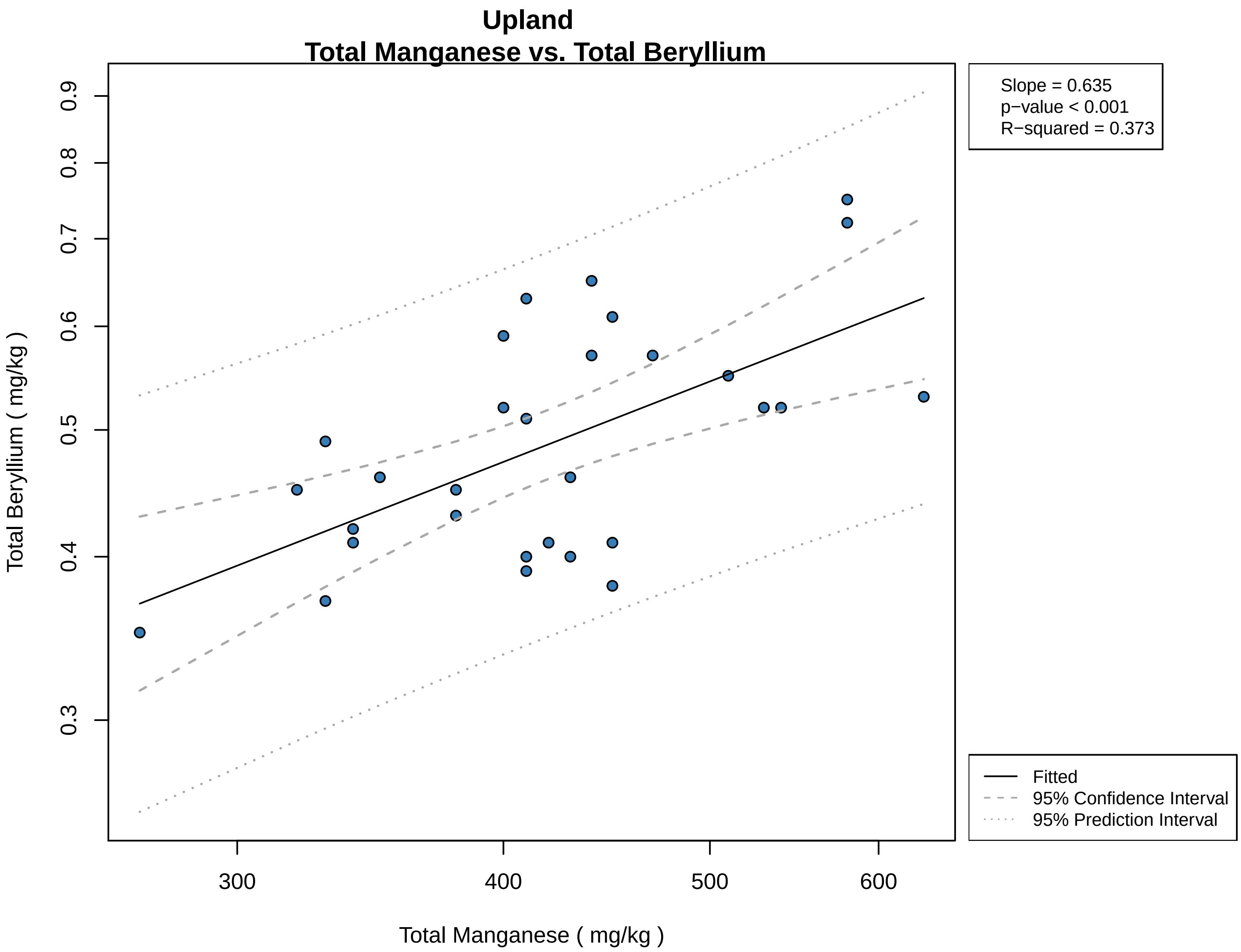


Figure 5.2.43
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

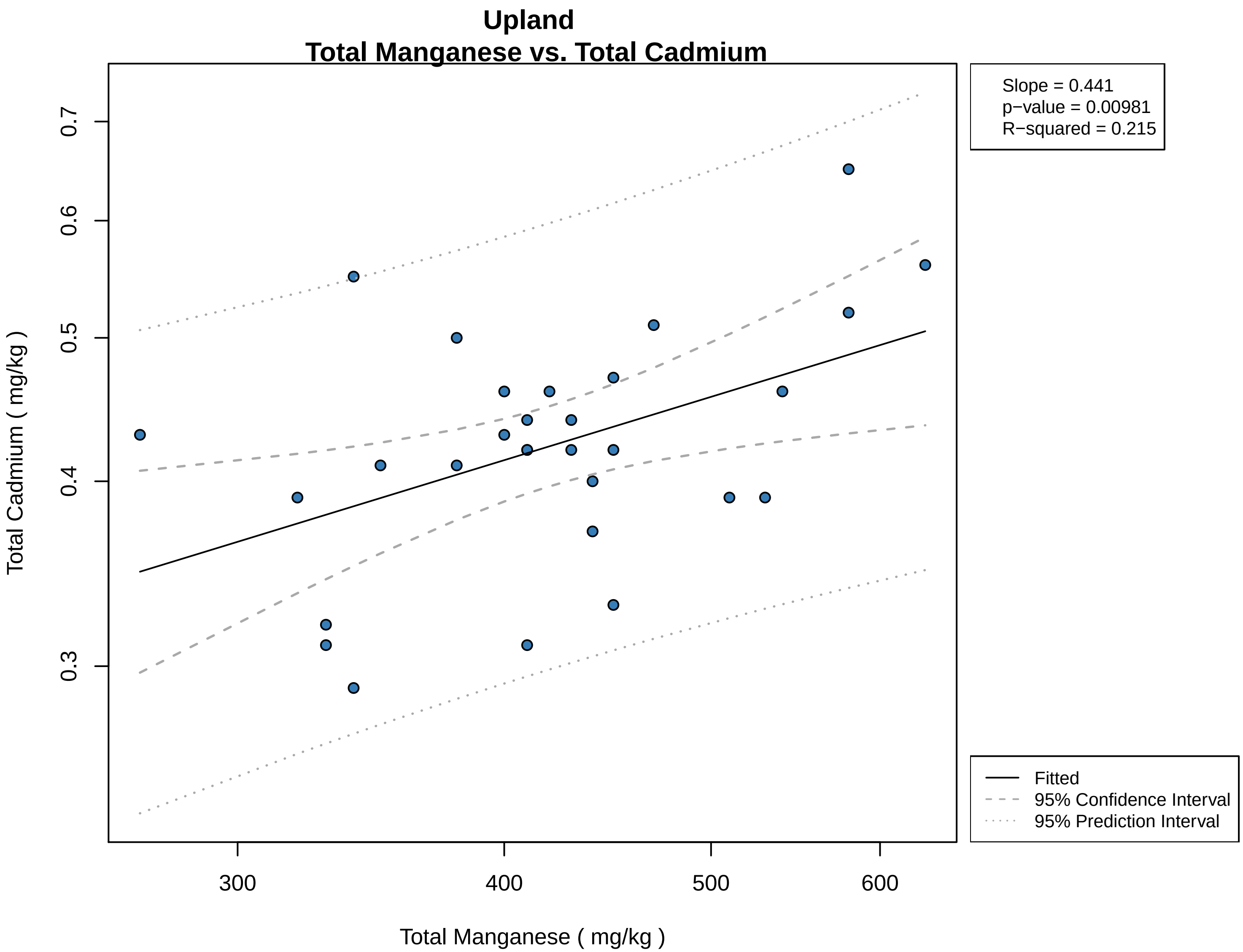


Figure 5.2.44
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

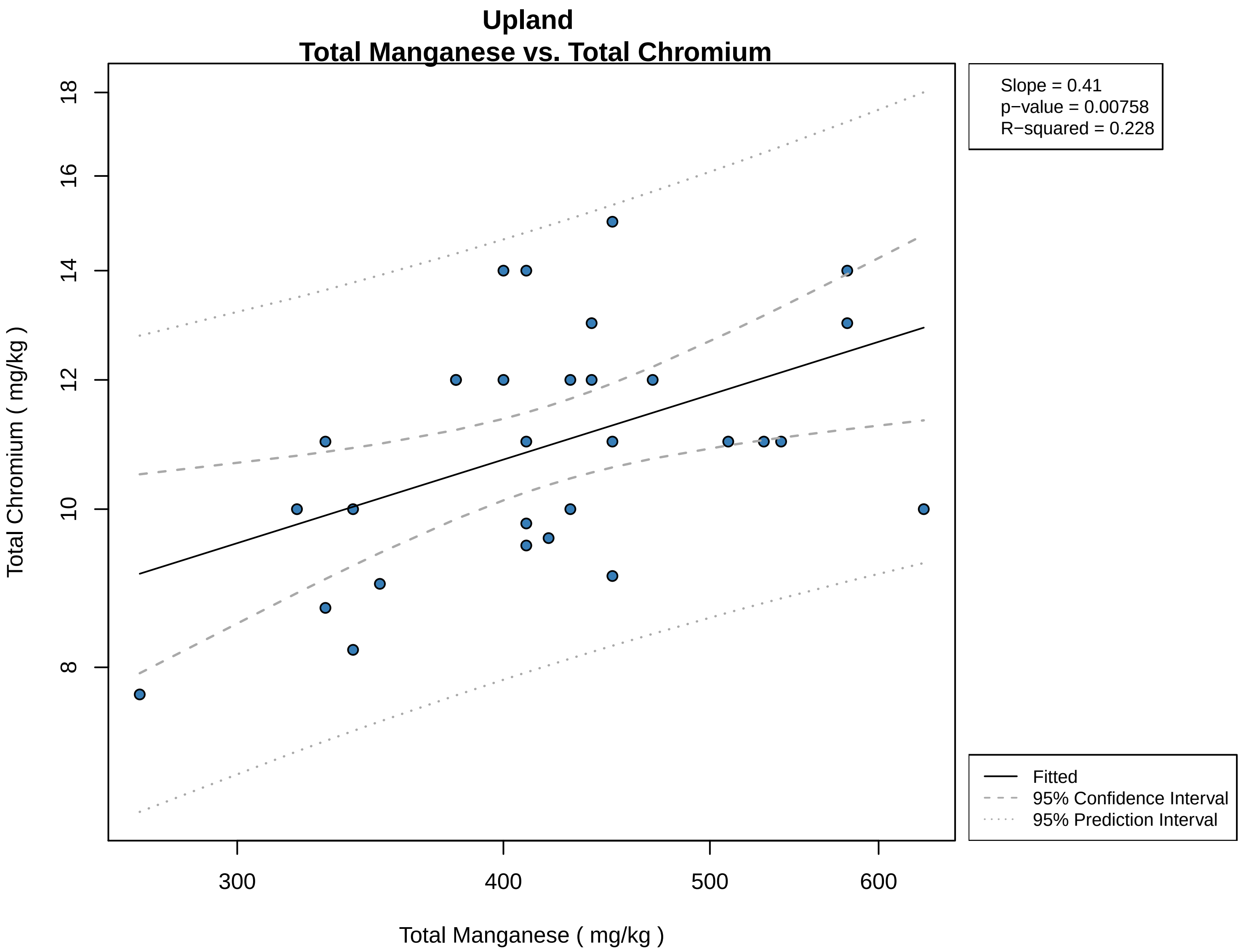


Figure 5.2.45
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

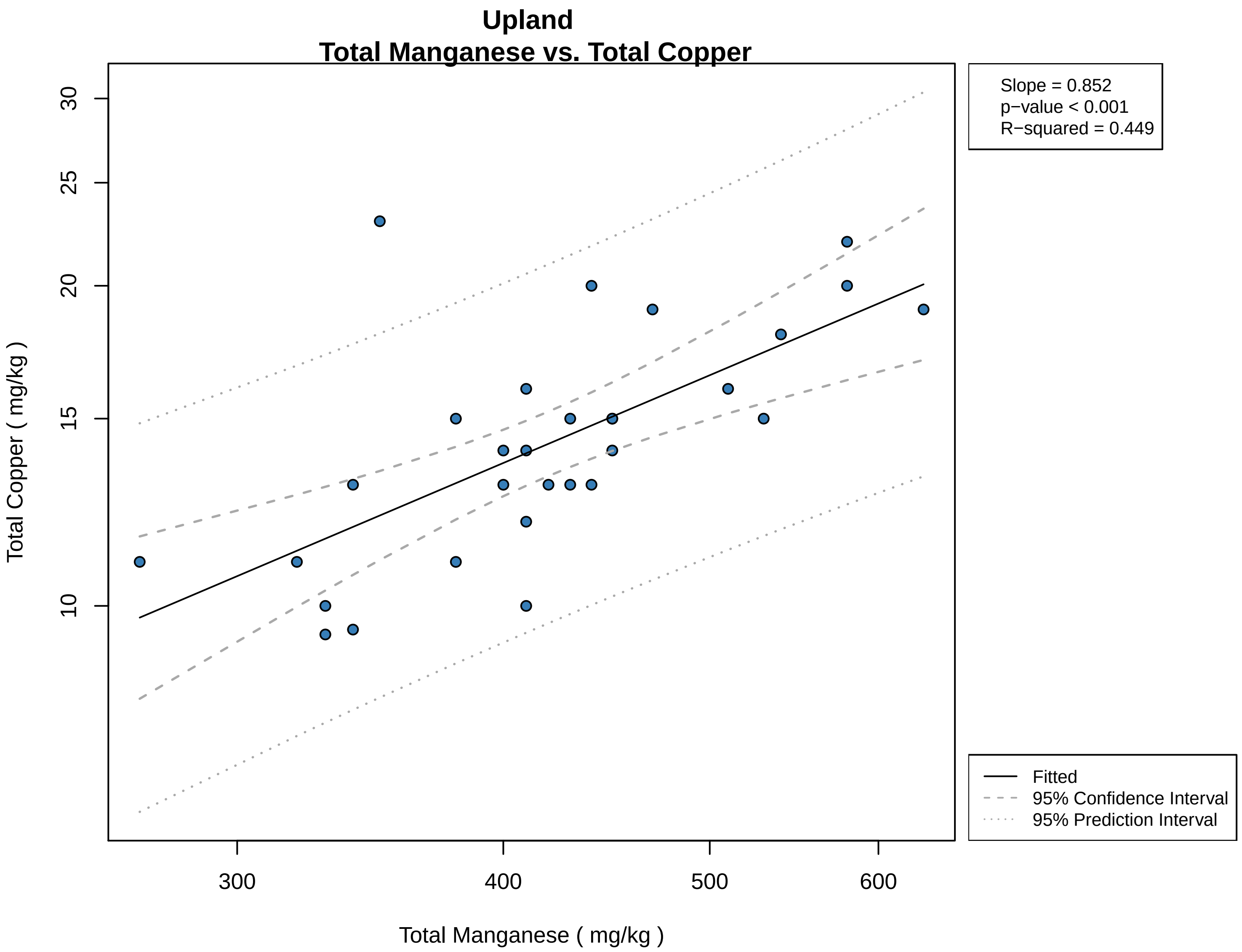


Figure 5.2.46
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

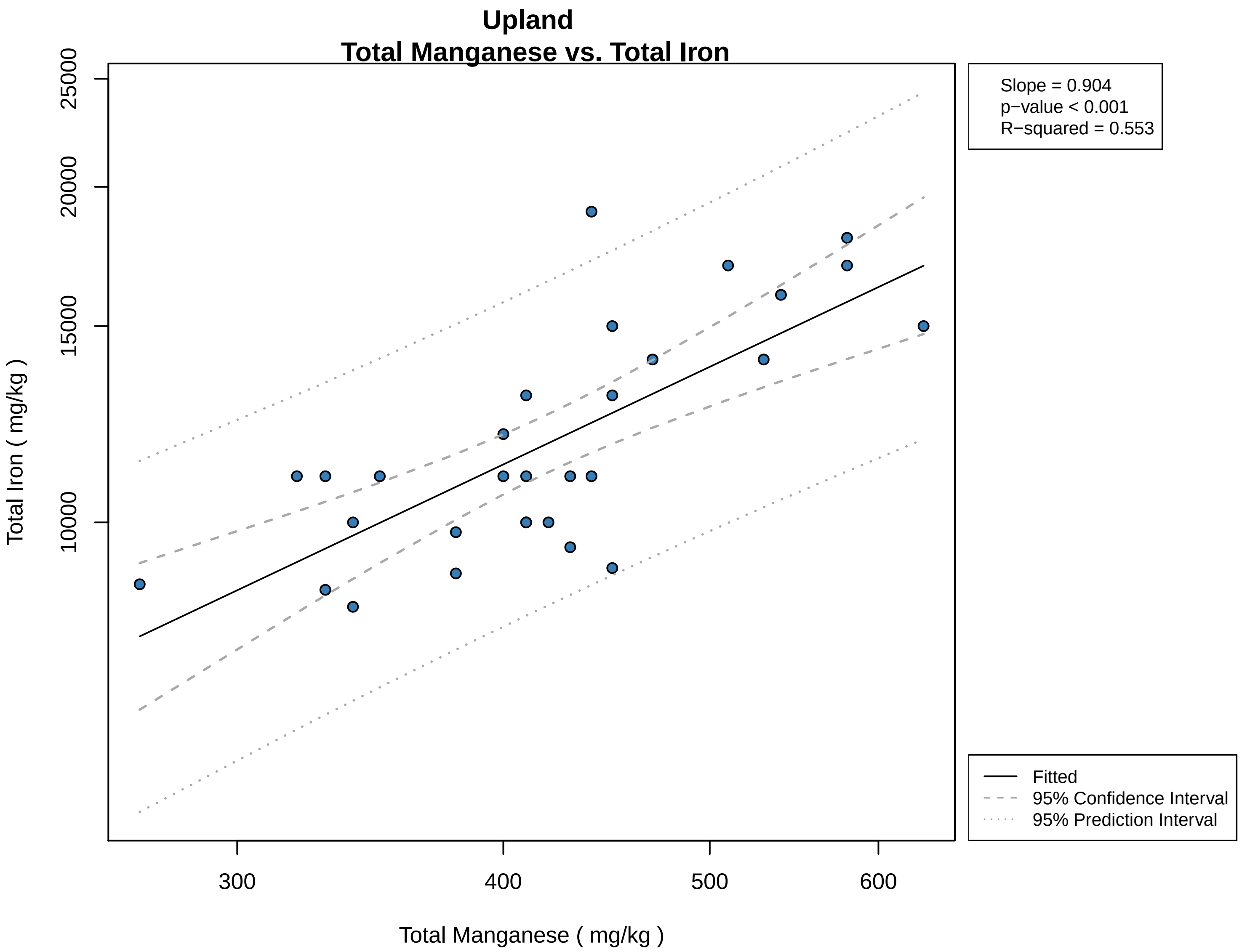


Figure 5.2.47
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

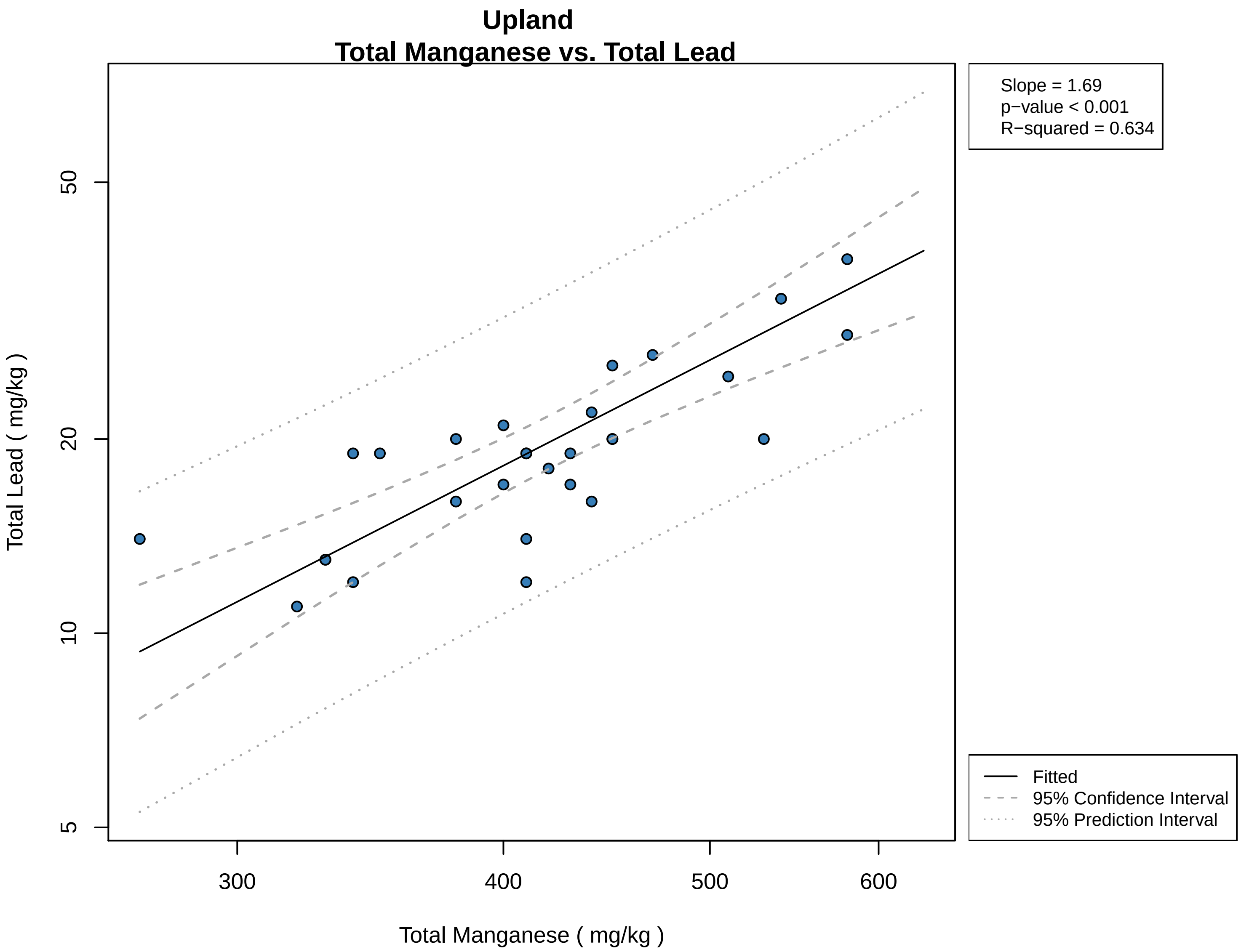


Figure 5.2.48
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

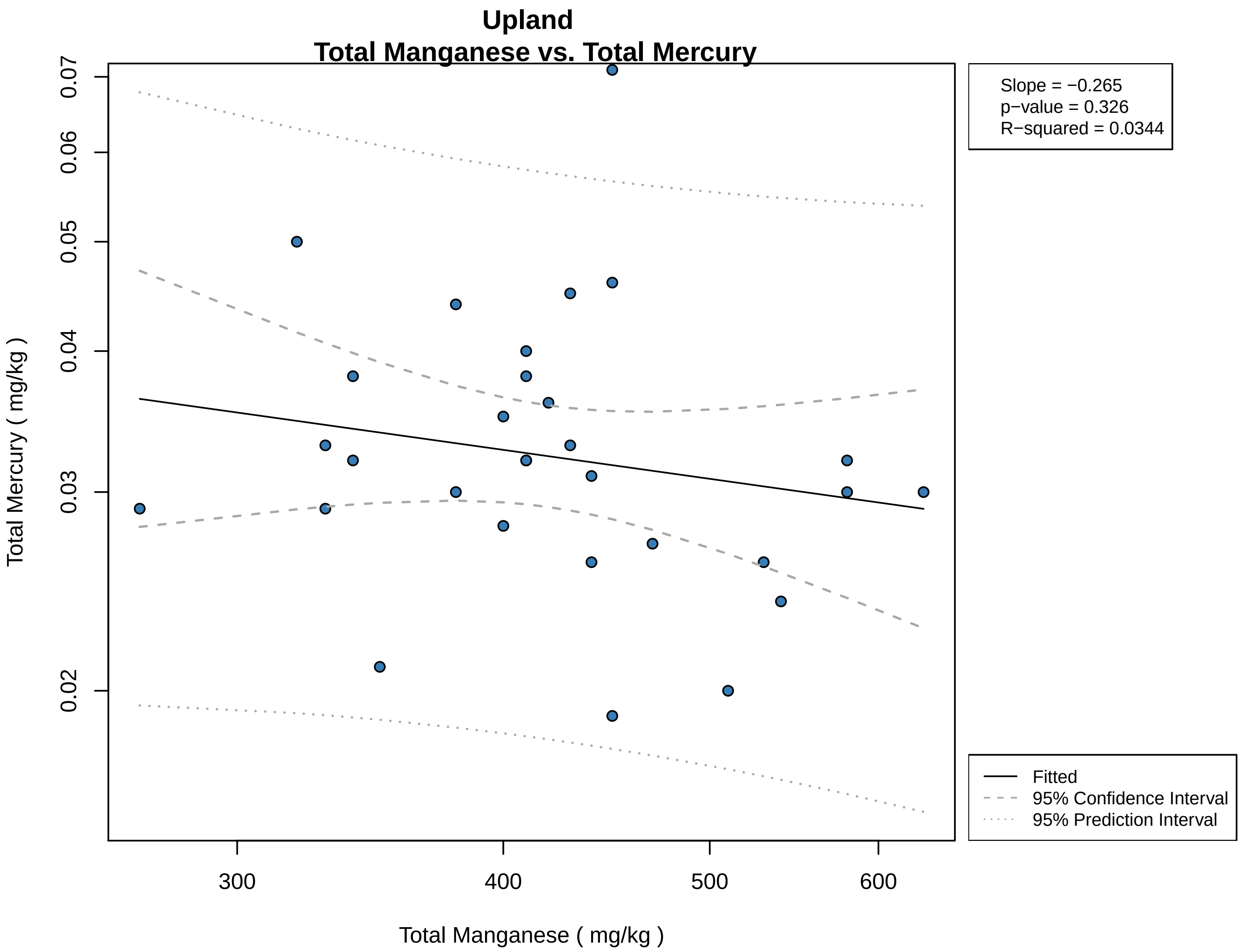


Figure 5.2.49
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

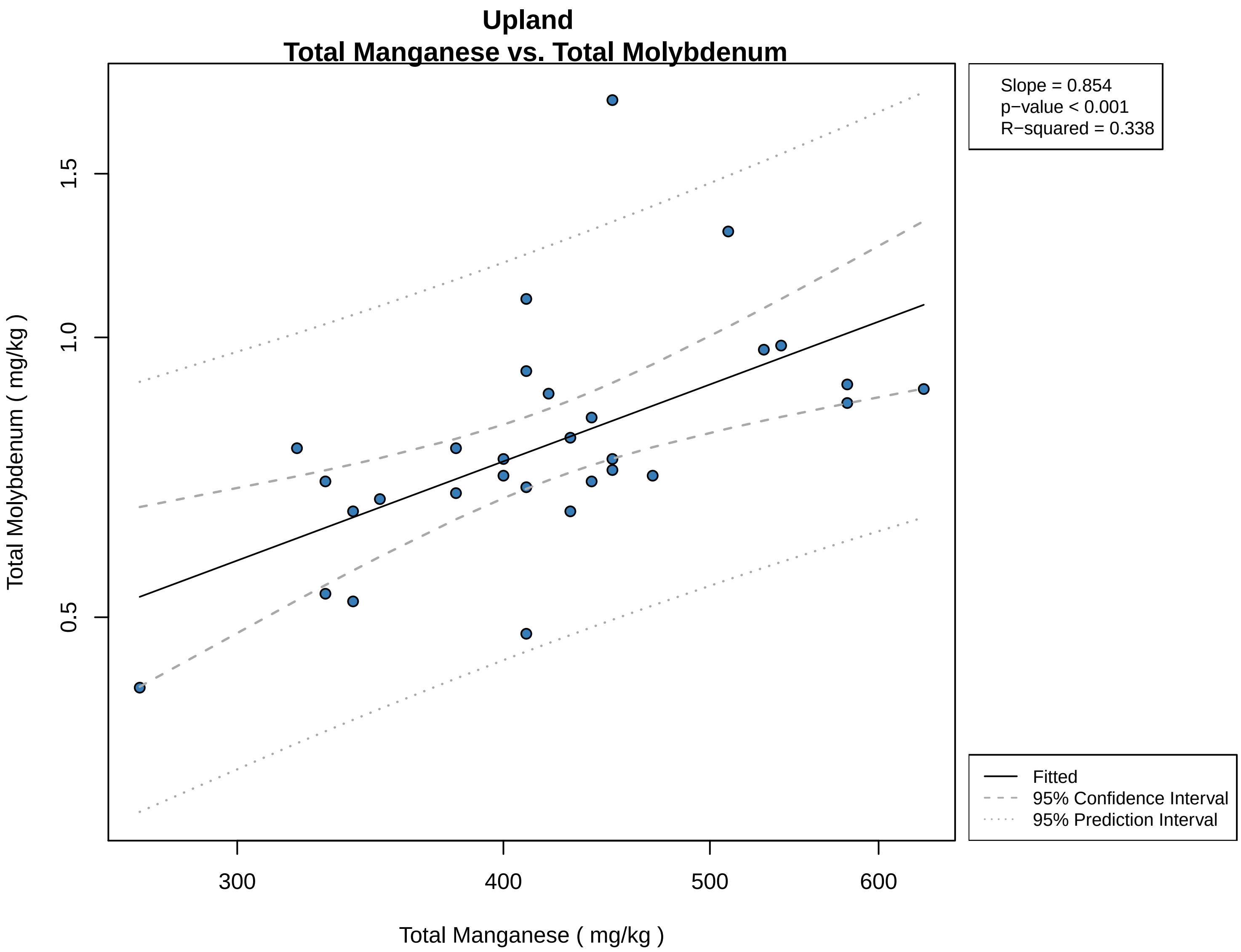


Figure 5.2.50
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

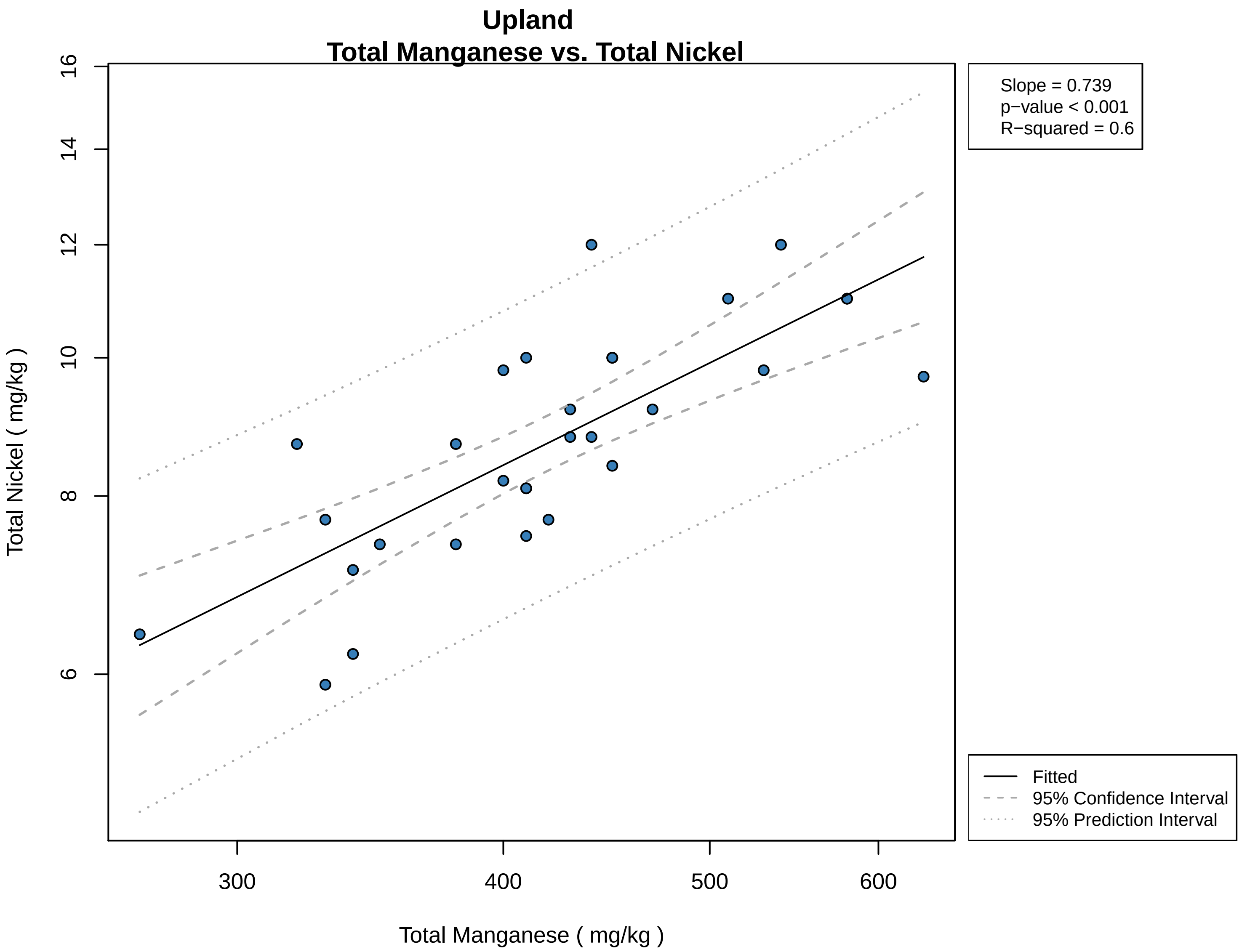


Figure 5.2.51
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

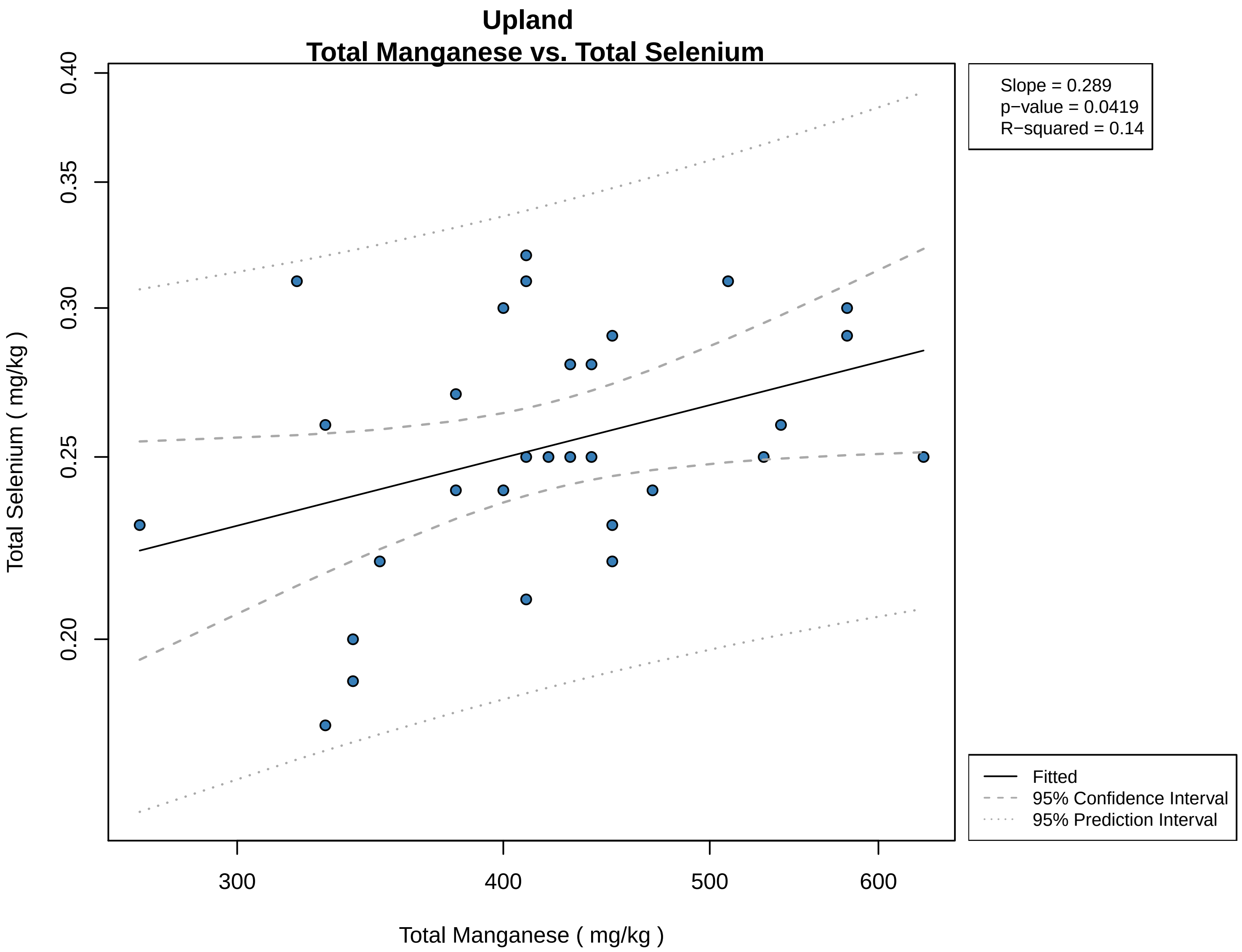


Figure 5.2.52
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

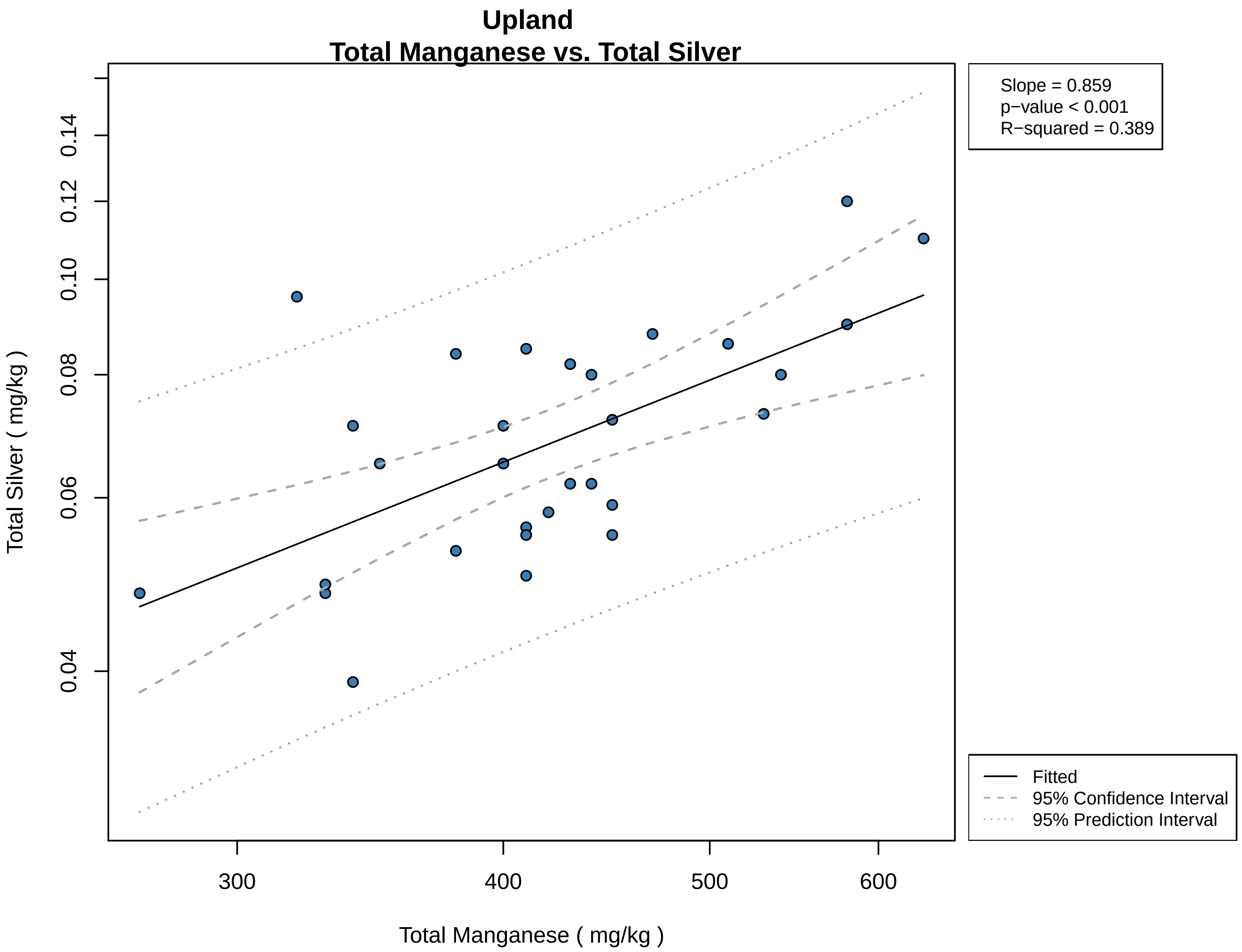
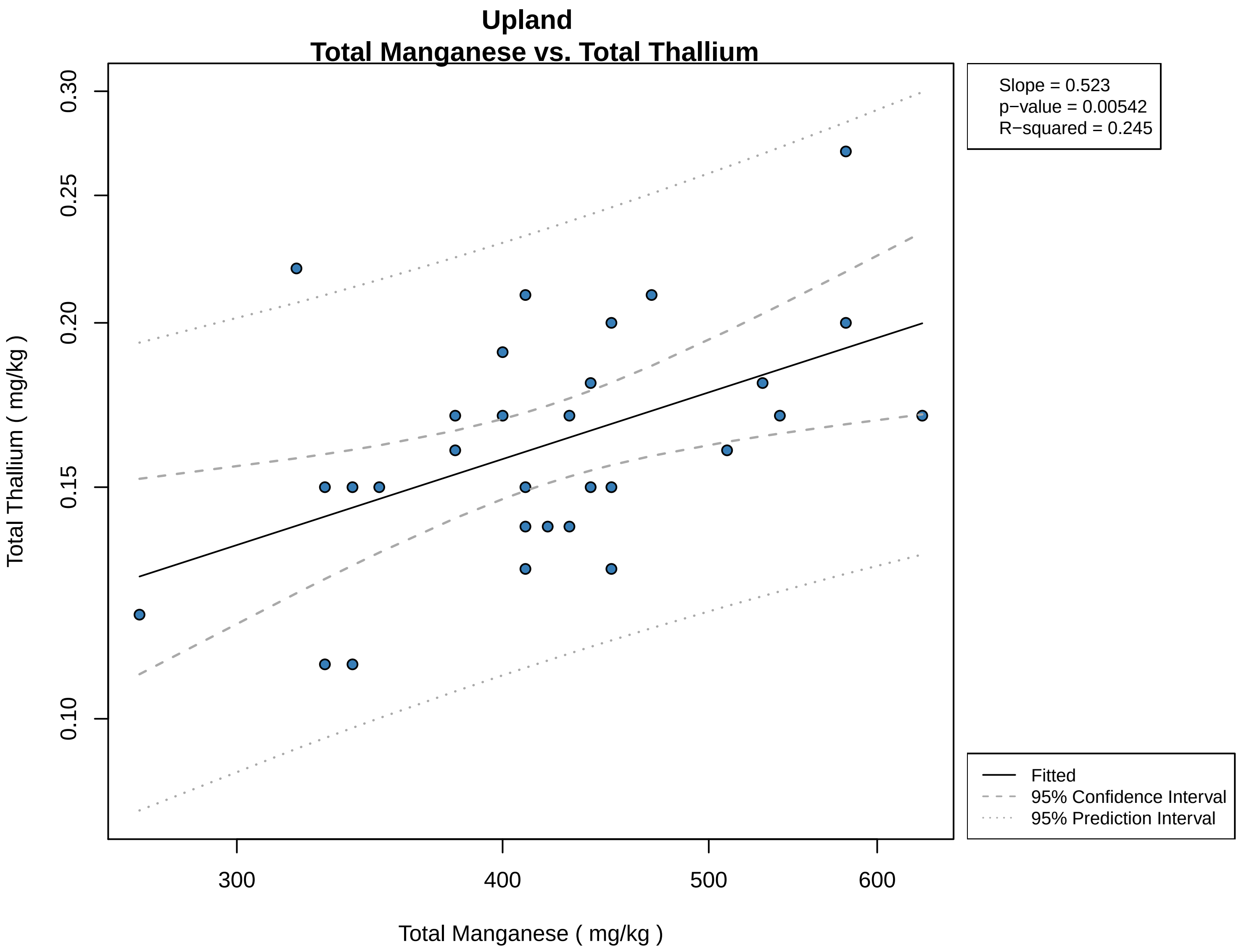


Figure 5.2.53
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah



Upland
Total Manganese vs. Total Thallium

Figure 5.2.54
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

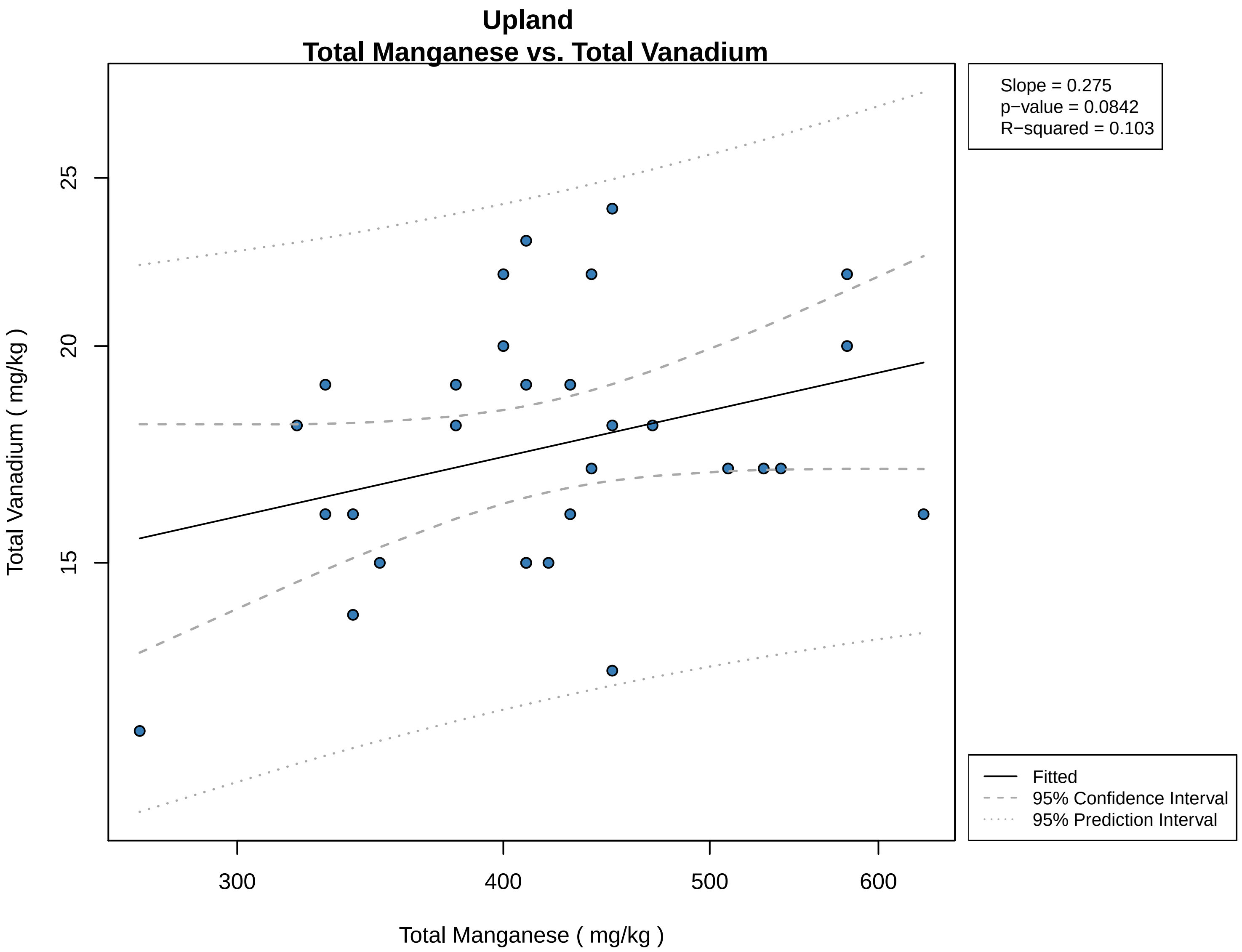


Figure 5.2.55
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

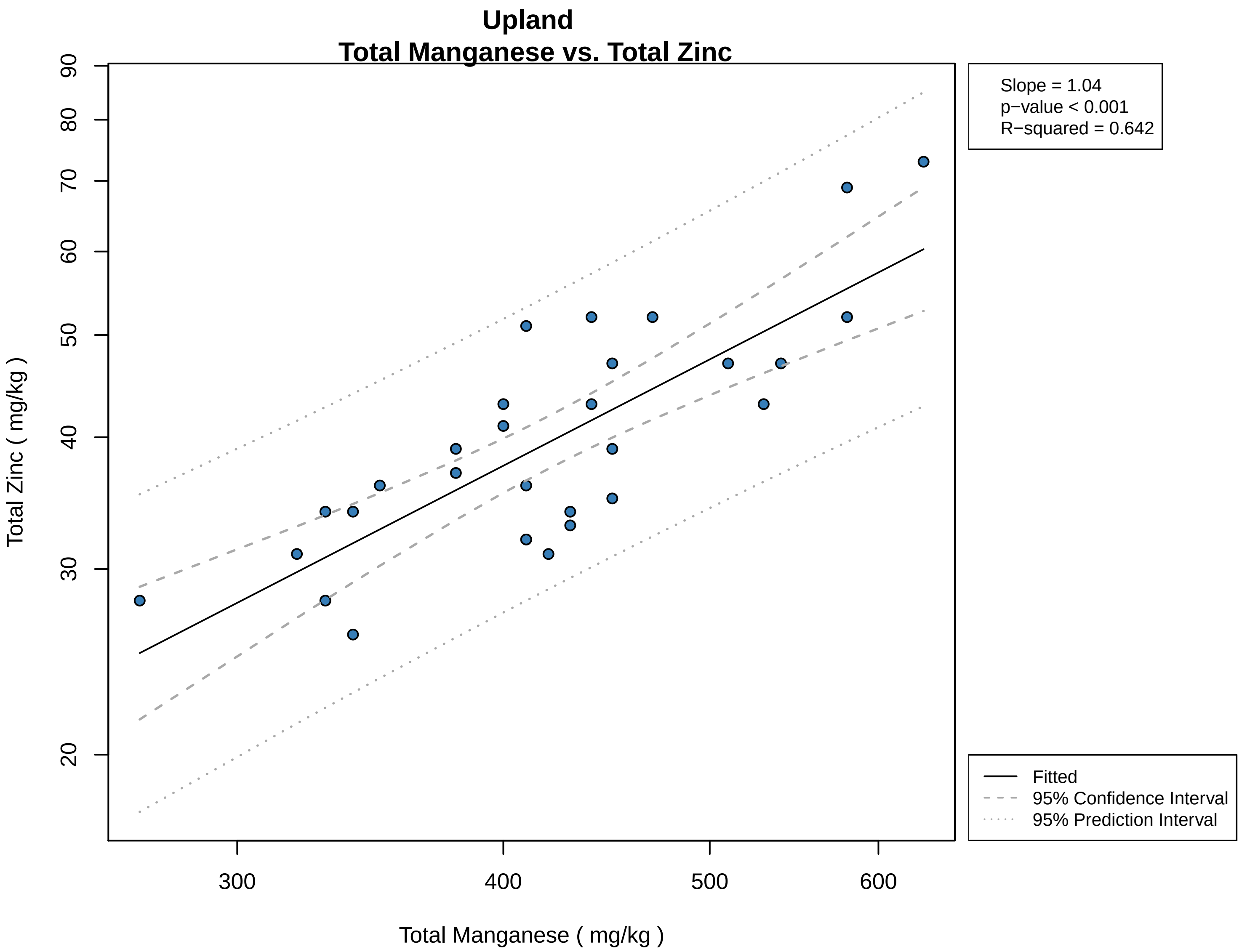


Figure 5.2.56
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

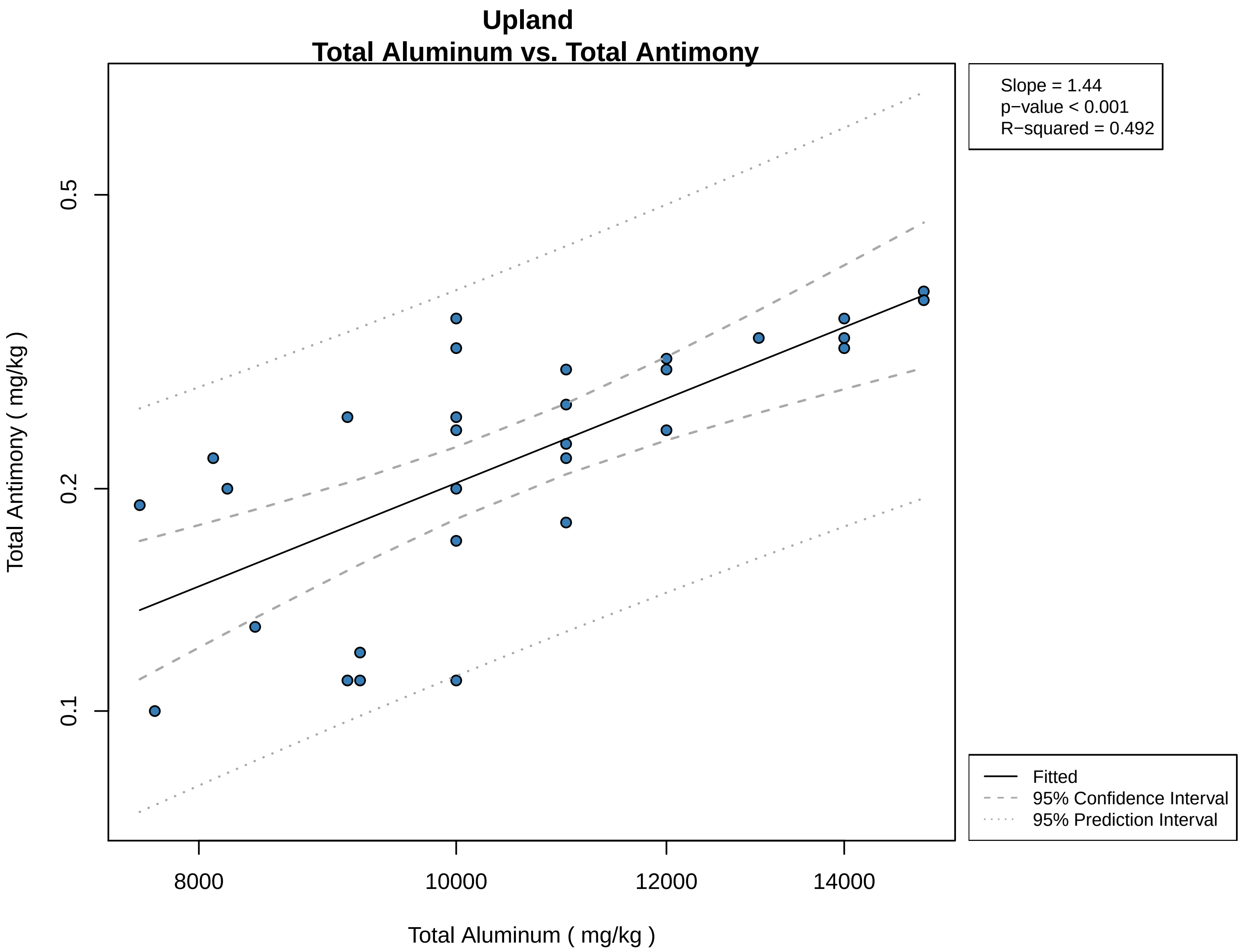
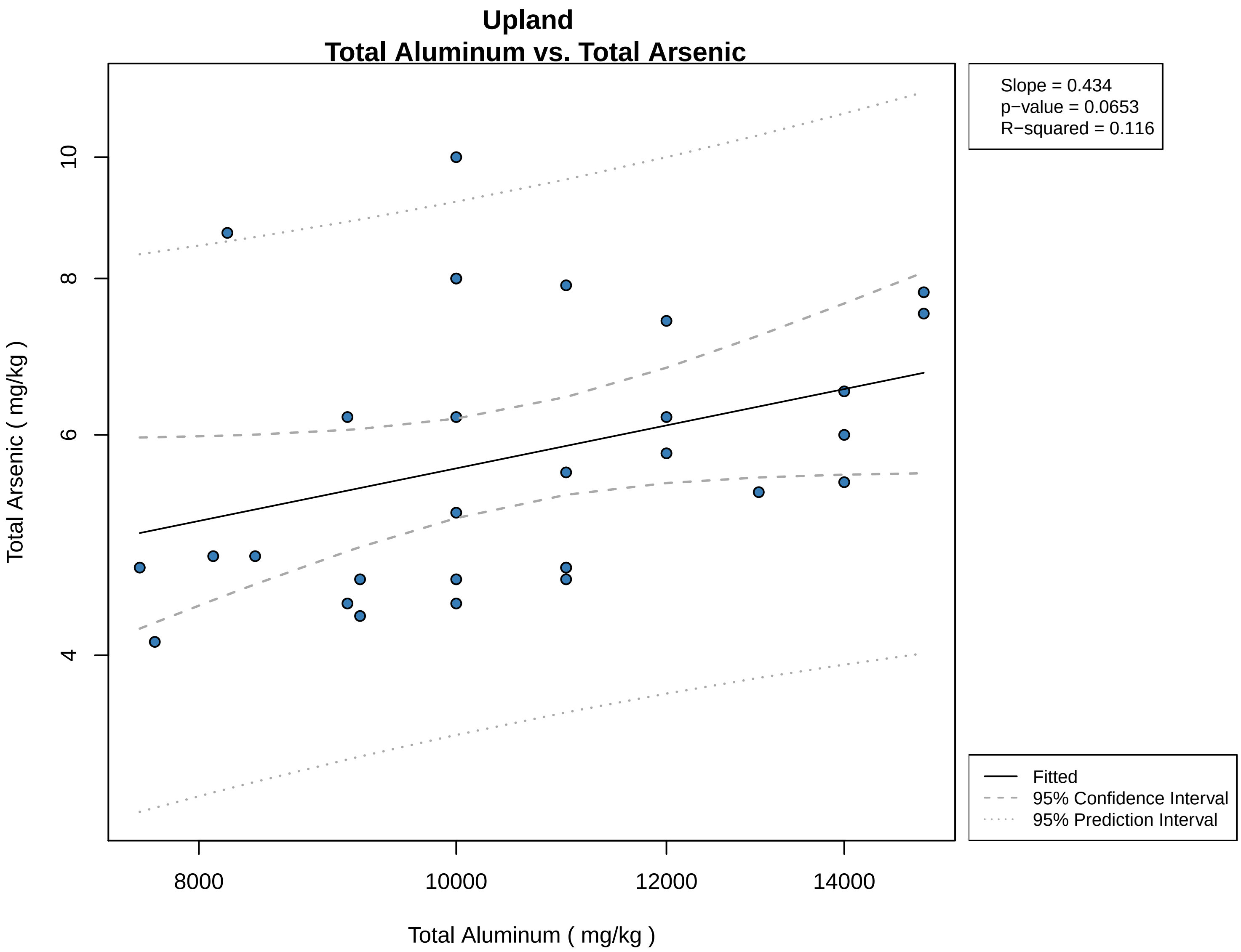


Figure 5.2.57
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah



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Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

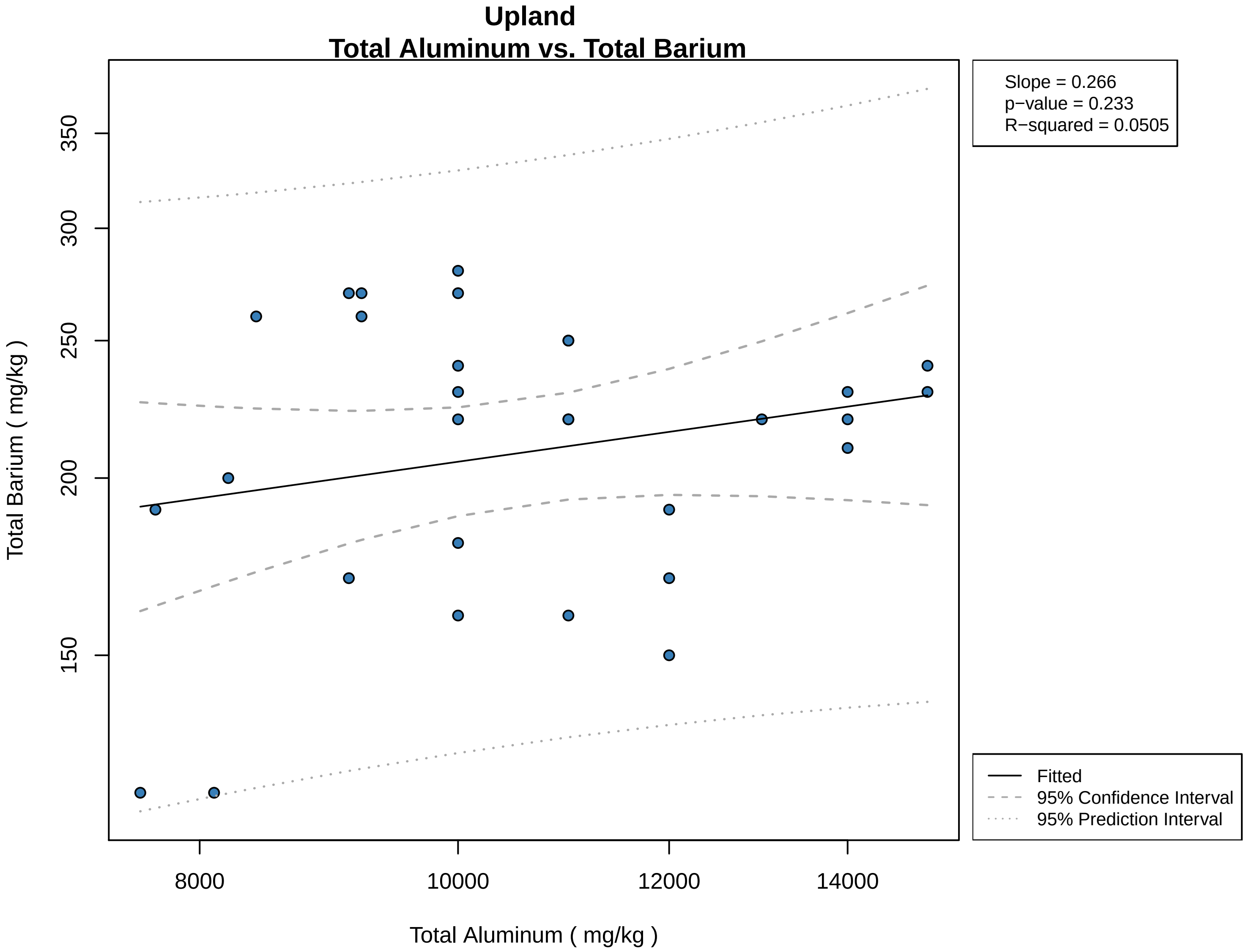

Figure 5.2.59
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

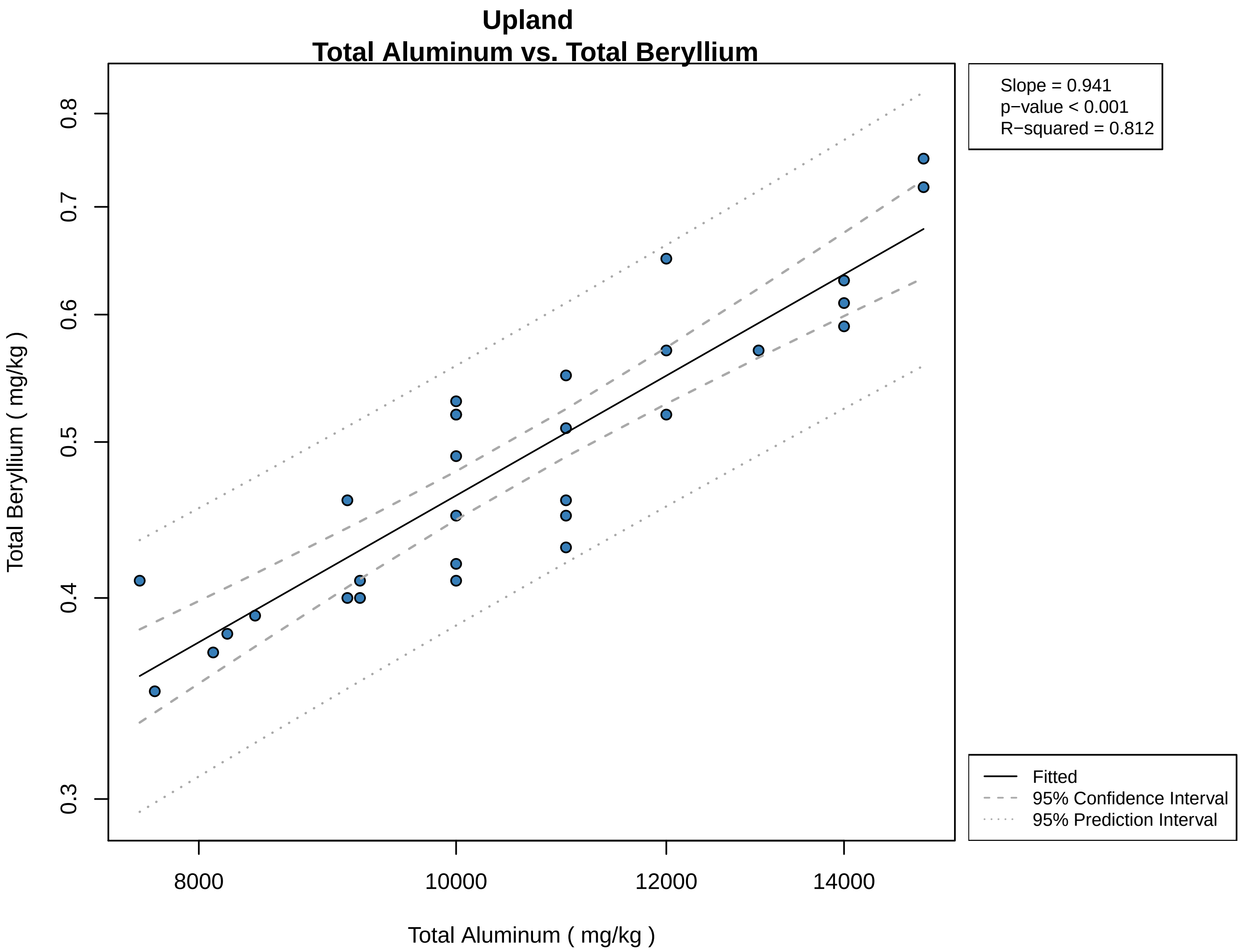

Figure 5.2.60
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

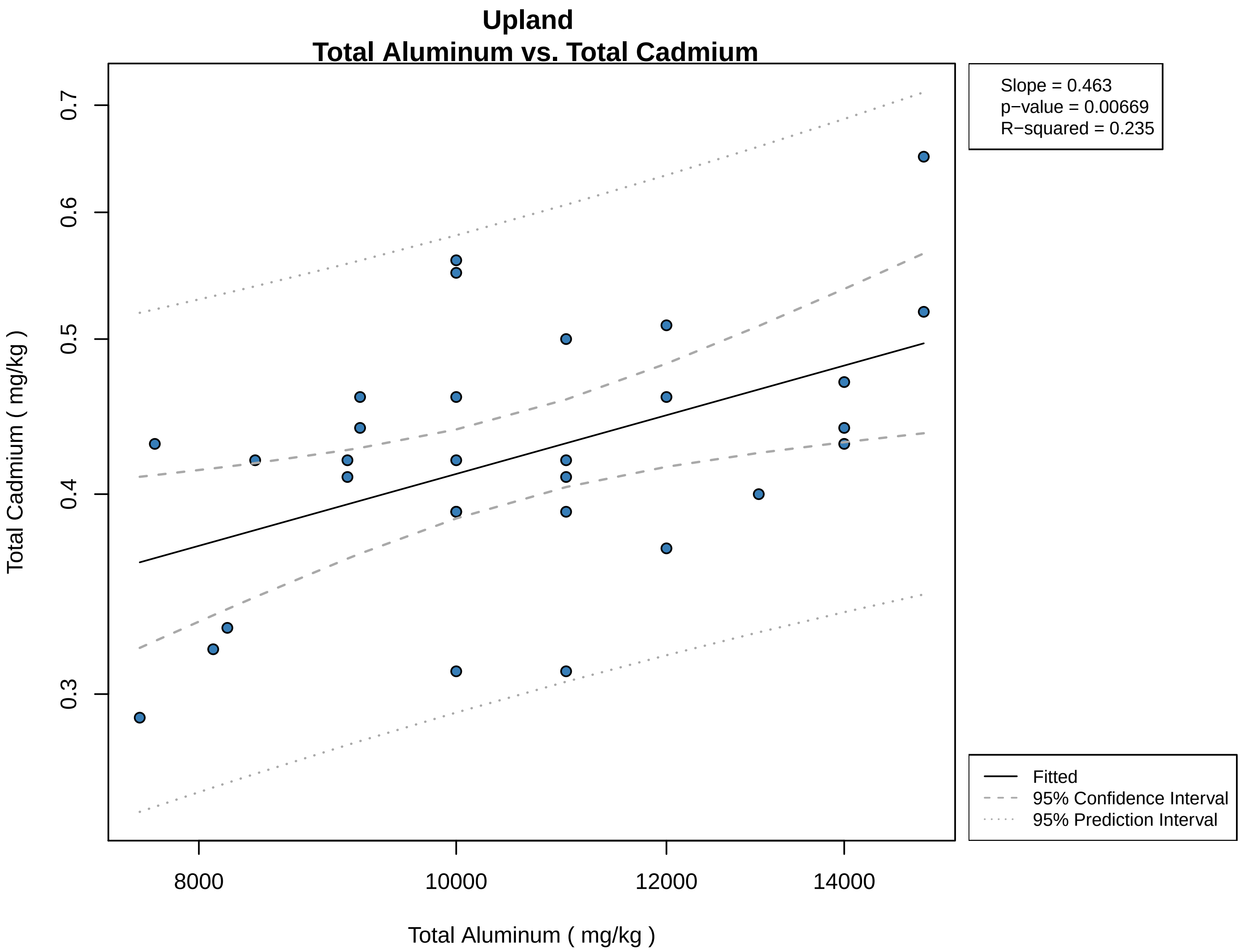

Figure 5.2.61
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

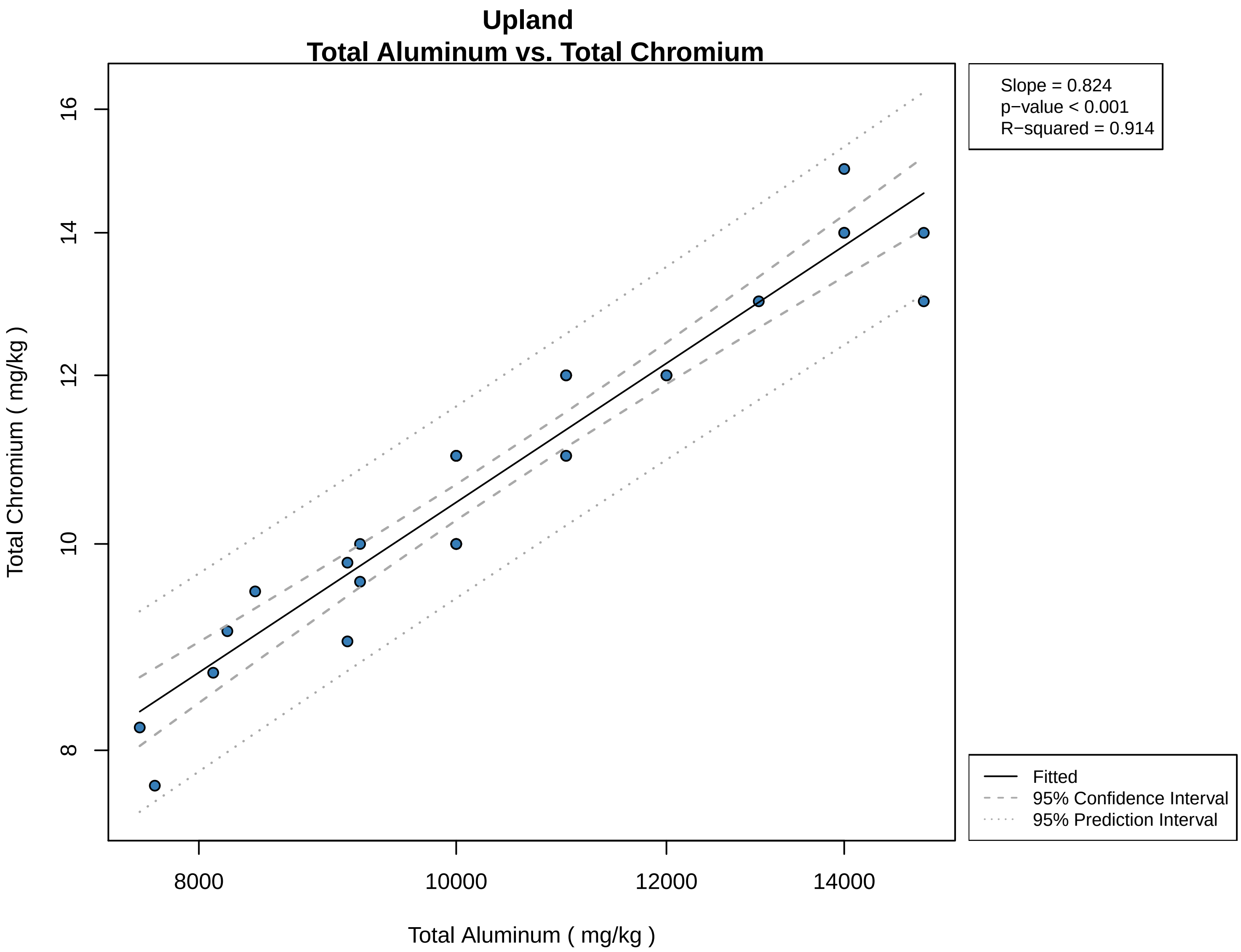

Figure 5.2.62
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

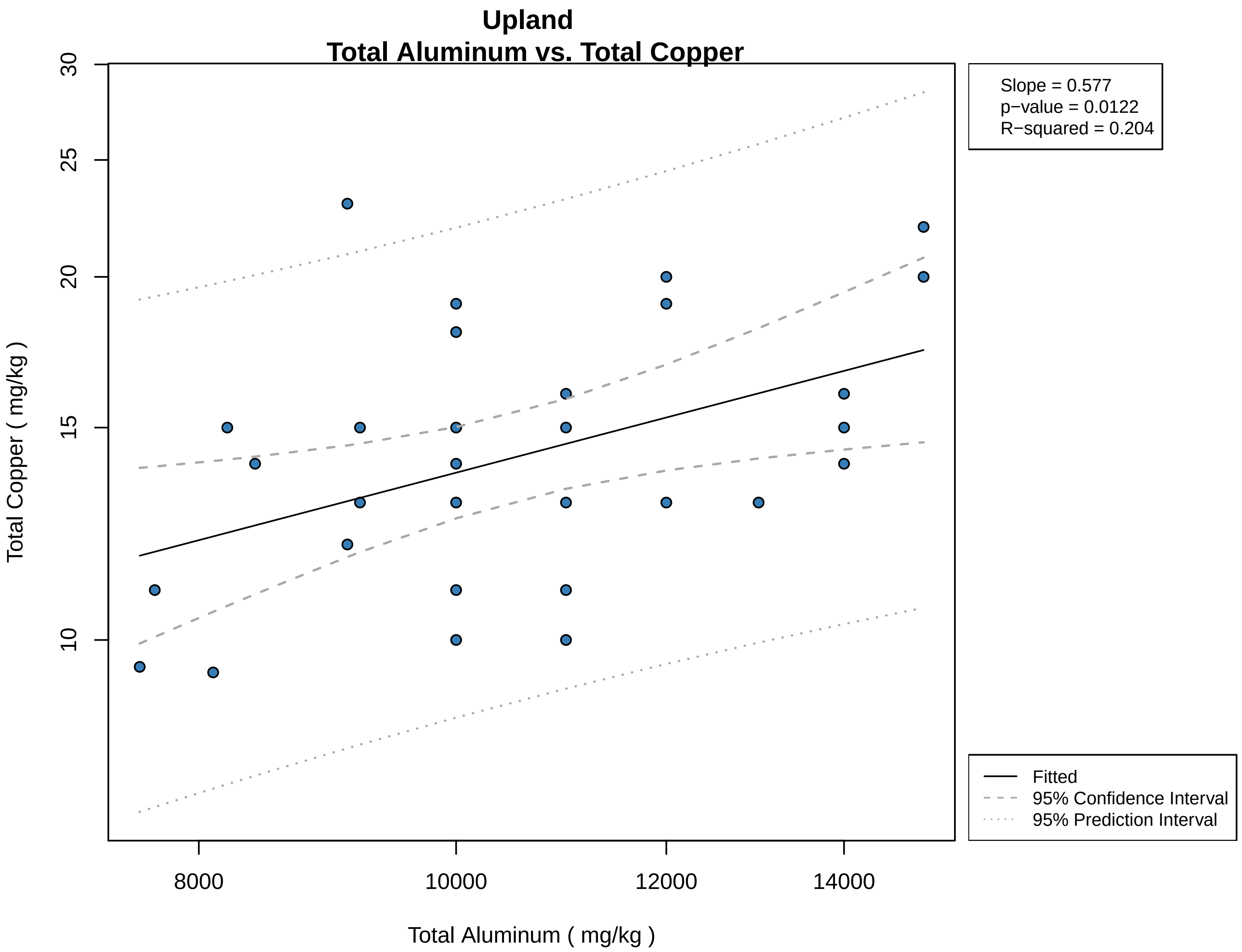

Figure 5.2.63
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

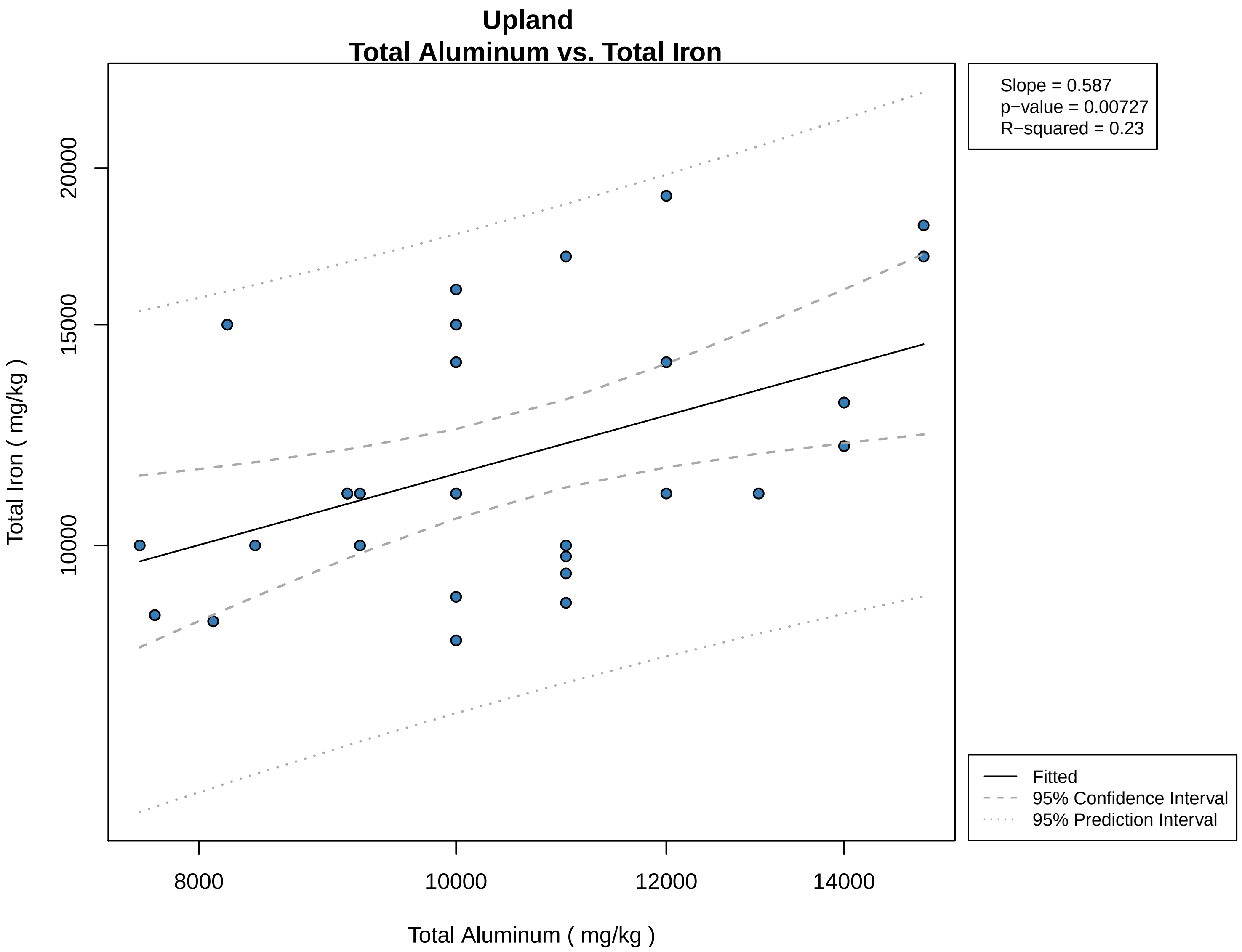

Figure 5.2.64
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

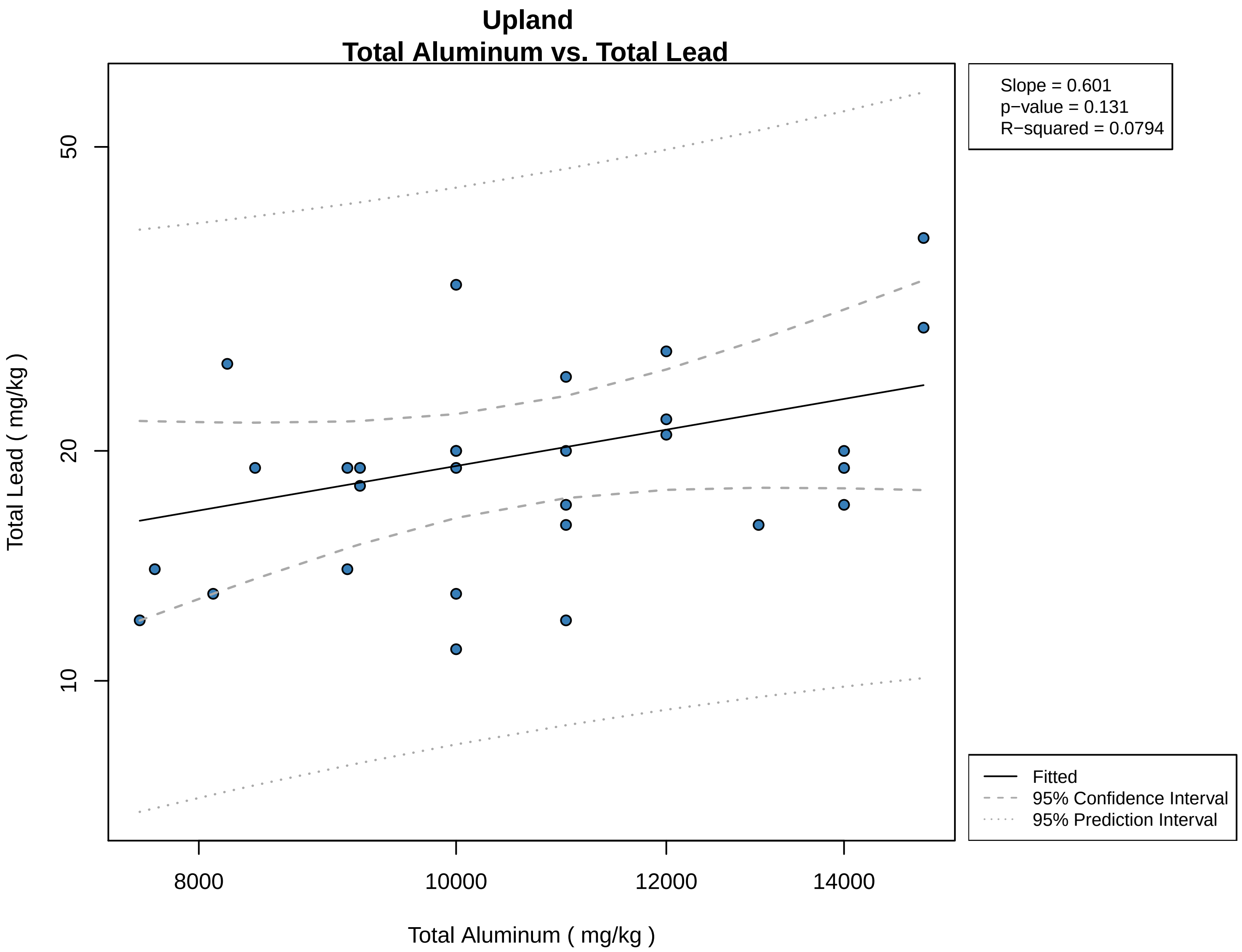

Figure 5.2.65
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

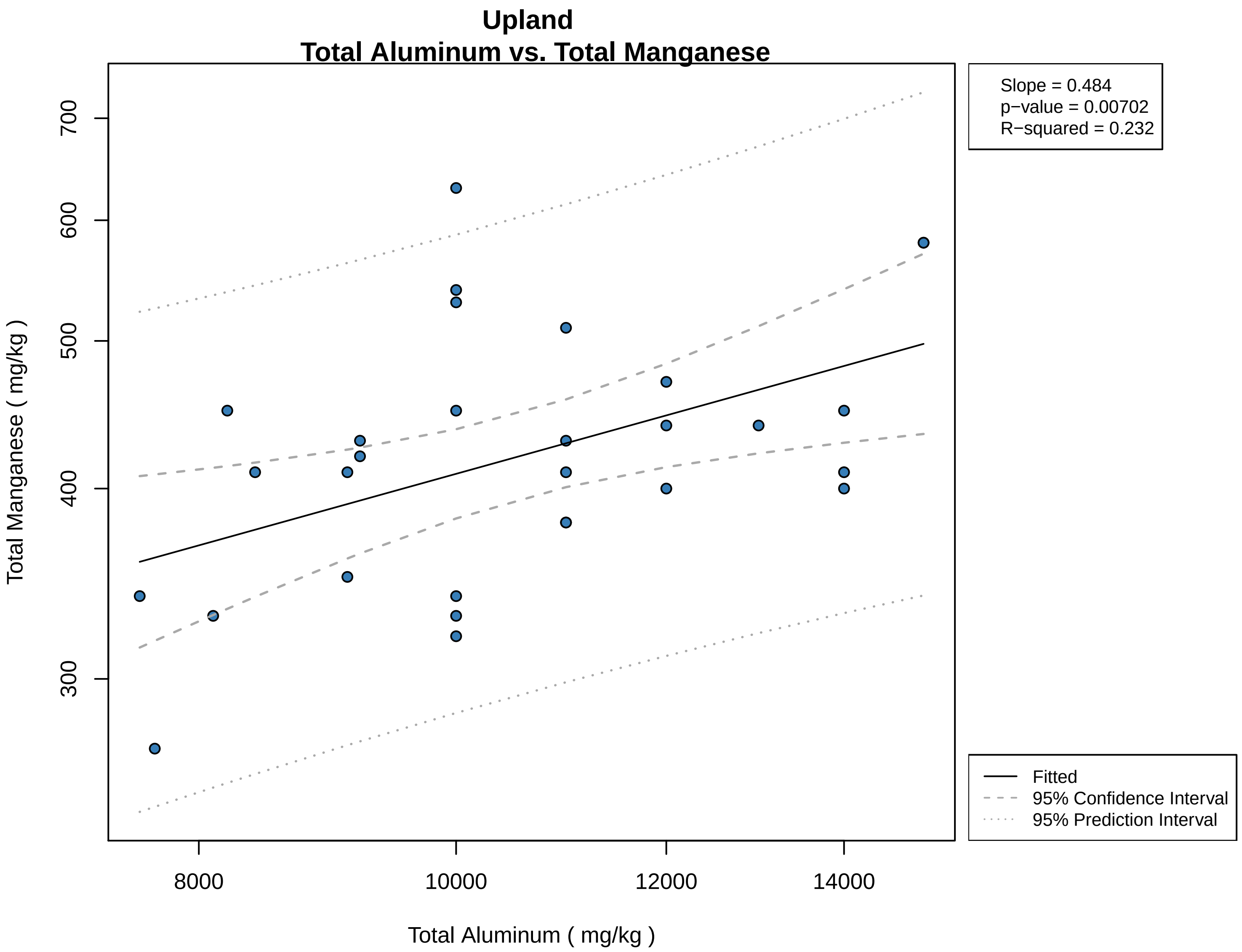

Figure 5.2.66
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

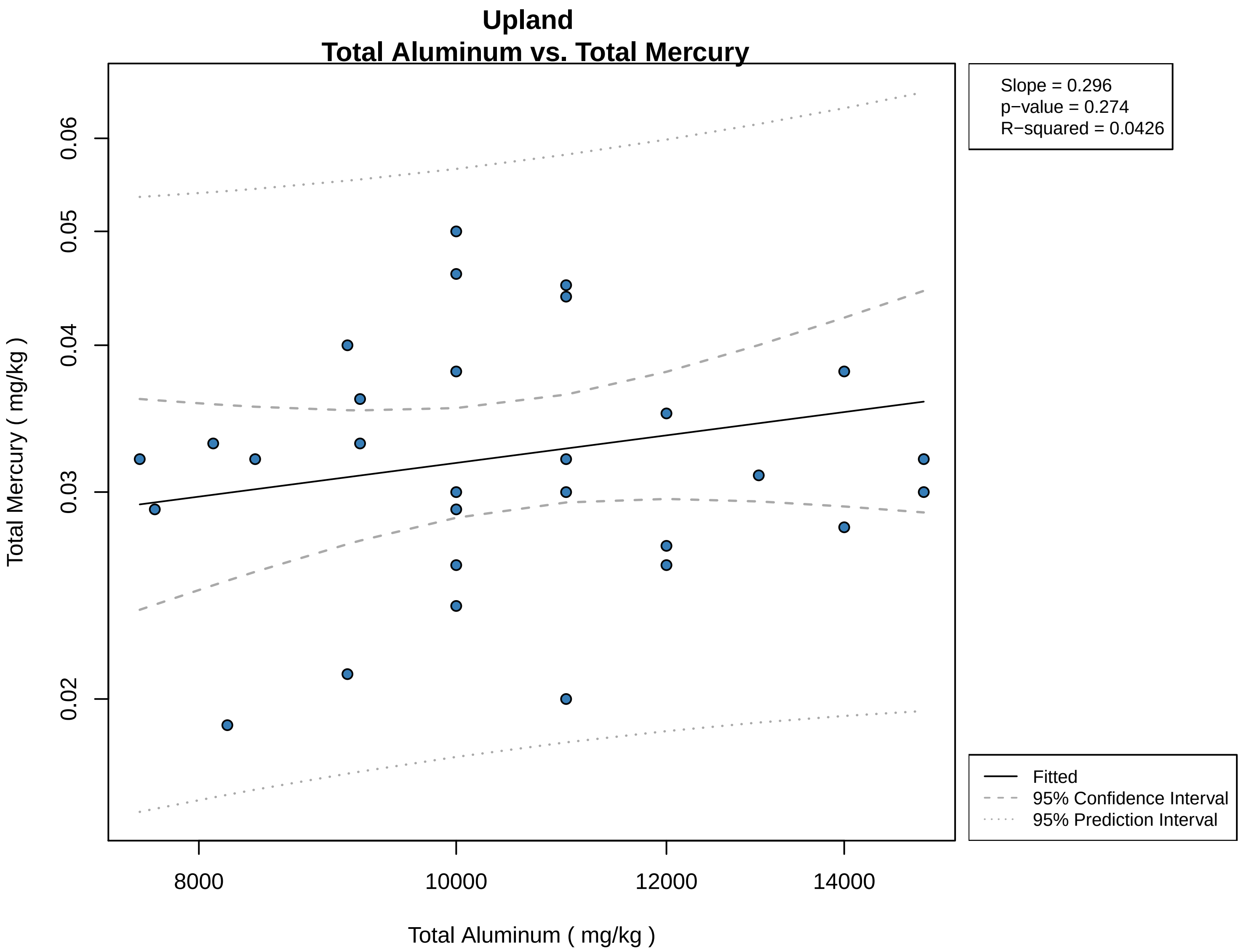

Figure 5.2.67
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

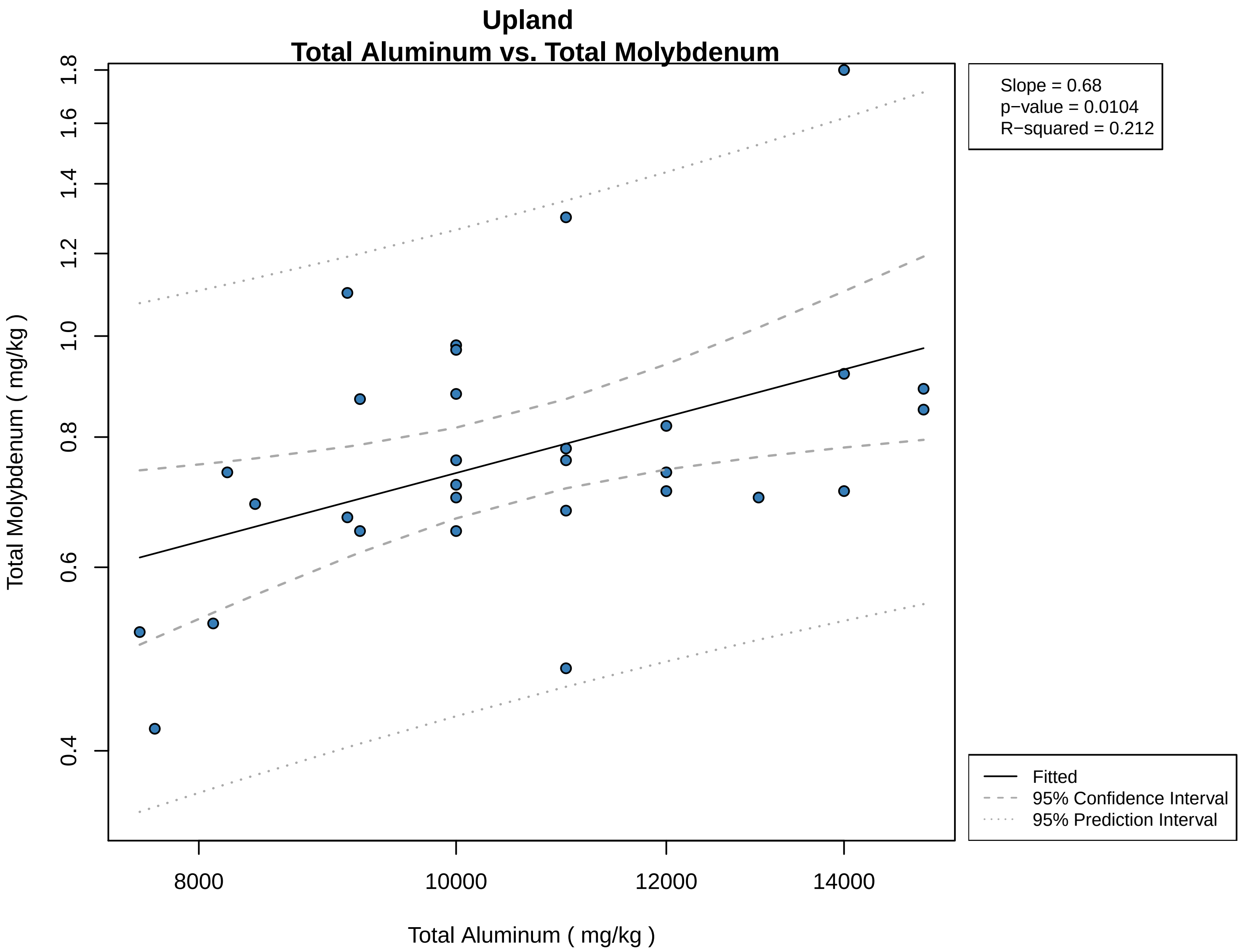

Figure 5.2.68
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

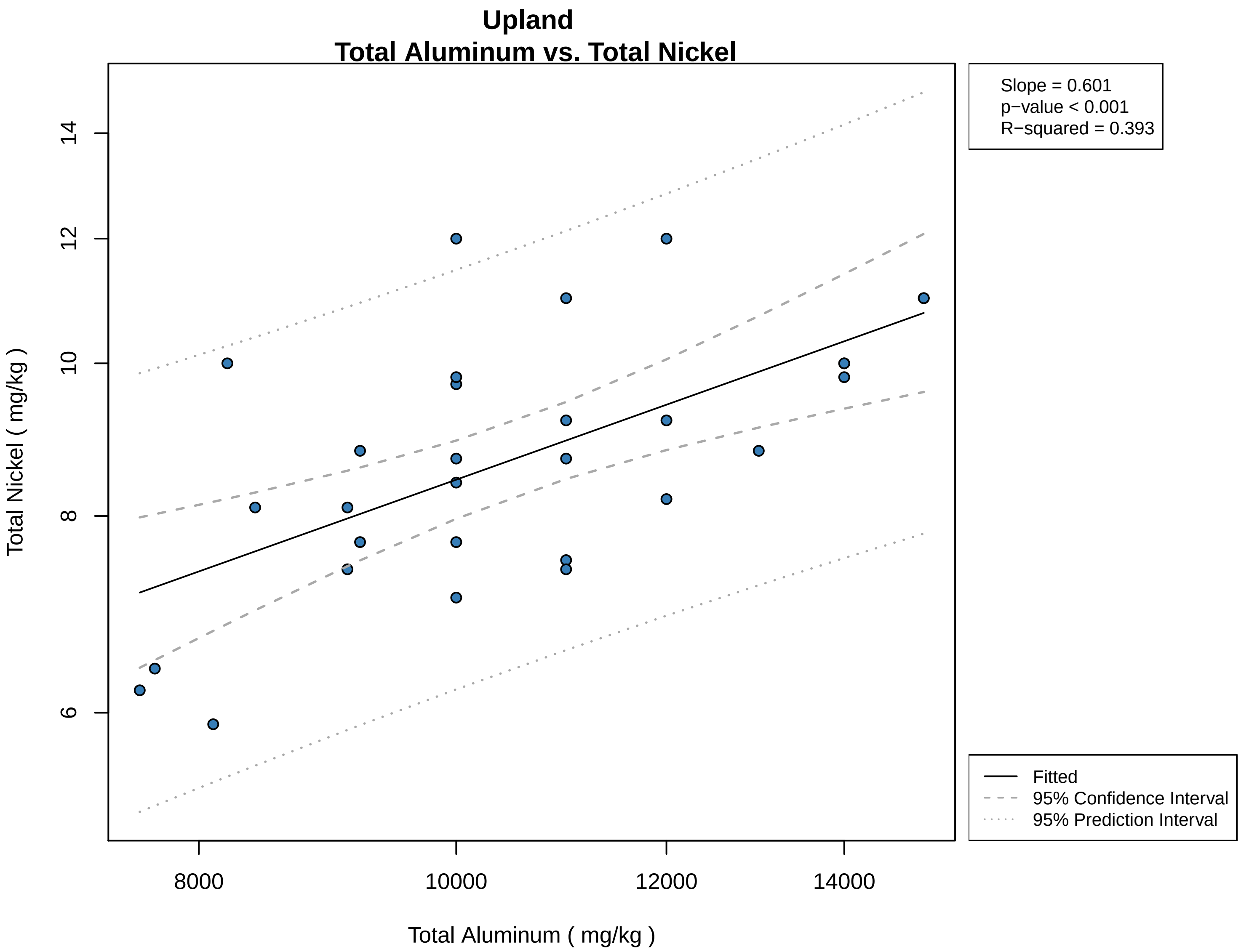

Figure 5.2.69
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

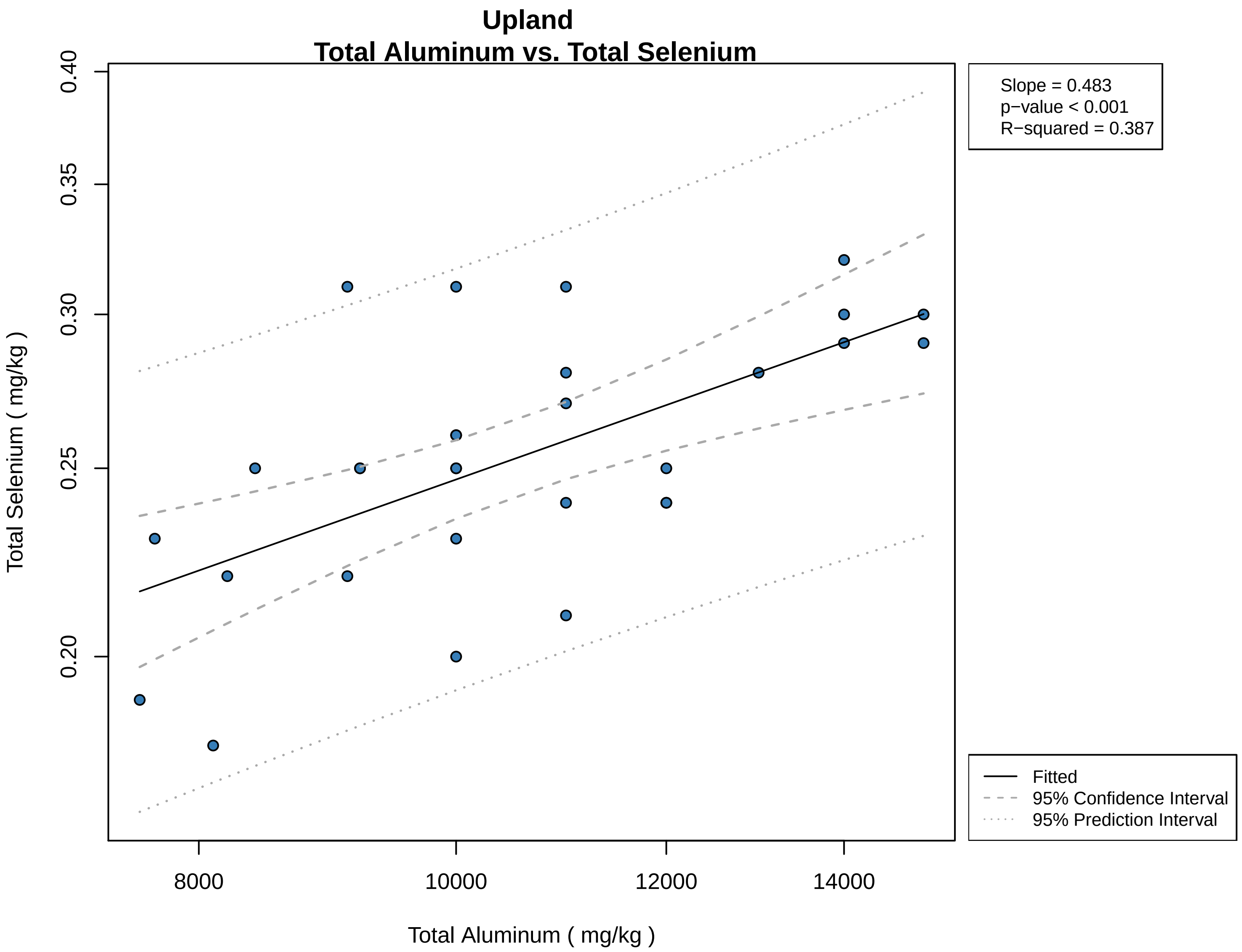

Figure 5.2.70
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

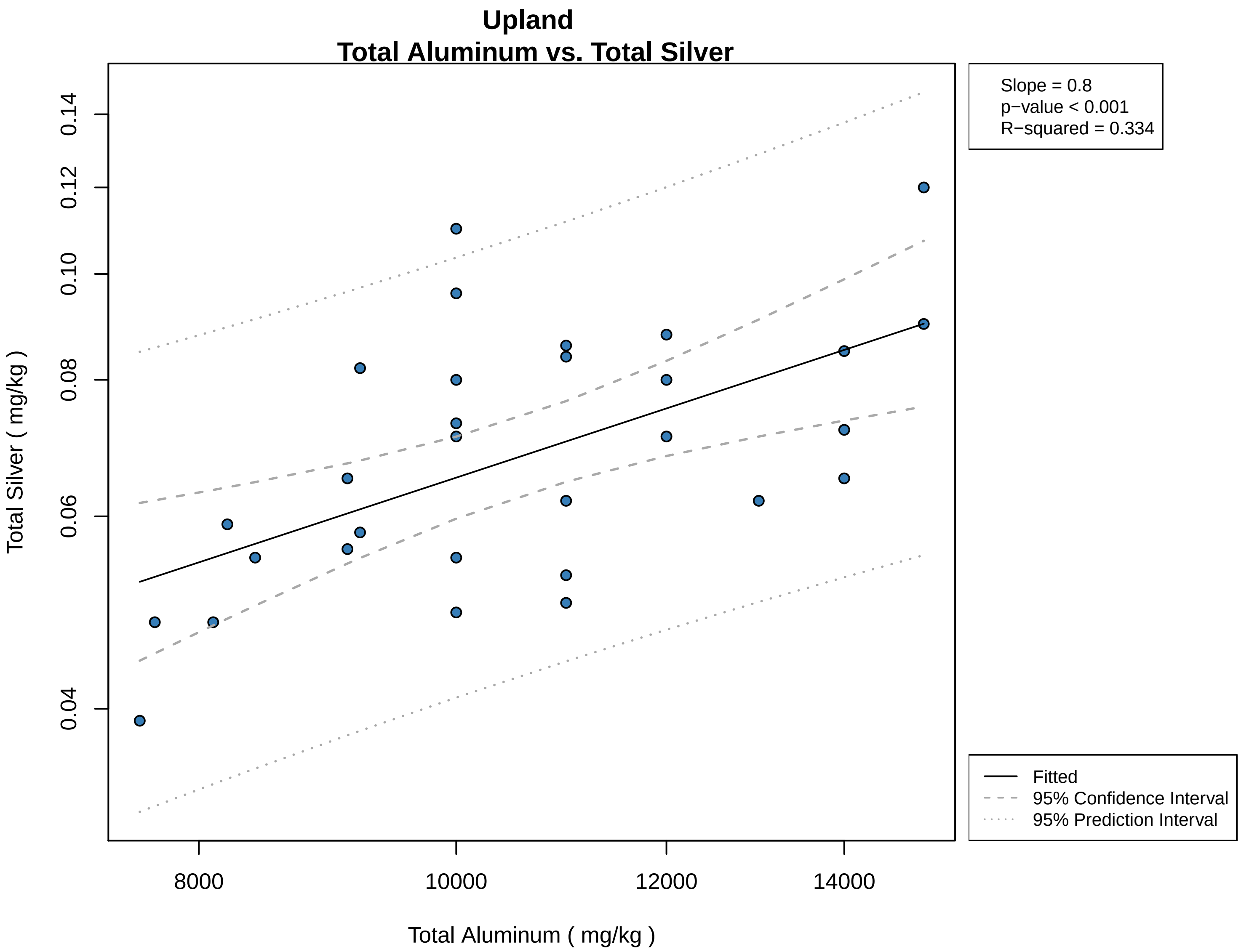

Figure 5.2.71
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

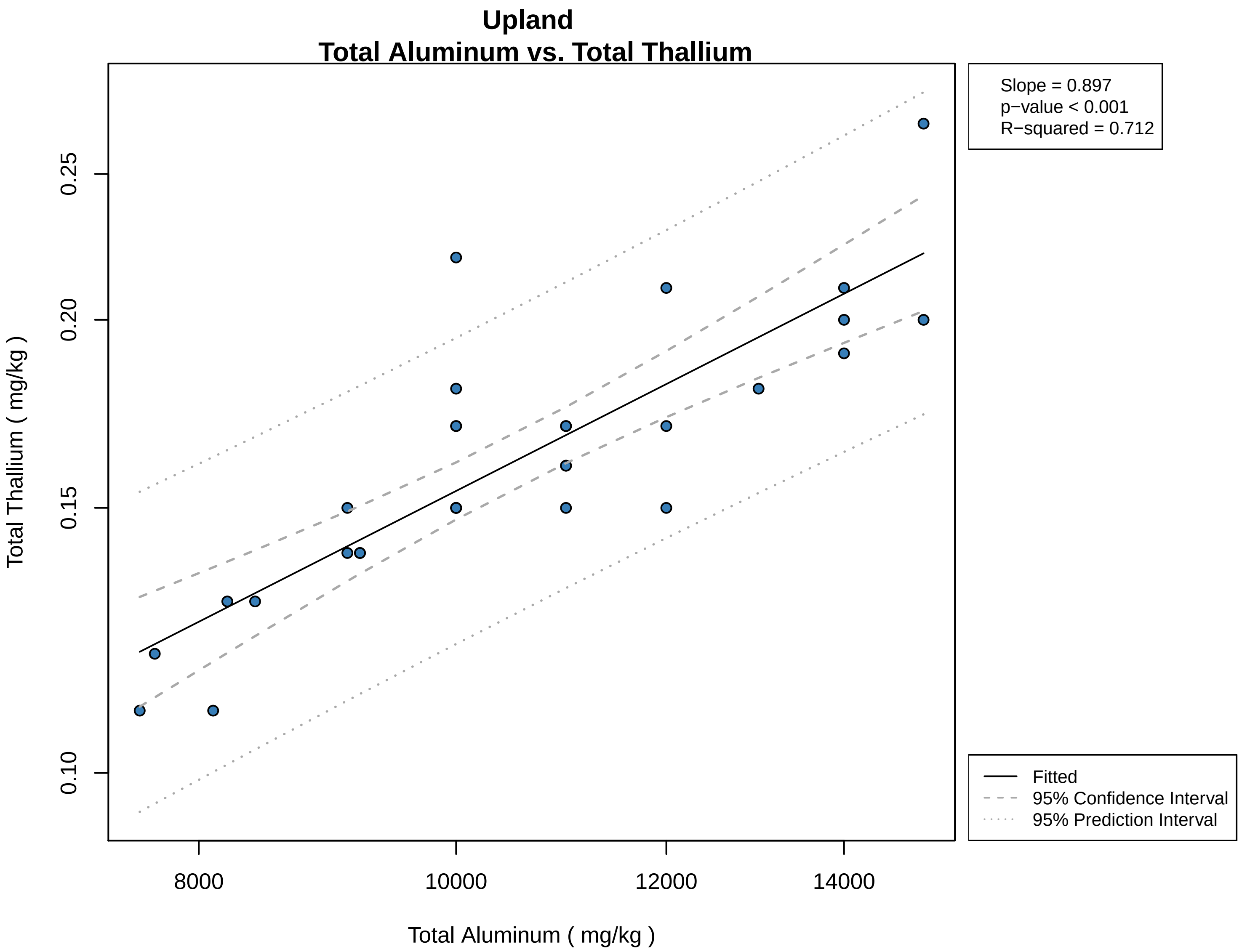

Figure 5.2.72
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

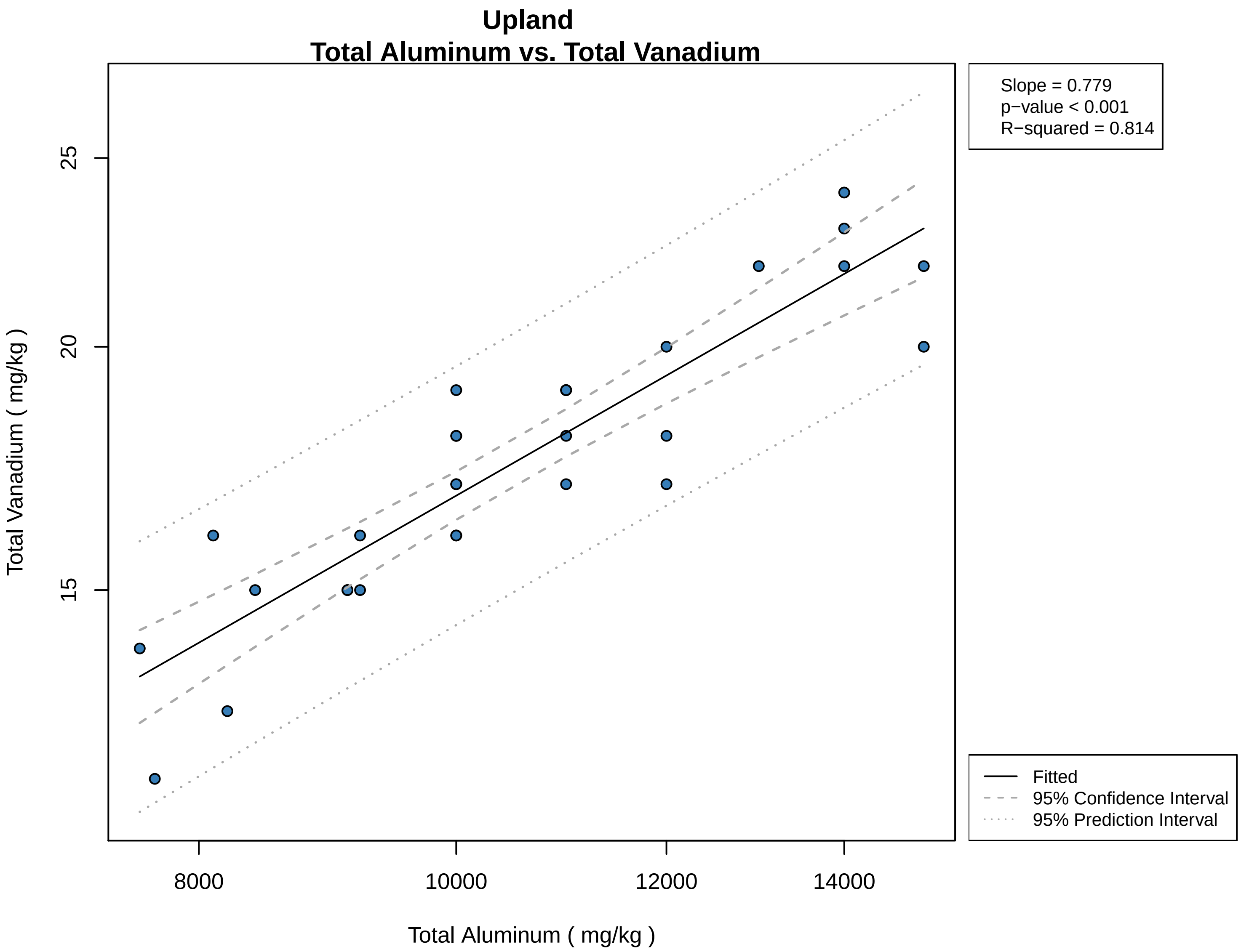

Figure 5.2.73
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

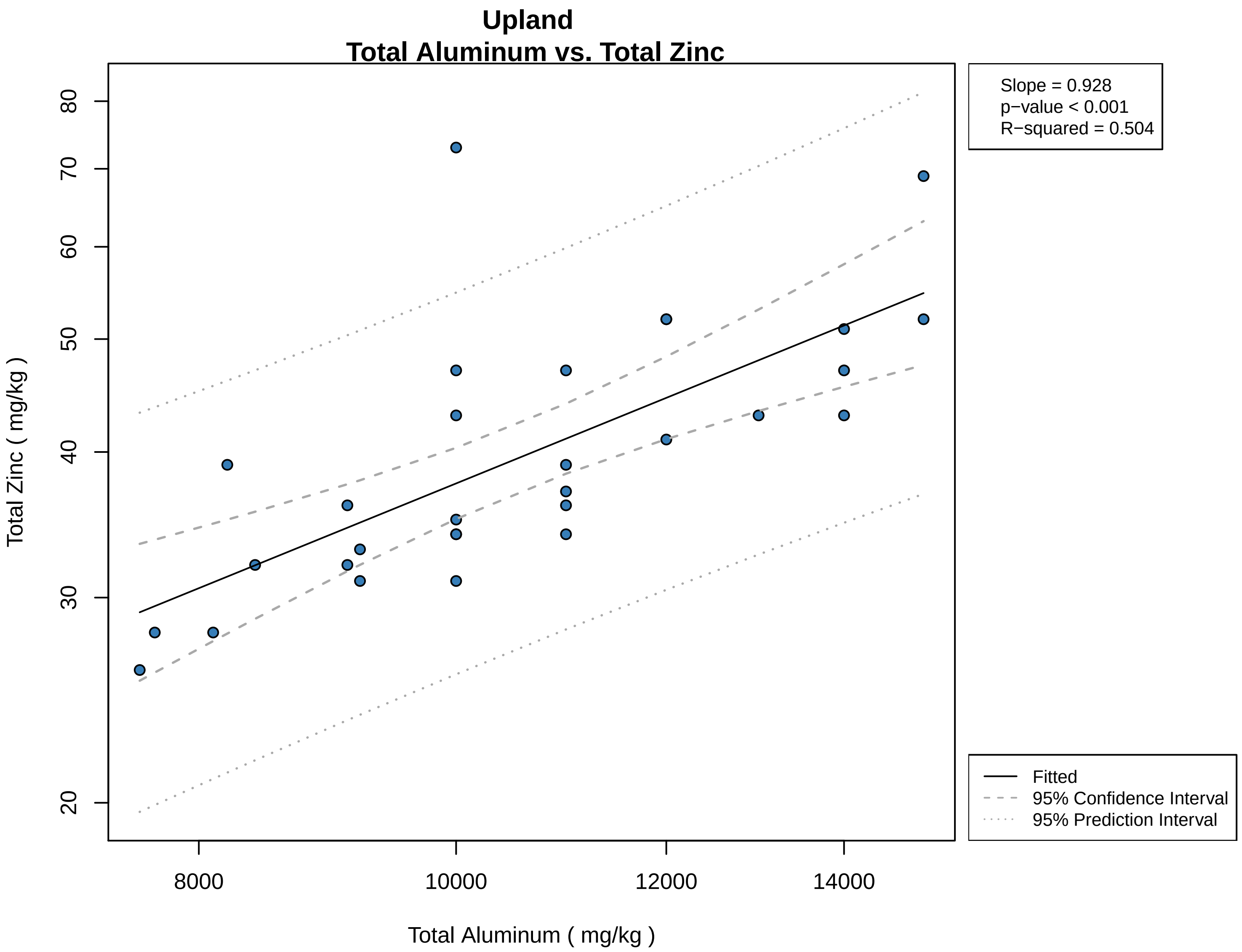

Figure 5.2.74
Geochemical Association Plot
Data Quality Assessment for Background
US Magnesium LLC
Tooele County, Utah

Attachment D
Final Datasheet

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
BR-01	Calculated TEQ (ND=0), Mammals	BR-1-SS-01-102215	10/22/2015	0	2	in	SW8290	320-15636-1	16.5	1	CALC_DX_0	0.35	pg/g	Y		1404771.447	7719985.199
BR-01	Hexachlorobenzene	BR-1-SS-01-102215	10/22/2015	0	2	in	SW8270_SIM	320-15636-1	16.5	1	118-74-1	< 2.6	ug/kg	N	U	1404771.447	7719985.199
BR-01	Total Aluminum	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	10	7429-90-5	24000	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Antimony	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-36-0	0.45	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Arsenic	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-38-2	15	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Barium	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-39-3	330	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Beryllium	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-41-7	1.1	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Cadmium	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-43-9	0.35	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Chromium	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-47-3	27	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Cobalt	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-48-4	8.1	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Copper	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-50-8	23	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Iron	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6010B	320-15636-1	16.5	1	7439-89-6	20000	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Lead	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7439-92-1	19	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Manganese	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7439-96-5	500	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Mercury	BR-1-SS-01-102215	10/22/2015	0	2	in	SW7471A	320-15636-1	16.5	1	7439-97-6	0.033	mg/kg	Y	J	1404771.447	7719985.199
BR-01	Total Molybdenum	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7439-98-7	0.38	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Nickel	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-02-0	20	mg/kg	Y		1404771.447	7719985.199
BR-01	Total PCBs	BR-1-SS-01-102215	10/22/2015	0	2	in	E1668A	320-15636-1	0	1	1336-36-3	340	pg/g	Y		1404771.447	7719985.199
BR-01	Total Selenium	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7782-49-2	0.32	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Silver	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-22-4	0.078	mg/kg	Y	J	1404771.447	7719985.199
BR-01	Total Thallium	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-28-0	0.24	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Vanadium	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-62-2	41	mg/kg	Y		1404771.447	7719985.199
BR-01	Total Zinc	BR-1-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	16.5	1	7440-66-6	64	mg/kg	Y		1404771.447	7719985.199
BR-02	Calculated TEQ (ND=0), Mammals	BR-2-SS-01-102215	10/22/2015	0	2	in	SW8290	320-15636-1	24.6	1	CALC_DX_0	0.29	pg/g	Y		1406076.382	7719710.863
BR-02	Hexachlorobenzene	BR-2-SS-01-102215	10/22/2015	0	2	in	SW8270_SIM	320-15636-1	24.6	1	118-74-1	< 3.0	ug/kg	N	U	1406076.382	7719710.863
BR-02	Total Aluminum	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	10	7429-90-5	22000	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Antimony	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-36-0	0.47	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Arsenic	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-38-2	14	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Barium	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-39-3	220	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Beryllium	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-41-7	1.1	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Cadmium	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-43-9	0.32	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Chromium	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-47-3	26	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Cobalt	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-48-4	7.6	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Copper	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-50-8	22	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Iron	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6010B	320-15636-1	24.6	1	7439-89-6	19000	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Lead	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7439-92-1	14	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Manganese	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7439-96-5	500	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Mercury	BR-2-SS-01-102215	10/22/2015	0	2	in	SW7471A	320-15636-1	24.6	1	7439-97-6	0.027	mg/kg	Y	J	1406076.382	7719710.863
BR-02	Total Molybdenum	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7439-98-7	0.6	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Nickel	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-02-0	19	mg/kg	Y		1406076.382	7719710.863
BR-02	Total PCBs	BR-2-SS-01-102215	10/22/2015	0	2	in	E1668A	320-15636-1	0	1	1336-36-3	380	pg/g	Y		1406076.382	7719710.863
BR-02	Total Selenium	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7782-49-2	0.34	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Silver	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-22-4	0.058	mg/kg	Y	J	1406076.382	7719710.863
BR-02	Total Thallium	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-28-0	0.24	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Vanadium	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-62-2	40	mg/kg	Y		1406076.382	7719710.863
BR-02	Total Zinc	BR-2-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.6	1	7440-66-6	62	mg/kg	Y		1406076.382	7719710.863
BR-03	Calculated TEQ (ND=0), Mammals	BR-3-SS-01-102215	10/22/2015	0	2	in	SW8290	320-15636-1	24.1	1	CALC_DX_0	0.22	pg/g	Y		1407336.396	7719803.92
BR-03	Hexachlorobenzene	BR-3-SS-01-102215	10/22/2015	0	2	in	SW8270_SIM	320-15636-1	24.1	1	118-74-1	< 2.8	ug/kg	N	U	1407336.396	7719803.92
BR-03	Total Aluminum	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	10	7429-90-5	22000	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Antimony	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-36-0	0.46	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Arsenic	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-38-2	15	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Barium	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-39-3	250	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Beryllium	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-41-7	1.1	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Cadmium	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-43-9	0.24	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Chromium	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-47-3	26	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Cobalt	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-48-4	7.8	mg/kg	Y		1407336.396	7719803.92

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
BR-03	Total Copper	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-50-8	20	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Iron	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6010B	320-15636-1	24.1	1	7439-89-6	20000	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Lead	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7439-92-1	17	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Manganese	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7439-96-5	520	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Mercury	BR-3-SS-01-102215	10/22/2015	0	2	in	SW7471A	320-15636-1	24.1	1	7439-97-6	0.023	mg/kg	Y	J	1407336.396	7719803.92
BR-03	Total Molybdenum	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7439-98-7	0.41	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Nickel	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-02-0	20	mg/kg	Y		1407336.396	7719803.92
BR-03	Total PCBs	BR-3-SS-01-102215	10/22/2015	0	2	in	E1668A	320-15636-1	0	1	1336-36-3	280	pg/g	Y		1407336.396	7719803.92
BR-03	Total Selenium	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7782-49-2	0.3	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Silver	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-22-4	0.075	mg/kg	Y	J	1407336.396	7719803.92
BR-03	Total Thallium	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-28-0	0.23	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Vanadium	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-62-2	41	mg/kg	Y		1407336.396	7719803.92
BR-03	Total Zinc	BR-3-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	24.1	1	7440-66-6	63	mg/kg	Y		1407336.396	7719803.92
BR-04	Calculated TEQ (ND=0), Mammals	BR-4-SS-01-102215	10/22/2015	0	2	in	SW8290	320-15636-1	17.1	1	CALC_DX_0	0.22	pg/g	Y		1408460.812	7720598.661
BR-04	Hexachlorobenzene	BR-4-SS-01-102215	10/22/2015	0	2	in	SW8270_SIM	320-15636-1	17.1	1	118-74-1	< 2.6	ug/kg	N	UJ	1408460.812	7720598.661
BR-04	Total Aluminum	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	10	7429-90-5	22000	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Antimony	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-36-0	0.42	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Arsenic	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-38-2	13	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Barium	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-39-3	150	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Beryllium	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-41-7	0.96	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Cadmium	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-43-9	0.33	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Chromium	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-47-3	24	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Cobalt	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-48-4	7.2	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Copper	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-50-8	21	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Iron	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6010B	320-15636-1	17.1	1	7439-89-6	20000	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Lead	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7439-92-1	16	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Manganese	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7439-96-5	480	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Mercury	BR-4-SS-01-102215	10/22/2015	0	2	in	SW7471A	320-15636-1	17.1	1	7439-97-6	0.026	mg/kg	Y	J	1408460.812	7720598.661
BR-04	Total Molybdenum	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7439-98-7	0.39	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Nickel	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-02-0	18	mg/kg	Y		1408460.812	7720598.661
BR-04	Total PCBs	BR-4-SS-01-102215	10/22/2015	0	2	in	E1668A	320-15636-1	0	1	1336-36-3	400	pg/g	Y		1408460.812	7720598.661
BR-04	Total Selenium	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7782-49-2	0.27	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Silver	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-22-4	0.046	mg/kg	Y	J	1408460.812	7720598.661
BR-04	Total Thallium	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-28-0	0.22	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Vanadium	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-62-2	37	mg/kg	Y		1408460.812	7720598.661
BR-04	Total Zinc	BR-4-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	17.1	1	7440-66-6	60	mg/kg	Y		1408460.812	7720598.661
BR-05	Calculated TEQ (ND=0), Mammals	BR-5-SS-01-102215	10/22/2015	0	2	in	SW8290	320-15636-1	18.3	1	CALC_DX_0	0.19	pg/g	Y		1408900.039	7722318.241
BR-05	Hexachlorobenzene	BR-5-SS-01-102215	10/22/2015	0	2	in	SW8270_SIM	320-15636-1	18.3	1	118-74-1	< 2.7	ug/kg	N	U	1408900.039	7722318.241
BR-05	Total Aluminum	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	10	7429-90-5	23000	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Antimony	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-36-0	0.29	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Arsenic	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-38-2	15	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Barium	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-39-3	220	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Beryllium	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-41-7	1	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Cadmium	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-43-9	0.29	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Chromium	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-47-3	27	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Cobalt	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-48-4	8.1	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Copper	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-50-8	20	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Iron	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6010B	320-15636-1	18.3	1	7439-89-6	20000	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Lead	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7439-92-1	16	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Manganese	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7439-96-5	520	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Mercury	BR-5-SS-01-102215	10/22/2015	0	2	in	SW7471A	320-15636-1	18.3	1	7439-97-6	0.039	mg/kg	Y	J	1408900.039	7722318.241
BR-05	Total Molybdenum	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7439-98-7	0.35	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Nickel	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-02-0	20	mg/kg	Y		1408900.039	7722318.241
BR-05	Total PCBs	BR-5-SS-01-102215	10/22/2015	0	2	in	E1668A	320-15636-1	0	1	1336-36-3	190	pg/g	Y		1408900.039	7722318.241
BR-05	Total Selenium	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7782-49-2	0.28	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Silver	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-22-4	0.063	mg/kg	Y	J	1408900.039	7722318.241

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
BR-05	Total Thallium	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-28-0	0.23	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Vanadium	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-62-2	40	mg/kg	Y		1408900.039	7722318.241
BR-05	Total Zinc	BR-5-SS-01-102215	10/22/2015	0	2	in	SW6020	320-15636-1	18.3	1	7440-66-6	67	mg/kg	Y		1408900.039	7722318.241
LBB-01	Calculated TEQ (ND=0), Mammals	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW8290	320-15429-1	2	1	CALC_DX_0	1	pg/g	Y		1343740.301	7515528.172
LBB-01	Total Aluminum	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7429-90-5	1200	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total Antimony	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-36-0	0.18	mg/kg	Y	J-	1343740.301	7515528.172
LBB-01	Total Arsenic	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-38-2	7.7	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total Barium	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-39-3	170	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total Beryllium	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-41-7	0.048	mg/kg	Y	J	1343740.301	7515528.172
LBB-01	Total Cadmium	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-43-9	< 0.049	mg/kg	N	U	1343740.301	7515528.172
LBB-01	Total Chromium	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-47-3	1.8	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total Cobalt	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-48-4	0.74	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total Copper	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-50-8	3	mg/kg	Y	J-	1343740.301	7515528.172
LBB-01	Total Iron	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6010B	320-15429-1	2	2	7439-89-6	1100	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total Lead	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7439-92-1	12	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total Manganese	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7439-96-5	41	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total Mercury	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW7471A	320-15429-1	2	1	7439-97-6	0.015	mg/kg	Y	J	1343740.301	7515528.172
LBB-01	Total Molybdenum	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7439-98-7	0.056	mg/kg	Y	J	1343740.301	7515528.172
LBB-01	Total Nickel	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-02-0	1.7	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total PCBs	LBB-1-SS-01-100915	10/9/2015	0	2	in	E1668A	320-15429-1	0	1	1336-36-3	370	pg/g	Y		1343740.301	7515528.172
LBB-01	Total Selenium	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7782-49-2	< 0.098	mg/kg	N	UJ	1343740.301	7515528.172
LBB-01	Total Silver	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-22-4	< 0.029	mg/kg	N	U	1343740.301	7515528.172
LBB-01	Total Thallium	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-28-0	< 0.049	mg/kg	N	U	1343740.301	7515528.172
LBB-01	Total Vanadium	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-62-2	5.4	mg/kg	Y		1343740.301	7515528.172
LBB-01	Total Zinc	LBB-1-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2	1	7440-66-6	25	mg/kg	Y	J-	1343740.301	7515528.172
LBB-02	Total Aluminum	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7429-90-5	1100	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Antimony	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-36-0	0.16	mg/kg	Y	J-	1344261.771	7515583.808
LBB-02	Total Arsenic	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-38-2	8.2	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Barium	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-39-3	140	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Beryllium	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-41-7	0.057	mg/kg	Y	J	1344261.771	7515583.808
LBB-02	Total Cadmium	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-43-9	< 0.051	mg/kg	N	U	1344261.771	7515583.808
LBB-02	Total Chromium	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-47-3	1.5	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Cobalt	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-48-4	0.7	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Copper	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-50-8	4.1	mg/kg	Y	J-	1344261.771	7515583.808
LBB-02	Total Iron	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6010B	320-15429-1	3.2	2	7439-89-6	890	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Lead	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7439-92-1	15	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Manganese	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7439-96-5	34	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Mercury	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW7471A	320-15429-1	3.2	1	7439-97-6	0.014	mg/kg	Y	J	1344261.771	7515583.808
LBB-02	Total Molybdenum	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7439-98-7	0.052	mg/kg	Y	J	1344261.771	7515583.808
LBB-02	Total Nickel	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-02-0	1.6	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Selenium	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7782-49-2	0.11	mg/kg	Y	J-	1344261.771	7515583.808
LBB-02	Total Silver	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-22-4	< 0.031	mg/kg	N	U	1344261.771	7515583.808
LBB-02	Total Thallium	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-28-0	< 0.051	mg/kg	N	U	1344261.771	7515583.808
LBB-02	Total Vanadium	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-62-2	5.3	mg/kg	Y		1344261.771	7515583.808
LBB-02	Total Zinc	LBB-2-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	3.2	1	7440-66-6	10	mg/kg	Y	J	1344261.771	7515583.808
LBB-03	Calculated TEQ (ND=0), Mammals	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW8290	320-15429-1	2.5	1	CALC_DX_0	0.32	pg/g	Y		1344761.248	7516023.282
LBB-03	Hexachlorobenzene	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW8270_SIM	320-15429-1	2.5	1	118-74-1	< 2.3	ug/kg	N	U	1344761.248	7516023.282
LBB-03	Total Aluminum	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7429-90-5	880	mg/kg	Y		1344761.248	7516023.282
LBB-03	Total Antimony	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-36-0	0.2	mg/kg	Y	J-	1344761.248	7516023.282
LBB-03	Total Arsenic	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-38-2	7.7	mg/kg	Y		1344761.248	7516023.282
LBB-03	Total Barium	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-39-3	160	mg/kg	Y		1344761.248	7516023.282
LBB-03	Total Beryllium	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-41-7	0.04	mg/kg	Y	J	1344761.248	7516023.282
LBB-03	Total Cadmium	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-43-9	< 0.050	mg/kg	N	U	1344761.248	7516023.282
LBB-03	Total Chromium	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-47-3	1.2	mg/kg	Y		1344761.248	7516023.282
LBB-03	Total Cobalt	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-48-4	0.63	mg/kg	Y		1344761.248	7516023.282
LBB-03	Total Copper	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-50-8	2.4	mg/kg	Y	J-	1344761.248	7516023.282

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBB-03	Total Iron	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6010B	320-15429-1	2.5	2	7439-89-6	770	mg/kg	Y		1344761.248	7516023.282
LBB-03	Total Lead	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7439-92-1	9.6	mg/kg	Y	J+	1344761.248	7516023.282
LBB-03	Total Manganese	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7439-96-5	30	mg/kg	Y		1344761.248	7516023.282
LBB-03	Total Mercury	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW7471A	320-15429-1	2.5	1	7439-97-6	0.012	mg/kg	Y	J	1344761.248	7516023.282
LBB-03	Total Molybdenum	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7439-98-7	0.051	mg/kg	Y	J	1344761.248	7516023.282
LBB-03	Total Nickel	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-02-0	1.4	mg/kg	Y		1344761.248	7516023.282
LBB-03	Total PCBs	LBB-3-SS-01-100915	10/9/2015	0	2	in	E1668A	320-15429-1	0	1	1336-36-3	160	pg/g	Y		1344761.248	7516023.282
LBB-03	Total Selenium	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7782-49-2	< 0.10	mg/kg	N	UJ	1344761.248	7516023.282
LBB-03	Total Silver	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-22-4	< 0.030	mg/kg	N	U	1344761.248	7516023.282
LBB-03	Total Thallium	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-28-0	< 0.050	mg/kg	N	U	1344761.248	7516023.282
LBB-03	Total Vanadium	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-62-2	4.8	mg/kg	Y		1344761.248	7516023.282
LBB-03	Total Zinc	LBB-3-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.5	1	7440-66-6	6.8	mg/kg	Y	J-	1344761.248	7516023.282
LBB-04	Total Aluminum	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7429-90-5	1900	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Antimony	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-36-0	0.19	mg/kg	Y	J-	1345195.964	7515769.91
LBB-04	Total Arsenic	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-38-2	8.1	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Barium	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-39-3	160	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Beryllium	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-41-7	0.086	mg/kg	Y	J	1345195.964	7515769.91
LBB-04	Total Cadmium	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-43-9	0.064	mg/kg	Y	J	1345195.964	7515769.91
LBB-04	Total Chromium	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-47-3	2.6	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Cobalt	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-48-4	0.95	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Copper	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-50-8	6.9	mg/kg	Y	J-	1345195.964	7515769.91
LBB-04	Total Iron	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6010B	320-15429-1	2.1	2	7439-89-6	1600	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Lead	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7439-92-1	18	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Manganese	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7439-96-5	70	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Mercury	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW7471A	320-15429-1	2.1	1	7439-97-6	0.026	mg/kg	Y	J	1345195.964	7515769.91
LBB-04	Total Molybdenum	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7439-98-7	0.17	mg/kg	Y	J	1345195.964	7515769.91
LBB-04	Total Nickel	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-02-0	2.4	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Selenium	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7782-49-2	0.15	mg/kg	Y	J-	1345195.964	7515769.91
LBB-04	Total Silver	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-22-4	< 0.032	mg/kg	N	U	1345195.964	7515769.91
LBB-04	Total Thallium	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-28-0	< 0.054	mg/kg	N	U	1345195.964	7515769.91
LBB-04	Total Vanadium	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-62-2	6.5	mg/kg	Y		1345195.964	7515769.91
LBB-04	Total Zinc	LBB-4-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.1	1	7440-66-6	16	mg/kg	Y	J-	1345195.964	7515769.91
LBB-05	Calculated TEQ (ND=0), Mammals	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW8290	320-15429-1	2.4	1	CALC_DX_0	0.51	pg/g	Y		1345969.204	7515433.241
LBB-05	Hexachlorobenzene	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW8270_SIM	320-15429-1	2.4	1	118-74-1	3.2	ug/kg	Y	J-	1345969.204	7515433.241
LBB-05	Total Aluminum	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7429-90-5	1500	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total Antimony	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-36-0	0.15	mg/kg	Y	J-	1345969.204	7515433.241
LBB-05	Total Arsenic	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-38-2	7	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total Barium	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-39-3	160	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total Beryllium	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-41-7	0.072	mg/kg	Y	J	1345969.204	7515433.241
LBB-05	Total Cadmium	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-43-9	< 0.051	mg/kg	N	U	1345969.204	7515433.241
LBB-05	Total Chromium	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-47-3	1.9	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total Cobalt	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-48-4	0.84	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total Copper	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-50-8	4.8	mg/kg	Y	J-	1345969.204	7515433.241
LBB-05	Total Iron	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6010B	320-15429-1	2.4	2	7439-89-6	1200	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total Lead	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7439-92-1	16	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total Manganese	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7439-96-5	45	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total Mercury	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW7471A	320-15429-1	2.4	1	7439-97-6	0.016	mg/kg	Y	J	1345969.204	7515433.241
LBB-05	Total Molybdenum	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7439-98-7	0.083	mg/kg	Y	J	1345969.204	7515433.241
LBB-05	Total Nickel	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-02-0	1.9	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total PCBs	LBB-5-SS-01-100915	10/9/2015	0	2	in	E1668A	320-15429-1	0	1	1336-36-3	390	pg/g	Y		1345969.204	7515433.241
LBB-05	Total Selenium	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7782-49-2	< 0.10	mg/kg	N	UJ	1345969.204	7515433.241
LBB-05	Total Silver	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-22-4	< 0.031	mg/kg	N	U	1345969.204	7515433.241
LBB-05	Total Thallium	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-28-0	< 0.051	mg/kg	N	U	1345969.204	7515433.241
LBB-05	Total Vanadium	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-62-2	5.5	mg/kg	Y		1345969.204	7515433.241
LBB-05	Total Zinc	LBB-5-SS-01-100915	10/9/2015	0	2	in	SW6020	320-15429-1	2.4	1	7440-66-6	13	mg/kg	Y	J-	1345969.204	7515433.241
LBB-06	Total Aluminum	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7429-90-5	1100	mg/kg	Y		1346743.644	7514896.389

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBB-06	Total Antimony	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-36-0	0.14	mg/kg	Y	J-	1346743.644	7514896.389
LBB-06	Total Arsenic	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-38-2	5.5	mg/kg	Y		1346743.644	7514896.389
LBB-06	Total Barium	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-39-3	140	mg/kg	Y		1346743.644	7514896.389
LBB-06	Total Beryllium	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-41-7	0.05	mg/kg	Y	J	1346743.644	7514896.389
LBB-06	Total Cadmium	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-43-9	< 0.051	mg/kg	N	U	1346743.644	7514896.389
LBB-06	Total Chromium	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-47-3	1.4	mg/kg	Y		1346743.644	7514896.389
LBB-06	Total Cobalt	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-48-4	0.69	mg/kg	Y		1346743.644	7514896.389
LBB-06	Total Copper	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-50-8	2.5	mg/kg	Y	J-	1346743.644	7514896.389
LBB-06	Total Iron	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6010B	320-15429-1	1.7	2	7439-89-6	790	mg/kg	Y		1346743.644	7514896.389
LBB-06	Total Lead	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7439-92-1	7.7	mg/kg	Y	J+	1346743.644	7514896.389
LBB-06	Total Manganese	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7439-96-5	30	mg/kg	Y		1346743.644	7514896.389
LBB-06	Total Mercury	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW7471A	320-15429-1	1.7	1	7439-97-6	0.016	mg/kg	Y	J	1346743.644	7514896.389
LBB-06	Total Molybdenum	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7439-98-7	0.064	mg/kg	Y	J	1346743.644	7514896.389
LBB-06	Total Nickel	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-02-0	1.5	mg/kg	Y		1346743.644	7514896.389
LBB-06	Total Selenium	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7782-49-2	< 0.10	mg/kg	N	UJ	1346743.644	7514896.389
LBB-06	Total Silver	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-22-4	< 0.031	mg/kg	N	U	1346743.644	7514896.389
LBB-06	Total Thallium	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-28-0	< 0.051	mg/kg	N	U	1346743.644	7514896.389
LBB-06	Total Vanadium	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-62-2	5	mg/kg	Y		1346743.644	7514896.389
LBB-06	Total Zinc	LBB-6-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	1.7	1	7440-66-6	7.6	mg/kg	Y	J-	1346743.644	7514896.389
LBB-07	Calculated TEQ (ND=0), Mammals	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW8290	320-15429-1	7.1	1	CALC_DX_0	0.048	pg/g	Y		1347051.515	7514451.911
LBB-07	Hexachlorobenzene	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW8270_SIM	320-15429-1	7.1	1	118-74-1	< 2.4	ug/kg	N	UJ	1347051.515	7514451.911
LBB-07	Total Aluminum	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7429-90-5	2500	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Antimony	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-36-0	0.22	mg/kg	Y	J-	1347051.515	7514451.911
LBB-07	Total Arsenic	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-38-2	7	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Barium	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-39-3	160	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Beryllium	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-41-7	0.12	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Cadmium	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-43-9	< 0.054	mg/kg	N	U	1347051.515	7514451.911
LBB-07	Total Chromium	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-47-3	3.2	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Cobalt	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-48-4	1.2	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Copper	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-50-8	5.4	mg/kg	Y	J-	1347051.515	7514451.911
LBB-07	Total Iron	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6010B	320-15429-1	7.1	2	7439-89-6	2100	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Lead	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7439-92-1	12	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Manganese	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7439-96-5	62	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Mercury	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW7471A	320-15429-1	7.1	1	7439-97-6	0.057	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Molybdenum	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7439-98-7	0.22	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Nickel	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-02-0	2.7	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total PCBs	LBB-7-SS-01-100815	10/8/2015	0	2	in	E1668A	320-15429-1	0	1	1336-36-3	150	pg/g	Y		1347051.515	7514451.911
LBB-07	Total Selenium	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7782-49-2	0.12	mg/kg	Y	J-	1347051.515	7514451.911
LBB-07	Total Silver	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-22-4	< 0.033	mg/kg	N	U	1347051.515	7514451.911
LBB-07	Total Thallium	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-28-0	< 0.054	mg/kg	N	U	1347051.515	7514451.911
LBB-07	Total Vanadium	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-62-2	7.9	mg/kg	Y		1347051.515	7514451.911
LBB-07	Total Zinc	LBB-7-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	7.1	1	7440-66-6	13	mg/kg	Y	J-	1347051.515	7514451.911
LBB-08	Total Aluminum	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7429-90-5	2400	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Antimony	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-36-0	0.22	mg/kg	Y	J-	1347741.712	7513734.055
LBB-08	Total Arsenic	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-38-2	6.6	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Barium	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-39-3	210	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Beryllium	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-41-7	0.13	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Cadmium	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-43-9	0.078	mg/kg	Y	J	1347741.712	7513734.055
LBB-08	Total Chromium	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-47-3	3.2	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Cobalt	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-48-4	1.1	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Copper	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-50-8	11	mg/kg	Y	J-	1347741.712	7513734.055
LBB-08	Total Iron	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6010B	320-15429-1	5	2	7439-89-6	1700	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Lead	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7439-92-1	15	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Manganese	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7439-96-5	61	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Mercury	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW7471A	320-15429-1	5	1	7439-97-6	0.027	mg/kg	Y	J	1347741.712	7513734.055
LBB-08	Total Molybdenum	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7439-98-7	0.17	mg/kg	Y	J	1347741.712	7513734.055

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBB-08	Total Nickel	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-02-0	2.7	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Selenium	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7782-49-2	0.22	mg/kg	Y	J-	1347741.712	7513734.055
LBB-08	Total Silver	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-22-4	0.044	mg/kg	Y	J	1347741.712	7513734.055
LBB-08	Total Thallium	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-28-0	0.088	mg/kg	Y	J	1347741.712	7513734.055
LBB-08	Total Vanadium	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-62-2	8.1	mg/kg	Y		1347741.712	7513734.055
LBB-08	Total Zinc	LBB-8-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	5	1	7440-66-6	13	mg/kg	Y	J-	1347741.712	7513734.055
LBB-09	Calculated TEQ (ND=0), Mammals	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW8290	320-15429-1	21.3	1	CALC_DX_0	0.012	pg/g	Y		1348352.971	7513045.26
LBB-09	Hexachlorobenzene	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW8270_SIM	320-15429-1	21.3	1	118-74-1	< 2.8	ug/kg	N	UJ	1348352.971	7513045.26
LBB-09	Total Aluminum	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7429-90-5	860	mg/kg	Y		1348352.971	7513045.26
LBB-09	Total Antimony	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-36-0	0.085	mg/kg	Y	J-	1348352.971	7513045.26
LBB-09	Total Arsenic	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-38-2	5.3	mg/kg	Y		1348352.971	7513045.26
LBB-09	Total Barium	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-39-3	130	mg/kg	Y		1348352.971	7513045.26
LBB-09	Total Beryllium	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-41-7	0.045	mg/kg	Y	J	1348352.971	7513045.26
LBB-09	Total Cadmium	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-43-9	0.056	mg/kg	Y	J	1348352.971	7513045.26
LBB-09	Total Chromium	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-47-3	1.2	mg/kg	Y		1348352.971	7513045.26
LBB-09	Total Cobalt	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-48-4	0.54	mg/kg	Y		1348352.971	7513045.26
LBB-09	Total Copper	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-50-8	2.7	mg/kg	Y	J-	1348352.971	7513045.26
LBB-09	Total Iron	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6010B	320-15429-1	21.3	10	7439-89-6	740	mg/kg	Y		1348352.971	7513045.26
LBB-09	Total Lead	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7439-92-1	6.3	mg/kg	Y	J+	1348352.971	7513045.26
LBB-09	Total Manganese	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7439-96-5	22	mg/kg	Y		1348352.971	7513045.26
LBB-09	Total Mercury	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW7471A	320-15429-1	21.3	1	7439-97-6	0.021	mg/kg	Y	J	1348352.971	7513045.26
LBB-09	Total Nickel	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-02-0	1.1	mg/kg	Y		1348352.971	7513045.26
LBB-09	Total PCBs	LBB-9-SS-01-100815	10/8/2015	0	2	in	E1668A	320-15429-1	0	1	1336-36-3	150	pg/g	Y		1348352.971	7513045.26
LBB-09	Total Selenium	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7782-49-2	0.1	mg/kg	Y	J-	1348352.971	7513045.26
LBB-09	Total Silver	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-22-4	< 0.019	mg/kg	N	U	1348352.971	7513045.26
LBB-09	Total Thallium	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-28-0	0.044	mg/kg	Y	J	1348352.971	7513045.26
LBB-09	Total Vanadium	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-62-2	4.5	mg/kg	Y		1348352.971	7513045.26
LBB-09	Total Zinc	LBB-9-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.3	1	7440-66-6	6.5	mg/kg	Y	J-	1348352.971	7513045.26
LBB-10	Calculated TEQ (ND=0), Mammals	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW8290	320-15429-1	21.1	1	CALC_DX_0	0.042	pg/g	Y		1348920.958	7512457.941
LBB-10	Hexachlorobenzene	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW8270_SIM	320-15429-1	21.1	1	118-74-1	< 2.8	ug/kg	N	UJ	1348920.958	7512457.941
LBB-10	Total Aluminum	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7429-90-5	1100	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total Antimony	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-36-0	0.097	mg/kg	Y	J-	1348920.958	7512457.941
LBB-10	Total Arsenic	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-38-2	4.9	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total Barium	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-39-3	140	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total Beryllium	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-41-7	0.05	mg/kg	Y	J	1348920.958	7512457.941
LBB-10	Total Cadmium	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-43-9	< 0.033	mg/kg	N	U	1348920.958	7512457.941
LBB-10	Total Chromium	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-47-3	1.5	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total Cobalt	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-48-4	0.61	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total Copper	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-50-8	2.6	mg/kg	Y	J-	1348920.958	7512457.941
LBB-10	Total Iron	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6010B	320-15429-1	21.1	10	7439-89-6	1100	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total Lead	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7439-92-1	6.7	mg/kg	Y	J+	1348920.958	7512457.941
LBB-10	Total Manganese	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7439-96-5	26	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total Mercury	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW7471A	320-15429-1	21.1	1	7439-97-6	0.02	mg/kg	Y	J	1348920.958	7512457.941
LBB-10	Total Molybdenum	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7439-98-7	13	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total Nickel	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-02-0	1.2	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total PCBs	LBB-10-SS-01-100815	10/8/2015	0	2	in	E1668A	320-15429-1	0	1	1336-36-3	140	pg/g	Y		1348920.958	7512457.941
LBB-10	Total Selenium	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7782-49-2	0.092	mg/kg	Y	J-	1348920.958	7512457.941
LBB-10	Total Silver	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-22-4	< 0.020	mg/kg	N	U	1348920.958	7512457.941
LBB-10	Total Thallium	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-28-0	0.034	mg/kg	Y	J	1348920.958	7512457.941
LBB-10	Total Vanadium	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-62-2	5	mg/kg	Y		1348920.958	7512457.941
LBB-10	Total Zinc	LBB-10-SS-01-100815	10/8/2015	0	2	in	SW6020	320-15429-1	21.1	1	7440-66-6	6.6	mg/kg	Y	J-	1348920.958	7512457.941
LBN-01	Total Aluminum	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	10	7429-90-5	16000	mg/kg	Y	J	1265415.88	7546459.901
LBN-01	Total Antimony	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-36-0	0.51	mg/kg	Y	J	1265415.88	7546459.901
LBN-01	Total Arsenic	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-38-2	17	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Barium	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-39-3	230	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Beryllium	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-41-7	0.67	mg/kg	Y		1265415.88	7546459.901

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBN-01	Total Cadmium	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-43-9	0.25	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Chromium	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-47-3	17	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Cobalt	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-48-4	5.2	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Copper	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-50-8	18	mg/kg	Y	J-	1265415.88	7546459.901
LBN-01	Total Iron	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6010B	320-15298-1	28.8	10	7439-89-6	15000	mg/kg	Y	J	1265415.88	7546459.901
LBN-01	Total Lead	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7439-92-1	15	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Manganese	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7439-96-5	280	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Mercury	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW7471A	320-15298-1	28.8	1	7439-97-6	0.015	mg/kg	Y	J	1265415.88	7546459.901
LBN-01	Total Molybdenum	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7439-98-7	2.1	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Nickel	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-02-0	13	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Selenium	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7782-49-2	0.75	mg/kg	Y	J-	1265415.88	7546459.901
LBN-01	Total Silver	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-22-4	0.08	mg/kg	Y	J	1265415.88	7546459.901
LBN-01	Total Thallium	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-28-0	0.22	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Vanadium	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-62-2	37	mg/kg	Y		1265415.88	7546459.901
LBN-01	Total Zinc	LBN-1-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	28.8	1	7440-66-6	47	mg/kg	Y	J-	1265415.88	7546459.901
LBN-02	Calculated TEQ (ND=0), Mammals	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW8290	320-15298-1	30.1	1	CALC_DX_0	0.29	pg/g	Y		1265867.883	7546600.49
LBN-02	Hexachlorobenzene	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW8270_SIM	320-15298-1	30.1	1	118-74-1	< 3.2	ug/kg	N	UJ	1265867.883	7546600.49
LBN-02	Total Aluminum	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	10	7429-90-5	17000	mg/kg	Y	J	1265867.883	7546600.49
LBN-02	Total Antimony	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-36-0	0.47	mg/kg	Y	J	1265867.883	7546600.49
LBN-02	Total Arsenic	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-38-2	23	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Barium	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-39-3	200	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Beryllium	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-41-7	0.74	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Cadmium	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-43-9	0.19	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Chromium	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-47-3	19	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Cobalt	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-48-4	6.2	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Copper	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-50-8	19	mg/kg	Y	J-	1265867.883	7546600.49
LBN-02	Total Iron	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6010B	320-15298-1	30.1	10	7439-89-6	17000	mg/kg	Y	J	1265867.883	7546600.49
LBN-02	Total Lead	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7439-92-1	14	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Manganese	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7439-96-5	320	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Mercury	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW7471A	320-15298-1	30.1	1	7439-97-6	0.014	mg/kg	Y	J	1265867.883	7546600.49
LBN-02	Total Molybdenum	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7439-98-7	1.1	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Nickel	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-02-0	16	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total PCBs	LBN-2-SS-01-100215	10/2/2015	0	2	in	E1668A	320-15298-1	0	1	1336-36-3	750	pg/g	Y		1265867.883	7546600.49
LBN-02	Total Selenium	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7782-49-2	1.1	mg/kg	Y	J-	1265867.883	7546600.49
LBN-02	Total Silver	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-22-4	0.07	mg/kg	Y	J	1265867.883	7546600.49
LBN-02	Total Thallium	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-28-0	0.22	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Vanadium	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-62-2	41	mg/kg	Y		1265867.883	7546600.49
LBN-02	Total Zinc	LBN-2-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	30.1	1	7440-66-6	49	mg/kg	Y	J	1265867.883	7546600.49
LBN-03	Total Aluminum	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	10	7429-90-5	17000	mg/kg	Y	J	1267032.168	7546712.613
LBN-03	Total Antimony	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-36-0	0.4	mg/kg	Y	J	1267032.168	7546712.613
LBN-03	Total Arsenic	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-38-2	12	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Barium	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-39-3	220	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Beryllium	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-41-7	0.87	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Cadmium	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-43-9	0.17	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Chromium	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-47-3	20	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Cobalt	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-48-4	5.9	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Copper	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-50-8	19	mg/kg	Y	J-	1267032.168	7546712.613
LBN-03	Total Iron	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6010B	320-15298-1	24.8	10	7439-89-6	17000	mg/kg	Y	J	1267032.168	7546712.613
LBN-03	Total Lead	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7439-92-1	14	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Manganese	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7439-96-5	270	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Mercury	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW7471A	320-15298-1	24.8	1	7439-97-6	0.015	mg/kg	Y	J	1267032.168	7546712.613
LBN-03	Total Molybdenum	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7439-98-7	0.84	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Nickel	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-02-0	16	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Selenium	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7782-49-2	0.52	mg/kg	Y	J-	1267032.168	7546712.613
LBN-03	Total Silver	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-22-4	0.042	mg/kg	Y	J	1267032.168	7546712.613
LBN-03	Total Thallium	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-28-0	0.19	mg/kg	Y		1267032.168	7546712.613

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBN-03	Total Vanadium	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-62-2	41	mg/kg	Y		1267032.168	7546712.613
LBN-03	Total Zinc	LBN-3-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	24.8	1	7440-66-6	81	mg/kg	Y	J-	1267032.168	7546712.613
LBN-04	Calculated TEQ (ND=0), Mammals	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW8290	320-15298-1	20.3	1	CALC_DX_0	0.73	pg/g	Y		1267672.88	7546581.98
LBN-04	Hexachlorobenzene	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW8270_SIM	320-15298-1	20.3	1	118-74-1	< 2.7	ug/kg	N	UJ	1267672.88	7546581.98
LBN-04	Total Aluminum	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	10	7429-90-5	14000	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Antimony	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-36-0	0.61	mg/kg	Y	J-	1267672.88	7546581.98
LBN-04	Total Arsenic	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-38-2	14	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Barium	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-39-3	330	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Beryllium	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-41-7	0.64	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Cadmium	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-43-9	0.2	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Chromium	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-47-3	16	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Cobalt	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-48-4	4.8	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Copper	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-50-8	17	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Iron	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6010B	320-15298-1	20.3	10	7439-89-6	12000	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Lead	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7439-92-1	11	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Manganese	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7439-96-5	260	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Mercury	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW7471A	320-15298-1	20.3	1	7439-97-6	0.077	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Molybdenum	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7439-98-7	0.95	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Nickel	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-02-0	12	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total PCBs	LBN-4-SS-01-100215	10/2/2015	0	2	in	E1668A	320-15298-1	0	1	1336-36-3	770	pg/g	Y		1267672.88	7546581.98
LBN-04	Total Selenium	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7782-49-2	0.47	mg/kg	Y	J-	1267672.88	7546581.98
LBN-04	Total Silver	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-22-4	0.067	mg/kg	Y	J	1267672.88	7546581.98
LBN-04	Total Thallium	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-28-0	0.14	mg/kg	Y	J-	1267672.88	7546581.98
LBN-04	Total Vanadium	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-62-2	32	mg/kg	Y		1267672.88	7546581.98
LBN-04	Total Zinc	LBN-4-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	20.3	1	7440-66-6	41	mg/kg	Y	J-	1267672.88	7546581.98
LBN-05	Total Aluminum	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	10	7429-90-5	17000	mg/kg	Y	J	1268404.072	7546681.612
LBN-05	Total Antimony	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-36-0	0.46	mg/kg	Y	J	1268404.072	7546681.612
LBN-05	Total Arsenic	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-38-2	13	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Barium	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-39-3	340	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Beryllium	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-41-7	0.81	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Cadmium	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-43-9	0.25	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Chromium	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-47-3	20	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Cobalt	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-48-4	6.4	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Copper	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-50-8	19	mg/kg	Y	J-	1268404.072	7546681.612
LBN-05	Total Iron	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6010B	320-15298-1	11.6	10	7439-89-6	17000	mg/kg	Y	J	1268404.072	7546681.612
LBN-05	Total Lead	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7439-92-1	13	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Manganese	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7439-96-5	300	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Mercury	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW7471A	320-15298-1	11.6	1	7439-97-6	< 0.0092	mg/kg	N	U	1268404.072	7546681.612
LBN-05	Total Molybdenum	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7439-98-7	0.68	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Nickel	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-02-0	17	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Selenium	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7782-49-2	0.41	mg/kg	Y	J-	1268404.072	7546681.612
LBN-05	Total Silver	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-22-4	0.044	mg/kg	Y	J	1268404.072	7546681.612
LBN-05	Total Thallium	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-28-0	0.18	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Vanadium	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-62-2	41	mg/kg	Y		1268404.072	7546681.612
LBN-05	Total Zinc	LBN-5-SS-01-100215	10/2/2015	0	2	in	SW6020	320-15298-1	11.6	1	7440-66-6	50	mg/kg	Y	J-	1268404.072	7546681.612
LBN-06	Calculated TEQ (ND=0), Mammals	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW8290	320-15395-1	20.3	1	CALC_DX_0	0.29	pg/g	Y		1268909.662	7546645.32
LBN-06	Hexachlorobenzene	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW8270_SIM	320-15395-1	20.3	1	118-74-1	< 2.9	ug/kg	N	U	1268909.662	7546645.32
LBN-06	Total Aluminum	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	10	7429-90-5	15000	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Antimony	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-36-0	0.52	mg/kg	Y	J-	1268909.662	7546645.32
LBN-06	Total Arsenic	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-38-2	12	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Barium	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-39-3	360	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Beryllium	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-41-7	0.73	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Cadmium	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-43-9	0.26	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Chromium	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-47-3	18	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Cobalt	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-48-4	5.5	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Copper	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-50-8	15	mg/kg	Y		1268909.662	7546645.32

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBN-06	Total Iron	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6010B	320-15395-1	20.3	10	7439-89-6	15000	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Lead	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7439-92-1	10	mg/kg	Y	J+	1268909.662	7546645.32
LBN-06	Total Manganese	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7439-96-5	340	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Mercury	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW7471A	320-15395-1	20.3	1	7439-97-6	0.025	mg/kg	Y	J-	1268909.662	7546645.32
LBN-06	Total Molybdenum	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7439-98-7	0.72	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Nickel	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-02-0	15	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total PCBs	LBN-6-SS-01-100515	10/5/2015	0	2	in	E1668A	320-15395-1	0	1	1336-36-3	340	pg/g	Y		1268909.662	7546645.32
LBN-06	Total Selenium	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7782-49-2	0.51	mg/kg	Y	J-	1268909.662	7546645.32
LBN-06	Total Silver	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-22-4	0.041	mg/kg	Y	J	1268909.662	7546645.32
LBN-06	Total Thallium	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-28-0	0.18	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Vanadium	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-62-2	36	mg/kg	Y		1268909.662	7546645.32
LBN-06	Total Zinc	LBN-6-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.3	1	7440-66-6	47	mg/kg	Y		1268909.662	7546645.32
LBN-07	Total Aluminum	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	10	7429-90-5	11000	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Antimony	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-36-0	0.38	mg/kg	Y	J-	1269459.235	7546392.709
LBN-07	Total Arsenic	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-38-2	8.1	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Barium	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-39-3	340	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Beryllium	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-41-7	0.59	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Cadmium	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-43-9	0.22	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Chromium	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-47-3	13	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Cobalt	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-48-4	4.3	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Copper	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-50-8	11	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Iron	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6010B	320-15395-1	16.5	10	7439-89-6	11000	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Lead	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7439-92-1	9.2	mg/kg	Y	J+	1269459.235	7546392.709
LBN-07	Total Manganese	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7439-96-5	240	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Mercury	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW7471A	320-15395-1	16.5	1	7439-97-6	0.03	mg/kg	Y	J-	1269459.235	7546392.709
LBN-07	Total Molybdenum	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7439-98-7	0.82	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Nickel	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-02-0	11	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Selenium	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7782-49-2	0.35	mg/kg	Y	J-	1269459.235	7546392.709
LBN-07	Total Silver	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-22-4	0.04	mg/kg	Y	J	1269459.235	7546392.709
LBN-07	Total Thallium	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-28-0	0.14	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Vanadium	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-62-2	24	mg/kg	Y		1269459.235	7546392.709
LBN-07	Total Zinc	LBN-7-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	16.5	1	7440-66-6	33	mg/kg	Y		1269459.235	7546392.709
LBN-08	Calculated TEQ (ND=0), Mammals	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW8290	320-15395-1	19	1	CALC_DX_0	0.92	pg/g	Y		1270577.064	7546589.867
LBN-08	Hexachlorobenzene	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW8270_SIM	320-15395-1	19	1	118-74-1	< 2.7	ug/kg	N	UJ	1270577.064	7546589.867
LBN-08	Total Aluminum	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	10	7429-90-5	17000	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Antimony	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-36-0	0.56	mg/kg	Y	J-	1270577.064	7546589.867
LBN-08	Total Arsenic	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-38-2	14	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Barium	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-39-3	330	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Beryllium	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-41-7	0.84	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Cadmium	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-43-9	0.26	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Chromium	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-47-3	20	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Cobalt	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-48-4	6.3	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Copper	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-50-8	22	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Iron	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6010B	320-15395-1	19	10	7439-89-6	17000	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Lead	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7439-92-1	14	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Manganese	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7439-96-5	360	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Mercury	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW7471A	320-15395-1	19	1	7439-97-6	0.044	mg/kg	Y	J-	1270577.064	7546589.867
LBN-08	Total Molybdenum	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7439-98-7	1.8	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Nickel	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-02-0	17	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total PCBs	LBN-8-SS-01-100515	10/5/2015	0	2	in	E1668A	320-15395-1	0	1	1336-36-3	790	pg/g	Y		1270577.064	7546589.867
LBN-08	Total Selenium	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7782-49-2	0.59	mg/kg	Y	J-	1270577.064	7546589.867
LBN-08	Total Silver	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-22-4	0.053	mg/kg	Y	J	1270577.064	7546589.867
LBN-08	Total Thallium	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-28-0	0.19	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Vanadium	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-62-2	36	mg/kg	Y		1270577.064	7546589.867
LBN-08	Total Zinc	LBN-8-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	19	1	7440-66-6	53	mg/kg	Y		1270577.064	7546589.867
LBN-09	Calculated TEQ (ND=0), Mammals	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW8290	320-15395-1	20.6	1	CALC_DX_0	0.59	pg/g	Y		1271872.977	7546643.719

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBN-09	Hexachlorobenzene	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW8270_SIM	320-15395-1	20.6	1	118-74-1	< 2.7	ug/kg	N	UJ	1271872.977	7546643.719
LBN-09	Total Aluminum	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	10	7429-90-5	16000	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Antimony	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-36-0	0.65	mg/kg	Y	J-	1271872.977	7546643.719
LBN-09	Total Arsenic	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-38-2	16	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Barium	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-39-3	340	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Beryllium	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-41-7	0.78	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Cadmium	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-43-9	0.35	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Chromium	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-47-3	18	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Cobalt	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-48-4	6.4	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Copper	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-50-8	17	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Iron	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6010B	320-15395-1	20.6	10	7439-89-6	15000	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Lead	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7439-92-1	11	mg/kg	Y	J+	1271872.977	7546643.719
LBN-09	Total Manganese	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7439-96-5	350	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Mercury	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW7471A	320-15395-1	20.6	1	7439-97-6	0.047	mg/kg	Y	J-	1271872.977	7546643.719
LBN-09	Total Molybdenum	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7439-98-7	2.2	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Nickel	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-02-0	16	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total PCBs	LBN-9-SS-01-100515	10/5/2015	0	2	in	E1668A	320-15395-1	0	1	1336-36-3	1100	pg/g	Y		1271872.977	7546643.719
LBN-09	Total Selenium	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7782-49-2	0.75	mg/kg	Y	J-	1271872.977	7546643.719
LBN-09	Total Silver	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-22-4	0.08	mg/kg	Y	J	1271872.977	7546643.719
LBN-09	Total Thallium	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-28-0	0.21	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Vanadium	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-62-2	35	mg/kg	Y		1271872.977	7546643.719
LBN-09	Total Zinc	LBN-9-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	20.6	1	7440-66-6	49	mg/kg	Y		1271872.977	7546643.719
LBN-10	Calculated TEQ (ND=0), Mammals	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW8290	320-15395-1	23.2	1	CALC_DX_0	0.45	pg/g	Y		1272540.545	7546414.797
LBN-10	Hexachlorobenzene	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW8270_SIM	320-15395-1	23.2	1	118-74-1	< 2.8	ug/kg	N	UJ	1272540.545	7546414.797
LBN-10	Total Aluminum	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	10	7429-90-5	13000	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Antimony	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-36-0	0.69	mg/kg	Y	J-	1272540.545	7546414.797
LBN-10	Total Arsenic	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-38-2	15	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Barium	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-39-3	330	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Beryllium	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-41-7	0.62	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Cadmium	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-43-9	0.35	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Chromium	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-47-3	16	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Cobalt	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-48-4	5.3	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Copper	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-50-8	17	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Iron	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6010B	320-15395-1	23.2	10	7439-89-6	12000	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Lead	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7439-92-1	10	mg/kg	Y	J+	1272540.545	7546414.797
LBN-10	Total Manganese	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7439-96-5	320	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Mercury	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW7471A	320-15395-1	23.2	1	7439-97-6	0.036	mg/kg	Y	J-	1272540.545	7546414.797
LBN-10	Total Molybdenum	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7439-98-7	3.5	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Nickel	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-02-0	13	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total PCBs	LBN-10-SS-01-100515	10/5/2015	0	2	in	E1668A	320-15395-1	0	1	1336-36-3	730	pg/g	Y		1272540.545	7546414.797
LBN-10	Total Selenium	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7782-49-2	0.64	mg/kg	Y	J-	1272540.545	7546414.797
LBN-10	Total Silver	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-22-4	0.089	mg/kg	Y	J	1272540.545	7546414.797
LBN-10	Total Thallium	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-28-0	0.21	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Vanadium	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-62-2	31	mg/kg	Y		1272540.545	7546414.797
LBN-10	Total Zinc	LBN-10-SS-01-100515	10/5/2015	0	2	in	SW6020	320-15395-1	23.2	1	7440-66-6	42	mg/kg	Y		1272540.545	7546414.797
LBSE-01	Calculated TEQ (ND=0), Mammals	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW8290	320-15395-1	4.4	1	CALC_DX_0	0.061	pg/g	Y		1335465.459	7511405.849
LBSE-01	Hexachlorobenzene	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW8270_SIM	320-15395-1	4.4	1	118-74-1	< 2.3	ug/kg	N	UJ	1335465.459	7511405.849
LBSE-01	Total Aluminum	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	10	7429-90-5	5000	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Antimony	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-36-0	0.37	mg/kg	Y	J-	1335465.459	7511405.849
LBSE-01	Total Arsenic	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-38-2	11	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Barium	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-39-3	480	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Beryllium	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-41-7	0.24	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Cadmium	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-43-9	0.11	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Chromium	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-47-3	6.3	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Cobalt	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-48-4	2.6	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Copper	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-50-8	7.7	mg/kg	Y		1335465.459	7511405.849

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBSE-01	Total Iron	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6010B	320-15395-1	4.4	10	7439-89-6	4300	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Lead	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7439-92-1	13	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Manganese	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7439-96-5	140	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Mercury	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW7471A	320-15395-1	4.4	1	7439-97-6	0.018	mg/kg	Y	J-	1335465.459	7511405.849
LBSE-01	Total Molybdenum	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7439-98-7	0.21	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Nickel	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-02-0	6.1	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total PCBs	LBSE-1-SS-01-100615	10/6/2015	0	2	in	E1668A	320-15395-1	0	1	1336-36-3	140	pg/g	Y		1335465.459	7511405.849
LBSE-01	Total Selenium	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7782-49-2	0.22	mg/kg	Y	J-	1335465.459	7511405.849
LBSE-01	Total Silver	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-22-4	0.033	mg/kg	Y	J	1335465.459	7511405.849
LBSE-01	Total Thallium	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-28-0	0.11	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Vanadium	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-62-2	12	mg/kg	Y		1335465.459	7511405.849
LBSE-01	Total Zinc	LBSE-1-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	4.4	1	7440-66-6	20	mg/kg	Y		1335465.459	7511405.849
LBSE-02	Total Aluminum	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	10	7429-90-5	9000	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Antimony	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-36-0	0.54	mg/kg	Y	J-	1335974.051	7511418.747
LBSE-02	Total Arsenic	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-38-2	9.3	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Barium	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-39-3	270	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Beryllium	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-41-7	0.42	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Cadmium	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-43-9	0.25	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Chromium	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-47-3	12	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Cobalt	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-48-4	4	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Copper	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-50-8	11	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Iron	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6010B	320-15395-1	28.9	10	7439-89-6	9300	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Lead	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7439-92-1	9.9	mg/kg	Y	J+	1335974.051	7511418.747
LBSE-02	Total Manganese	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7439-96-5	270	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Mercury	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW7471A	320-15395-1	28.9	1	7439-97-6	0.097	mg/kg	Y	J-	1335974.051	7511418.747
LBSE-02	Total Molybdenum	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7439-98-7	3.4	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Nickel	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-02-0	11	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Selenium	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7782-49-2	0.58	mg/kg	Y	J-	1335974.051	7511418.747
LBSE-02	Total Silver	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-22-4	0.066	mg/kg	Y	J	1335974.051	7511418.747
LBSE-02	Total Thallium	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-28-0	0.19	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Vanadium	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-62-2	20	mg/kg	Y		1335974.051	7511418.747
LBSE-02	Total Zinc	LBSE-2-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	28.9	1	7440-66-6	31	mg/kg	Y		1335974.051	7511418.747
LBSE-03	Calculated TEQ (ND=0), Mammals	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW8290	320-15395-1	6.4	1	CALC_DX_0	0.14	pg/g	Y		1336390.326	7511503.289
LBSE-03	Hexachlorobenzene	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW8270_SIM	320-15395-1	6.4	1	118-74-1	< 2.3	ug/kg	N	UJ	1336390.326	7511503.289
LBSE-03	Total Aluminum	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	10	7429-90-5	2000	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Antimony	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-36-0	0.27	mg/kg	Y	J-	1336390.326	7511503.289
LBSE-03	Total Arsenic	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-38-2	7.1	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Barium	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-39-3	150	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Beryllium	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-41-7	0.098	mg/kg	Y	J	1336390.326	7511503.289
LBSE-03	Total Cadmium	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-43-9	< 0.051	mg/kg	N	U	1336390.326	7511503.289
LBSE-03	Total Chromium	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-47-3	2.5	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Cobalt	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-48-4	1	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Copper	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-50-8	3	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Iron	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6010B	320-15395-1	6.4	10	7439-89-6	1800	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Lead	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7439-92-1	5.9	mg/kg	Y	J+	1336390.326	7511503.289
LBSE-03	Total Manganese	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7439-96-5	52	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Mercury	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW7471A	320-15395-1	6.4	1	7439-97-6	0.011	mg/kg	Y	J-	1336390.326	7511503.289
LBSE-03	Total Molybdenum	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7439-98-7	0.2	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Nickel	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-02-0	2.2	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total PCBs	LBSE-3-SS-01-100615	10/6/2015	0	2	in	E1668A	320-15395-1	0	1	1336-36-3	110	pg/g	Y		1336390.326	7511503.289
LBSE-03	Total Selenium	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7782-49-2	0.12	mg/kg	Y	J-	1336390.326	7511503.289
LBSE-03	Total Silver	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-22-4	< 0.031	mg/kg	N	U	1336390.326	7511503.289
LBSE-03	Total Thallium	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-28-0	< 0.051	mg/kg	N	U	1336390.326	7511503.289
LBSE-03	Total Vanadium	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-62-2	6.7	mg/kg	Y		1336390.326	7511503.289
LBSE-03	Total Zinc	LBSE-3-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	6.4	1	7440-66-6	9.6	mg/kg	Y		1336390.326	7511503.289
LBSE-04	Total Aluminum	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	10	7429-90-5	10000	mg/kg	Y		1337210.103	7511613.225

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBSE-04	Total Antimony	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-36-0	0.55	mg/kg	Y	J-	1337210.103	7511613.225
LBSE-04	Total Arsenic	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-38-2	11	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Barium	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-39-3	250	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Beryllium	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-41-7	0.53	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Cadmium	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-43-9	0.29	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Chromium	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-47-3	14	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Cobalt	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-48-4	4.6	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Copper	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-50-8	12	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Iron	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6010B	320-15395-1	34.3	10	7439-89-6	11000	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Lead	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7439-92-1	8.7	mg/kg	Y	J+	1337210.103	7511613.225
LBSE-04	Total Manganese	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7439-96-5	320	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Mercury	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW7471A	320-15395-1	34.3	1	7439-97-6	0.048	mg/kg	Y	J-	1337210.103	7511613.225
LBSE-04	Total Molybdenum	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7439-98-7	2.9	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Nickel	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-02-0	12	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Selenium	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7782-49-2	0.67	mg/kg	Y	J-	1337210.103	7511613.225
LBSE-04	Total Silver	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-22-4	0.079	mg/kg	Y	J	1337210.103	7511613.225
LBSE-04	Total Thallium	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-28-0	0.21	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Vanadium	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-62-2	22	mg/kg	Y		1337210.103	7511613.225
LBSE-04	Total Zinc	LBSE-4-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	34.3	1	7440-66-6	35	mg/kg	Y		1337210.103	7511613.225
LBSE-05	Hexachlorobenzene	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW8270_SIM	320-15395-1	27.1	1	118-74-1	< 2.9	ug/kg	N	UJ	1337927.717	7511794.746
LBSE-05	Total Aluminum	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	10	7429-90-5	3500	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Antimony	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-36-0	0.29	mg/kg	Y	J-	1337927.717	7511794.746
LBSE-05	Total Arsenic	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-38-2	9.1	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Barium	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-39-3	180	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Beryllium	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-41-7	0.17	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Cadmium	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-43-9	0.1	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Chromium	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-47-3	4.7	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Cobalt	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-48-4	1.6	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Copper	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-50-8	5.1	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Iron	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6010B	320-15395-1	27.1	10	7439-89-6	3500	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Lead	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7439-92-1	8.4	mg/kg	Y	J+	1337927.717	7511794.746
LBSE-05	Total Manganese	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7439-96-5	110	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Mercury	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW7471A	320-15395-1	27.1	1	7439-97-6	0.06	mg/kg	Y	J-	1337927.717	7511794.746
LBSE-05	Total Molybdenum	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7439-98-7	3.4	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Nickel	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-02-0	3.8	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Selenium	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7782-49-2	0.22	mg/kg	Y	J-	1337927.717	7511794.746
LBSE-05	Total Silver	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-22-4	0.028	mg/kg	Y	J	1337927.717	7511794.746
LBSE-05	Total Thallium	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-28-0	0.081	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Vanadium	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-62-2	8.8	mg/kg	Y		1337927.717	7511794.746
LBSE-05	Total Zinc	LBSE-5-SS-01-100615	10/6/2015	0	2	in	SW6020	320-15395-1	27.1	1	7440-66-6	14	mg/kg	Y		1337927.717	7511794.746
LBSE-06	Total Aluminum	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	10	7429-90-5	9400	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Antimony	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-36-0	0.84	mg/kg	Y	J-	1338357.867	7511754.664
LBSE-06	Total Arsenic	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-38-2	11	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Barium	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-39-3	300	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Beryllium	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-41-7	0.5	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Cadmium	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-43-9	0.34	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Chromium	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-47-3	12	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Cobalt	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-48-4	4.2	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Copper	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-50-8	12	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Iron	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6010B	320-15395-1	37.7	10	7439-89-6	9900	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Lead	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7439-92-1	10	mg/kg	Y	J+	1338357.867	7511754.664
LBSE-06	Total Manganese	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7439-96-5	270	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Mercury	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW7471A	320-15395-1	37.7	1	7439-97-6	0.067	mg/kg	Y	J-	1338357.867	7511754.664
LBSE-06	Total Molybdenum	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7439-98-7	5.4	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Nickel	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-02-0	12	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Selenium	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7782-49-2	0.82	mg/kg	Y	J-	1338357.867	7511754.664

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBSE-06	Total Silver	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-22-4	0.081	mg/kg	Y	J	1338357.867	7511754.664
LBSE-06	Total Thallium	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-28-0	0.24	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Vanadium	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-62-2	22	mg/kg	Y		1338357.867	7511754.664
LBSE-06	Total Zinc	LBSE-6-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	37.7	1	7440-66-6	37	mg/kg	Y		1338357.867	7511754.664
LBSE-07	Total Aluminum	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	10	7429-90-5	8500	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Antimony	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-36-0	1.1	mg/kg	Y	J-	1339694.675	7511565.778
LBSE-07	Total Arsenic	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-38-2	15	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Barium	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-39-3	260	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Beryllium	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-41-7	0.47	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Cadmium	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-43-9	0.27	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Chromium	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-47-3	12	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Cobalt	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-48-4	3.9	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Copper	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-50-8	12	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Iron	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6010B	320-15395-1	34.6	10	7439-89-6	9800	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Lead	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7439-92-1	8.9	mg/kg	Y	J+	1339694.675	7511565.778
LBSE-07	Total Manganese	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7439-96-5	250	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Mercury	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW7471A	320-15395-1	34.6	1	7439-97-6	0.043	mg/kg	Y	J-	1339694.675	7511565.778
LBSE-07	Total Molybdenum	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7439-98-7	4.3	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Nickel	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-02-0	10	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Selenium	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7782-49-2	0.69	mg/kg	Y	J-	1339694.675	7511565.778
LBSE-07	Total Silver	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-22-4	0.076	mg/kg	Y	J	1339694.675	7511565.778
LBSE-07	Total Thallium	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-28-0	0.23	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Vanadium	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-62-2	20	mg/kg	Y		1339694.675	7511565.778
LBSE-07	Total Zinc	LBSE-7-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34.6	1	7440-66-6	32	mg/kg	Y		1339694.675	7511565.778
LBSE-08	Total Aluminum	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	10	7429-90-5	11000	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Antimony	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-36-0	0.85	mg/kg	Y	J-	1340478.397	7511668.932
LBSE-08	Total Arsenic	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-38-2	11	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Barium	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-39-3	300	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Beryllium	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-41-7	0.55	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Cadmium	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-43-9	0.32	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Chromium	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-47-3	19	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Cobalt	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-48-4	4.9	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Copper	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-50-8	14	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Iron	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6010B	320-15395-1	34	10	7439-89-6	11000	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Lead	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7439-92-1	10	mg/kg	Y	J+	1340478.397	7511668.932
LBSE-08	Total Manganese	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7439-96-5	350	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Mercury	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW7471A	320-15395-1	34	1	7439-97-6	0.058	mg/kg	Y	J-	1340478.397	7511668.932
LBSE-08	Total Molybdenum	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7439-98-7	4.5	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Nickel	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-02-0	15	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Selenium	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7782-49-2	0.75	mg/kg	Y	J-	1340478.397	7511668.932
LBSE-08	Total Silver	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-22-4	0.094	mg/kg	Y	J	1340478.397	7511668.932
LBSE-08	Total Thallium	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-28-0	0.24	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Vanadium	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-62-2	24	mg/kg	Y		1340478.397	7511668.932
LBSE-08	Total Zinc	LBSE-8-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	34	1	7440-66-6	40	mg/kg	Y		1340478.397	7511668.932
LBSE-09	Calculated TEQ (ND=0), Mammals	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW8290	320-15395-1	19.6	1	CALC_DX_0	0.46	pg/g	Y		1341406.044	7511303.657
LBSE-09	Hexachlorobenzene	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW8270_SIM	320-15395-1	19.6	1	118-74-1	< 2.8	ug/kg	N	UJ	1341406.044	7511303.657
LBSE-09	Total Aluminum	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	10	7429-90-5	2500	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Antimony	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-36-0	0.3	mg/kg	Y	J-	1341406.044	7511303.657
LBSE-09	Total Arsenic	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-38-2	8.2	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Barium	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-39-3	190	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Beryllium	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-41-7	0.14	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Cadmium	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-43-9	0.081	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Chromium	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-47-3	3.4	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Cobalt	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-48-4	1.4	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Copper	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-50-8	3.9	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Iron	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6010B	320-15395-1	19.6	10	7439-89-6	2200	mg/kg	Y		1341406.044	7511303.657

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
LBSE-09	Total Lead	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7439-92-1	7	mg/kg	Y	J+	1341406.044	7511303.657
LBSE-09	Total Manganese	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7439-96-5	77	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Mercury	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW7471A	320-15395-1	19.6	1	7439-97-6	0.018	mg/kg	Y	J-	1341406.044	7511303.657
LBSE-09	Total Molybdenum	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7439-98-7	2.7	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Nickel	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-02-0	3	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total PCBs	LBSE-9-SS-01-100715	10/7/2015	0	2	in	E1668A	320-15395-1	0	1	1336-36-3	260	pg/g	Y		1341406.044	7511303.657
LBSE-09	Total Selenium	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7782-49-2	0.3	mg/kg	Y	J-	1341406.044	7511303.657
LBSE-09	Total Silver	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-22-4	0.024	mg/kg	Y	J	1341406.044	7511303.657
LBSE-09	Total Thallium	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-28-0	0.085	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Vanadium	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-62-2	7.9	mg/kg	Y		1341406.044	7511303.657
LBSE-09	Total Zinc	LBSE-9-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	19.6	1	7440-66-6	12	mg/kg	Y		1341406.044	7511303.657
LBSE-10	Hexachlorobenzene	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW8270_SIM	320-15395-1	27.4	1	118-74-1	< 3.0	ug/kg	N	UJ	1342342.617	7511157.491
LBSE-10	Total Aluminum	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	10	7429-90-5	4700	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Antimony	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-36-0	0.17	mg/kg	Y	J-	1342342.617	7511157.491
LBSE-10	Total Arsenic	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-38-2	8.5	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Barium	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-39-3	210	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Beryllium	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-41-7	0.23	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Cadmium	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-43-9	0.17	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Chromium	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-47-3	5.7	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Cobalt	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-48-4	2.3	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Copper	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-50-8	7.3	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Iron	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6010B	320-15395-1	27.4	10	7439-89-6	5100	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Lead	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7439-92-1	6.3	mg/kg	Y	J+	1342342.617	7511157.491
LBSE-10	Total Manganese	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7439-96-5	150	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Mercury	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW7471A	320-15395-1	27.4	1	7439-97-6	0.16	mg/kg	Y	J-	1342342.617	7511157.491
LBSE-10	Total Nickel	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-02-0	5.7	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Selenium	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7782-49-2	0.38	mg/kg	Y	J-	1342342.617	7511157.491
LBSE-10	Total Silver	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-22-4	0.035	mg/kg	Y	J	1342342.617	7511157.491
LBSE-10	Total Thallium	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-28-0	0.12	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Vanadium	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-62-2	12	mg/kg	Y		1342342.617	7511157.491
LBSE-10	Total Zinc	LBSE-10-SS-01-100715	10/7/2015	0	2	in	SW6020	320-15395-1	27.4	1	7440-66-6	17	mg/kg	Y		1342342.617	7511157.491
UPN-01	Total Aluminum	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7429-90-5	12000	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Antimony	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-36-0	0.29	mg/kg	Y	J-	1266734.395	7534739.558
UPN-01	Total Arsenic	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-38-2	5.8	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Barium	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-39-3	170	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Beryllium	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-41-7	0.52	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Cadmium	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-43-9	0.46	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Chromium	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-47-3	12	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Cobalt	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-48-4	3.6	mg/kg	Y	J-	1266734.395	7534739.558
UPN-01	Total Copper	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-50-8	13	mg/kg	Y	J	1266734.395	7534739.558
UPN-01	Total Iron	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	5.7	1	7439-89-6	11000	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Lead	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7439-92-1	21	mg/kg	Y	J-	1266734.395	7534739.558
UPN-01	Total Manganese	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7439-96-5	400	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Mercury	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	5.7	1	7439-97-6	0.035	mg/kg	Y	J	1266734.395	7534739.558
UPN-01	Total Molybdenum	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7439-98-7	0.74	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Nickel	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-02-0	8.2	mg/kg	Y	J-	1266734.395	7534739.558
UPN-01	Total Selenium	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7782-49-2	0.24	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Silver	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-22-4	0.071	mg/kg	Y	J	1266734.395	7534739.558
UPN-01	Total Thallium	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-28-0	0.17	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Vanadium	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-62-2	20	mg/kg	Y		1266734.395	7534739.558
UPN-01	Total Zinc	UPN-1-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.7	1	7440-66-6	41	mg/kg	Y	J-	1266734.395	7534739.558
UPN-02	Calculated TEQ (ND=0), Mammals	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW8290	320-15520-1	4.4	1	CALC_DX_0	0.051	pg/g	Y		1267074.024	7534472.539
UPN-02	Hexachlorobenzene	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW8270_SIM	320-15520-1	4.4	1	118-74-1	< 2.3	ug/kg	N	U	1267074.024	7534472.539
UPN-02	Total Aluminum	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7429-90-5	7600	mg/kg	Y		1267074.024	7534472.539
UPN-02	Total Antimony	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-36-0	0.19	mg/kg	Y	J-	1267074.024	7534472.539
UPN-02	Total Arsenic	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-38-2	4.7	mg/kg	Y		1267074.024	7534472.539

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
UPN-02	Total Barium	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-39-3	120	mg/kg	Y	J	1267074.024	7534472.539
UPN-02	Total Beryllium	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-41-7	0.41	mg/kg	Y		1267074.024	7534472.539
UPN-02	Total Cadmium	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-43-9	0.29	mg/kg	Y		1267074.024	7534472.539
UPN-02	Total Chromium	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-47-3	8.2	mg/kg	Y		1267074.024	7534472.539
UPN-02	Total Cobalt	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-48-4	2.8	mg/kg	Y	J-	1267074.024	7534472.539
UPN-02	Total Copper	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-50-8	9.5	mg/kg	Y	J	1267074.024	7534472.539
UPN-02	Total Iron	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	4.4	1	7439-89-6	10000	mg/kg	Y		1267074.024	7534472.539
UPN-02	Total Lead	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7439-92-1	12	mg/kg	Y	J	1267074.024	7534472.539
UPN-02	Total Manganese	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7439-96-5	340	mg/kg	Y		1267074.024	7534472.539
UPN-02	Total Mercury	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	4.4	1	7439-97-6	0.032	mg/kg	Y	J	1267074.024	7534472.539
UPN-02	Total Molybdenum	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7439-98-7	0.52	mg/kg	Y		1267074.024	7534472.539
UPN-02	Total Nickel	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-02-0	6.2	mg/kg	Y	J-	1267074.024	7534472.539
UPN-02	Total PCBs	UPN-2-SS-01-101415	10/14/2015	0	2	in	E1668A	320-15520-1	0	1	1336-36-3	190	pg/g	Y		1267074.024	7534472.539
UPN-02	Total Selenium	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7782-49-2	0.19	mg/kg	Y	J	1267074.024	7534472.539
UPN-02	Total Silver	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-22-4	0.039	mg/kg	Y	J	1267074.024	7534472.539
UPN-02	Total Thallium	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-28-0	0.11	mg/kg	Y		1267074.024	7534472.539
UPN-02	Total Vanadium	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-62-2	14	mg/kg	Y		1267074.024	7534472.539
UPN-02	Total Zinc	UPN-2-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.4	1	7440-66-6	26	mg/kg	Y	J-	1267074.024	7534472.539
UPN-03	Total Aluminum	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7429-90-5	8100	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Antimony	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-36-0	0.22	mg/kg	Y	J-	1266866.651	7534038.109
UPN-03	Total Arsenic	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-38-2	4.8	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Barium	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-39-3	120	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Beryllium	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-41-7	0.37	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Cadmium	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-43-9	0.32	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Chromium	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-47-3	8.7	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Cobalt	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-48-4	2.6	mg/kg	Y	J-	1266866.651	7534038.109
UPN-03	Total Copper	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-50-8	9.4	mg/kg	Y	J	1266866.651	7534038.109
UPN-03	Total Iron	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	4.7	1	7439-89-6	8700	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Lead	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7439-92-1	13	mg/kg	Y	J	1266866.651	7534038.109
UPN-03	Total Manganese	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7439-96-5	330	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Mercury	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	4.7	1	7439-97-6	0.033	mg/kg	Y	J	1266866.651	7534038.109
UPN-03	Total Molybdenum	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7439-98-7	0.53	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Nickel	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-02-0	5.9	mg/kg	Y	J-	1266866.651	7534038.109
UPN-03	Total Selenium	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7782-49-2	0.18	mg/kg	Y	J	1266866.651	7534038.109
UPN-03	Total Silver	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-22-4	0.048	mg/kg	Y	J	1266866.651	7534038.109
UPN-03	Total Thallium	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-28-0	0.11	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Vanadium	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-62-2	16	mg/kg	Y		1266866.651	7534038.109
UPN-03	Total Zinc	UPN-3-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.7	1	7440-66-6	28	mg/kg	Y	J-	1266866.651	7534038.109
UPN-04	Calculated TEQ (ND=0), Mammals	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW8290	320-15520-1	6.5	1	CALC_DX_0	0.049	pg/g	Y		1267705.881	7534177.766
UPN-04	Hexachlorobenzene	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW8270_SIM	320-15520-1	6.5	1	118-74-1	< 2.4	ug/kg	N	UJ	1267705.881	7534177.766
UPN-04	Total Aluminum	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7429-90-5	10000	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Antimony	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-36-0	0.25	mg/kg	Y	J-	1267705.881	7534177.766
UPN-04	Total Arsenic	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-38-2	5.2	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Barium	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-39-3	160	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Beryllium	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-41-7	0.49	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Cadmium	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-43-9	0.31	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Chromium	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-47-3	11	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Cobalt	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-48-4	3.5	mg/kg	Y	J-	1267705.881	7534177.766
UPN-04	Total Copper	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-50-8	10	mg/kg	Y	J	1267705.881	7534177.766
UPN-04	Total Iron	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	6.5	1	7439-89-6	11000	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Lead	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7439-92-1	13	mg/kg	Y	J	1267705.881	7534177.766
UPN-04	Total Manganese	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7439-96-5	330	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Mercury	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	6.5	1	7439-97-6	0.029	mg/kg	Y	J	1267705.881	7534177.766
UPN-04	Total Molybdenum	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7439-98-7	0.7	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Nickel	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-02-0	7.7	mg/kg	Y	J-	1267705.881	7534177.766
UPN-04	Total PCBs	UPN-4-SS-01-101415	10/14/2015	0	2	in	E1668A	320-15520-1	0	1	1336-36-3	160	pg/g	Y		1267705.881	7534177.766

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
UPN-04	Total Selenium	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7782-49-2	0.26	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Silver	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-22-4	0.049	mg/kg	Y	J	1267705.881	7534177.766
UPN-04	Total Thallium	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-28-0	0.15	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Vanadium	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-62-2	19	mg/kg	Y		1267705.881	7534177.766
UPN-04	Total Zinc	UPN-4-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.5	1	7440-66-6	34	mg/kg	Y	J-	1267705.881	7534177.766
UPN-05	Total Aluminum	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7429-90-5	11000	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Antimony	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-36-0	0.23	mg/kg	Y	J-	1267204.317	7533554.494
UPN-05	Total Arsenic	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-38-2	4.6	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Barium	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-39-3	160	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Beryllium	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-41-7	0.51	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Cadmium	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-43-9	0.31	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Chromium	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-47-3	11	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Cobalt	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-48-4	3.2	mg/kg	Y	J-	1267204.317	7533554.494
UPN-05	Total Copper	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-50-8	10	mg/kg	Y	J	1267204.317	7533554.494
UPN-05	Total Iron	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	5.4	1	7439-89-6	10000	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Lead	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7439-92-1	12	mg/kg	Y	J	1267204.317	7533554.494
UPN-05	Total Manganese	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7439-96-5	410	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Mercury	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	5.4	1	7439-97-6	0.032	mg/kg	Y	J	1267204.317	7533554.494
UPN-05	Total Molybdenum	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7439-98-7	0.48	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Nickel	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-02-0	7.5	mg/kg	Y	J-	1267204.317	7533554.494
UPN-05	Total Selenium	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7782-49-2	0.21	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Silver	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-22-4	0.05	mg/kg	Y	J	1267204.317	7533554.494
UPN-05	Total Thallium	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-28-0	0.15	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Vanadium	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-62-2	19	mg/kg	Y		1267204.317	7533554.494
UPN-05	Total Zinc	UPN-5-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	5.4	1	7440-66-6	36	mg/kg	Y	J-	1267204.317	7533554.494
UPN-06	Calculated TEQ (ND=0), Mammals	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW8290	320-15520-1	7.9	1	CALC_DX_0	0.11	pg/g	Y		1267859.887	7533676.624
UPN-06	Hexachlorobenzene	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW8270_SIM	320-15520-1	7.9	1	118-74-1	< 2.4	ug/kg	N	UJ	1267859.887	7533676.624
UPN-06	Total Aluminum	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7429-90-5	11000	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Antimony	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-36-0	0.26	mg/kg	Y	J-	1267859.887	7533676.624
UPN-06	Total Arsenic	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-38-2	4.7	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Barium	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-39-3	220	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Beryllium	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-41-7	0.45	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Cadmium	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-43-9	0.41	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Chromium	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-47-3	12	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Cobalt	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-48-4	3.1	mg/kg	Y	J-	1267859.887	7533676.624
UPN-06	Total Copper	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-50-8	11	mg/kg	Y	J	1267859.887	7533676.624
UPN-06	Total Iron	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	7.9	1	7439-89-6	9800	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Lead	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7439-92-1	16	mg/kg	Y	J-	1267859.887	7533676.624
UPN-06	Total Manganese	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7439-96-5	380	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Mercury	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	7.9	1	7439-97-6	0.03	mg/kg	Y	J	1267859.887	7533676.624
UPN-06	Total Molybdenum	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7439-98-7	0.68	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Nickel	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-02-0	7.4	mg/kg	Y	J-	1267859.887	7533676.624
UPN-06	Total PCBs	UPN-6-SS-01-101415	10/14/2015	0	2	in	E1668A	320-15520-1	0	1	1336-36-3	210	pg/g	Y		1267859.887	7533676.624
UPN-06	Total Selenium	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7782-49-2	0.24	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Silver	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-22-4	0.053	mg/kg	Y	J	1267859.887	7533676.624
UPN-06	Total Thallium	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-28-0	0.16	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Vanadium	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-62-2	19	mg/kg	Y		1267859.887	7533676.624
UPN-06	Total Zinc	UPN-6-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	7.9	1	7440-66-6	37	mg/kg	Y	J-	1267859.887	7533676.624
UPN-07	Calculated TEQ (ND=0), Mammals	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW8290	320-15520-1	4.9	1	CALC_DX_0	0.095	pg/g	Y		1267658.955	7533261.922
UPN-07	Hexachlorobenzene	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW8270_SIM	320-15520-1	4.9	1	118-74-1	< 2.3	ug/kg	N	UJ	1267658.955	7533261.922
UPN-07	Total Aluminum	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7429-90-5	13000	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Antimony	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-36-0	0.32	mg/kg	Y	J-	1267658.955	7533261.922
UPN-07	Total Arsenic	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-38-2	5.4	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Barium	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-39-3	220	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Beryllium	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-41-7	0.57	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Cadmium	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-43-9	0.4	mg/kg	Y		1267658.955	7533261.922

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
UPN-07	Total Chromium	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-47-3	13	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Cobalt	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-48-4	3.8	mg/kg	Y	J-	1267658.955	7533261.922
UPN-07	Total Copper	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-50-8	13	mg/kg	Y	J	1267658.955	7533261.922
UPN-07	Total Iron	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	4.9	1	7439-89-6	11000	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Lead	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7439-92-1	16	mg/kg	Y	J-	1267658.955	7533261.922
UPN-07	Total Manganese	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7439-96-5	440	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Mercury	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	4.9	1	7439-97-6	0.031	mg/kg	Y	J	1267658.955	7533261.922
UPN-07	Total Molybdenum	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7439-98-7	0.7	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Nickel	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-02-0	8.8	mg/kg	Y	J-	1267658.955	7533261.922
UPN-07	Total PCBs	UPN-7-SS-01-101415	10/14/2015	0	2	in	E1668A	320-15520-1	0	1	1336-36-3	160	pg/g	Y		1267658.955	7533261.922
UPN-07	Total Selenium	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7782-49-2	0.28	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Silver	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-22-4	0.062	mg/kg	Y	J	1267658.955	7533261.922
UPN-07	Total Thallium	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-28-0	0.18	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Vanadium	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-62-2	22	mg/kg	Y		1267658.955	7533261.922
UPN-07	Total Zinc	UPN-7-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	4.9	1	7440-66-6	43	mg/kg	Y	J-	1267658.955	7533261.922
UPN-08	Total Aluminum	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7429-90-5	14000	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Antimony	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-36-0	0.32	mg/kg	Y	J-	1268145.189	7533169.718
UPN-08	Total Arsenic	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-38-2	6.5	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Barium	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-39-3	210	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Beryllium	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-41-7	0.63	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Cadmium	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-43-9	0.44	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Chromium	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-47-3	14	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Cobalt	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-48-4	4.3	mg/kg	Y	J-	1268145.189	7533169.718
UPN-08	Total Copper	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-50-8	16	mg/kg	Y	J	1268145.189	7533169.718
UPN-08	Total Iron	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	10.4	1	7439-89-6	13000	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Lead	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7439-92-1	19	mg/kg	Y	J-	1268145.189	7533169.718
UPN-08	Total Manganese	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7439-96-5	410	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Mercury	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	10.4	1	7439-97-6	0.038	mg/kg	Y	J	1268145.189	7533169.718
UPN-08	Total Molybdenum	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7439-98-7	0.92	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Nickel	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-02-0	10	mg/kg	Y	J-	1268145.189	7533169.718
UPN-08	Total Selenium	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7782-49-2	0.32	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Silver	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-22-4	0.085	mg/kg	Y	J	1268145.189	7533169.718
UPN-08	Total Thallium	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-28-0	0.21	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Vanadium	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-62-2	23	mg/kg	Y		1268145.189	7533169.718
UPN-08	Total Zinc	UPN-8-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	10.4	1	7440-66-6	51	mg/kg	Y	J-	1268145.189	7533169.718
UPN-09	Calculated TEQ (ND=0), Mammals	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW8290	320-15520-1	6.9	1	CALC_DX_0	0.069	pg/g	Y		1268514.214	7533464.026
UPN-09	Hexachlorobenzene	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW8270_SIM	320-15520-1	6.9	1	118-74-1	< 2.3	ug/kg	N	UJ	1268514.214	7533464.026
UPN-09	Total Aluminum	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7429-90-5	14000	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Antimony	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-36-0	0.31	mg/kg	Y	J-	1268514.214	7533464.026
UPN-09	Total Arsenic	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-38-2	5.5	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Barium	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-39-3	220	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Beryllium	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-41-7	0.59	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Cadmium	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-43-9	0.43	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Chromium	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-47-3	14	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Cobalt	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-48-4	4	mg/kg	Y	J-	1268514.214	7533464.026
UPN-09	Total Copper	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-50-8	14	mg/kg	Y	J	1268514.214	7533464.026
UPN-09	Total Iron	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	6.9	1	7439-89-6	12000	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Lead	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7439-92-1	17	mg/kg	Y	J-	1268514.214	7533464.026
UPN-09	Total Manganese	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7439-96-5	400	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Mercury	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	6.9	1	7439-97-6	0.028	mg/kg	Y	J	1268514.214	7533464.026
UPN-09	Total Molybdenum	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7439-98-7	0.71	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Nickel	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-02-0	9.8	mg/kg	Y	J-	1268514.214	7533464.026
UPN-09	Total PCBs	UPN-9-SS-01-101415	10/14/2015	0	2	in	E1668A	320-15520-1	0	1	1336-36-3	660	pg/g	Y		1268514.214	7533464.026
UPN-09	Total Selenium	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7782-49-2	0.3	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Silver	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-22-4	0.065	mg/kg	Y	J	1268514.214	7533464.026
UPN-09	Total Thallium	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-28-0	0.19	mg/kg	Y		1268514.214	7533464.026

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_ moisture	dilution_f actor	cas_rn	report_result_text	report_result_u nit	detect_flag	interpreted_q ualifiers	x_coord	y_coord
UPN-09	Total Vanadium	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-62-2	22	mg/kg	Y		1268514.214	7533464.026
UPN-09	Total Zinc	UPN-9-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	6.9	1	7440-66-6	43	mg/kg	Y	J-	1268514.214	7533464.026
UPN-10	Calculated TEQ (ND=0), Mammals	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW8290	320-15520-1	11.2	1	CALC_DX_0	0.1	pg/g	Y		1268568.632	7532611.149
UPN-10	Hexachlorobenzene	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW8270_SIM	320-15520-1	11.2	1	118-74-1	< 2.5	ug/kg	N	U	1268568.632	7532611.149
UPN-10	Total Aluminum	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7429-90-5	14000	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Antimony	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-36-0	0.34	mg/kg	Y	J-	1268568.632	7532611.149
UPN-10	Total Arsenic	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-38-2	6	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Barium	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-39-3	230	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Beryllium	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-41-7	0.61	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Cadmium	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-43-9	0.47	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Chromium	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-47-3	15	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Cobalt	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-48-4	4.1	mg/kg	Y	J-	1268568.632	7532611.149
UPN-10	Total Copper	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-50-8	15	mg/kg	Y	J	1268568.632	7532611.149
UPN-10	Total Iron	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6010B	320-15520-1	11.2	1	7439-89-6	13000	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Lead	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7439-92-1	20	mg/kg	Y	J-	1268568.632	7532611.149
UPN-10	Total Manganese	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7439-96-5	450	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Mercury	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW7471A	320-15520-1	11.2	1	7439-97-6	0.071	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Nickel	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-02-0	10	mg/kg	Y	J-	1268568.632	7532611.149
UPN-10	Total PCBs	UPN-10-SS-01-101415	10/14/2015	0	2	in	E1668A	320-15520-1	0	1	1336-36-3	370	pg/g	Y		1268568.632	7532611.149
UPN-10	Total Selenium	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7782-49-2	0.29	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Silver	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-22-4	0.072	mg/kg	Y	J	1268568.632	7532611.149
UPN-10	Total Thallium	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-28-0	0.2	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Vanadium	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-62-2	24	mg/kg	Y		1268568.632	7532611.149
UPN-10	Total Zinc	UPN-10-SS-01-101415	10/14/2015	0	2	in	SW6020	320-15520-1	11.2	1	7440-66-6	47	mg/kg	Y	J-	1268568.632	7532611.149
UPS-01	Calculated TEQ (ND=0), Mammals	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW8290	320-15476-1	3.7	1	CALC_DX_0	0.17	pg/g	Y		1301780.661	7463049.602
UPS-01	Hexachlorobenzene	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW8270_SIM	320-15476-1	3.7	1	118-74-1	< 2.3	ug/kg	N	UJ	1301780.661	7463049.602
UPS-01	Total Aluminum	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	10	7429-90-5	11000	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Antimony	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-36-0	0.22	mg/kg	Y	J-	1301780.661	7463049.602
UPS-01	Total Arsenic	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-38-2	4.7	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Barium	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-39-3	250	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Beryllium	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-41-7	0.46	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Cadmium	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-43-9	0.42	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Chromium	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-47-3	12	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Cobalt	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-48-4	3.9	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Copper	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-50-8	13	mg/kg	Y	J-	1301780.661	7463049.602
UPS-01	Total Iron	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6010B	320-15476-1	3.7	10	7439-89-6	9500	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Lead	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7439-92-1	17	mg/kg	Y	J+	1301780.661	7463049.602
UPS-01	Total Manganese	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7439-96-5	430	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Mercury	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW7471A	320-15476-1	3.7	1	7439-97-6	0.045	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Molybdenum	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7439-98-7	0.78	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Nickel	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-02-0	9.2	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total PCBs	UPS-1-SS-01-101215	10/12/2015	0	2	in	E1668A	320-15476-1	0	1	1336-36-3	210	pg/g	Y		1301780.661	7463049.602
UPS-01	Total Selenium	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7782-49-2	0.28	mg/kg	Y	J-	1301780.661	7463049.602
UPS-01	Total Silver	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-22-4	0.062	mg/kg	Y	J	1301780.661	7463049.602
UPS-01	Total Thallium	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-28-0	0.17	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Vanadium	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-62-2	19	mg/kg	Y		1301780.661	7463049.602
UPS-01	Total Zinc	UPS-1-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.7	1	7440-66-6	34	mg/kg	Y	J-	1301780.661	7463049.602
UPS-02	Calculated TEQ (ND=0), Mammals	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW8290	320-15476-1	3.6	1	CALC_DX_0	0.22	pg/g	Y		1302137.55	7463731.005
UPS-02	Hexachlorobenzene	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW8270_SIM	320-15476-1	3.6	1	118-74-1	< 2.3	ug/kg	N	UJ	1302137.55	7463731.005
UPS-02	Total Aluminum	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	10	7429-90-5	10000	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Antimony	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-36-0	0.2	mg/kg	Y	J-	1302137.55	7463731.005
UPS-02	Total Arsenic	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-38-2	4.6	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Barium	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-39-3	270	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Beryllium	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-41-7	0.41	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Cadmium	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-43-9	0.42	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Chromium	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-47-3	11	mg/kg	Y		1302137.55	7463731.005

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_ moisture	dilution_f actor	cas_rn	report_result_text	report_result_u nit	detect_flag	interpreted_q ualifiers	x_coord	y_coord
UPS-02	Total Cobalt	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-48-4	3.6	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Copper	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-50-8	14	mg/kg	Y	J-	1302137.55	7463731.005
UPS-02	Total Iron	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6010B	320-15476-1	3.6	10	7439-89-6	9100	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Lead	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7439-92-1	20	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Manganese	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7439-96-5	450	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Mercury	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW7471A	320-15476-1	3.6	1	7439-97-6	0.046	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Molybdenum	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7439-98-7	0.72	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Nickel	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-02-0	8.4	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total PCBs	UPS-2-SS-01-101215	10/12/2015	0	2	in	E1668A	320-15476-1	0	1	1336-36-3	300	pg/g	Y		1302137.55	7463731.005
UPS-02	Total Selenium	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7782-49-2	0.23	mg/kg	Y	J-	1302137.55	7463731.005
UPS-02	Total Silver	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-22-4	0.055	mg/kg	Y	J	1302137.55	7463731.005
UPS-02	Total Thallium	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-28-0	0.15	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Vanadium	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-62-2	18	mg/kg	Y		1302137.55	7463731.005
UPS-02	Total Zinc	UPS-2-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.6	1	7440-66-6	35	mg/kg	Y	J-	1302137.55	7463731.005
UPS-03	Total Aluminum	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	10	7429-90-5	10000	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Antimony	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-36-0	0.11	mg/kg	Y	J-	1302491.738	7463217.929
UPS-03	Total Arsenic	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-38-2	6.2	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Barium	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-39-3	240	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Beryllium	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-41-7	0.45	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Cadmium	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-43-9	0.39	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Chromium	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-47-3	10	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Cobalt	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-48-4	3.5	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Copper	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-50-8	11	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Iron	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6010B	320-15476-1	3.4	10	7439-89-6	11000	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Lead	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7439-92-1	11	mg/kg	Y	J+	1302491.738	7463217.929
UPS-03	Total Manganese	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7439-96-5	320	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Mercury	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW7471A	320-15476-1	3.4	1	7439-97-6	0.05	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Molybdenum	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7439-98-7	0.76	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Nickel	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-02-0	8.7	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Selenium	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7782-49-2	0.31	mg/kg	Y	J-	1302491.738	7463217.929
UPS-03	Total Silver	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-22-4	0.096	mg/kg	Y	J	1302491.738	7463217.929
UPS-03	Total Thallium	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-28-0	0.22	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Vanadium	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-62-2	18	mg/kg	Y		1302491.738	7463217.929
UPS-03	Total Zinc	UPS-3-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-66-6	31	mg/kg	Y	J-	1302491.738	7463217.929
UPS-04	Calculated TEQ (ND=0), Mammals	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW8290	320-15476-1	5.8	1	CALC_DX_0	0.25	pg/g	Y		1302703.963	7462848.39
UPS-04	Hexachlorobenzene	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW8270_SIM	320-15476-1	5.8	1	118-74-1	< 2.3	ug/kg	N	UJ	1302703.963	7462848.39
UPS-04	Total Aluminum	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	10	7429-90-5	11000	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Antimony	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-36-0	0.18	mg/kg	Y	J-	1302703.963	7462848.39
UPS-04	Total Arsenic	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-38-2	5.6	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Barium	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-39-3	250	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Beryllium	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-41-7	0.43	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Cadmium	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-43-9	0.5	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Chromium	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-47-3	12	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Cobalt	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-48-4	3.5	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Copper	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-50-8	15	mg/kg	Y	J-	1302703.963	7462848.39
UPS-04	Total Iron	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6010B	320-15476-1	5.8	10	7439-89-6	9000	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Lead	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7439-92-1	20	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Manganese	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7439-96-5	380	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Mercury	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW7471A	320-15476-1	5.8	1	7439-97-6	0.044	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Molybdenum	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7439-98-7	0.76	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Nickel	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-02-0	8.7	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total PCBs	UPS-4-SS-01-101215	10/12/2015	0	2	in	E1668A	320-15476-1	0	1	1336-36-3	340	pg/g	Y		1302703.963	7462848.39
UPS-04	Total Selenium	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7782-49-2	0.27	mg/kg	Y	J-	1302703.963	7462848.39
UPS-04	Total Silver	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-22-4	0.084	mg/kg	Y	J	1302703.963	7462848.39
UPS-04	Total Thallium	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-28-0	0.17	mg/kg	Y		1302703.963	7462848.39
UPS-04	Total Vanadium	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-62-2	18	mg/kg	Y		1302703.963	7462848.39

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_ moisture	dilution_f actor	cas_rn	report_result_text	report_result_u nit	detect_flag	interpreted_q ualifiers	x_coord	y_coord
UPS-04	Total Zinc	UPS-4-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	5.8	1	7440-66-6	39	mg/kg	Y	J-	1302703.963	7462848.39
UPS-05	Total Aluminum	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	10	7429-90-5	9200	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Antimony	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-36-0	0.11	mg/kg	Y	J-	1302916.216	7463571.587
UPS-05	Total Arsenic	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-38-2	4.3	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Barium	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-39-3	270	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Beryllium	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-41-7	0.41	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Cadmium	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-43-9	0.46	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Chromium	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-47-3	9.6	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Cobalt	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-48-4	3.3	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Copper	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-50-8	13	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Iron	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6010B	320-15476-1	3	10	7439-89-6	10000	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Lead	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7439-92-1	18	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Manganese	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7439-96-5	420	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Mercury	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW7471A	320-15476-1	3	1	7439-97-6	0.036	mg/kg	Y	J	1302916.216	7463571.587
UPS-05	Total Molybdenum	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7439-98-7	0.87	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Nickel	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-02-0	7.7	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Selenium	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7782-49-2	0.25	mg/kg	Y	J-	1302916.216	7463571.587
UPS-05	Total Silver	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-22-4	0.058	mg/kg	Y	J	1302916.216	7463571.587
UPS-05	Total Thallium	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-28-0	0.14	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Vanadium	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-62-2	15	mg/kg	Y		1302916.216	7463571.587
UPS-05	Total Zinc	UPS-5-SS-01-101215	10/12/2015	0	2	in	SW6020	320-15476-1	3	1	7440-66-6	31	mg/kg	Y	J-	1302916.216	7463571.587
UPS-06	Calculated TEQ (ND=0), Mammals	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW8290	320-15476-1	3.8	1	CALC_DX_0	0.28	pg/g	Y		1303427.165	7463184.145
UPS-06	Hexachlorobenzene	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW8270_SIM	320-15476-1	3.8	1	118-74-1	< 2.3	ug/kg	N	UJ	1303427.165	7463184.145
UPS-06	Total Aluminum	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	10	7429-90-5	10000	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Antimony	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-36-0	0.17	mg/kg	Y	J-	1303427.165	7463184.145
UPS-06	Total Arsenic	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-38-2	4.4	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Barium	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-39-3	230	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Beryllium	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-41-7	0.42	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Cadmium	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-43-9	0.55	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Chromium	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-47-3	10	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Cobalt	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-48-4	2.9	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Copper	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-50-8	13	mg/kg	Y	J-	1303427.165	7463184.145
UPS-06	Total Iron	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6010B	320-15476-1	3.8	10	7439-89-6	8400	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Lead	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7439-92-1	19	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Manganese	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7439-96-5	340	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Mercury	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW7471A	320-15476-1	3.8	1	7439-97-6	0.038	mg/kg	Y	J	1303427.165	7463184.145
UPS-06	Total Molybdenum	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7439-98-7	0.65	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Nickel	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-02-0	7.1	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total PCBs	UPS-6-SS-01-101315	10/13/2015	0	2	in	E1668A	320-15476-1	0	1	1336-36-3	340	pg/g	Y		1303427.165	7463184.145
UPS-06	Total Selenium	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7782-49-2	0.2	mg/kg	Y	J-	1303427.165	7463184.145
UPS-06	Total Silver	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-22-4	0.071	mg/kg	Y	J	1303427.165	7463184.145
UPS-06	Total Thallium	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-28-0	0.15	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Vanadium	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-62-2	16	mg/kg	Y		1303427.165	7463184.145
UPS-06	Total Zinc	UPS-6-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.8	1	7440-66-6	34	mg/kg	Y	J-	1303427.165	7463184.145
UPS-07	Total Aluminum	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	10	7429-90-5	9100	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Antimony	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-36-0	0.11	mg/kg	Y	J-	1303813.17	7463386.624
UPS-07	Total Arsenic	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-38-2	4.4	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Barium	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-39-3	270	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Beryllium	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-41-7	0.4	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Cadmium	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-43-9	0.42	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Chromium	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-47-3	9.8	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Cobalt	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-48-4	3.4	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Copper	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-50-8	12	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Iron	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6010B	320-15476-1	3.4	10	7439-89-6	11000	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Lead	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7439-92-1	14	mg/kg	Y	J+	1303813.17	7463386.624
UPS-07	Total Manganese	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7439-96-5	410	mg/kg	Y		1303813.17	7463386.624

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
UPS-07	Total Mercury	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW7471A	320-15476-1	3.4	1	7439-97-6	0.04	mg/kg	Y	J	1303813.17	7463386.624
UPS-07	Total Molybdenum	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7439-98-7	1.1	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Nickel	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-02-0	8.1	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Selenium	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7782-49-2	0.31	mg/kg	Y	J-	1303813.17	7463386.624
UPS-07	Total Silver	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-22-4	0.056	mg/kg	Y	J	1303813.17	7463386.624
UPS-07	Total Thallium	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-28-0	0.14	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Vanadium	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-62-2	15	mg/kg	Y		1303813.17	7463386.624
UPS-07	Total Zinc	UPS-7-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	3.4	1	7440-66-6	32	mg/kg	Y	J-	1303813.17	7463386.624
UPS-08	Calculated TEQ (ND=0), Mammals	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW8290	320-15476-1	2.4	1	CALC_DX_0	0.54	pg/g	Y		1304082.689	7462764.751
UPS-08	Hexachlorobenzene	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW8270_SIM	320-15476-1	2.4	1	118-74-1	< 2.2	ug/kg	N	UJ	1304082.689	7462764.751
UPS-08	Total Aluminum	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	10	7429-90-5	7700	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Antimony	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-36-0	0.1	mg/kg	Y	J-	1304082.689	7462764.751
UPS-08	Total Arsenic	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-38-2	4.1	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Barium	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-39-3	190	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Beryllium	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-41-7	0.35	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Cadmium	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-43-9	0.43	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Chromium	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-47-3	7.7	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Cobalt	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-48-4	2.6	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Copper	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-50-8	11	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Iron	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6010B	320-15476-1	2.4	10	7439-89-6	8800	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Lead	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7439-92-1	14	mg/kg	Y	J+	1304082.689	7462764.751
UPS-08	Total Manganese	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7439-96-5	270	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Mercury	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW7471A	320-15476-1	2.4	1	7439-97-6	0.029	mg/kg	Y	J	1304082.689	7462764.751
UPS-08	Total Molybdenum	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7439-98-7	0.42	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Nickel	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-02-0	6.4	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total PCBs	UPS-8-SS-01-101315	10/13/2015	0	2	in	E1668A	320-15476-1	0	1	1336-36-3	450	pg/g	Y		1304082.689	7462764.751
UPS-08	Total Selenium	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7782-49-2	0.23	mg/kg	Y	J-	1304082.689	7462764.751
UPS-08	Total Silver	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-22-4	0.048	mg/kg	Y	J	1304082.689	7462764.751
UPS-08	Total Thallium	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-28-0	0.12	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Vanadium	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-62-2	12	mg/kg	Y		1304082.689	7462764.751
UPS-08	Total Zinc	UPS-8-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	2.4	1	7440-66-6	28	mg/kg	Y	J-	1304082.689	7462764.751
UPS-09	Calculated TEQ (ND=0), Mammals	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW8290	320-15476-1	4.2	1	CALC_DX_0	0.12	pg/g	Y		1304429.5	7463485.472
UPS-09	Hexachlorobenzene	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW8270_SIM	320-15476-1	4.2	1	118-74-1	< 2.3	ug/kg	N	UJ	1304429.5	7463485.472
UPS-09	Total Aluminum	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	10	7429-90-5	8400	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Antimony	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-36-0	0.13	mg/kg	Y	J-	1304429.5	7463485.472
UPS-09	Total Arsenic	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-38-2	4.8	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Barium	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-39-3	260	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Beryllium	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-41-7	0.39	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Cadmium	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-43-9	0.42	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Chromium	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-47-3	9.5	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Cobalt	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-48-4	3.4	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Copper	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-50-8	14	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Iron	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6010B	320-15476-1	4.2	10	7439-89-6	10000	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Lead	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7439-92-1	19	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Manganese	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7439-96-5	410	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Mercury	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW7471A	320-15476-1	4.2	1	7439-97-6	0.032	mg/kg	Y	J	1304429.5	7463485.472
UPS-09	Total Molybdenum	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7439-98-7	0.69	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Nickel	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-02-0	8.1	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total PCBs	UPS-9-SS-01-101315	10/13/2015	0	2	in	E1668A	320-15476-1	0	1	1336-36-3	310	pg/g	Y		1304429.5	7463485.472
UPS-09	Total Selenium	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7782-49-2	0.25	mg/kg	Y	J-	1304429.5	7463485.472
UPS-09	Total Silver	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-22-4	0.055	mg/kg	Y	J	1304429.5	7463485.472
UPS-09	Total Thallium	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-28-0	0.13	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Vanadium	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-62-2	15	mg/kg	Y		1304429.5	7463485.472
UPS-09	Total Zinc	UPS-9-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	4.2	1	7440-66-6	32	mg/kg	Y	J-	1304429.5	7463485.472
UPS-10	Total Aluminum	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	10	7429-90-5	9200	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Antimony	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-36-0	0.12	mg/kg	Y	J-	1304545.487	7463295.839

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
UPS-10	Total Arsenic	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-38-2	4.6	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Barium	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-39-3	260	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Beryllium	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-41-7	0.4	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Cadmium	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-43-9	0.44	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Chromium	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-47-3	10	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Cobalt	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-48-4	3.7	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Copper	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-50-8	15	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Iron	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6010B	320-15476-1	1.7	10	7439-89-6	11000	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Lead	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7439-92-1	19	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Manganese	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7439-96-5	430	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Mercury	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW7471A	320-15476-1	1.7	1	7439-97-6	0.033	mg/kg	Y	J	1304545.487	7463295.839
UPS-10	Total Molybdenum	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7439-98-7	0.65	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Nickel	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-02-0	8.8	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Selenium	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7782-49-2	0.25	mg/kg	Y	J-	1304545.487	7463295.839
UPS-10	Total Silver	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-22-4	0.082	mg/kg	Y	J	1304545.487	7463295.839
UPS-10	Total Thallium	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-28-0	0.14	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Vanadium	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-62-2	16	mg/kg	Y		1304545.487	7463295.839
UPS-10	Total Zinc	UPS-10-SS-01-101315	10/13/2015	0	2	in	SW6020	320-15476-1	1.7	1	7440-66-6	33	mg/kg	Y	J-	1304545.487	7463295.839
UPSE-01	Calculated TEQ (ND=0), Mammals	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW8290	320-15298-1	2.3	1	CALC_DX_0	0.26	pg/g	Y		1353204.713	7485369.664
UPSE-01	Hexachlorobenzene	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW8270_SIM	320-15298-1	2.3	1	118-74-1	< 2.3	ug/kg	N	UJ	1353204.713	7485369.664
UPSE-01	Total Aluminum	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	10	7429-90-5	15000	mg/kg	Y	J	1353204.713	7485369.664
UPSE-01	Total Antimony	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-36-0	0.37	mg/kg	Y	J	1353204.713	7485369.664
UPSE-01	Total Arsenic	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-38-2	7.5	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Barium	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-39-3	230	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Beryllium	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-41-7	0.75	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Cadmium	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-43-9	0.65	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Chromium	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-47-3	14	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Cobalt	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-48-4	4.7	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Copper	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-50-8	22	mg/kg	Y	J-	1353204.713	7485369.664
UPSE-01	Total Iron	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6010B	320-15298-1	2.3	10	7439-89-6	18000	mg/kg	Y	J	1353204.713	7485369.664
UPSE-01	Total Lead	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7439-92-1	38	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Manganese	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7439-96-5	580	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Mercury	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW7471A	320-15298-1	2.3	1	7439-97-6	0.032	mg/kg	Y	J	1353204.713	7485369.664
UPSE-01	Total Molybdenum	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7439-98-7	0.89	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Nickel	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-02-0	11	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total PCBs	UPSE-1-SS-01-100115	10/1/2015	0	2	in	E1668A	320-15298-1	0	1	1336-36-3	310	pg/g	Y		1353204.713	7485369.664
UPSE-01	Total Selenium	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7782-49-2	0.3	mg/kg	Y	J-	1353204.713	7485369.664
UPSE-01	Total Silver	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-22-4	0.12	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Thallium	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-28-0	0.27	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Vanadium	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-62-2	22	mg/kg	Y		1353204.713	7485369.664
UPSE-01	Total Zinc	UPSE-1-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-66-6	69	mg/kg	Y	J-	1353204.713	7485369.664
UPSE-02	Total Aluminum	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	10	7429-90-5	10000	mg/kg	Y	J	1353732.993	7485382.657
UPSE-02	Total Antimony	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-36-0	0.34	mg/kg	Y	J	1353732.993	7485382.657
UPSE-02	Total Arsenic	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-38-2	10	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Barium	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-39-3	280	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Beryllium	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-41-7	0.53	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Cadmium	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-43-9	0.56	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Chromium	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-47-3	10	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Cobalt	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-48-4	4.5	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Copper	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-50-8	19	mg/kg	Y	J-	1353732.993	7485382.657
UPSE-02	Total Iron	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6010B	320-15298-1	1.2	10	7439-89-6	15000	mg/kg	Y	J	1353732.993	7485382.657
UPSE-02	Total Lead	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7439-92-1	89	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Manganese	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7439-96-5	630	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Mercury	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW7471A	320-15298-1	1.2	1	7439-97-6	0.03	mg/kg	Y	J	1353732.993	7485382.657
UPSE-02	Total Molybdenum	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7439-98-7	0.88	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Nickel	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-02-0	9.7	mg/kg	Y		1353732.993	7485382.657

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
UPSE-02	Total Selenium	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7782-49-2	0.25	mg/kg	Y	J-	1353732.993	7485382.657
UPSE-02	Total Silver	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-22-4	0.11	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Thallium	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-28-0	0.17	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Vanadium	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-62-2	16	mg/kg	Y		1353732.993	7485382.657
UPSE-02	Total Zinc	UPSE-2-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.2	1	7440-66-6	73	mg/kg	Y	J-	1353732.993	7485382.657
UPSE-03	Calculated TEQ (ND=0), Mammals	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW8290	320-15298-1	1.1	1	CALC_DX_0	0.2	pg/g	Y		1353270.927	7485822.936
UPSE-03	Hexachlorobenzene	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW8270_SIM	320-15298-1	1.1	1	118-74-1	< 2.2	ug/kg	N	UJ	1353270.927	7485822.936
UPSE-03	Total Aluminum	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	10	7429-90-5	11000	mg/kg	Y	J	1353270.927	7485822.936
UPSE-03	Total Antimony	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-36-0	0.29	mg/kg	Y	J	1353270.927	7485822.936
UPSE-03	Total Arsenic	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-38-2	7.9	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Barium	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-39-3	220	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Beryllium	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-41-7	0.55	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Cadmium	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-43-9	0.39	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Chromium	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-47-3	11	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Cobalt	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-48-4	4.9	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Copper	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-50-8	16	mg/kg	Y	J-	1353270.927	7485822.936
UPSE-03	Total Iron	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6010B	320-15298-1	1.1	10	7439-89-6	17000	mg/kg	Y	J	1353270.927	7485822.936
UPSE-03	Total Lead	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7439-92-1	25	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Manganese	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7439-96-5	510	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Mercury	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW7471A	320-15298-1	1.1	1	7439-97-6	0.02	mg/kg	Y	J	1353270.927	7485822.936
UPSE-03	Total Molybdenum	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7439-98-7	1.3	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Nickel	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-02-0	11	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total PCBs	UPSE-3-SS-01-100115	10/1/2015	0	2	in	E1668A	320-15298-1	0	1	1336-36-3	190	pg/g	Y		1353270.927	7485822.936
UPSE-03	Total Selenium	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7782-49-2	0.31	mg/kg	Y	J-	1353270.927	7485822.936
UPSE-03	Total Silver	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-22-4	0.086	mg/kg	Y	J	1353270.927	7485822.936
UPSE-03	Total Thallium	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-28-0	0.16	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Vanadium	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-62-2	17	mg/kg	Y		1353270.927	7485822.936
UPSE-03	Total Zinc	UPSE-3-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-66-6	47	mg/kg	Y	J-	1353270.927	7485822.936
UPSE-04	Total Aluminum	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	10	7429-90-5	8200	mg/kg	Y	J	1353641.514	7485864.526
UPSE-04	Total Antimony	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-36-0	0.2	mg/kg	Y	J	1353641.514	7485864.526
UPSE-04	Total Arsenic	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-38-2	8.7	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Barium	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-39-3	200	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Beryllium	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-41-7	0.38	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Cadmium	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-43-9	0.33	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Chromium	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-47-3	9.1	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Cobalt	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-48-4	4.3	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Copper	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-50-8	15	mg/kg	Y	J-	1353641.514	7485864.526
UPSE-04	Total Iron	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6010B	320-15298-1	0.6	10	7439-89-6	15000	mg/kg	Y	J	1353641.514	7485864.526
UPSE-04	Total Lead	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7439-92-1	26	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Manganese	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7439-96-5	450	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Mercury	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW7471A	320-15298-1	0.6	1	7439-97-6	0.019	mg/kg	Y	J	1353641.514	7485864.526
UPSE-04	Total Molybdenum	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7439-98-7	0.74	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Nickel	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-02-0	10	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Selenium	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7782-49-2	0.22	mg/kg	Y	J-	1353641.514	7485864.526
UPSE-04	Total Silver	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-22-4	0.059	mg/kg	Y	J	1353641.514	7485864.526
UPSE-04	Total Thallium	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-28-0	0.13	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Vanadium	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-62-2	13	mg/kg	Y		1353641.514	7485864.526
UPSE-04	Total Zinc	UPSE-4-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	0.6	1	7440-66-6	39	mg/kg	Y	J-	1353641.514	7485864.526
UPSE-05	Calculated TEQ (ND=0), Mammals	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW8290	320-15298-1	2	1	CALC_DX_0	0.13	pg/g	Y		1352858.477	7486197.876
UPSE-05	Hexachlorobenzene	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW8270_SIM	320-15298-1	2	1	118-74-1	< 2.2	ug/kg	N	UJ	1352858.477	7486197.876
UPSE-05	Total Aluminum	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	10	7429-90-5	12000	mg/kg	Y	J	1352858.477	7486197.876
UPSE-05	Total Antimony	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-36-0	0.3	mg/kg	Y	J	1352858.477	7486197.876
UPSE-05	Total Arsenic	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-38-2	7.4	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Barium	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-39-3	150	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Beryllium	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-41-7	0.65	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Cadmium	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-43-9	0.37	mg/kg	Y		1352858.477	7486197.876

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
UPSE-05	Total Chromium	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-47-3	12	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Cobalt	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-48-4	5.8	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Copper	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-50-8	20	mg/kg	Y	J-	1352858.477	7486197.876
UPSE-05	Total Iron	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6010B	320-15298-1	2	10	7439-89-6	19000	mg/kg	Y	J	1352858.477	7486197.876
UPSE-05	Total Lead	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7439-92-1	22	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Manganese	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7439-96-5	440	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Mercury	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW7471A	320-15298-1	2	1	7439-97-6	0.026	mg/kg	Y	J	1352858.477	7486197.876
UPSE-05	Total Molybdenum	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7439-98-7	0.82	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Nickel	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-02-0	12	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total PCBs	UPSE-5-SS-01-100115	10/1/2015	0	2	in	E1668A	320-15298-1	0	1	1336-36-3	230	pg/g	Y		1352858.477	7486197.876
UPSE-05	Total Selenium	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7782-49-2	0.25	mg/kg	Y	J-	1352858.477	7486197.876
UPSE-05	Total Silver	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-22-4	0.08	mg/kg	Y	J	1352858.477	7486197.876
UPSE-05	Total Thallium	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-28-0	0.15	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Vanadium	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-62-2	17	mg/kg	Y		1352858.477	7486197.876
UPSE-05	Total Zinc	UPSE-5-SS-01-100115	10/1/2015	0	2	in	SW6020	320-15298-1	2	1	7440-66-6	52	mg/kg	Y	J-	1352858.477	7486197.876
UPSE-06	Calculated TEQ (ND=0), Mammals	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW8290	320-15298-1	1.1	1	CALC_DX_0	0.15	pg/g	Y		1353462.273	7486204.757
UPSE-06	Hexachlorobenzene	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW8270_SIM	320-15298-1	1.1	1	118-74-1	< 2.3	ug/kg	N	UJ	1353462.273	7486204.757
UPSE-06	Total Aluminum	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	10	7429-90-5	10000	mg/kg	Y	J	1353462.273	7486204.757
UPSE-06	Total Antimony	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-36-0	0.31	mg/kg	Y	J	1353462.273	7486204.757
UPSE-06	Total Arsenic	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-38-2	8	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Barium	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-39-3	180	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Beryllium	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-41-7	0.52	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Cadmium	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-43-9	0.46	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Chromium	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-47-3	11	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Cobalt	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-48-4	5	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Copper	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-50-8	18	mg/kg	Y	J-	1353462.273	7486204.757
UPSE-06	Total Iron	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6010B	320-15298-1	1.1	10	7439-89-6	16000	mg/kg	Y	J	1353462.273	7486204.757
UPSE-06	Total Lead	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7439-92-1	33	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Manganese	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7439-96-5	540	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Mercury	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW7471A	320-15298-1	1.1	1	7439-97-6	0.024	mg/kg	Y	J	1353462.273	7486204.757
UPSE-06	Total Molybdenum	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7439-98-7	0.98	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Nickel	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-02-0	12	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total PCBs	UPSE-6-SS-01-093015	9/30/2015	0	2	in	E1668A	320-15298-1	0	1	1336-36-3	180	pg/g	Y		1353462.273	7486204.757
UPSE-06	Total Selenium	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7782-49-2	0.26	mg/kg	Y	J-	1353462.273	7486204.757
UPSE-06	Total Silver	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-22-4	0.08	mg/kg	Y	J	1353462.273	7486204.757
UPSE-06	Total Thallium	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-28-0	0.17	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Vanadium	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-62-2	17	mg/kg	Y		1353462.273	7486204.757
UPSE-06	Total Zinc	UPSE-6-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	1.1	1	7440-66-6	47	mg/kg	Y	J-	1353462.273	7486204.757
UPSE-07	Total Aluminum	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	10	7429-90-5	15000	mg/kg	Y	J	1352743.146	7486827.28
UPSE-07	Total Antimony	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-36-0	0.36	mg/kg	Y	J	1352743.146	7486827.28
UPSE-07	Total Arsenic	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-38-2	7.8	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Barium	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-39-3	240	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Beryllium	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-41-7	0.72	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Cadmium	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-43-9	0.52	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Chromium	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-47-3	13	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Cobalt	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-48-4	5.3	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Copper	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-50-8	20	mg/kg	Y	J-	1352743.146	7486827.28
UPSE-07	Total Iron	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6010B	320-15298-1	2.2	10	7439-89-6	17000	mg/kg	Y	J	1352743.146	7486827.28
UPSE-07	Total Lead	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7439-92-1	29	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Manganese	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7439-96-5	580	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Mercury	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW7471A	320-15298-1	2.2	1	7439-97-6	0.03	mg/kg	Y	J	1352743.146	7486827.28
UPSE-07	Total Molybdenum	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7439-98-7	0.85	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Nickel	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-02-0	11	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Selenium	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7782-49-2	0.29	mg/kg	Y	J-	1352743.146	7486827.28
UPSE-07	Total Silver	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-22-4	0.09	mg/kg	Y	J	1352743.146	7486827.28
UPSE-07	Total Thallium	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-28-0	0.2	mg/kg	Y		1352743.146	7486827.28

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
UPSE-07	Total Vanadium	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-62-2	20	mg/kg	Y		1352743.146	7486827.28
UPSE-07	Total Zinc	UPSE-7-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.2	1	7440-66-6	52	mg/kg	Y	J-	1352743.146	7486827.28
UPSE-08	Calculated TEQ (ND=0), Mammals	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW8290	320-15298-1	2.3	1	CALC_DX_0	0.17	pg/g	Y		1353203.236	7486718.444
UPSE-08	Hexachlorobenzene	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW8270_SIM	320-15298-1	2.3	1	118-74-1	< 2.2	ug/kg	N	UJ	1353203.236	7486718.444
UPSE-08	Total Aluminum	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	10	7429-90-5	12000	mg/kg	Y	J	1353203.236	7486718.444
UPSE-08	Total Antimony	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-36-0	0.24	mg/kg	Y	J	1353203.236	7486718.444
UPSE-08	Total Arsenic	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-38-2	6.2	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Barium	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-39-3	190	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Beryllium	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-41-7	0.57	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Cadmium	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-43-9	0.51	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Chromium	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-47-3	12	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Cobalt	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-48-4	4	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Copper	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-50-8	19	mg/kg	Y	J-	1353203.236	7486718.444
UPSE-08	Total Iron	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6010B	320-15298-1	2.3	10	7439-89-6	14000	mg/kg	Y	J	1353203.236	7486718.444
UPSE-08	Total Lead	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7439-92-1	27	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Manganese	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7439-96-5	470	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Mercury	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW7471A	320-15298-1	2.3	1	7439-97-6	0.027	mg/kg	Y	J	1353203.236	7486718.444
UPSE-08	Total Molybdenum	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7439-98-7	0.71	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Nickel	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-02-0	9.2	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total PCBs	UPSE-8-SS-01-093015	9/30/2015	0	2	in	E1668A	320-15298-1	0	1	1336-36-3	250	pg/g	Y		1353203.236	7486718.444
UPSE-08	Total Selenium	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7782-49-2	0.24	mg/kg	Y	J-	1353203.236	7486718.444
UPSE-08	Total Silver	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-22-4	0.088	mg/kg	Y	J	1353203.236	7486718.444
UPSE-08	Total Thallium	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-28-0	0.21	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Vanadium	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-62-2	18	mg/kg	Y		1353203.236	7486718.444
UPSE-08	Total Zinc	UPSE-8-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.3	1	7440-66-6	52	mg/kg	Y	J-	1353203.236	7486718.444
UPSE-09	Total Aluminum	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	10	7429-90-5	10000	mg/kg	Y	J	1353611.212	7486543.663
UPSE-09	Total Antimony	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-36-0	0.24	mg/kg	Y	J	1353611.212	7486543.663
UPSE-09	Total Arsenic	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-38-2	8	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Barium	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-39-3	220	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Beryllium	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-41-7	0.52	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Cadmium	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-43-9	0.39	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Chromium	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-47-3	11	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Cobalt	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-48-4	4.2	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Copper	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-50-8	15	mg/kg	Y	J-	1353611.212	7486543.663
UPSE-09	Total Iron	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6010B	320-15298-1	2.5	10	7439-89-6	14000	mg/kg	Y	J	1353611.212	7486543.663
UPSE-09	Total Lead	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7439-92-1	20	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Manganese	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7439-96-5	530	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Mercury	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW7471A	320-15298-1	2.5	1	7439-97-6	0.026	mg/kg	Y	J	1353611.212	7486543.663
UPSE-09	Total Molybdenum	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7439-98-7	0.97	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Nickel	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-02-0	9.8	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Selenium	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7782-49-2	0.25	mg/kg	Y	J-	1353611.212	7486543.663
UPSE-09	Total Silver	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-22-4	0.073	mg/kg	Y	J	1353611.212	7486543.663
UPSE-09	Total Thallium	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-28-0	0.18	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Vanadium	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-62-2	17	mg/kg	Y		1353611.212	7486543.663
UPSE-09	Total Zinc	UPSE-9-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	2.5	1	7440-66-6	43	mg/kg	Y	J-	1353611.212	7486543.663
UPSE-10	Calculated TEQ (ND=0), Mammals	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW8290	320-15298-1	0.9	1	CALC_DX_0	0.33	pg/g	Y		1353520.261	7486936.928
UPSE-10	Hexachlorobenzene	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW8270_SIM	320-15298-1	0.9	1	118-74-1	< 2.2	ug/kg	N	UJ	1353520.261	7486936.928
UPSE-10	Total Aluminum	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	10	7429-90-5	9100	mg/kg	Y	J	1353520.261	7486936.928
UPSE-10	Total Antimony	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-36-0	0.25	mg/kg	Y	J	1353520.261	7486936.928
UPSE-10	Total Arsenic	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-38-2	6.2	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Barium	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-39-3	170	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Beryllium	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-41-7	0.46	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Cadmium	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-43-9	0.41	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Chromium	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-47-3	9	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Cobalt	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-48-4	3.2	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Copper	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-50-8	23	mg/kg	Y	J-	1353520.261	7486936.928

sys_loc_code	chemical_name	sys_sample_code	sample_date	start_depth	end_depth	depth_unit	analytic_method	lab_sdg	percent_moisture	dilution_factor	cas_rn	report_result_text	report_result_unit	detect_flag	interpreted_qualifiers	x_coord	y_coord
UPSE-10	Total Iron	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6010B	320-15298-1	0.9	10	7439-89-6	11000	mg/kg	Y	J	1353520.261	7486936.928
UPSE-10	Total Lead	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7439-92-1	19	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Manganese	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7439-96-5	350	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Mercury	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW7471A	320-15298-1	0.9	1	7439-97-6	0.021	mg/kg	Y	J	1353520.261	7486936.928
UPSE-10	Total Molybdenum	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7439-98-7	0.67	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Nickel	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-02-0	7.4	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total PCBs	UPSE-10-SS-01-093015	9/30/2015	0	2	in	E1668A	320-15298-1	0	1	1336-36-3	260	pg/g	Y		1353520.261	7486936.928
UPSE-10	Total Selenium	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7782-49-2	0.22	mg/kg	Y	J-	1353520.261	7486936.928
UPSE-10	Total Silver	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-22-4	0.065	mg/kg	Y	J	1353520.261	7486936.928
UPSE-10	Total Thallium	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-28-0	0.15	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Vanadium	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-62-2	15	mg/kg	Y		1353520.261	7486936.928
UPSE-10	Total Zinc	UPSE-10-SS-01-093015	9/30/2015	0	2	in	SW6020	320-15298-1	0.9	1	7440-66-6	36	mg/kg	Y	J-	1353520.261	7486936.928

Appendix J
Agency Approval Letter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, Colorado 80202-1129
Phone 800-227-8917
www.epa.gov/region8

Via electronic mail

September 13, 2016

Ref: 8EPR-SR

Mr. David J. Abranovic, P.E.
Project Coordinator
ERM West, Inc.
7272 East Indian School Rd, Suite 108
Scottsdale, AZ 85251

Re: Ph1A and Ph1A-B Data Reports – US Magnesium NPL Site

Dear Mr. Abranovic:

ERM has completed remedial investigation sampling and submitted the following reports:

- ✓ Phase 1A Remedial Investigation Data Reports for PRI Areas 2 and 8 – 17 and the Surface Water Addendum (September 2014 through March 2016) - EPA approvals November 2015 and March 2016.
- ✓ Draft Phase 1A Data Report for Operable Unit 2 – Air (March 2015)
- ✓ Draft Phase 1A-B Remedial Investigation Data Report (August 2016)

EPA has completed review of the above 'Draft' reports, and approves them in accordance with Section X of the Administrative Order on Consent for RIFS. Please distribute the Draft Reports as Final Reports for this phase of investigations.

ERM shall now proceed with identification of chemicals of potential concern (COPCs) pursuant to the technical memoranda for both human and ecological risk assessment.

Sincerely,

Ken Wangerud

Ken Wangerud
Remedial Project Manager
Superfund Remedial Program

cc: David Gibby, US Magnesium
Michael Storck, UDEQ-DERR

Memorandum

**Environmental
Resources
Management**

7272 E. Indian School Road
Suite 108
Scottsdale, AZ 85251
(480) 998-2401
(480) 424-1818 (fax)

ERM®

To: US Magnesium RI/FS Project File

From: Kevin Lundmark, ERM

Cc: David Abranovic, ERM

Date: 3 October 2016

Subject: Preparation of Final Reports: Phase 1A-B Remedial Investigation Data Report and Phase 1A Data Report for Operable Unit 2 – Air

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By letter from Ken Wangerud dated 13 September 2016, USEPA approved the Draft Phase 1A Data Report for Operable Unit 2 – Air (March 2015) and the Draft Phase 1A-B Remedial Investigation Data Report (August 2016) in accordance with Section X of the AOC. In this same letter, ERM was instructed to "[p]lease distribute the Draft Reports as Final Reports for this phase of the investigation."

To avoid confusion that may be caused by distributing a "Draft" report as a "Final" report, ERM has prepared final versions for each of these reports by making administrative changes only. This memorandum describes the administrative changes made to each report and will accompany each report along with 13 September 2016 USEPA approval letter.

Administrative changes to the Phase 1A Data Report for Operable Unit 2 – Air include:

- Changed report title from Draft to Final;
- Changed document date from March 2015 to October 2016
- Removed "Draft" watermark from throughout document;
- Added ERM signatures; and
- Added Appendix G, titled "Agency Approval Letter," and included as Appendix G (a) the 13 September 2016 USEPA approval letter, and (b) this memorandum.

Administrative changes to the Phase 1A-B Remedial Investigation Data Report include:

- Changed report title from Draft to Final;
- Changed document date from August 2016 to October 2016
- Removed "Draft" watermark from throughout document;
- Added ERM signatures;
- Corrected formatting of table included as Attachment D to Appendix I; and
- Revised Appendix J title from "Response to Agency Comments" to "Agency Approval Letter" and included as Appendix J (a) the 13 September 2016 USEPA approval letter, and (b) this memorandum.