SECTION 11

PRELIMINARY SITE CHARACTERIZATION SMALL ANIMALS TECHNICAL MEMORANDUM

MOLYCORP MINE RI/FS

REVISION 0

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SECTIONELEVEN Small Animals

Small animal data include the small animal mammal tissue concentrations from randomly located sample locations and from directed sampling for evaluation of bioaccumulation at the toe of the Capulin Rock Piles. In addition, animal data include the earthworm bioassay information (survival, growth, reproduction, and metals concentrations), and soil fauna community structure field data.

Small mammals were collected with Sherman live traps or snap traps from randomly selected locations within each exposure area associated with co-located soil and bioassay sample locations. Animals were identified to species, sex, and age if possible. Small mammals were humanely dispatched, weighed, and placed in labeled sample bags for laboratory analysis. The laboratory required 60 or more grams of tissue; thus, there was typically more than one small mammal in each sample. Animals were kept frozen until shipment to the laboratory. Excess live animals were released unharmed.

Soil samples were collected at the randomly located soil sampling locations. Bulk soils were sent to ESI for earthworm bioassay tests. Earthworm (*Eisenia foetida*) bioassays were performed as described in the Work Plan: 10 earthworms per replicate and four replicates for each soil sample. Mortality, growth, and reproduction were evaluated. Reproduction was measured as whether or not a sample produced cocoons or juveniles; each sample for which reproduction occurred was accorded a nominal value of 1. Refer to Section 9 for presentation of soil pH adjustment for bioassays.

Earthworms surviving the bioassays were weighed. Earthworms were purged on filter paper for 24 hours, and then analyzed for total metals and inorganic concentrations. The proportion that survived, the mean body weight per surviving earthworm, and the proportion reproducing are presented. Laboratory control data are also provided. Laboratory control data indicate the baseline for the parameters measured in the test under optimal soil conditions; measuring whether or not the test was adequately conducted and if animals were healthy.

This report contains the following information:

- Fall 2002 (Mine Site, Tailings Riparian, & Reference Areas)
  - Small mammal capture information
  - Small mammal metals concentrations
  - Earthworm bioassay data
  - Earthworm metal concentrations
  - Qualitative soil fauna community structure data
- Spring 2003 (Tailings Facility & Reference Area)
  - Small mammal capture information
  - Small mammal metals concentrations
  - Earthworm bioassay data
  - Earthworm metal concentrations

- Quantitative soil fauna community structure data

- Spring 2003 (Toe of Capulin Rock Piles)

- Small mammal capture information

- Small mammal whole body and organ concentrations

Figure 11-1 presents the sampling locations within the upland areas at the mine site tailings, and mine site reference, as well as mine site and tailing riparian areas and their associated reference areas.

11.1 MINE SITE

This section of the report describes the samples collected from the mine site area (MSS3) and the corresponding MRSS. Figure 11-1 presents the sampling locations within the mine site and mine site reference area. Figure 11-2 presents sampling locations at Cater Ranch. Mine site areas have the designation MSS3, whereas mine site reference areas are labeled MRSS. In addition, earthworm bioassay samples and soil fauna community structure data were collected from the mine site scar (MSS7) and mine site scar reference areas and are addressed in this section.

11.1.1 Mine Site Reference

There were two areas sampled as the mine site reference. These were the above mine site area and upper Cabresto Creek. The sample locations were as follows:

Exposure Area	Sample ID	Location
Reference Soil Area	MRSS-1-T01N-SOL	Above Mine Site Area
	MRSS-2-T01N-SOL	Above Mine Site Area
	MRSS-3-T01N-SOL	Above Mine Site Area
	MRSS-4-T01N-SOL	Above Mine Site Area
	MRSS-5-T01N-SOL	Above Mine Site Area
	MRSS-16-T01N-SOL	Upper Cabresto Creek
	MRSS-17-T01N-SOL	Upper Cabresto Creek
	MRSS-18-T01N-SOL	Upper Cabresto Creek
	MRSS-19-T01N-SOL	Upper Cabresto Creek
	MRSS-20-T01N-SOL	Upper Cabresto Creek

11.1.1.1 Small Mammal Capture Data

Small mammals were collected from a total of 10 locations from the mine site reference area, which consists of the above mine site and upper Cabresto Creek areas. These areas consisted of dry upland habitat; most locations were forested with mixed conifers. Mixed grasses and shrubs were also present at the sampling locations. Figure 11-3 shows the small mammal species and

number of animals captured and retained for tissue analysis for each of the sample locations. For a complete listing of small mammals collected, including those released, or used in duplicates and other laboratory quality control samples, please see Appendix B-11a. Deer mice (*Peromyscus maniculatus*) were collected at each sample location.

11.1.1.2 Small Mammal Chemical Data

Small mammals (whole body) were analyzed for metals and inorganic parameters. The data are presented in Table 11-1. Beryllium, silver, and thallium were not detected in any sample. Antimony was detected in 10 percent of the samples collected. Boron and cobalt were detected in 90 percent of the samples, and cadmium was detected in 20 percent of the samples. Molybdenum and mercury were detected in 70 percent and 50 percent of the samples, respectively. All other analytes were detected in all samples collected.

11.1.1.3 Earthworm Bioassay and Chemical Data

Soil samples were collected and shipped to the laboratory for 28-day earthworm bioassay tests. Survival, growth, and reproduction were the test endpoints. Earthworms were then analyzed for metals. Table 11-2 presents the bioassay data. Table 11-3 presents the earthworm chemical data. Antimony, beryllium, silver, and thallium were not detected in any sample. Mercury was detected in 60 percent of the samples, boron was detected in 50 percent of the samples, and selenium and vanadium were detected in 20 and 30 percent of the samples, respectively. All other analytes were detected in all samples collected. The 2002 laboratory control data are as follows:

Parameter	Mean	Range
Earthworm Survival (Proportion)	0.91	0.83 – 0.98
Body Weight per Surviving worm (mg wet weight)	304	239 - 346
Reproduction (Proportion)	1	1
Number of Lab Control Samples	4	--

11.1.1.4 Soil Fauna Community Structure

Soil samples were collected from the randomly located sampling locations and placed in a Berlese funnel for faunal extraction. Soil fauna were identified and enumerated. Table 11-4 presents the soil fauna data.

11.1.2 Soil Area 3 – Mine Site Upland Soils

11.1.2.1 Small Mammal Capture Data

Small mammals were collected from 10 locations from the mine site Soil Area 3. Soil Area 3 consisted of dry upland habitat; forests and mixed grasses-shrubs predominated. Five species of small mammal were collected within this area:

- Deer mouse
- Piñon mouse
- Brush mouse
- Mexican woodrat
- Least chipmunk

Figure 11-4 shows the small mammal species and number captured for each of the sample locations in Soil Area 3.

11.1.2.2 Small Mammal Chemical Data

Small mammals (whole body) were analyzed for metals and inorganic parameters. The data are presented in Table 11-5. Beryllium and thallium were not detected in any sample. Antimony, cadmium, and silver were detected in 20 percent of the samples collected. Arsenic and cobalt were detected in 90 percent of the small mammal whole body samples. Molybdenum and mercury were detected in 90 percent and 80 percent of the samples, respectively. All other analytes were detected in all samples collected.

11.1.2.3 Earthworm Bioassay and Chemical Data

Survival, growth, and reproduction were the 28-day earthworm bioassay test endpoints; earthworms were analyzed for metals at the end of the bioassay test. Table 11-6 presents the earthworm bioassay data. The mean values for survival, reproductive success, and mean body weight per earthworm for Soil Area 3 are shown relative to those from the above mine reference location and to laboratory controls (Figure 11-5), and are very similar. The earthworm bioassay data for the laboratory controls were summarized in Section 11.1.1.3.

Table 11-7 presents the earthworm chemical data. Antimony, beryllium, boron, and thallium were not detected in any sample. Arsenic and barium were detected in 80 percent of the samples collected. Lead and selenium were detected in 50 percent of the samples. Mercury was detected in only 20 percent of the samples, molybdenum and vanadium were detected in 40 percent of the samples, and nickel was detected in 30 percent of the samples. Silver was detected in 10 percent of the samples. All other analytes were detected in all samples collected.

11.1.2.4 Soil Fauna Community Structure

Soil samples were collected from the randomly located sampling locations and placed in a Berlese funnel for soil faunal extraction. Soil fauna were identified and enumerated. Table 11-8 presents the soil fauna data.

11.1.3 Soil Area 4 Capulin Rock Pile/Goathill North/South Rock Pile Area

11.1.3.1 Small Mammal Capture Data

Five small mammals were collected from the toe of the Capulin Rock Pile/Goathill North/South Rock Pile area for determination of bioaccumulation into different organs. The habitat consisted of forest and shrubs, as well as open areas of rock. Four golden mantled ground squirrels (*Spermophilus lateralis*) and one white-throated woodrat (*Neotoma albigula*) were collected. Animals were humanely dispatched; the liver and kidneys were dissected from the body and weighed. The carcass was weighed. Each component (i.e., liver, kidney, and carcass) was analyzed separately. Table 11-9 reports the information collected for each animal.

11.1.3.2 Small Mammal Chemical Data

Small mammal tissues (carcass, liver, and kidney) were analyzed for metals and inorganic parameters. The whole body data estimated from these components are presented in Table 11-10. The concentration in the whole body was estimated from the organ and carcass weight data by multiplying the organ concentration by the organ weight to get a total amount in each organ. Total amounts for each organ and carcass were summed and then divided by total body weight (sum of carcass and organ weight) to estimate the whole body concentration. Detection limits in the different media introduce uncertainty; however, due to the different sample sizes for kidney and liver relative to carcass, this cannot be avoided.

The liver and kidney data are presented in Table 11-11 and Table 11-12, respectively. Whole body data are shown, as this is comparable to the other small mammal data collected on site; the carcass data are reported in the detailed database.

Figure 11-6 compares the average concentrations measured in small mammals from Soil Area 3, Soil Area 4, and the mine reference area. This figure shows measured whole body concentrations for animals from Soil Area 3 and the reference area, and estimated whole body concentrations for animals from Soil Area 4. Metals concentrations were generally similar in small mammals from these upland areas.

11.1.4 Mine Site Scar Reference

Soils for earthworm bioassays and soil invertebrate community structure were collected from the mine site scar reference area located northeast of the mine. Small mammals were not collected from the scar areas as the soils were hardened and crusty and lacked cover; thus, the scars would not provide food or shelter for small mammals and not be a source of chronic exposure.

11.1.4.1 Earthworm Bioassay and Chemical Data

Soil samples were collected and shipped to the laboratory for 28-day earthworm bioassay tests. Survival, growth, and reproduction were the test endpoints. Earthworms were then analyzed for metals. Table 11-13 presents the bioassay data. Table 11-14 presents the earthworm chemical data.

11.1.4.2 Soil Fauna Community Structure

Soil samples were collected from the randomly located sampling locations. Soil volumes were placed in a Berlese funnel for faunal extraction. Soil fauna were identified and enumerated. Table 11-15 presents the soil fauna data. The density and the number of taxa collected were very low.

11.1.5 Mine Site Scar (Soil Area 7)

Soils for earthworm bioassays and soil invertebrate community structure were collected from the MSS7. Small mammals were not collected from the scar areas as the soils were hardened and crusty and lacked cover; thus, the scars would not provide food or shelter for small mammals and not be a source of chronic exposure.

11.1.5.1 Earthworm Bioassay and Chemical Data

Soil samples were collected and shipped to the laboratory for 28-day earthworm bioassay tests. Survival, growth, and reproduction were the test endpoints. Earthworms were then analyzed for metals. Table 11-16 presents the bioassay data. Table 11-17 presents the earthworm chemical data.

11.1.5.2 Soil Fauna Community Structure

Soil samples were collected from the randomly located sampling locations. Soil volumes were placed in a Berlese funnel for faunal extraction. Soil fauna were identified and enumerated. Table 11-18 presents the soil fauna data. The density and the number of taxa collected were very low.

11.2 TAILINGS FACILITY

11.2.1 Tailings Facility Reference – Cater Ranch

11.2.1.1 Small Mammal Capture Data

Small mammals were collected from 10 locations in Cater Ranch (Figure 11-2). Figure 11-7 shows the small mammals captured and retained for tissue analysis for the Cater Ranch sample locations. There were also three pocket gophers (*Thomomys sp*.) collected with Victor gopher

traps placed within active burrow systems. For a complete list of animals collected, including those released or retained as a laboratory duplicate or other control, please see Appendix B-11b.

11.2.1.2 Small Mammal Chemical Data

Small mammals (whole body) were analyzed for metals and inorganic parameters. The data are presented in Table 11-19. Antimony, beryllium, silver, and thallium were not detected in any sample. Arsenic and cadmium were detected in less than half the samples. Boron and mercury were detected in 69 percent and 92 percent of the samples, respectively. All other analytes were detected in all samples collected (Table 11-19).

11.2.1.3 Earthworm Bioassay and Chemical Data

Soil samples were collected in spring 2003 and shipped to the laboratory for 28-day earthworm bioassay tests. Survival, growth, and reproduction were the test endpoints. Earthworms were then analyzed for metals. Table 11-20 presents the bioassay data. Table 11-21 presents the earthworm chemical data. Antimony, beryllium, silver, and thallium were not detected in any sample. Lead, molybdenum, and nickel were detected in 10 percent of the samples; mercury was detected in 20 percent of the samples; boron and cobalt were detected in 90 percent of the samples; and selenium and vanadium were detected in 80 percent of the samples collected. All other analytes were detected in all samples collected. The 2003 laboratory control data are as follows:

Parameter	Mean	Range
Earthworm Survival (Proportion)	1	
Body Weight per Surviving worm (gram wet weight)	0.33	
Reproduction (Proportion)	0.9	
Number of Lab Control Samples	3	--

11.2.1.4 Soil Fauna Community Structure

Soil samples were collected from the randomly located sampling locations. Soil volumes were measured and placed in a Berlese funnel for faunal extraction. Soil fauna were identified and enumerated. Table 11-22 presents the soil fauna data. The density and the number of taxa collected were very low. Soil Area 14 – Tailings Facility

11.2.1.5 Small Mammal Capture Data

Small mammals were collected from 10 locations in the tailings facility in spring 2003. Figure 11-8 shows small mammals captured and retained for tissue analysis for the tailings facility sample locations. There were three pocket gophers collected with Victor gopher traps

placed within active burrow systems. For a complete list of animals collected, including those released or retained as a laboratory duplicate or other control, please see Appendix B-11a.

11.2.1.6 Small Mammal Chemical Data

Small mammals (whole body) were collected in spring 2003 and analyzed for metals and inorganic parameters. The data are presented in Table 11-23. Antimony, beryllium, silver, and thallium were not detected in any sample. Arsenic and cadmium were detected in less than half the samples. Boron and mercury were detected in 92 and 54 percent of the samples, respectively. All other analytes were detected in all samples collected (Table 11-23).

11.2.1.7 Earthworm Bioassay and Chemical Data

Soil samples were collected and shipped to the laboratory for 28-day earthworm bioassay tests. Survival, growth, and reproduction were the test endpoints. Earthworms were then analyzed for metals.

Table 11-24 presents the bioassay data. The bioassay data are compared for the Tailings Area, Cater Ranch, and the laboratory controls in Figure 11-9. There was no difference in survival. Growth as measured by body weight was higher at the tailings facility than Cater Ranch or the laboratory control. Conversely, reproduction was lower at the tailings facility than the laboratory control; a slight decrease relative to the laboratory control is also observed for the tailings facility reference area, Cater Ranch.

Table 11-25 presents the earthworm chemical data. Antimony, beryllium, mercury, silver, and thallium were not detected in any sample. Lead was detected in 10 percent of the samples, nickel was detected in 20 percent of the samples, selenium was detected in 50 percent of the samples, vanadium was detected in 70 percent of the samples, and boron was detected in 80 percent of the samples collected. All other analytes were detected in all samples collected (Table 11-25).

11.2.1.8 Soil Fauna Community Structure

Soil samples were collected from the randomly located sampling locations. Soil volumes were measured and placed in a Berlese funnel for faunal extraction. Soil fauna were identified and enumerated. Table 11-26 presents the soil fauna data. The density and the number of taxa collected were very low, but higher than that observed at the tailings facility reference area, Cater Ranch.

11.3 MINE SITE RIPARIAN AREA

This section of the report describes samples collected from the mine site riparian area (RS-1 through RS-10). The mine site riparian reference area (RRS-1 through RRS-13) was the sampled reference location. The small mammal, earthworm, and soil fauna community structure data are described below.

11.3.1 Mine Site Riparian Reference

The two areas sampled as the mine site riparian reference area were upper Cabresto Creek and upper Red River Area (Figure 11-1). The sample location and identifications are as follows:

Exposure Area	Sample ID	Location
Ref- Riparian	RRS-9-T01N-SOL	Upper Cabresto Creek
	RRS-10-T01N-SOL	Upper Cabresto Creek
	RRS-11-T01N-SOL	Upper Cabresto Creek
	RRS-12-T01N-SOL	Upper Cabresto Creek
	RRS-13-T01N-SOL	Upper Cabresto Creek
	RRS-1-T01N-SOL	Upper Red River
	RRS-2-T01N-SOL	Upper Red River
	RRS-3-T01N-SOL	Upper Red River
	RRS-4-T01N-SOL	Upper Red River
	RRS-5-T01N-SOL	Upper Red River

11.3.1.1 Small Mammal Capture Data

Small mammals were collected from 10 locations from the mine site riparian reference area. Figure 11-10 shows small mammals captured and retained for tissue analysis for all riparian reference sample locations. For a complete list of animals collected, including those released or retained as a laboratory duplicate or other control, please see Appendix B-11a. Deer mice were collected at all locations.

11.3.1.2 Small Mammal Chemical Data

Small mammals (whole body) collected in fall 2002 from the upper Cabresto Creek and upper Red River were analyzed for metals and inorganic parameters. The data are presented in Table 11-27. Beryllium, silver, and thallium were not detected in any sample. Antimony was detected in 10 percent of the samples collected. Mercury and cadmium were detected in 30 and 60 percent of the samples, respectively. Molybdenum was detected in 80 percent of the samples collected. All other analytes were detected in all samples collected (Table11-27).

11.3.1.3 Earthworm Bioassay and Chemical Data

Soil samples were collected and shipped to the laboratory for 28-day earthworm bioassay tests. Survival, growth, and reproduction were the test endpoints. Earthworms were then analyzed for metals. Table 11-28 presents the bioassay data. Table 11-29 presents the earthworm chemical data. Antimony, beryllium, boron, silver, and thallium were not detected in any sample. Mercury and boron were detected in 10 percent of the samples; and lead was detected in 70 percent of the samples collected. Selenium, molybdenum, and nickel were detected in 80

percent of the samples collected. All other analytes were detected in all samples collected (Table 11-29).

11.3.1.4 Soil Fauna Community Structure

Soil samples were collected from the randomly located sampling locations and placed in a Berlese funnel for faunal extraction. Soil fauna were identified and enumerated. Table 11-30 presents the soil fauna data for the riparian reference area.

11.3.2 Soil Area 9 – Mine Site Riparian Area

11.3.2.1 Small Mammal Capture Data

Small mammals were collected from 10 locations from the mine site riparian area (Figure 11-1). Figure 11-11 shows the small mammals captured and retained for tissue analysis for all mine site riparian sample locations. For a complete list of animals collected, including those released or retained as a laboratory duplicate or other control, please see Appendix B-11a. Deer mice were collected at nearly every sampling station.

11.3.2.2 Small Mammal Chemical Data

Small mammals (whole body) collected in fall 2002 from the mine site riparian area along the Red River (Soil Area 9) were analyzed for metals and inorganic parameters. The data are presented in Table 11-31. Beryllium and mercury were not detected in any sample. Antimony, silver, and thallium were detected in 10 percent of the samples collected. Cadmium was detected in 50 percent of the samples. Arsenic and molybdenum were detected in 70 and 80 percent of the samples, respectively. All other analytes were detected in all samples collected (Table 11-31).

11.3.2.3 Earthworm Bioassay and Chemical Data

Soil samples were collected and shipped to the laboratory for 28-day earthworm bioassay tests where survival, growth, and reproduction were the test endpoints. Earthworms were then analyzed for metals. Table 11-32 presents the bioassay data. Table 11-33 presents the earthworm chemical data. Antimony, beryllium, mercury, silver, and thallium were not detected in any sample. Selenium was detected in 40 percent of the samples, boron was detected in 50 percent of the samples, and lead was detected in 90 percent of the samples collected. All other analytes were detected in all samples collected (Table 11-33).

11.3.2.4 Soil Fauna Community Structure

Soil samples were collected from the 10 randomly located sampling locations and placed in a Berlese funnel for faunal extraction. Soil fauna were identified and enumerated. Table 11-34 presents the soil fauna data for the mine site riparian area.

11.4 TAILINGS FACILITY RIPARIAN AREAS

11.4.1 Tailings Facility Riparian Reference Area – Lower Cabresto Creek

11.4.1.1 Small Mammal Capture Data

There were five small mammal-sampling locations for the tailings facility reference area along lower Cabresto Creek (Figure 11-1). Figure 11-12 shows the small mammals captured and retained for tissue analysis for sample locations along lower Cabresto Creek. The habitat along lower Cabresto Creek was more disturbed physically by human habitation than the areas along the Red River below the tailings facility. The area was inhabited and many traps were disturbed, possibly by feral or pet dogs and cats. There were very few captures and low diversity. Deer mice were the most abundant species. Two locations had no successful captures.

11.4.1.2 Small Mammal Chemical Data

Small mammals (whole body) collected in fall 2002 from the tailings facility riparian reference area along the Red River were analyzed for metals and inorganic parameters. A total of 3 samples were collected and analyzed. The data are presented in Table 11-35. Antimony, beryllium molybdenum, silver, and thallium were not detected in any sample. Cadmium was detected in 33 percent of the samples collected. Arsenic and mercury were detected in 67 percent of the samples. All other analytes were detected in all samples collected (Table 11-35).

11.4.1.3 Earthworm Bioassay and Chemical Data

A total of 5 soil samples were collected and shipped to the laboratory for 28-day earthworm bioassay tests where survival, growth, and reproduction were the test endpoints. Earthworms were then analyzed for metals. Table 11-36 presents the bioassay data. Table 11-37 presents the earthworm chemical data. Antimony, beryllium, boron, lead, mercury, nickel, silver, and thallium were not detected in any sample. Selenium was detected in 40 percent of the samples and vanadium was detected in 60 percent of the samples collected. Barium was detected in 80 percent of the samples collected. All other analytes were detected in all samples collected (Table 11-37).

11.4.1.4 Soil Fauna Community Structure

Soil samples were collected from the 5 randomly located sampling locations and placed in a Berlese funnel for faunal extraction. Soil fauna were identified and enumerated. Table 11-38 presents the soil fauna data for the tailings facility riparian reference area along lower Cabresto Creek.

11.4.2 Soil Area 16 – Tailings Facility Riparian Area

11.4.2.1 Small Mammal Capture Data

Small mammals were collected from 10 locations for the tailings facility riparian area. Figure 11-13 shows the small mammals captured and retained for tissue analysis for sample locations in this area. For a complete list of animals collected, including those released or retained as a laboratory duplicate or other control, please see Appendix B-11a. Deer mice were captured at nearly every location. Small mammal diversity and abundance was generally higher at the tailings facility riparian area than at the corresponding reference area.

11.4.2.2 Small Mammal Chemical Data

Small mammals (whole body) collected in fall 2002 from the tailings facility riparian area along the Red River were analyzed for metals and inorganic parameters. A total of 10 samples were collected. The data are presented in Table 11-39. Silver was the only analyte not detected in any sample. Antimony, beryllium, and thallium were detected in 10 percent of the samples; mercury was detected in 20 percent of the samples; and cadmium was detected in 30 percent of the samples collected. Arsenic and molybdenum were detected in 40 and 60 percent of the samples, respectively. All other analytes were detected in all samples collected (Table 11-39). Figure 11-14 compares the analytical data for all riparian collection areas.

11.4.2.3 Earthworm Bioassay and Chemical Data

Soil samples were collected from the 10 randomly located sampling locations and shipped to the laboratory for 28-day earthworm bioassay tests where survival, growth, and reproduction were the test endpoints. Earthworms were then analyzed for metals. Table 11-40 presents the bioassay data. Table 11-41 presents the earthworm chemical data. Antimony, beryllium, mercury, silver, and thallium were not detected in any sample. Lead and selenium were detected in 20 and 40 percent of the samples, respectively. Arsenic, barium, boron, molybdenum, nickel, and vanadium were detected in 90 percent of the samples collected. All other analytes were detected in all samples collected (Table 11-41). Figure 15 presents a comparison of earthworm bioassay data by location. Figures 16a and b present a comparison of the earthworm analytical data by location.

11.4.2.4 Soil Fauna Community Structure

Soil samples were collected from the 5 randomly located sampling locations and placed in a Berlese funnel for faunal extraction. Soil fauna were identified and enumerated. Table 11-42 presents the soil fauna data for the tailings facility riparian reference area.

SECTION 11

SMALL ANIMALS

TABLES

Table 11-1
Mammal Whole Body - Fall 2002
RI/FS Reference for Mine Site
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			25.2	32.4	28	27.9
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			11	34	18.8	17.5
Antimony	T	mg/Kg	10	10	No SLC	0.029	0.033	ND	0.038		
Arsenic	T	mg/Kg	10	100	No SLC			0.11	0.83	0.41	0.34
Barium	T	mg/Kg	10	100	No SLC			4	24	8.8	6.7
Beryllium	T	mg/Kg	10	0	No SLC	0.027	0.031				
Boron	T	mg/Kg	10	90	No SLC	0.34	0.34	ND	1.3	0.68	0.66
Cadmium	T	mg/Kg	10	20	No SLC	0.033	0.038	ND	0.069		
Calcium	T	mg/Kg	10	100	No SLC			5200	12000	8020	8000
Chromium	T	mg/Kg	10	100	No SLC			0.2	0.79	0.43	0.41
Cobalt	T	mg/Kg	10	90	No SLC	0.029	0.029	ND	0.18	0.078	0.067
Copper	T	mg/Kg	10	100	No SLC			2	8.7	4.3	3.4
Iron	T	mg/Kg	10	100	No SLC			68	140	121	130
Lead	T	mg/Kg	10	100	No SLC			0.14	0.42	0.26	0.24
Magnesium	T	mg/Kg	10	100	No SLC			250	480	399	425
Manganese	T	mg/Kg	10	100	No SLC			2.1	11	5.5	4.9
Mercury	T	mg/Kg	10	50	No SLC	0.0021	0.0021	ND	0.025	0.0081	0.0029
Molybdenum	T	mg/Kg	10	70	No SLC	0.074	0.082	ND	1.1	0.29	0.16
Nickel	T	mg/Kg	10	100	No SLC			0.27	1.5	0.73	0.63
Potassium	T	mg/Kg	10	100	No SLC			2000	2900	2530	2650
Selenium	T	mg/Kg	10	100	No SLC			0.28	0.67	0.41	0.38
Silver	T	mg/Kg	10	0	No SLC	0.038	0.042				
Sodium	T	mg/Kg	10	100	No SLC			840	1200	1080	1150
Thallium	T	mg/Kg	10	0	No SLC	0.018	0.021				
Vanadium	T	mg/Kg	10	100	No SLC			0.12	0.3	0.22	0.23
Zinc	T	mg/Kg	10	100	No SLC			21	64	41.9	36

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-2
Earthworm Bioassay - Fall 2002
RI/FS Reference for Mine Site
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	10	277	349	303	295
Earthworm Reproduction (Proportion)	proportion	10	0.25	1	0.85	1
Earthworm Survival	proportion	10	0.78	1	0.96	0.98

cm = Centimeter
g = Gram
mg = Milligram

Table 11-3
Earthworm - Fall 2002
RI/FS Reference for Mine Site
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			13.2	16.2	14.8	15
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			21.9	144	81.5	80
Antimony	T	mg/Kg	10	0	No SLC	0.24	0.3				
Arsenic	T	mg/Kg	10	100	No SLC			0.26	0.98	0.59	0.66
Barium	T	mg/Kg	10	100	No SLC			0.76	8.1	3.9	3.1
Beryllium	T	mg/Kg	10	0	No SLC	0.017	0.02				
Boron	T	mg/Kg	10	50	No SLC	0.27	2.1	ND	0.95	0.55	0.47
Cadmium	T	mg/Kg	10	100	No SLC			0.71	1	0.88	0.91
Calcium	T	mg/Kg	10	100	No SLC			493	904	647	617
Chromium	T	mg/Kg	10	100	No SLC			1.9	8.8	4.9	4.8
Cobalt	T	mg/Kg	10	100	No SLC			0.4	0.99	0.64	0.65
Copper	T	mg/Kg	10	100	No SLC			1.7	3.4	2.4	2.4
Iron	T	mg/Kg	10	100	No SLC			115	384	266	275
Lead	T	mg/Kg	10	100	No SLC			0.26	0.83	0.55	0.52
Magnesium	T	mg/Kg	10	100	No SLC			119	253	166	152
Manganese	T	mg/Kg	10	100	No SLC			1.7	7.2	4.6	4.6
Mercury	T	mg/Kg	10	60	No SLC	0.015	0.017	ND	0.023	0.015	0.017
Molybdenum	T	mg/Kg	10	100	No SLC			0.27	0.76	0.45	0.38
Nickel	T	mg/Kg	10	100	No SLC			1.4	5.3	3.1	3
Potassium	T	mg/Kg	10	100	No SLC			1490	1660	1550	1540
Selenium	T	mg/Kg	10	20	No SLC	0.66	0.8	ND	0.86		
Silver	T	mg/Kg	10	0	No SLC	0.14	0.16				
Sodium	T	mg/Kg	10	100	No SLC			825	978	910	914
Thallium	T	mg/Kg	10	0	No SLC	0.079	0.1				
Vanadium	T	mg/Kg	10	30	No SLC	0.16	0.18	ND	0.31		
Zinc	T	mg/Kg	10	100	No SLC			16.5	18.1	17.4	17.4

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-4
Soil Fauna Community Structure - Fall 2002
RI/FS Reference for Mine Site
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	10	3	264	77	30.5
Soil Invert # of Taxa	number	10	3	22	10	9.5

cm = Centimeter
g = Gram
mg = Milligram

Table 11-5
Mammal Whole Body - Fall 2002
RI/FS Soil Area 3 - Mine Site Soils
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			23.8	41.3	31.3	28.8
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			7.8	57	26	22.5
Antimony	T	mg/Kg	10	20	No SLC	0.028	0.033	ND	0.035		
Arsenic	T	mg/Kg	10	90	No SLC	0.07	0.07	ND	0.37	0.18	0.17
Barium	T	mg/Kg	10	100	No SLC			2.1	24	6.3	4.8
Beryllium	T	mg/Kg	10	0	No SLC	0.027	0.031				
Boron	T	mg/Kg	10	100	No SLC			0.53	1.1	0.71	0.66
Cadmium	T	mg/Kg	10	20	No SLC	0.033	0.038	ND	0.039		
Calcium	T	mg/Kg	10	100	No SLC			6400	12000	8730	8350
Chromium	T	mg/Kg	10	100	No SLC			0.24	0.89	0.39	0.36
Cobalt	T	mg/Kg	10	90	No SLC	0.029	0.029	ND	0.19	0.065	0.048
Copper	T	mg/Kg	10	100	No SLC			2.8	7.4	4	3.5
Iron	T	mg/Kg	10	100	No SLC			82	170	120	110
Lead	T	mg/Kg	10	100	No SLC			0.14	0.55	0.3	0.3
Magnesium	T	mg/Kg	10	100	No SLC			300	600	377	345
Manganese	T	mg/Kg	10	100	No SLC			2.1	9.7	5	4.7
Mercury	T	mg/Kg	10	80	No SLC	0.0021	0.0021	ND	0.045	0.014	0.012
Molybdenum	T	mg/Kg	10	90	No SLC	0.084	0.084	ND	0.49	0.23	0.21
Nickel	T	mg/Kg	10	100	No SLC			0.19	1.4	0.51	0.39
Potassium	T	mg/Kg	10	100	No SLC			2100	3100	2410	2350
Selenium	T	mg/Kg	10	100	No SLC			0.31	0.46	0.37	0.34
Silver	T	mg/Kg	10	20	No SLC	0.036	0.041	ND	0.062		
Sodium	T	mg/Kg	10	100	No SLC			930	1300	1030	985
Thallium	T	mg/Kg	10	0	No SLC	0.018	0.021				
Vanadium	T	mg/Kg	10	100	No SLC			0.12	0.27	0.19	0.19
Zinc	T	mg/Kg	10	100	No SLC			19	130	50.8	28

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-6
Earthworm Bioassay - Fall 2002
RI/FS Soil Area 3 - Mine Site Soils
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	10	305	388	334	328
Earthworm Reproduction (Proportion)	proportion	10	0	1	0.68	0.75
Earthworm Survival	proportion	10	0.88	1	0.95	0.95

cm = Centimeter
g = Gram
mg = Milligram

Table 11-7
Earthworm - Fall 2002
RI/FS Soil Area 3 - Mine Site Soils
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			12.2	16.7	14.4	14.3
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			16.2	141	63.8	55.6
Antimony	T	mg/Kg	10	0	No SLC	0.22	0.3				
Arsenic	T	mg/Kg	10	80	No SLC	0.17	0.2	ND	0.75	0.3	0.25
Barium	T	mg/Kg	10	80	No SLC	0.73	0.79	ND	2.2	1.3	1.5
Beryllium	T	mg/Kg	10	0	No SLC	0.017	0.03				
Boron	T	mg/Kg	10	0	No SLC	0.53	1.5				
Cadmium	T	mg/Kg	10	100	No SLC			0.59	1	0.78	0.77
Calcium	T	mg/Kg	10	100	No SLC			370	1120	559	501
Chromium	T	mg/Kg	10	100	No SLC			0.13	5.9	1.4	0.2
Cobalt	T	mg/Kg	10	100	No SLC			0.35	0.8	0.59	0.57
Copper	T	mg/Kg	10	100	No SLC			0.88	3.2	2.1	2.5
Iron	T	mg/Kg	10	100	No SLC			60.3	290	175	193
Lead	T	mg/Kg	10	50	No SLC	0.26	0.45	ND	1.3	0.48	0.28
Magnesium	T	mg/Kg	10	100	No SLC			91.1	498	168	126
Manganese	T	mg/Kg	10	100	No SLC			1.3	9.2	4	2.9
Mercury	T	mg/Kg	10	20	No SLC	0.015	0.016	ND	0.019		
Molybdenum	T	mg/Kg	10	40	No SLC	0.18	0.47	ND	0.55		
Nickel	T	mg/Kg	10	30	No SLC	0.13	0.34	ND	3.9		
Potassium	T	mg/Kg	10	100	No SLC			1380	1650	1510	1510
Selenium	T	mg/Kg	10	50	No SLC	0.75	0.79	ND	0.9	0.59	0.55
Silver	T	mg/Kg	10	10	No SLC	0.13	0.16	ND	0.16		
Sodium	T	mg/Kg	10	100	No SLC			755	897	845	846
Thallium	T	mg/Kg	10	0	No SLC	0.074	0.1				
Vanadium	T	mg/Kg	10	40	No SLC	0.16	0.18	ND	0.39		
Zinc	T	mg/Kg	10	100	No SLC			12.6	18.6	16.2	16.2

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-8
Soil Fauna Community Structure - Fall 2002
RI/FS Soil Area 3 - Mine Site Soils
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	10	0	123	21.9	9
Soil Invert # of Taxa	number	10	0	16	4.8	4

cm = Centimeter
g = Gram
mg = Milligram

Table 11-9
Small Mammals - Summer 2003
RI/FS Biological Data - Soil Area 4A1 - Capulin and Goathill N and S Rock Piles
Summary of Results

Site ID	Species	Sex	Whole Body Wet Weight in grams	Mammal Kidney Wet Weight in grams	Mammal Liver Wet Weight in grams
BOC-1	Spermophilus lateralis	F	187.32	1.54	7.52
BOC-2	Spermophilus lateralis	F	176.02	1.67	8.98
BOC-3	Spermophilus lateralis	F	176.35	1.73	5.62
BOC-4	Neotoma albigula	F	194.81	1.91	8.1
BOC-5	Spermophilus lateralis	F	137.52	1.38	10.19

Table 11-10
Mammal Whole Body - Summer 2003
RI/FS Soil Area 4A1 - Capulin and Goathill N and S Rock Piles
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	5	100	No SLC			20.3	24.5	22.1	21
Metals											
Aluminum	T	mg/kg	5	100	No SLC			8.4	14.5	12	13
Antimony	T	mg/kg	5	60	No SLC	0.031	0.033	ND	0.034	0.026	0.031
Arsenic	T	mg/kg	5	20	No SLC	0.068	0.078	ND	0.088		
Barium	T	mg/kg	5	100	No SLC			5.4	10.5	7.3	6.1
Beryllium	T	mg/kg	5	20	No SLC	0.028	0.032	ND	0.029		
Boron	T	mg/kg	5	100	No SLC			0.39	1.1	0.57	0.48
Cadmium	T	mg/kg	5	100	No SLC			0.04	0.17	0.086	0.054
Calcium	T	mg/kg	5	100	No SLC			5850	10600	7440	6870
Chromium	T	mg/kg	5	100	No SLC			0.23	0.4	0.3	0.25
Cobalt	T	mg/kg	5	100	No SLC			0.027	0.052	0.036	0.035
Copper	T	mg/kg	5	100	No SLC			1.8	2.5	2.2	2.3
Iron	T	mg/kg	5	100	No SLC			57.7	78.1	67.2	65.9
Lead	T	mg/kg	5	100	No SLC			0.13	0.2	0.17	0.18
Magnesium	T	mg/kg	5	100	No SLC			234	417	320	304
Manganese	T	mg/kg	5	100	No SLC			1.9	4.8	2.6	2
Mercury	T	mg/kg	5	0	No SLC	0.0021	0.0022				
Molybdenum	T	mg/kg	5	100	No SLC			0.11	0.19	0.14	0.12
Nickel	T	mg/kg	5	100	No SLC			0.17	0.42	0.27	0.24
Potassium	T	mg/kg	5	100	No SLC			2010	2230	2130	2200
Selenium	T	mg/kg	5	100	No SLC			0.18	0.35	0.3	0.33
Silver	T	mg/kg	5	0	No SLC	0.03	0.035				
Sodium	T	mg/kg	5	100	No SLC			1000	1410	1230	1210
Thallium	T	mg/kg	5	20	No SLC	0.019	0.022	ND	0.027		
Vanadium	T	mg/kg	5	100	No SLC			0.2	0.26	0.22	0.21
Zinc	T	mg/kg	5	100	No SLC			23.1	81.6	53.1	53.1

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-11
Mammal Liver - Summer 2003
RI/FS Soil Area 4A1 - Capulin and Goathill N and S Rock Piles
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	5	100	No SLC			18.3	28.1	22.7	21.8
Metals											
Aluminum	T	mg/kg	5	0	No SLC	1.2	1.4				
Antimony	T	mg/kg	5	0	No SLC	0.027	0.034				
Arsenic	T	mg/kg	5	0	No SLC	0.063	0.078				
Barium	T	mg/kg	5	100	No SLC			0.045	0.11	0.067	0.065
Beryllium	T	mg/kg	5	0	No SLC	0.026	0.032				
Boron	T	mg/kg	5	20	No SLC	0.3	0.37	ND	0.67		
Cadmium	T	mg/kg	5	80	No SLC	0.037	0.037	ND	0.63	0.28	0.15
Calcium	T	mg/kg	5	100	No SLC			42	65	54.8	56
Chromium	T	mg/kg	5	100	No SLC			0.11	0.15	0.14	0.14
Cobalt	T	mg/kg	5	60	No SLC	0.03	0.032	ND	0.033	0.024	0.026
Copper	T	mg/kg	5	100	No SLC			2.8	3.8	3.3	3.3
Iron	T	mg/kg	5	100	No SLC			84	210	143	160
Lead	T	mg/kg	5	20	No SLC	0.04	0.049	ND	0.091		
Magnesium	T	mg/kg	5	100	No SLC			120	170	148	160
Manganese	T	mg/kg	5	100	No SLC			1.4	2.6	2	2.1
Mercury	T	mg/kg	5	0	No SLC	0.0021	0.0044				
Molybdenum	T	mg/kg	5	100	No SLC			0.33	0.91	0.69	0.76
Nickel	T	mg/kg	5	0	No SLC	0.045	0.055				
Potassium	T	mg/kg	5	100	No SLC			2100	2600	2260	2200
Selenium	T	mg/kg	5	100	No SLC			0.33	0.44	0.39	0.4
Silver	T	mg/kg	5	0	No SLC	0.029	0.033				
Sodium	T	mg/kg	5	100	No SLC			1000	1400	1240	1300
Thallium	T	mg/kg	5	0	No SLC	0.018	0.021				
Vanadium	T	mg/kg	5	100	No SLC			0.15	0.23	0.21	0.22
Zinc	T	mg/kg	5	100	No SLC			21	42	28.8	26

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-12
Mammal Kidney - Summer 2003
RI/FS Soil Area 4A1 - Capulin and Goathill N and S Rock Piles
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	5	100	No SLC			29.9	31.4	30.5	30.4
Metals											
Aluminum	T	mg/kg	5	0	No SLC	2.7	8.8				
Antimony	T	mg/kg	5	0	No SLC	0.063	0.21				
Arsenic	T	mg/kg	5	0	No SLC	0.15	0.47				
Barium	T	mg/kg	5	80	No SLC	0.23	0.23	ND	0.29	0.24	0.28
Beryllium	T	mg/kg	5	0	No SLC	0.06	0.19				
Boron	T	mg/kg	5	20	No SLC	0.69	1.5	ND	3		
Cadmium	T	mg/kg	5	100	No SLC			0.45	7.7	3.3	1.4
Calcium	T	mg/kg	5	100	No SLC			120	170	152	160
Chromium	T	mg/kg	5	80	No SLC	0.51	0.51	ND	0.39	0.28	0.25
Cobalt	T	mg/kg	5	0	No SLC	0.06	0.19				
Copper	T	mg/kg	5	100	No SLC			5.1	6.3	5.7	5.5
Iron	T	mg/kg	5	100	No SLC			59	98	86.2	94
Lead	T	mg/kg	5	20	No SLC	0.12	0.3	ND	0.13		
Magnesium	T	mg/kg	5	100	No SLC			170	270	226	230
Manganese	T	mg/kg	5	100	No SLC			1.1	2.5	1.7	1.7
Mercury	T	mg/kg	5	0	No SLC	0.0061	0.012				
Molybdenum	T	mg/kg	5	100	No SLC			0.26	0.66	0.41	0.4
Nickel	T	mg/kg	5	20	No SLC	0.1	0.34	ND	0.3		
Potassium	T	mg/kg	5	100	No SLC			2600	3500	2960	2800
Selenium	T	mg/kg	5	100	No SLC			0.87	1.7	1.4	1.6
Silver	T	mg/kg	5	0	No SLC	0.089	0.17				
Sodium	T	mg/kg	5	100	No SLC			1800	2600	2300	2300
Thallium	T	mg/kg	5	0	No SLC	0.04	0.13				
Vanadium	T	mg/kg	5	60	No SLC	0.31	0.46	ND	0.31	0.25	0.25
Zinc	T	mg/kg	5	100	No SLC			27	39	32	32

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-13
Earthworm Bioassay - Fall 2002
RI/FS Reference Scars
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	10	273	356	323	327
Earthworm Reproduction (Proportion)	proportion	10	0	1	0.45	0.5
Earthworm Survival	proportion	10	0.95	1	0.99	0.99

cm = Centimeter
g = Gram
mg = Milligram

Table 11-14
Earthworm - Fall 2002
RI/FS Reference Scars
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			12.8	16.7	15.1	15.3
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			11.6	220	48.4	22.7
Antimony	T	mg/Kg	10	0	No SLC	0.25	0.3				
Arsenic	T	mg/Kg	10	90	No SLC	0.19	0.19	ND	0.97	0.48	0.38
Barium	T	mg/Kg	10	100	No SLC			0.62	17.3	4.2	2.2
Beryllium	T	mg/Kg	10	0	No SLC	0.018	0.02				
Boron	T	mg/Kg	10	70	No SLC	0.25	1.5	ND	1.2	0.65	0.65
Cadmium	T	mg/Kg	10	100	No SLC			0.6	0.88	0.7	0.67
Calcium	T	mg/Kg	10	100	No SLC			471	1240	725	718
Chromium	T	mg/Kg	10	100	No SLC			1.3	19.6	5.1	2.8
Cobalt	T	mg/Kg	10	100	No SLC			0.38	0.67	0.51	0.48
Copper	T	mg/Kg	10	100	No SLC			1.6	3.3	2.3	2.2
Iron	T	mg/Kg	10	100	No SLC			91.8	557	265	255
Lead	T	mg/Kg	10	100	No SLC			0.25	1.2	0.72	0.64
Magnesium	T	mg/Kg	10	100	No SLC			83.7	591	193	153
Manganese	T	mg/Kg	10	100	No SLC			1.1	5.9	2.5	1.9
Mercury	T	mg/Kg	10	40	No SLC	0.015	0.017	ND	0.033		
Molybdenum	T	mg/Kg	10	100	No SLC			0.14	0.93	0.41	0.35
Nickel	T	mg/Kg	10	100	No SLC			0.72	13.8	3.2	1.7
Potassium	T	mg/Kg	10	100	No SLC			1250	1780	1530	1530
Selenium	T	mg/Kg	10	20	No SLC	0.74	0.8	ND	1.1		
Silver	T	mg/Kg	10	0	No SLC	0.14	0.16				
Sodium	T	mg/Kg	10	100	No SLC			718	892	835	835
Thallium	T	mg/Kg	10	0	No SLC	0.083	0.1				
Vanadium	T	mg/Kg	10	30	No SLC	0.16	0.18	ND	0.34		
Zinc	T	mg/Kg	10	100	No SLC			12.8	17.8	15.7	15.8

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-15
Soil Fauna Community Structure - Fall 2002
RI/FS Reference Scars
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	10	0	96	9.9	0
Soil Invert # of Taxa	number	10	0	4	0.8	0

cm = Centimeter
g = Gram
mg = Milligram

Table 11-16
Earthworm Bioassay - Fall 2002
RI/FS Soil Area 7 - Mine Site Scars
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	10	305	371	336	334
Earthworm Reproduction (Proportion)	proportion	10	0	1	0.53	0.5
Earthworm Survival	proportion	10	0.85	0.98	0.92	0.94

cm = Centimeter
g = Gram
mg = Milligram

Table 11-17
Earthworm - Fall 2002
RI/FS Soil Area 7 - Mine Site Scars
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			10.3	17.6	14.3	14.8
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			5.9	89.3	44.1	36.7
Antimony	T	mg/Kg	10	0	No SLC	0.24	0.3				
Arsenic	T	mg/Kg	10	80	No SLC	0.17	0.19	ND	0.95	0.52	0.5
Barium	T	mg/Kg	10	70	No SLC	0.71	0.82	ND	11.6	2.8	1.1
Beryllium	T	mg/Kg	10	0	No SLC	0.018	0.03				
Boron	T	mg/Kg	10	40	No SLC	0.32	1.2	ND	1.6		
Cadmium	T	mg/Kg	10	100	No SLC			0.56	0.94	0.73	0.75
Calcium	T	mg/Kg	10	100	No SLC			558	837	660	646
Chromium	T	mg/Kg	10	100	No SLC			0.11	15.1	4.6	3
Cobalt	T	mg/Kg	10	100	No SLC			0.29	0.68	0.51	0.53
Copper	T	mg/Kg	10	100	No SLC			2.3	3.2	2.7	2.5
Iron	T	mg/Kg	10	100	No SLC			98.5	348	201	193
Lead	T	mg/Kg	10	60	No SLC	0.25	0.65	ND	2.1	0.97	0.8
Magnesium	T	mg/Kg	10	100	No SLC			115	330	177	160
Manganese	T	mg/Kg	10	100	No SLC			1.1	5.2	2.8	2.6
Mercury	T	mg/Kg	10	10	No SLC	0.014	0.017	ND	0.02		
Molybdenum	T	mg/Kg	10	80	No SLC	0.17	0.89	ND	1.4	0.53	0.39
Nickel	T	mg/Kg	10	60	No SLC	0.29	0.34	ND	8.9	2.9	1.8
Potassium	T	mg/Kg	10	100	No SLC			1350	1680	1540	1550
Selenium	T	mg/Kg	10	40	No SLC	0.71	0.8	ND	1.1		
Silver	T	mg/Kg	10	0	No SLC	0.13	0.16				
Sodium	T	mg/Kg	10	100	No SLC			768	948	860	864
Thallium	T	mg/Kg	10	0	No SLC	0.079	0.1				
Vanadium	T	mg/Kg	10	20	No SLC	0.15	0.18	ND	0.2		
Zinc	T	mg/Kg	10	100	No SLC			14	24	17.1	16.5

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-18
Soil Fauna Community Structure - Fall 2002
RI/FS Soil Area 7 - Mine Site Scars
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	10	0	9	1.7	0
Soil Invert # of Taxa	number	10	0	7	1.1	0

cm = Centimeter
g = Gram
mg = Milligram

Table 11-19
Mammal Whole Body - Summer 2003
RI/FS Reference Soil at Cater Ranch
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	13	100	No SLC			19.6	27.9	24.5	25.4
Metals											
Aluminum	T	mg/kg	13	100	No SLC			22	77	47.6	49
Antimony	T	mg/kg	13	0	No SLC	0.03	0.033				
Arsenic	T	mg/kg	13	30.8	No SLC	0.07	0.076	ND	0.083		
Barium	T	mg/kg	13	100	No SLC			1.1	7.9	3.5	2.7
Beryllium	T	mg/kg	13	0	No SLC	0.028	0.031				
Boron	T	mg/kg	13	69.2	No SLC	0.34	0.36	ND	1.9	0.6	0.53
Cadmium	T	mg/kg	13	46.2	No SLC	0.035	0.038	ND	0.31		
Calcium	T	mg/kg	13	100	No SLC			3200	11000	6320	5600
Chromium	T	mg/kg	13	100	No SLC			0.21	0.79	0.45	0.44
Cobalt	T	mg/kg	13	100	No SLC			0.038	0.12	0.069	0.059
Copper	T	mg/kg	13	100	No SLC			2.2	5.5	3.9	4
Iron	T	mg/kg	13	100	No SLC			66	150	109	110
Lead	T	mg/kg	13	100	No SLC			0.058	0.24	0.11	0.1
Magnesium	T	mg/kg	13	100	No SLC			270	420	325	310
Manganese	T	mg/kg	13	100	No SLC			2.5	6.3	4.1	3.9
Mercury	T	mg/kg	13	92.3	No SLC	0.0021	0.0021	ND	0.0058	0.0034	0.0031
Molybdenum	T	mg/kg	13	100	No SLC			0.13	0.49	0.21	0.19
Nickel	T	mg/kg	13	100	No SLC			0.16	1.3	0.41	0.3
Potassium	T	mg/kg	13	100	No SLC			2000	2700	2260	2200
Selenium	T	mg/kg	13	100	No SLC			0.41	0.77	0.57	0.59
Silver	T	mg/kg	13	0	No SLC	0.031	0.034				
Sodium	T	mg/kg	13	100	No SLC			730	1100	921	920
Thallium	T	mg/kg	13	0	No SLC	0.019	0.021				
Vanadium	T	mg/kg	13	100	No SLC			0.19	0.33	0.26	0.26
Zinc	T	mg/kg	13	100	No SLC			17	64	29.2	25

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-20
Earthworm Bioassay - Summer 2003
RI/FS Reference Soil at Cater Ranch
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	10	246	390	332	325
Earthworm Reproduction (Proportion)	proportion	10	0	1	0.65	0.75
Earthworm Survival	Proportion	10	0.98	1	0.99	1

cm = Centimeter
g = Gram
mg = Milligram

Table 11-21
Earthworm - Summer 2003
RI/FS Reference Soil at Cater Ranch
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			16.3	23.3	19.6	20.1
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			37.3	1550	272	151
Antimony	T	mg/Kg	10	0	No SLC	0.32	1.7				
Arsenic	T	mg/Kg	10	100	No SLC			1.9	3.8	2.7	2.5
Barium	T	mg/Kg	10	100	No SLC			1.2	21.2	4	2.2
Beryllium	T	mg/Kg	10	0	No SLC	0.017	0.091				
Boron	T	mg/Kg	10	90	No SLC	0.46	0.46	ND	4	0.91	0.57
Cadmium	T	mg/Kg	10	100	No SLC			0.27	4	0.73	0.4
Calcium	T	mg/Kg	10	100	No SLC			520	3400	987	726
Chromium	T	mg/Kg	10	100	No SLC			0.28	5.2	0.97	0.53
Cobalt	T	mg/Kg	10	90	No SLC	0.18	0.18	ND	3	0.58	0.32
Copper	T	mg/Kg	10	100	No SLC			1.4	9.7	2.6	1.8
Iron	T	mg/Kg	10	100	No SLC			79.9	1700	337	200
Lead	T	mg/Kg	10	10	No SLC	0.13	0.29	ND	1.8		
Magnesium	T	mg/Kg	10	100	No SLC			166	1180	310	201
Manganese	T	mg/Kg	10	100	No SLC			3.2	64	10.9	5.3
Mercury	T	mg/Kg	10	20	No SLC	0.015	0.016	ND	0.019		
Molybdenum	T	mg/Kg	10	10	No SLC	0.14	0.16	ND	1.2		
Nickel	T	mg/Kg	10	10	No SLC	0.17	0.2	ND	2.3		
Potassium	T	mg/Kg	10	100	No SLC			1520	10500	2630	1780
Selenium	T	mg/Kg	10	80	No SLC	1.4	1.4	ND	2.9	1.9	2
Silver	T	mg/Kg	10	0	No SLC	0.077	1.4				
Sodium	T	mg/Kg	10	100	No SLC			611	3900	1040	736
Thallium	T	mg/Kg	10	0	No SLC	0.39	0.56				
Vanadium	T	mg/Kg	10	80	No SLC	0.19	0.22	ND	4	0.67	0.33
Zinc	T	mg/Kg	10	100	No SLC			15.2	101	26.2	17.6

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-22
Soil Fauna Community Structure - Summer 2003
RI/FS Reference Soil at Cater Ranch
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	10	0	4.3	1.6	1.5
Soil Invert # of Taxa	number	10	0	3	1.8	2

cm = Centimeter
g = Gram
mg = Milligram

Table 11-23
Mammal Whole Body - Summer 2003
RI/FS Soil Area 14 - Tailings Impoundments
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	13	100	No SLC			16.5	36.7	26	26.1
Metals											
Aluminum	T	mg/kg	13	100	No SLC			21	93	45.1	35
Antimony	T	mg/kg	13	0	No SLC	0.028	0.033				
Arsenic	T	mg/kg	13	38.5	No SLC	0.065	0.076	ND	0.11		
Barium	T	mg/kg	13	100	No SLC			1.2	6.7	2.7	2.1
Beryllium	T	mg/kg	13	0	No SLC	0.026	0.031				
Boron	T	mg/kg	13	92.3	No SLC	0.35	0.35	ND	1.8	0.82	0.77
Cadmium	T	mg/kg	13	38.5	No SLC	0.033	0.038	ND	0.08		
Calcium	T	mg/kg	13	100	No SLC			3100	9100	5670	5500
Chromium	T	mg/kg	13	100	No SLC			0.28	0.99	0.51	0.47
Cobalt	T	mg/kg	13	100	No SLC			0.044	0.16	0.082	0.077
Copper	T	mg/kg	13	100	No SLC			3.1	13	5.5	4.6
Iron	T	mg/kg	13	100	No SLC			89	240	136	130
Lead	T	mg/kg	13	100	No SLC			0.15	1.5	0.49	0.3
Magnesium	T	mg/kg	13	100	No SLC			200	440	337	350
Manganese	T	mg/kg	13	100	No SLC			3.5	9.4	5.7	5.5
Mercury	T	mg/kg	13	53.8	No SLC	0.0021	0.0021	ND	0.0043	0.002	0.0021
Molybdenum	T	mg/kg	13	100	No SLC			0.94	13	3.5	2.7
Nickel	T	mg/kg	13	100	No SLC			0.2	1.1	0.43	0.37
Potassium	T	mg/kg	13	100	No SLC			2000	3600	2540	2500
Selenium	T	mg/kg	13	100	No SLC			0.13	0.52	0.3	0.29
Silver	T	mg/kg	13	0	No SLC	0.029	0.034				
Sodium	T	mg/kg	13	100	No SLC			730	1300	1010	970
Thallium	T	mg/kg	13	0	No SLC	0.018	0.021				
Vanadium	T	mg/kg	13	100	No SLC			0.2	0.44	0.3	0.29
Zinc	T	mg/kg	13	100	No SLC			18	28	21.8	21

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-24
Earthworm Bioassay - Summer 2003
RI/FS Soil Area 14 - Tailings Impoundments
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	10	315	400	354	360
Earthworm Reproduction (Proportion)	proportion	10	0	0.75	0.25	0.25
Earthworm Survival	Proportion	10	0.93	1	0.99	1

cm = Centimeter
g = Gram
mg = Milligram

Table 11-25
Earthworm - Summer 2003
RI/FS Soil Area 14 - Tailings Impoundments
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			15.3	23.3	19.1	19.3
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			33.5	183	108	107
Antimony	T	mg/Kg	10	0	No SLC	0.33	0.73				
Arsenic	T	mg/Kg	10	100	No SLC			1.1	5.1	2.7	2.3
Barium	T	mg/Kg	10	100	No SLC			1	3	1.7	1.4
Beryllium	T	mg/Kg	10	0	No SLC	0.017	0.02				
Boron	T	mg/Kg	10	80	No SLC	0.41	0.46	ND	0.71	0.53	0.58
Cadmium	T	mg/Kg	10	100	No SLC			0.29	0.89	0.41	0.36
Calcium	T	mg/Kg	10	100	No SLC			515	1080	809	782
Chromium	T	mg/Kg	10	100	No SLC			0.27	0.98	0.54	0.51
Cobalt	T	mg/Kg	10	100	No SLC			0.21	0.51	0.33	0.34
Copper	T	mg/Kg	10	100	No SLC			1.4	7.6	4.3	4.3
Iron	T	mg/Kg	10	100	No SLC			74.6	395	204	210
Lead	T	mg/Kg	10	10	No SLC	0.13	0.6	ND	1.8		
Magnesium	T	mg/Kg	10	100	No SLC			138	265	192	188
Manganese	T	mg/Kg	10	100	No SLC			4.2	12.2	7.6	7.8
Mercury	T	mg/Kg	10	0	No SLC	0.015	0.017				
Molybdenum	T	mg/Kg	10	100	No SLC			0.16	4.5	1.6	1.4
Nickel	T	mg/Kg	10	20	No SLC	0.18	0.2	ND	0.29		
Potassium	T	mg/Kg	10	100	No SLC			1480	1990	1740	1750
Selenium	T	mg/Kg	10	50	No SLC	1.3	1.8	ND	2.2	1.3	1.1
Silver	T	mg/Kg	10	0	No SLC	0.076	0.089				
Sodium	T	mg/Kg	10	100	No SLC			594	765	675	673
Thallium	T	mg/Kg	10	0	No SLC	0.42	0.64				
Vanadium	T	mg/Kg	10	70	No SLC	0.19	0.22	ND	0.69	0.3	0.32
Zinc	T	mg/Kg	10	100	No SLC			14.8	21.9	18.1	18.1

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-26
Soil Fauna Community Structure - Summer 2003
RI/FS Soil Area 14 - Tailings Impoundments
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	10	0.5	13.5	3.5	1.4
Soil Invert # of Taxa	number	10	1	5	2.1	1.5

cm = Centimeter
g = Gram
mg = Milligram

Table 11-27
Mammal Whole Body - Fall 2002
RI/FS Reference for Mine Site Riparian
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			23.7	31.6	28.1	28.6
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			13	54	28.3	25
Antimony	T	mg/Kg	10	10	No SLC	0.028	0.033	ND	0.032		
Arsenic	T	mg/Kg	10	90	No SLC	0.071	0.071	ND	0.82	0.28	0.2
Barium	T	mg/Kg	10	100	No SLC			4.6	14	8.7	7.4
Beryllium	T	mg/Kg	10	0	No SLC	0.026	0.031				
Boron	T	mg/Kg	10	100	No SLC			0.38	0.84	0.61	0.63
Cadmium	T	mg/Kg	10	60	No SLC	0.032	0.038	ND	0.2	0.066	0.045
Calcium	T	mg/Kg	10	100	No SLC			6300	11000	8570	8750
Chromium	T	mg/Kg	10	100	No SLC			0.23	0.77	0.55	0.56
Cobalt	T	mg/Kg	10	100	No SLC			0.037	0.19	0.096	0.089
Copper	T	mg/Kg	10	100	No SLC			3.3	9.9	5.6	5.3
Iron	T	mg/Kg	10	100	No SLC			95	210	127	120
Lead	T	mg/Kg	10	100	No SLC			0.1	0.41	0.25	0.24
Magnesium	T	mg/Kg	10	100	No SLC			320	720	458	445
Manganese	T	mg/Kg	10	100	No SLC			2.4	13	6.1	4.7
Mercury	T	mg/Kg	10	30	No SLC	0.002	0.0021	ND	0.014		
Molybdenum	T	mg/Kg	10	80	No SLC	0.083	0.084	ND	1.3	0.34	0.23
Nickel	T	mg/Kg	10	100	No SLC			0.29	1.5	0.87	0.85
Potassium	T	mg/Kg	10	100	No SLC			1900	2800	2390	2450
Selenium	T	mg/Kg	10	100	No SLC			0.32	0.54	0.43	0.41
Silver	T	mg/Kg	10	0	No SLC	0.037	0.042				
Sodium	T	mg/Kg	10	100	No SLC			940	1300	1110	1100
Thallium	T	mg/Kg	10	0	No SLC	0.018	0.021				
Vanadium	T	mg/Kg	10	100	No SLC			0.11	0.3	0.21	0.21
Zinc	T	mg/Kg	10	100	No SLC			25	110	47.6	36.5

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-28
Earthworm Bioassay - Fall 2002
RI/FS Reference for Mine Site Riparian
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	10	238	382	308	296
Earthworm Reproduction (Proportion)	proportion	10	0	1	0.68	0.75
Earthworm Survival	proportion	10	0.88	1	0.94	0.95

cm = Centimeter
g = Gram
mg = Milligram

Table 11-29
Earthworm - Fall 2002
RI/FS Reference for Mine Site Riparian
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			11.4	18.2	14.6	14.5
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			58.7	270	141	122
Antimony	T	mg/Kg	10	0	No SLC	0.22	0.28				
Arsenic	T	mg/Kg	10	100	No SLC			0.2	0.84	0.5	0.48
Barium	T	mg/Kg	10	100	No SLC			1.3	5.3	2.9	2.7
Beryllium	T	mg/Kg	10	0	No SLC	0.018	0.027				
Boron	T	mg/Kg	10	10	No SLC	0.38	1.4	ND	0.91		
Cadmium	T	mg/Kg	10	100	No SLC			0.72	1.3	0.95	0.92
Calcium	T	mg/Kg	10	100	No SLC			544	779	607	575
Chromium	T	mg/Kg	10	100	No SLC			0.23	20	9.3	9
Cobalt	T	mg/Kg	10	100	No SLC			0.43	0.93	0.7	0.7
Copper	T	mg/Kg	10	100	No SLC			1.5	5.7	3	2.6
Iron	T	mg/Kg	10	100	No SLC			186	709	348	249
Lead	T	mg/Kg	10	70	No SLC	0.25	0.76	ND	1.5	0.52	0.41
Magnesium	T	mg/Kg	10	100	No SLC			145	364	198	178
Manganese	T	mg/Kg	10	100	No SLC			4.4	17.3	8.7	7
Mercury	T	mg/Kg	10	10	No SLC	0.015	0.017	ND	0.024		
Molybdenum	T	mg/Kg	10	80	No SLC	0.31	0.33	ND	1.3	0.73	0.75
Nickel	T	mg/Kg	10	80	No SLC	0.28	0.3	ND	11.7	5.7	6
Potassium	T	mg/Kg	10	100	No SLC			1480	1630	1560	1560
Selenium	T	mg/Kg	10	80	No SLC	0.63	0.64	ND	1.1	0.68	0.74
Silver	T	mg/Kg	10	0	No SLC	0.12	0.16				
Sodium	T	mg/Kg	10	100	No SLC			829	923	885	893
Thallium	T	mg/Kg	10	0	No SLC	0.073	0.093				
Vanadium	T	mg/Kg	10	100	No SLC			0.21	0.95	0.42	0.33
Zinc	T	mg/Kg	10	100	No SLC			17.2	22.6	18.6	18.3

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-30
Soil Fauna Community Structure - Fall 2002
RI/FS Reference for Mine Site Riparian
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	10	6	116	48.9	27.5
Soil Invert # of Taxa	number	10	1	12	6.8	7.5

cm = Centimeter
g = Gram
mg = Milligram

Table 11-31
Mammal Whole Body - Fall 2002
RI/FS Soil Area 9 - Red River Riparian along Mine Site
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			23.9	34	28	27.8
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			11	95	25	18
Antimony	T	mg/Kg	10	10	No SLC	0.028	0.033	ND	0.039		
Arsenic	T	mg/Kg	10	70	No SLC	0.066	0.076	ND	0.7	0.17	0.087
Barium	T	mg/Kg	10	100	No SLC			1.2	15	5.8	5.5
Beryllium	T	mg/Kg	10	0	No SLC	0.026	0.031				
Boron	T	mg/Kg	10	100	No SLC			0.38	1.3	0.8	0.81
Cadmium	T	mg/Kg	10	50	No SLC	0.032	0.037	ND	0.23	0.073	0.041
Calcium	T	mg/Kg	10	100	No SLC			4900	12000	7590	7050
Chromium	T	mg/Kg	10	100	No SLC			0.32	1.4	0.52	0.4
Cobalt	T	mg/Kg	10	100	No SLC			0.033	0.13	0.075	0.08
Copper	T	mg/Kg	10	100	No SLC			2.4	14	5.6	4.8
Iron	T	mg/Kg	10	100	No SLC			80	260	115	94.5
Lead	T	mg/Kg	10	100	No SLC			0.075	0.85	0.3	0.22
Magnesium	T	mg/Kg	10	100	No SLC			290	510	377	355
Manganese	T	mg/Kg	10	100	No SLC			2.1	15	6.2	4.4
Mercury	T	mg/Kg	10	0	No SLC	0.002	0.0021				
Molybdenum	T	mg/Kg	10	80	No SLC	0.072	0.084	ND	0.87	0.33	0.28
Nickel	T	mg/Kg	10	100	No SLC			0.18	12	1.7	0.59
Potassium	T	mg/Kg	10	100	No SLC			1900	2900	2360	2350
Selenium	T	mg/Kg	10	100	No SLC			0.18	0.42	0.3	0.31
Silver	T	mg/Kg	10	10	No SLC	0.036	0.042	ND	0.057		
Sodium	T	mg/Kg	10	100	No SLC			840	1300	1040	995
Thallium	T	mg/Kg	10	10	No SLC	0.018	0.021	ND	0.021		
Vanadium	T	mg/Kg	10	100	No SLC			0.091	0.7	0.26	0.21
Zinc	T	mg/Kg	10	100	No SLC			19	300	54.7	28

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-32
Earthworm Bioassay - Fall 2002
RI/FS Soil Area 9 - Red River Riparian along Mine Site
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	10	248	388	330	339
Earthworm Reproduction (Proportion)	proportion	10	0	1	0.4	0.25
Earthworm Survival	proportion	10	0.95	1	0.99	1

cm = Centimeter
g = Gram
mg = Milligram

Table 11-33
Earthworm - Fall 2002
RI/FS Soil Area 9 - Red River Riparian along Mine Site
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			11.1	17	14.7	15
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			124	247	181	185
Antimony	T	mg/Kg	10	0	No SLC	0.23	0.3				
Arsenic	T	mg/Kg	10	100	No SLC			0.31	1	0.59	0.52
Barium	T	mg/Kg	10	100	No SLC			8.1	15.8	11	10.4
Beryllium	T	mg/Kg	10	0	No SLC	0.017	0.02				
Boron	T	mg/Kg	10	50	No SLC	0.74	2.5	ND	0.75	0.64	0.63
Cadmium	T	mg/Kg	10	100	No SLC			0.79	1.4	1.1	1.1
Calcium	T	mg/Kg	10	100	No SLC			531	1250	702	620
Chromium	T	mg/Kg	10	100	No SLC			8.1	32.6	17.7	16.7
Cobalt	T	mg/Kg	10	100	No SLC			0.57	1.4	0.83	0.77
Copper	T	mg/Kg	10	100	No SLC			3.6	4.9	4.2	4.3
Iron	T	mg/Kg	10	100	No SLC			420	731	560	551
Lead	T	mg/Kg	10	90	No SLC	0.75	0.75	ND	1.6	1.1	1.2
Magnesium	T	mg/Kg	10	100	No SLC			178	549	261	199
Manganese	T	mg/Kg	10	100	No SLC			10.7	31.3	17	14.3
Mercury	T	mg/Kg	10	0	No SLC	0.015	0.017				
Molybdenum	T	mg/Kg	10	100	No SLC			0.91	2.3	1.7	1.7
Nickel	T	mg/Kg	10	100	No SLC			5.8	18.6	10.8	10.3
Potassium	T	mg/Kg	10	100	No SLC			1450	1630	1550	1550
Selenium	T	mg/Kg	10	40	No SLC	0.61	0.79	ND	0.84		
Silver	T	mg/Kg	10	0	No SLC	0.13	0.16				
Sodium	T	mg/Kg	10	100	No SLC			835	943	883	882
Thallium	T	mg/Kg	10	0	No SLC	0.076	0.1				
Vanadium	T	mg/Kg	10	100	No SLC			0.41	0.79	0.53	0.47
Zinc	T	mg/Kg	10	100	No SLC			17.3	23.8	19.6	19.3

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-34
Soil Fauna Community Structure - Fall 2002
RI/FS Soil Area 9 - Red River Riparian along Mine Site
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	10	2	189	35.4	15.5
Soil Invert # of Taxa	number	10	2	12	5.9	4.5

cm = Centimeter
g = Gram
mg = Milligram

Table 11-35
Mammal Whole Body - Fall 2002
RI/FS Reference Lower Cabresto Creek Riparian
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	3	100	No SLC			27.5	34.9	32	33.5
Metals											
Aluminum	T	mg/Kg	3	100	No SLC			7	32	19.7	20
Antimony	T	mg/Kg	3	0	No SLC	0.03	0.032				
Arsenic	T	mg/Kg	3	66.7	No SLC	0.07	0.07	ND	0.11	0.08	0.095
Barium	T	mg/Kg	3	100	No SLC			6.3	12	9	8.6
Beryllium	T	mg/Kg	3	0	No SLC	0.028	0.03				
Boron	T	mg/Kg	3	100	No SLC			0.51	1.4	0.88	0.72
Cadmium	T	mg/Kg	3	33.3	No SLC	0.034	0.035	ND	0.04		
Calcium	T	mg/Kg	3	100	No SLC			11000	14000	12300	12000
Chromium	T	mg/Kg	3	100	No SLC			0.35	0.65	0.47	0.41
Cobalt	T	mg/Kg	3	100	No SLC			0.031	0.12	0.073	0.067
Copper	T	mg/Kg	3	100	No SLC			4.1	19	9.1	4.1
Iron	T	mg/Kg	3	100	No SLC			110	160	140	150
Lead	T	mg/Kg	3	100	No SLC			0.1	0.7	0.31	0.14
Magnesium	T	mg/Kg	3	100	No SLC			500	580	543	550
Manganese	T	mg/Kg	3	100	No SLC			2.5	5.9	3.9	3.3
Mercury	T	mg/Kg	3	66.7	No SLC	0.002	0.002	ND	0.0037	0.0023	0.0022
Molybdenum	T	mg/Kg	3	0	No SLC	0.076	0.082				
Nickel	T	mg/Kg	3	100	No SLC			0.33	1.1	0.74	0.78
Potassium	T	mg/Kg	3	100	No SLC			2700	3200	3030	3200
Selenium	T	mg/Kg	3	100	No SLC			0.35	0.5	0.43	0.45
Silver	T	mg/Kg	3	0	No SLC	0.039	0.041				
Sodium	T	mg/Kg	3	100	No SLC			1400	1600	1470	1400
Thallium	T	mg/Kg	3	0	No SLC	0.019	0.021				
Vanadium	T	mg/Kg	3	100	No SLC			0.24	0.36	0.29	0.27
Zinc	T	mg/Kg	3	100	No SLC			34	36	35	35

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-36
Earthworm Bioassay - Fall 2002
RI/FS Reference Lower Cabresto Creek Riparian
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	5	323	339	330	331
Earthworm Reproduction (Proportion)	proportion	5	0.5	1	0.8	0.75
Earthworm Survival	proportion	5	0.88	0.98	0.91	0.9

cm = Centimeter
g = Gram
mg = Milligram

Table 11-37
Earthworm - Fall 2002
RI/FS Reference Lower Cabresto Creek Riparian
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	5	100	No SLC			11.6	15	13.6	14
Metals											
Aluminum	T	mg/Kg	5	100	No SLC			35.3	125	77.8	71.2
Antimony	T	mg/Kg	5	0	No SLC	0.26	0.3				
Arsenic	T	mg/Kg	5	100	No SLC			0.27	0.91	0.46	0.31
Barium	T	mg/Kg	5	80	No SLC	0.84	0.84	ND	1.4	1	1.2
Beryllium	T	mg/Kg	5	0	No SLC	0.025	0.03				
Boron	T	mg/Kg	5	0	No SLC	0.31	0.6				
Cadmium	T	mg/Kg	5	100	No SLC			0.8	1.2	1	1
Calcium	T	mg/Kg	5	100	No SLC			468	565	509	513
Chromium	T	mg/Kg	5	100	No SLC			0.18	0.34	0.26	0.26
Cobalt	T	mg/Kg	5	100	No SLC			0.41	0.57	0.48	0.47
Copper	T	mg/Kg	5	100	No SLC			1.9	2.9	2.3	2
Iron	T	mg/Kg	5	100	No SLC			146	295	210	200
Lead	T	mg/Kg	5	0	No SLC	0.31	0.45				
Magnesium	T	mg/Kg	5	100	No SLC			121	181	151	146
Manganese	T	mg/Kg	5	100	No SLC			4	7.9	5.5	5.1
Mercury	T	mg/Kg	5	0	No SLC	0.014	0.016				
Molybdenum	T	mg/Kg	5	100	No SLC			0.27	0.35	0.32	0.34
Nickel	T	mg/Kg	5	0	No SLC	0.29	0.34				
Potassium	T	mg/Kg	5	100	No SLC			1440	1500	1470	1470
Selenium	T	mg/Kg	5	40	No SLC	0.71	0.79	ND	0.96		
Silver	T	mg/Kg	5	0	No SLC	0.13	0.15				
Sodium	T	mg/Kg	5	100	No SLC			821	874	851	850
Thallium	T	mg/Kg	5	0	No SLC	0.086	0.099				
Vanadium	T	mg/Kg	5	60	No SLC	0.17	0.18	ND	0.37	0.21	0.18
Zinc	T	mg/Kg	5	100	No SLC			16.8	18.3	17.5	17.3

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-38
Soil Fauna Community Structure - Fall 2002
RI/FS Reference Lower Cabresto Creek Riparian
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	5	23	390	127	43
Soil Invert # of Taxa	number	5	4	12	6.8	6

cm = Centimeter
g = Gram
mg = Milligram

Table 11-39
Mammal Whole Body - Fall 2002
RI/FS Soil Area 16 - Red River Riparian along Tailings Facility
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			23.4	34.3	27.4	26.8
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			13	43	25.2	25
Antimony	T	mg/Kg	10	10	No SLC	0.028	0.033	ND	0.053		
Arsenic	T	mg/Kg	10	40	No SLC	0.066	0.076	ND	0.14		
Barium	T	mg/Kg	10	100	No SLC			1.8	25	7.4	4.9
Beryllium	T	mg/Kg	10	10	No SLC	0.027	0.031	ND	0.047		
Boron	T	mg/Kg	10	100	No SLC			0.52	1.2	0.82	0.76
Cadmium	T	mg/Kg	10	30	No SLC	0.033	0.038	ND	0.093		
Calcium	T	mg/Kg	10	100	No SLC			5700	17000	9050	8350
Chromium	T	mg/Kg	10	100	No SLC			0.25	0.85	0.43	0.33
Cobalt	T	mg/Kg	10	100	No SLC			0.032	0.19	0.087	0.065
Copper	T	mg/Kg	10	100	No SLC			4.5	7.7	5.3	5.2
Iron	T	mg/Kg	10	100	No SLC			70	180	116	105
Lead	T	mg/Kg	10	100	No SLC			0.084	0.23	0.16	0.16
Magnesium	T	mg/Kg	10	100	No SLC			260	680	446	445
Manganese	T	mg/Kg	10	100	No SLC			1.8	7.2	4	3.8
Mercury	T	mg/Kg	10	20	No SLC	0.002	0.0021	ND	0.027		
Molybdenum	T	mg/Kg	10	60	No SLC	0.072	0.084	ND	0.35	0.17	0.19
Nickel	T	mg/Kg	10	100	No SLC			0.33	2	0.73	0.46
Potassium	T	mg/Kg	10	100	No SLC			2000	3700	2540	2400
Selenium	T	mg/Kg	10	100	No SLC			0.21	0.68	0.39	0.37
Silver	T	mg/Kg	10	0	No SLC	0.036	0.042				
Sodium	T	mg/Kg	10	100	No SLC			870	1600	1150	1150
Thallium	T	mg/Kg	10	10	No SLC	0.018	0.021	ND	0.052		
Vanadium	T	mg/Kg	10	100	No SLC			0.14	0.42	0.24	0.23
Zinc	T	mg/Kg	10	100	No SLC			21	120	50.1	35.5

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-40
Earthworm Bioassay - Fall 2002
RI/FS Soil Area 16 - Red River Riparian along Tailings Facility
Summary of Results

Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Bioassay						
Earthworm Average Body Weight	mg	10	284	378	329	326
Earthworm Reproduction (Proportion)	proportion	10	0	1	0.53	0.63
Earthworm Survival	proportion	10	0.68	1	0.94	0.98

cm = Centimeter
g = Gram
mg = Milligram

Table 11-41
Earthworm - Fall 2002
RI/FS Soil Area 16 - Red River Riparian along Tailings Facility
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Laboratory Parameters											
Solids, Percent	T	%	10	100	No SLC			11.4	16.7	14.4	14.7
Metals											
Aluminum	T	mg/Kg	10	100	No SLC			29.2	237	145	161
Antimony	T	mg/Kg	10	0	No SLC	0.27	0.3				
Arsenic	T	mg/Kg	10	90	No SLC	0.19	0.19	ND	2.2	0.73	0.53
Barium	T	mg/Kg	10	90	No SLC	0.82	0.82	ND	8.9	6.3	7.3
Beryllium	T	mg/Kg	10	0	No SLC	0.017	0.029				
Boron	T	mg/Kg	10	90	No SLC	0.54	0.54	ND	1.1	0.64	0.69
Cadmium	T	mg/Kg	10	100	No SLC			0.77	1.4	1.1	1.2
Calcium	T	mg/Kg	10	100	No SLC			454	655	571	582
Chromium	T	mg/Kg	10	100	No SLC			0.19	30.6	15	14.8
Cobalt	T	mg/Kg	10	100	No SLC			0.42	0.87	0.71	0.74
Copper	T	mg/Kg	10	100	No SLC			2.7	5.7	4	4
Iron	T	mg/Kg	10	100	No SLC			104	662	432	426
Lead	T	mg/Kg	10	20	No SLC	0.22	0.77	ND	1.6		
Magnesium	T	mg/Kg	10	100	No SLC			134	255	173	167
Manganese	T	mg/Kg	10	100	No SLC			3.2	25	12.6	11.5
Mercury	T	mg/Kg	10	0	No SLC	0.015	0.017				
Molybdenum	T	mg/Kg	10	90	No SLC	0.91	0.91	ND	3.1	1.4	1.3
Nickel	T	mg/Kg	10	90	No SLC	0.33	0.33	ND	18.1	9.2	9.3
Potassium	T	mg/Kg	10	100	No SLC			1450	1580	1500	1490
Selenium	T	mg/Kg	10	40	No SLC	0.74	0.8	ND	0.92		
Silver	T	mg/Kg	10	0	No SLC	0.13	0.16				
Sodium	T	mg/Kg	10	100	No SLC			822	898	866	866
Thallium	T	mg/Kg	10	0	No SLC	0.091	0.1				
Vanadium	T	mg/Kg	10	90	No SLC	0.17	0.17	ND	0.69	0.45	0.46
Zinc	T	mg/Kg	10	100	No SLC			16.2	20.7	19.2	19.8

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if greater than 50% of the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if greater than 50% of the values were detected.

T = Total Fraction
D = Filtered Fraction (0.45 micron filter)
A = Filtered Fraction (0.1 mircon filter)
ND = Non Detected Value

Table 11-42
Soil Fauna Community Structure - Fall 2002
RI/FS Soil Area 16 - Red River Riparian along Tailings Facility
Summary of Results

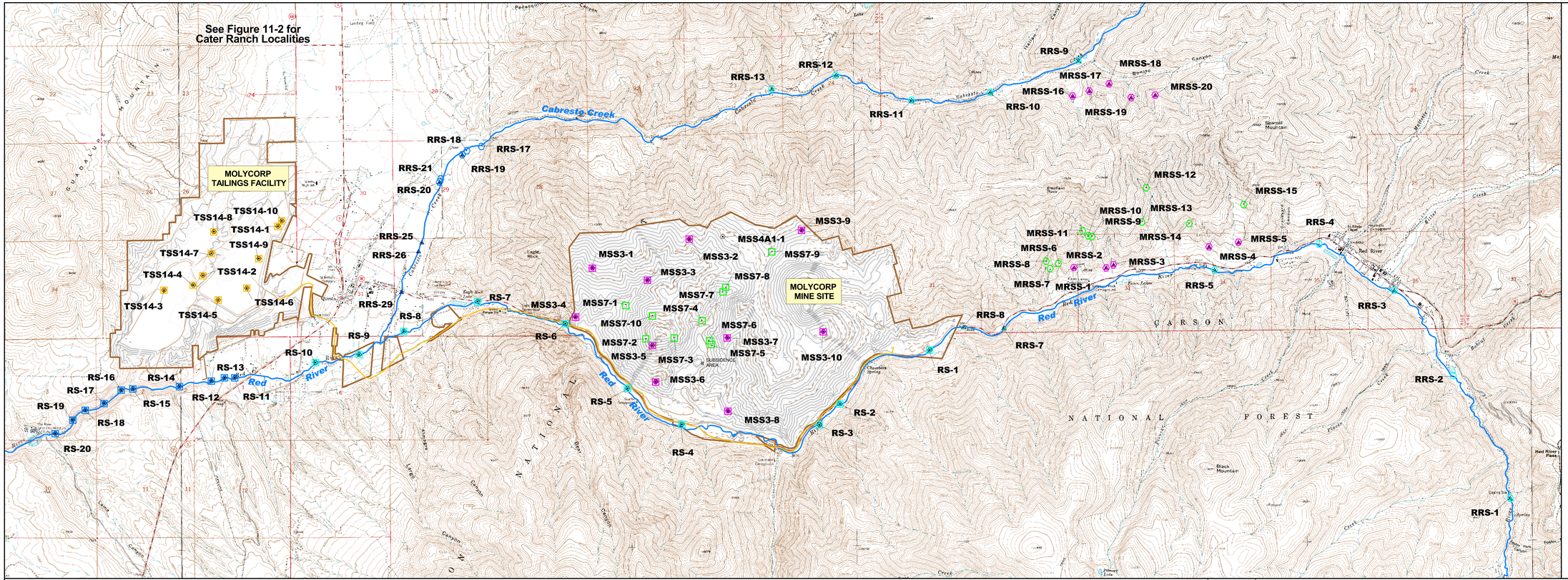
Analyte	Units	Total Number of Samples	Min Value	Max Value	Mean Value	Median Value
Field						
Density	#bugs/L	10	0	98	30.8	20.5
Soil Invert # of Taxa	number	10	0	11	5.9	7

cm = Centimeter
g = Gram
mg = Milligram

SECTION 11

SMALL ANIMALS

FIGURES



Mammal Sample Sites
- Soil Area 14 - Tailings Impoundments
- Soil Area 16 - Red River Riparian Along Tailings Facility
- Soil Area 17 - South of Tailings
- Soil Area 3 - Mine Site Soils
- Soil Area 9 - Red River Riparian Along Mine Site
- Reference Lower Cabresto Creek Riparian
- Reference for Mine Site
- Reference for Mine Site Riparian

Earthworm and Soil Fauna Sample Sites
- Soil Area 14 - Tailings Impoundments
- Soil Area 16 - Red River Riparian Along Tailings Facility
- Soil Area 3 - Mine Site Soils
- Soil Area 7 - Mine Site Scars
- Soil Area 9 - Red River Riparian Along Mine Site
- Reference Lower Cabresto Creek Riparian
- Reference Scars
- Reference Soils for Mine Site
- Reference for Mine Site Riparian

- Sewage Lagoon
- Tailings Pipeline
- Roads-Paved
- Roads-Unpaved
- River or Creek

Property Lines
- Easement
- Mine Boundary

NOTES
1. Base topography taken from USGS 7.5-minute quadrangles for Questa, New Mexico (1963) and Red River, New Mexico (1963).
2. Mine Site topography provided by Molycorp-Questa Mine (quest_sp.dwg, 2001).

N

2000 0 2000 Feet

Scale 1:24000 or 1" = 2000 feet

URS
URS Center
8181 East Tufts Avenue
Denver, CO 80237-2637
(303) 694-2770

APPLICATION	ArcView GIS
FILE NAME	bio_techmemo.apr
DRAWN BY	Denver/GIS
DATE	3/21/2005

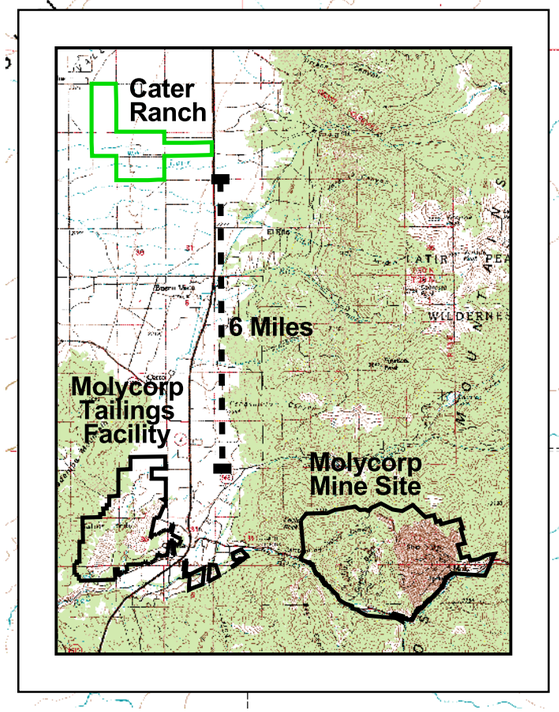
MOLYCORP - QUESTA MINE RI/FS

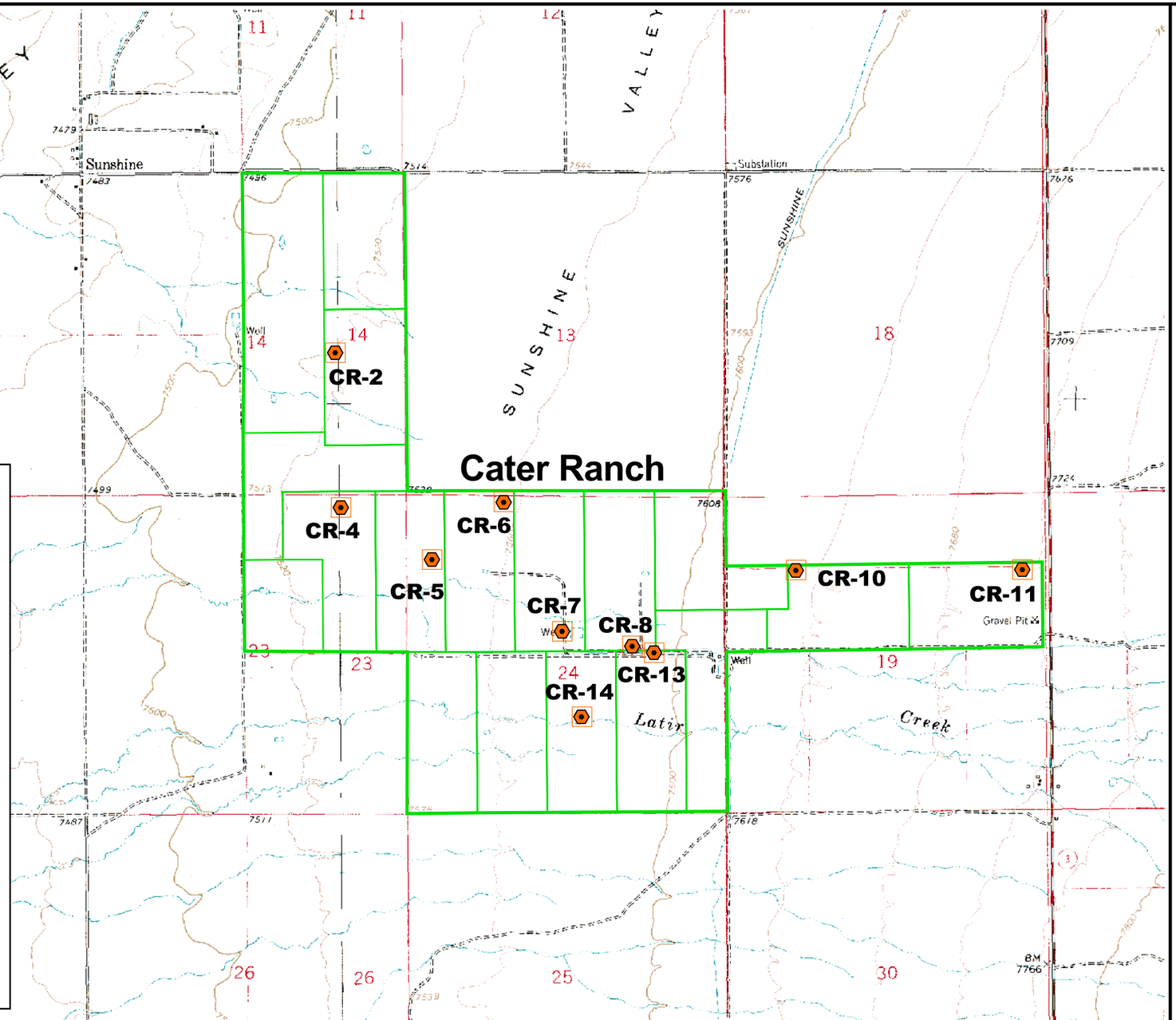
MINE SITE AND TAILINGS ANIMAL SAMPLING LOCATIONS

PROJECT 22236244

FIGURE 11-1

Preliminary Site Characterization Report





Mammal Sample Site

Earthworm and Soil Fauna Sample Site

Sampling Area

Cater Ranch Boundary

NOTES
1. Base topography taken from USGS 15-minute quadrangle for Wheeler Peak, New Mexico (1963)

N

2000 0 2000 Feet

Scale 1:24000 or 1" = 2000 feet

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8181 East Tufts Avenue
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(303) 694-2770

APPLICATION: ArcView GIS
FILE NAME: bio_techmemo.apr
DRAWN BY: GIS/Denver
DATE: 3/7/2005

MOLYCORP - QUESTA MINE RI/FS

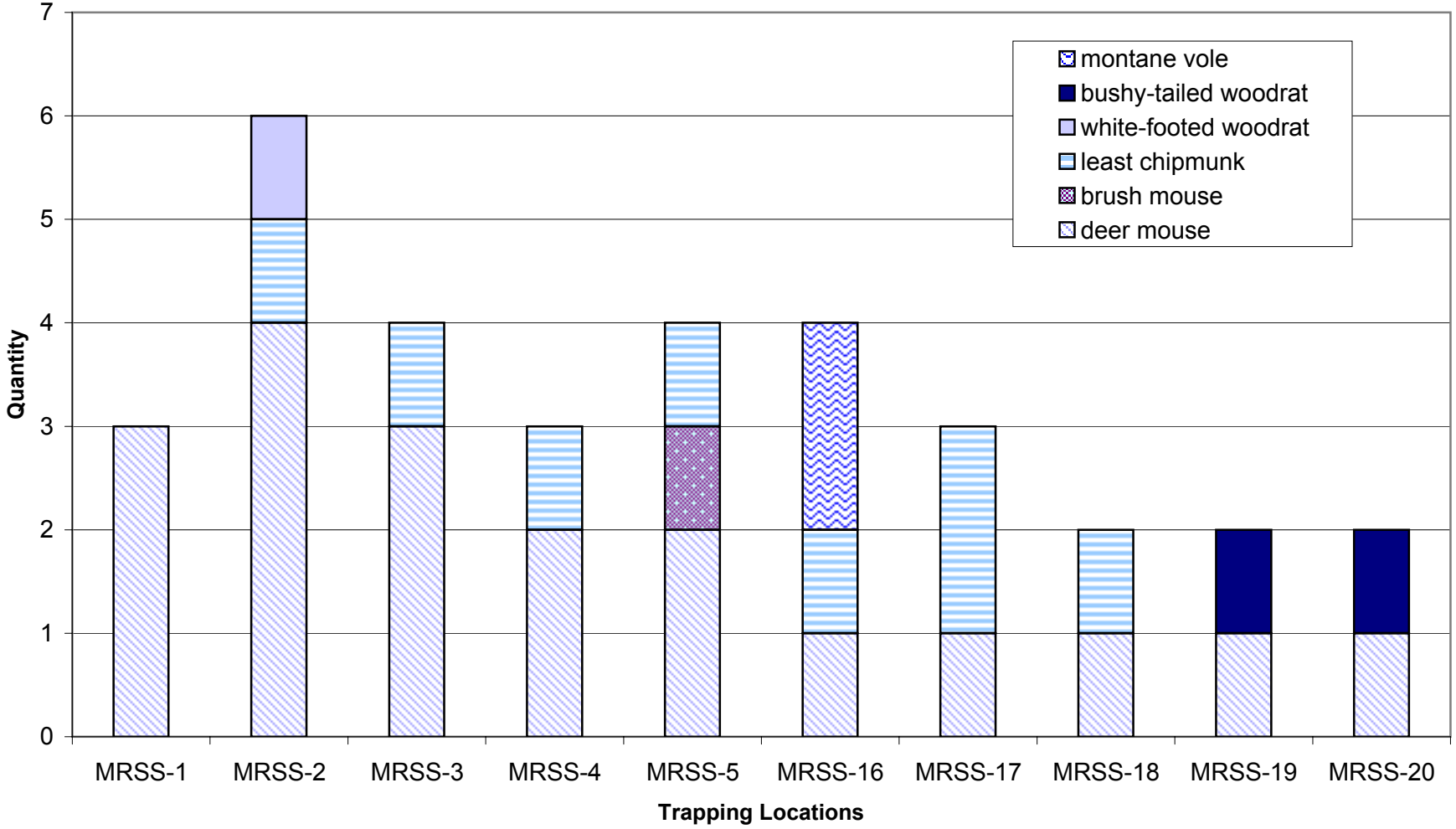
PROJECT: 22236244

ANIMAL SAMPLING LOCATIONS - CATER RANCH

Figure 11-2

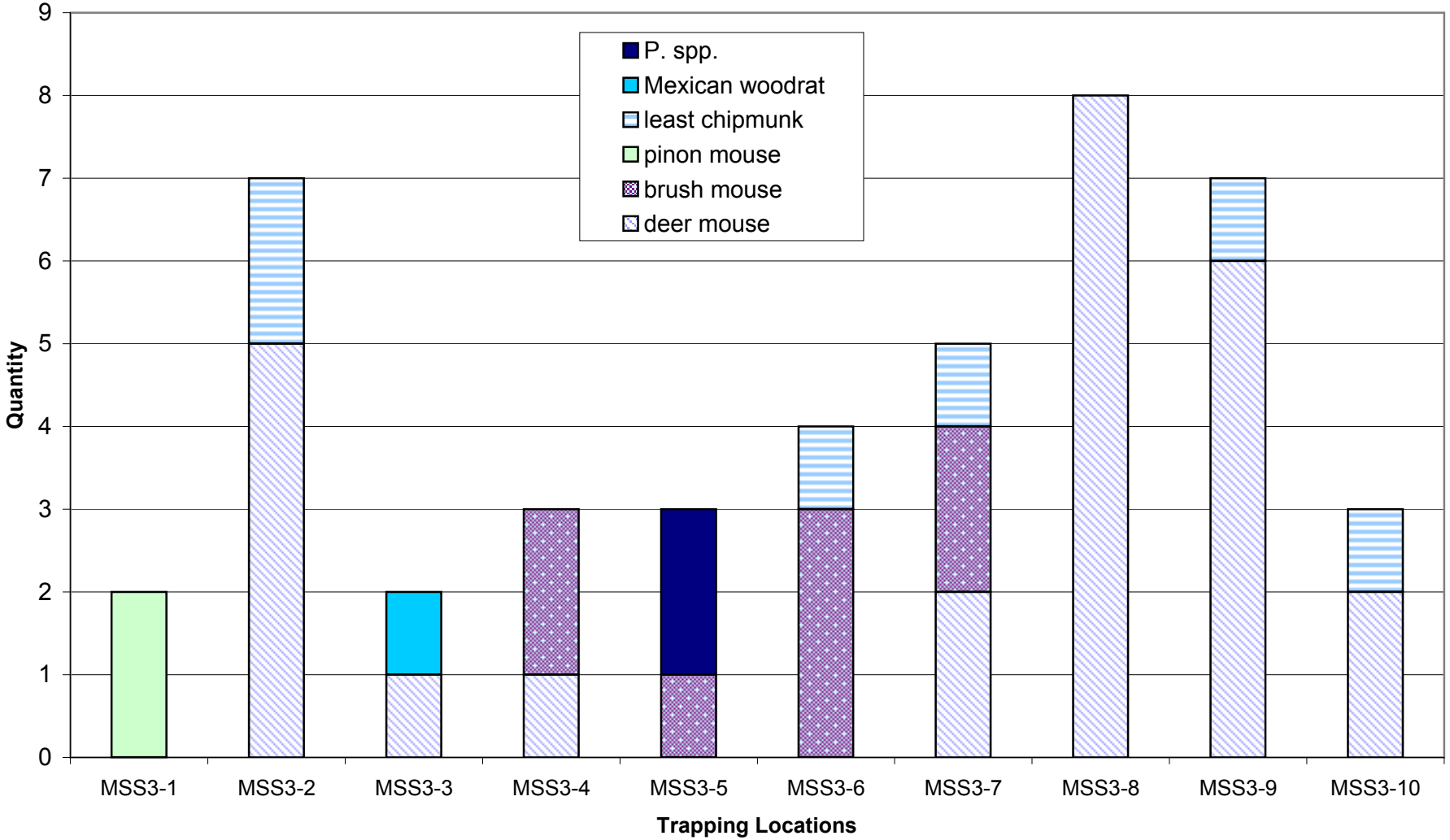
Preliminary Site Characterization Report

Figure 11-3
Small Mammal Captures within Upland Habitat at Mine Site Reference Area (Soil Exposure Areas - Above Mine Site and Upper Cabresto Creek)



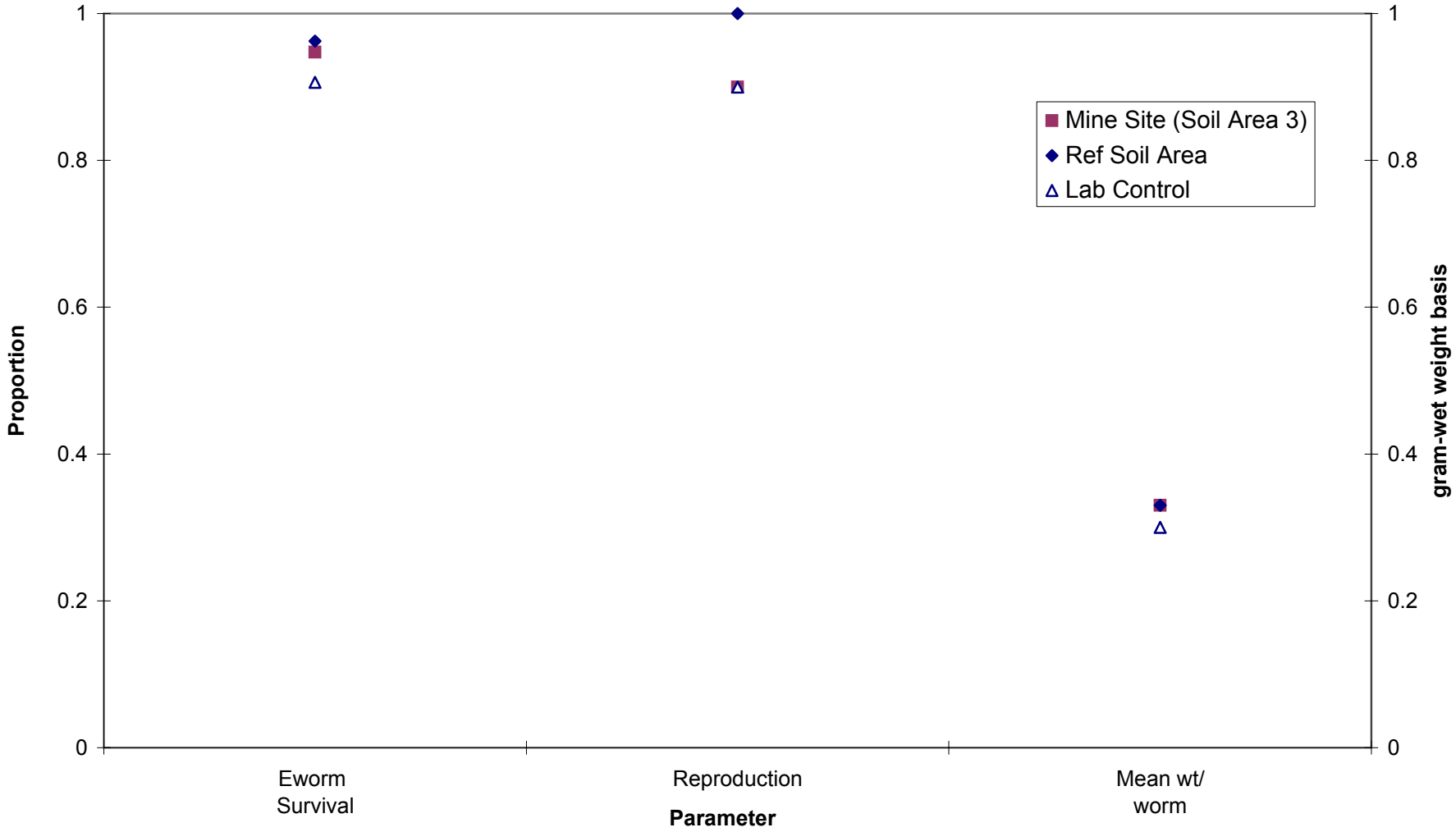
Note: only animals retained for chemistry sample T01N or T02N shown on this figure

Figure 11-4
Small Mammal Captures within Mine Site Upland Habitat (Soil Exposure Area 3)



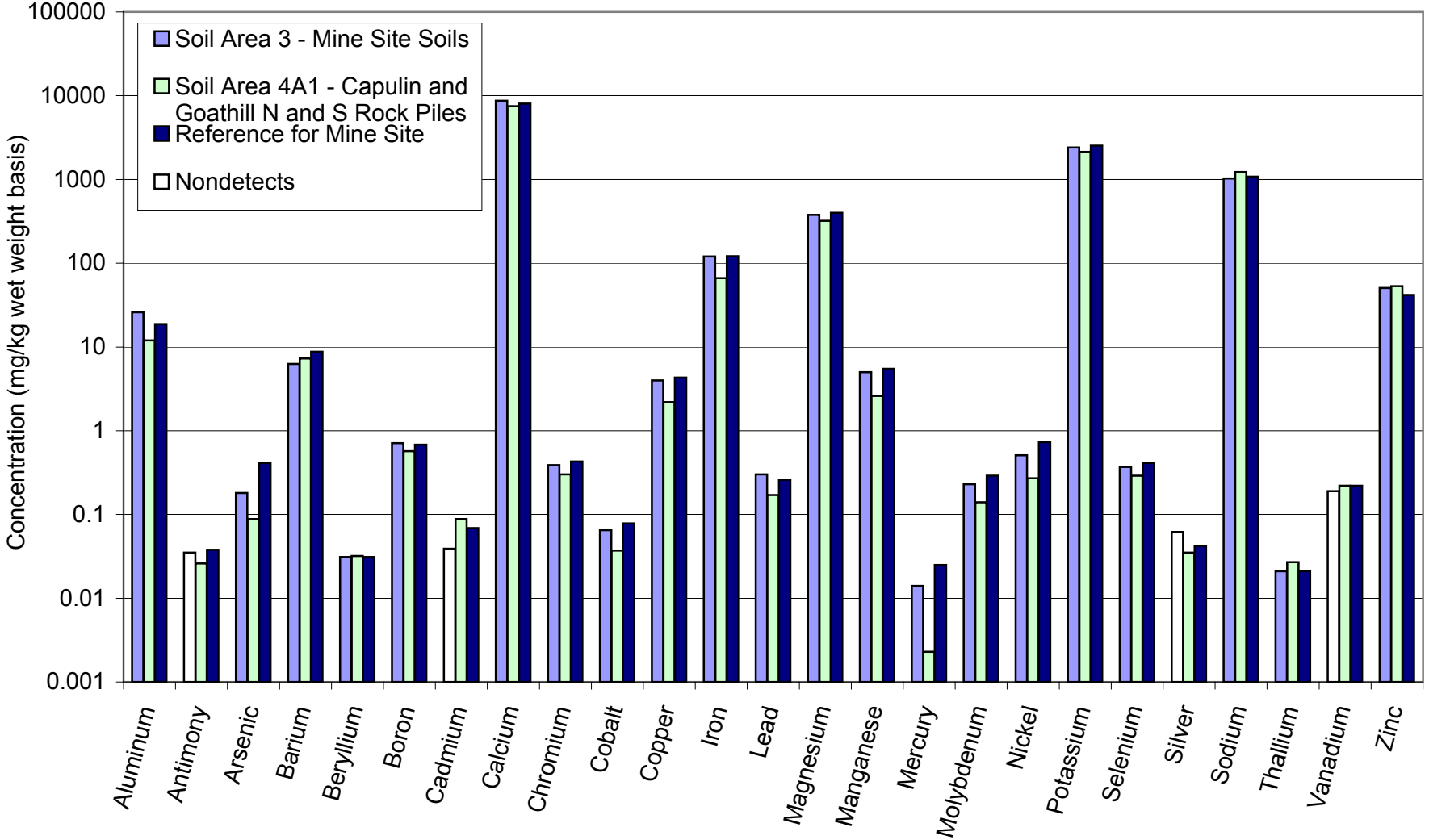
Note: only animals retained for chemistry sample T01N or T02N shown on this figure

Figure 11-5
Comparison of Average Mine Site Earthworm Bioassay Data to Reference and Laboratory Controls



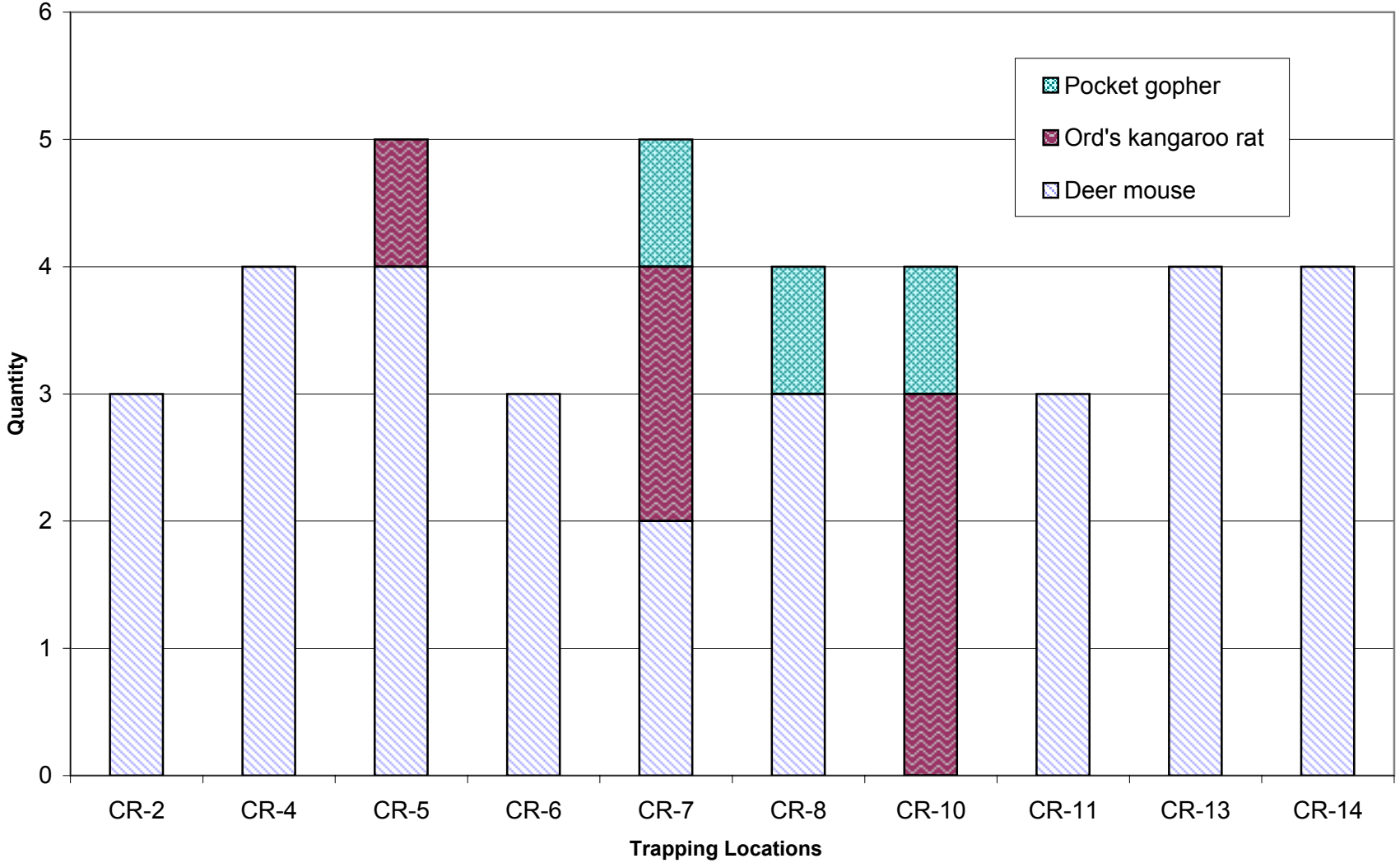
R:\Projects\22236242_Prelim_Site_Character\Task_01\6.0_Proj_Deliv\Section 11 Sm Animals\Figures\Figs 11-4 to 11-16b.xls

Figure 11-6
Comparison of Average Metal Concentrations in Small Mammals from Upland Habitats



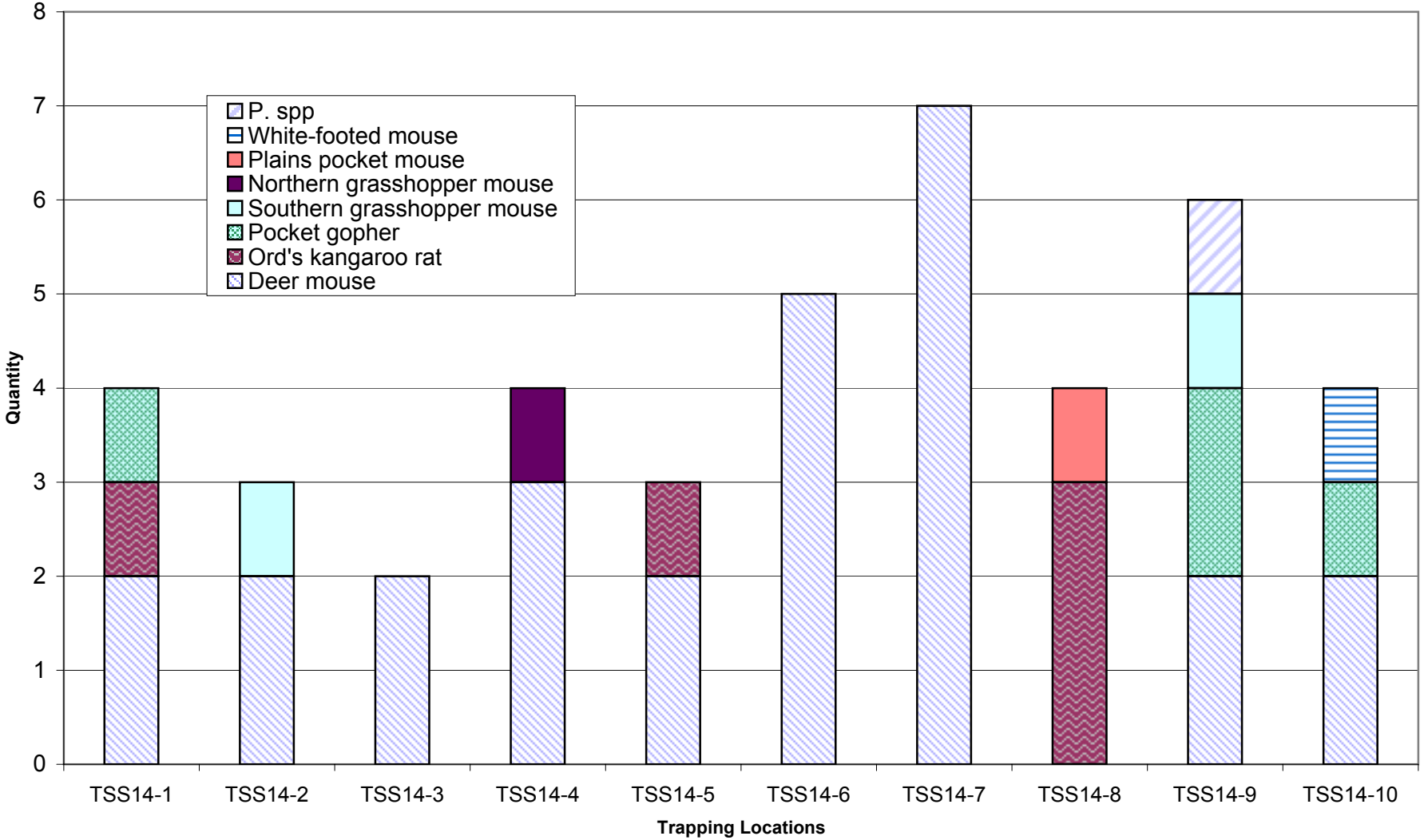
Note: A white bar indicates that 50% or more of the values were not detected, and a mean was not calculated. In these cases, the maximum detected value or the maximum reporting limit, whichever was greater, was plotted

Figure 11-7
Small Mammal Captures at Cater Ranch Reference Area



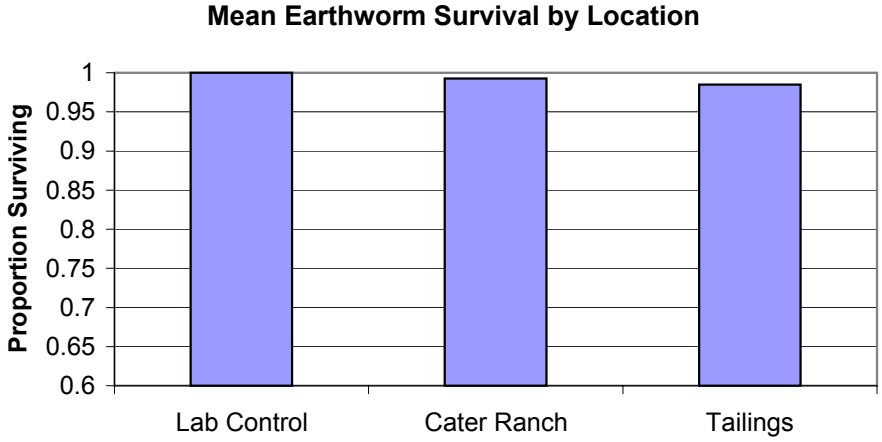
Note: only animals retained for chemistry sample T01N or T02N shown on this figure

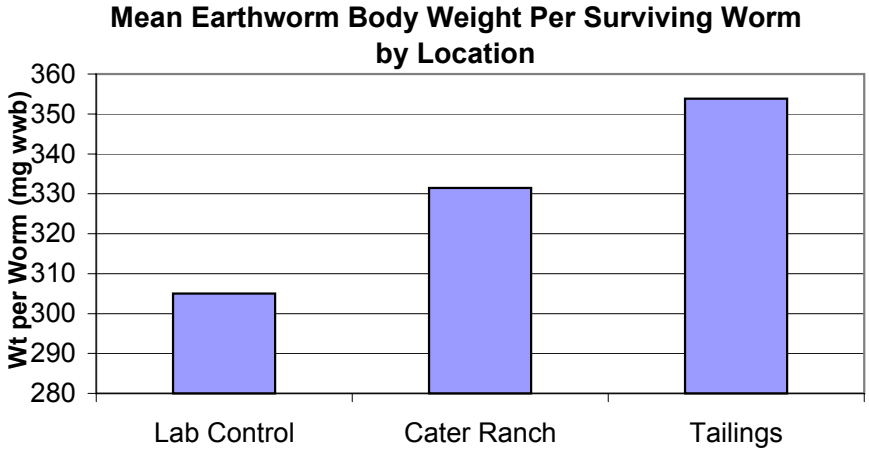
Figure 11-8
Small Mammal Captures at the Tailings Facility (Area 14)



Note: only animals retained for chemistry sample T01N or T02N shown on this figure

Figure 11-9
Comparison of Average Tailings Facility Earthworm Bioassay Data to Cater Ranch Reference and Laboratory Controls





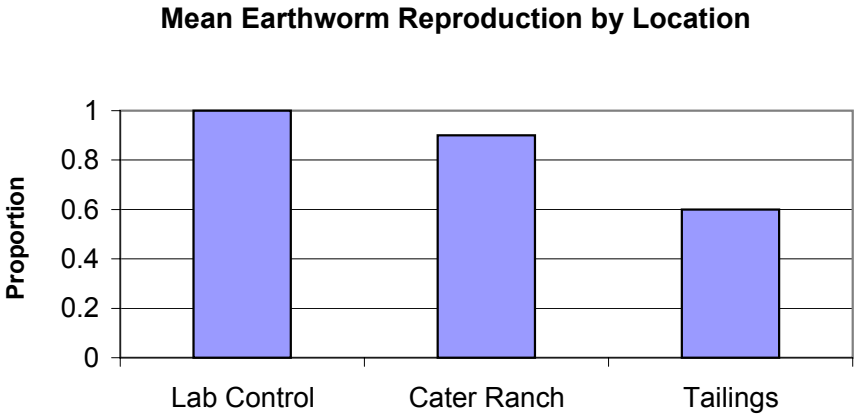
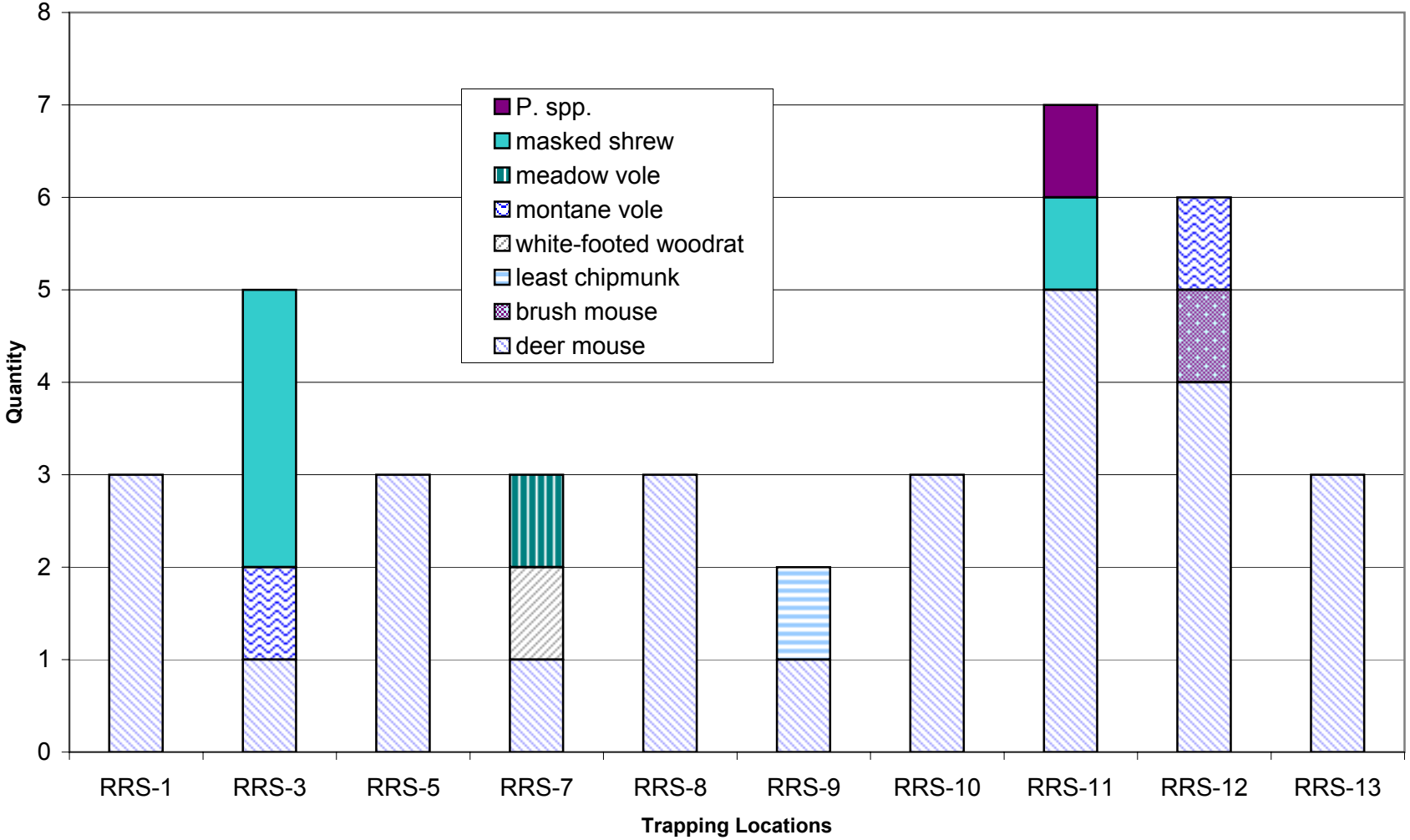
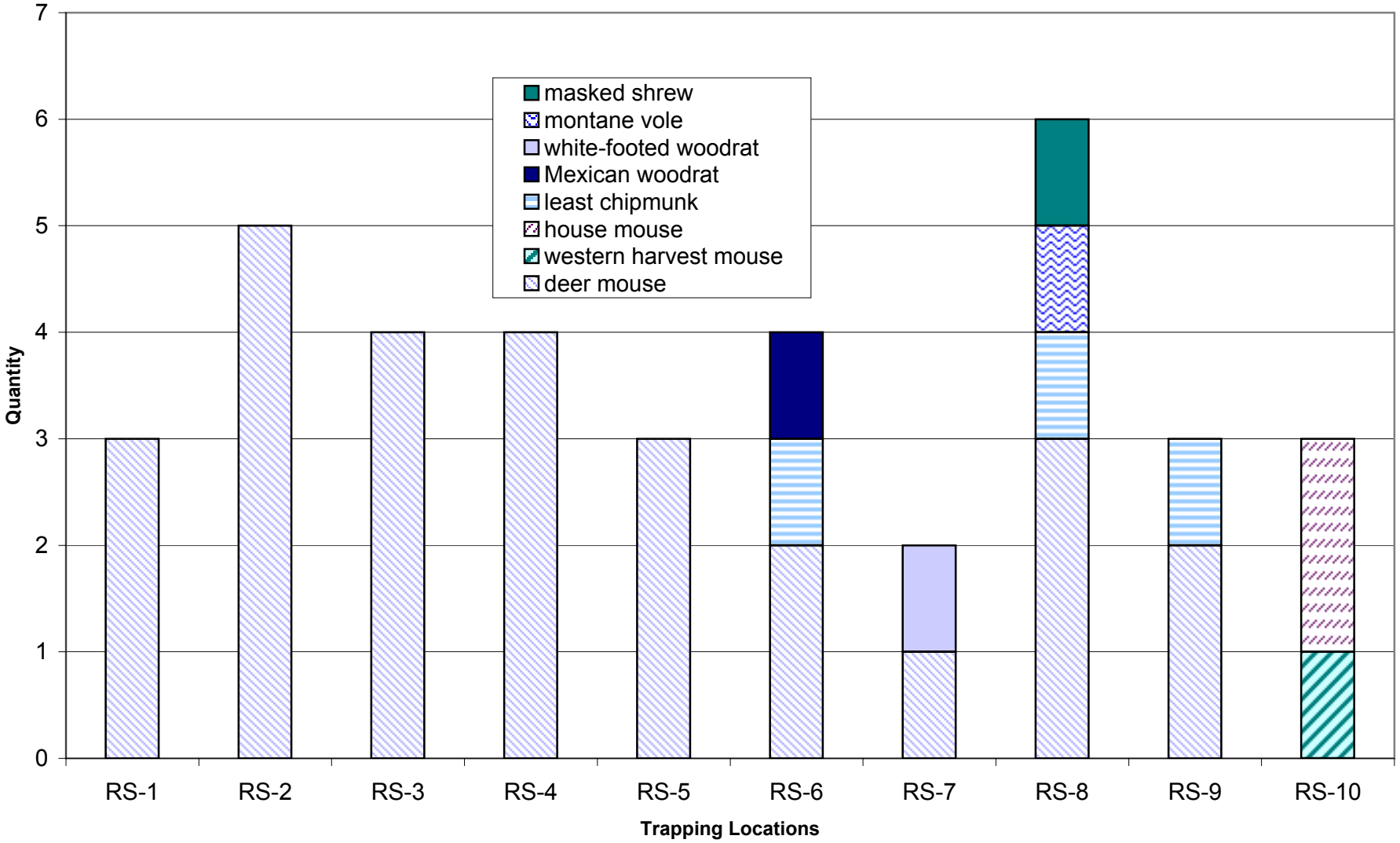


Figure 11-10
Small Mammal Captures at the Mine Site Riparian Reference Area -
Upper Cabresto Creek and Upper Red River



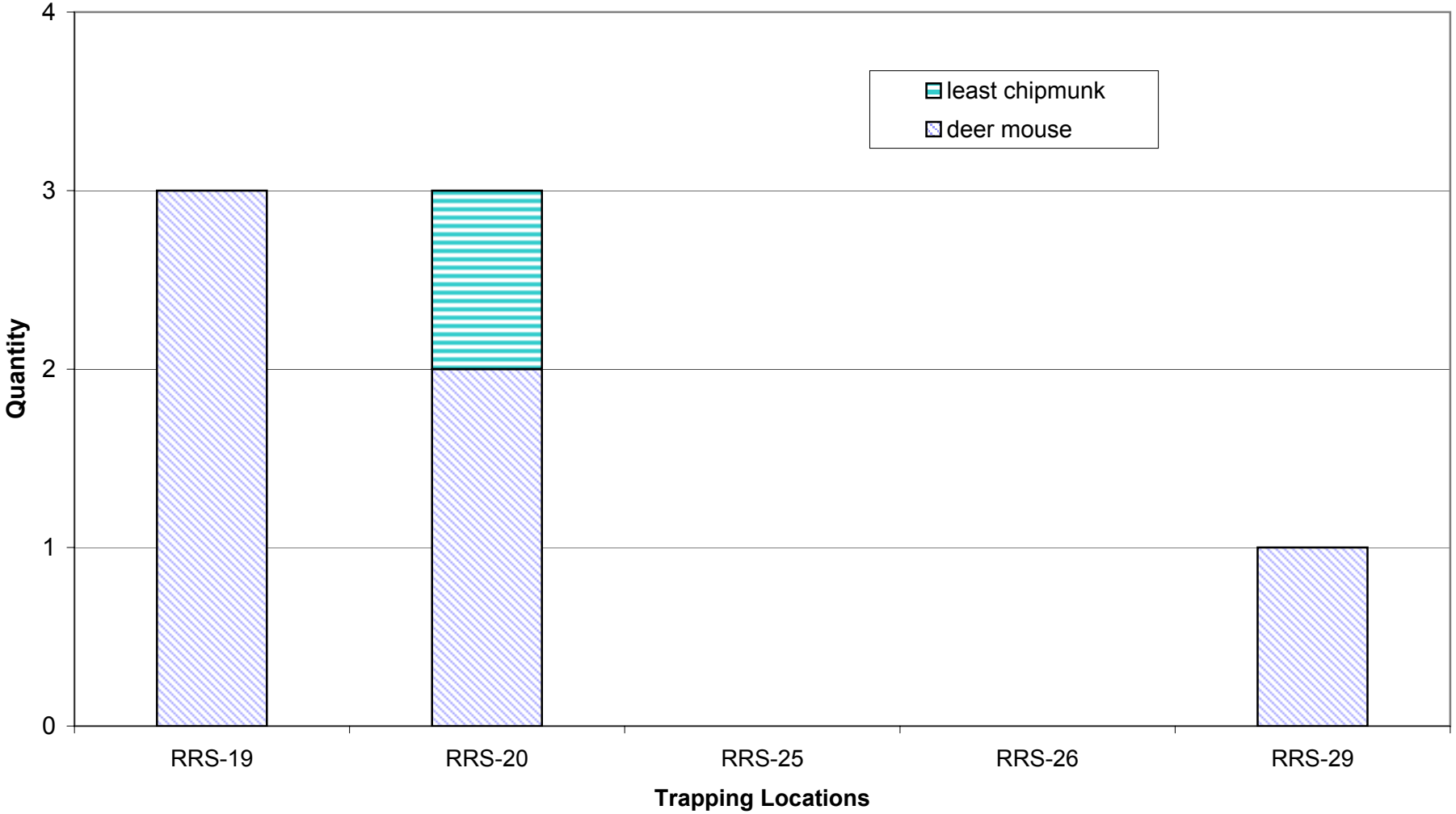
Note: only animals retained for chemistry sample T01N or T02N shown on this figure

Figure 11-11
Small Mammal Captures at the Mine Site Riparian Area - Soil Area 9



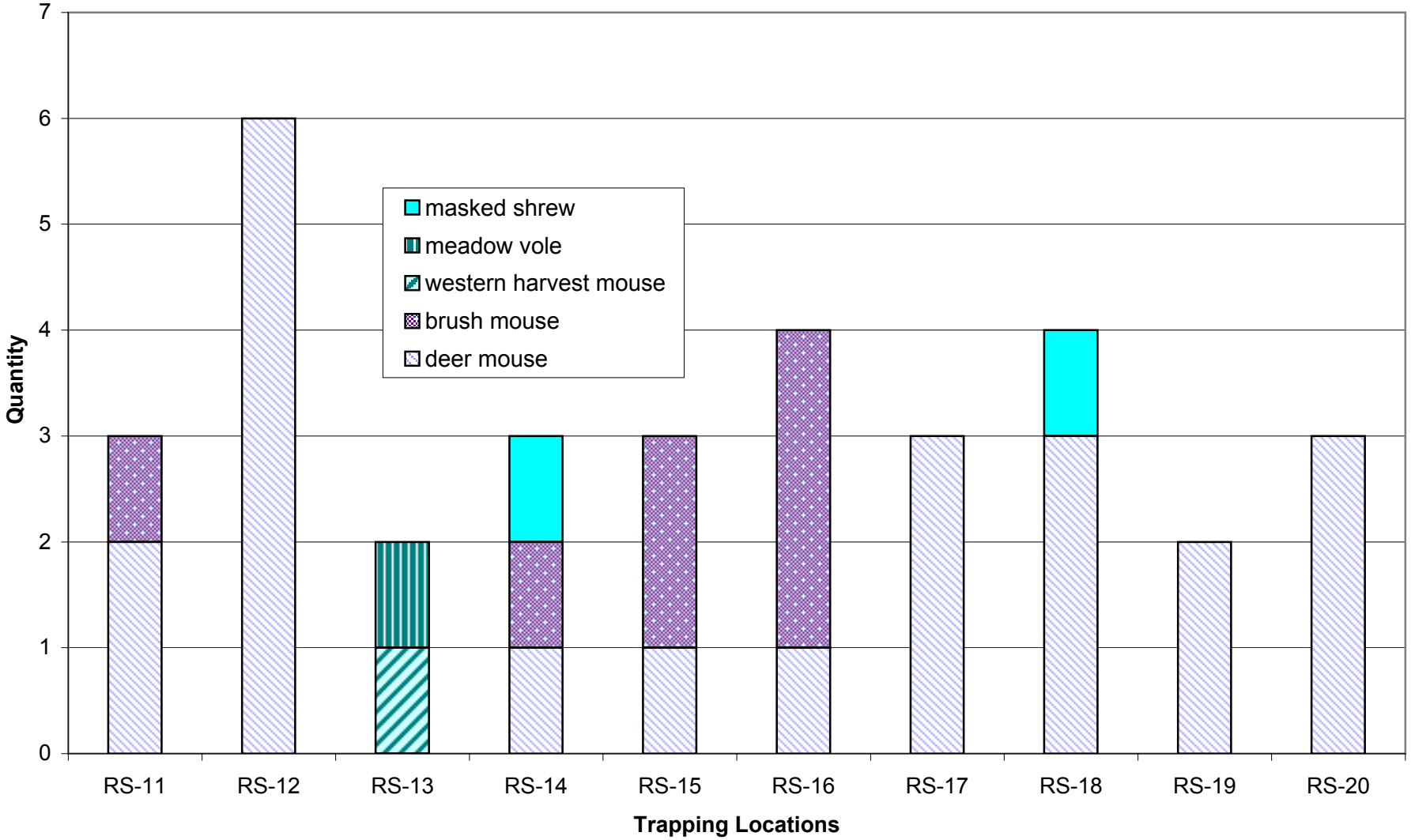
Note: only animals retained for chemistry sample T01N or T02N shown on this figure

Figure 11-12
Small Mammal Captures at the Tailing Facility Riparian Reference Area - Lower Cabresto Creek



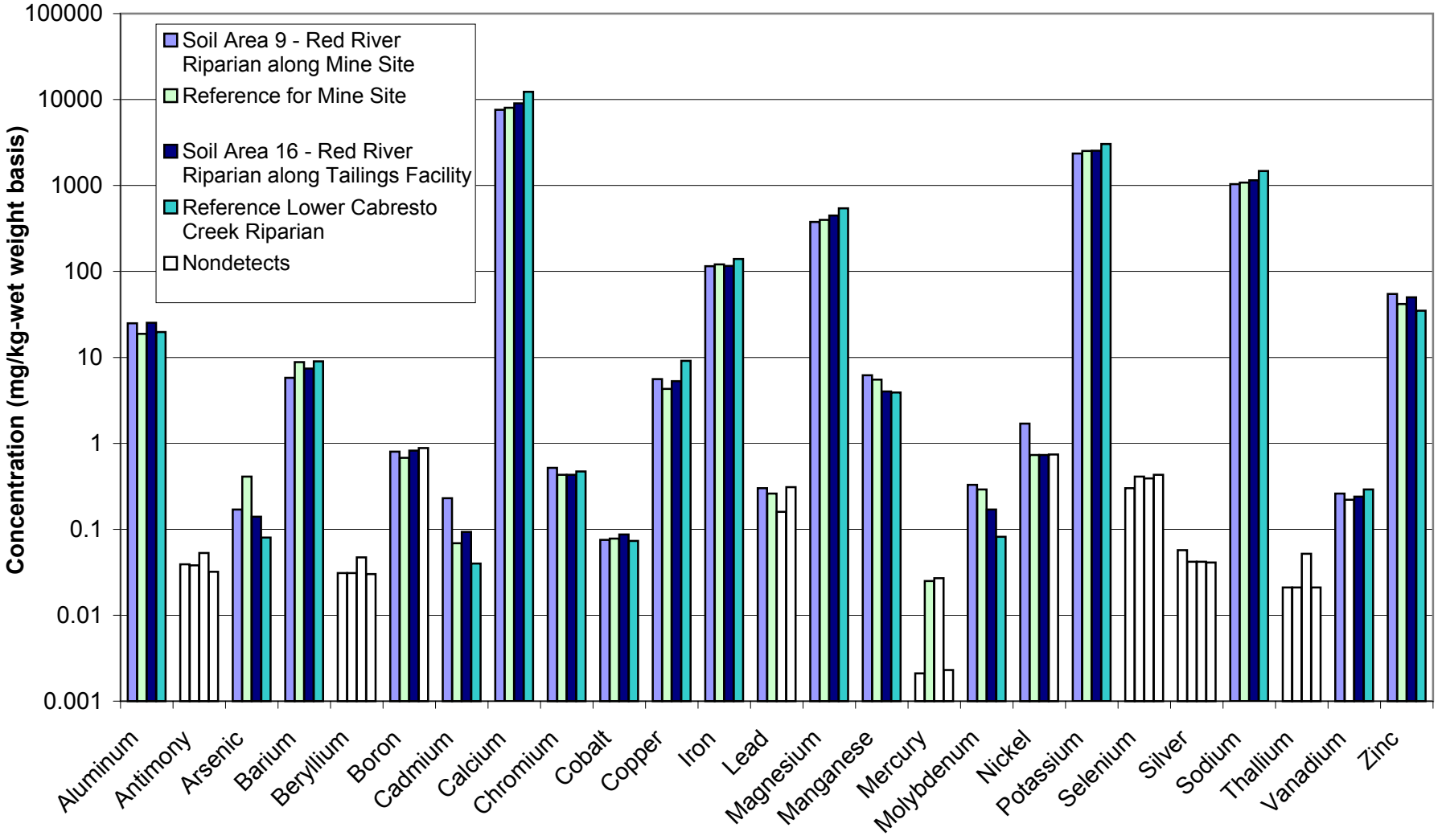
Note: only animals retained for chemistry sample T01N or T02N shown on this figure

Figure 11-13
Small Mammal Captures at the Tailings Facility Riparian Area - Soil Area 16



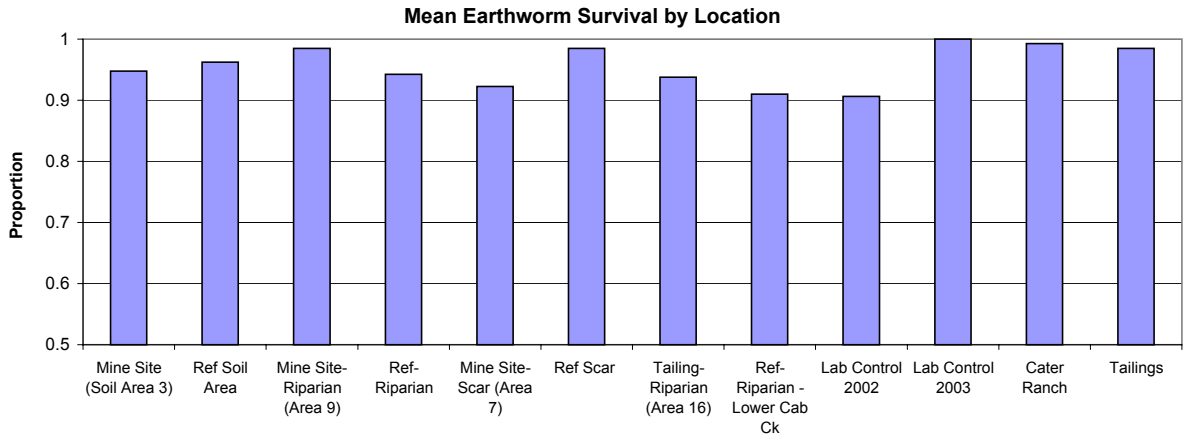
Note: only animals retained for chemistry sample T01N or T02N shown on this figure

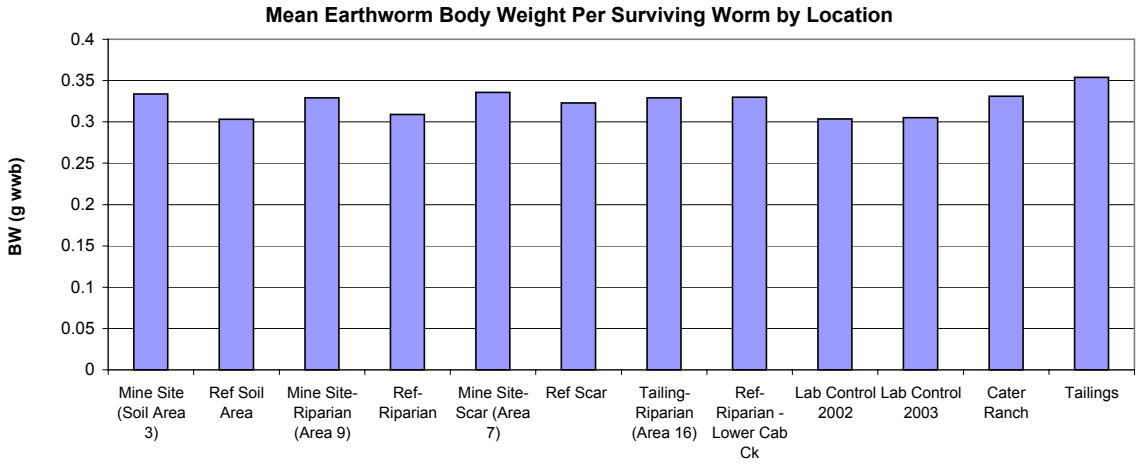
Figure 11-14
Comparison of Average Small Mammal Analytical 2002 Data From Riparian Areas



Note: A white bar indicates that 50% or more of the values were not detected, and a mean was not calculated. In these cases, the maximum detected value or the maximum reporting limit, whichever was greater, was plotted

Figure 11-15
Comparison of Earthworm Bioassay Data By Location





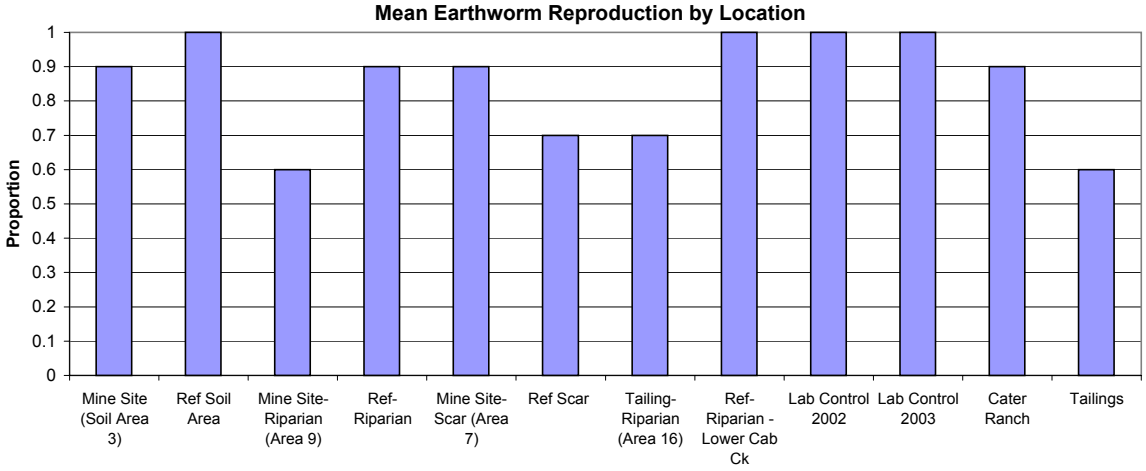
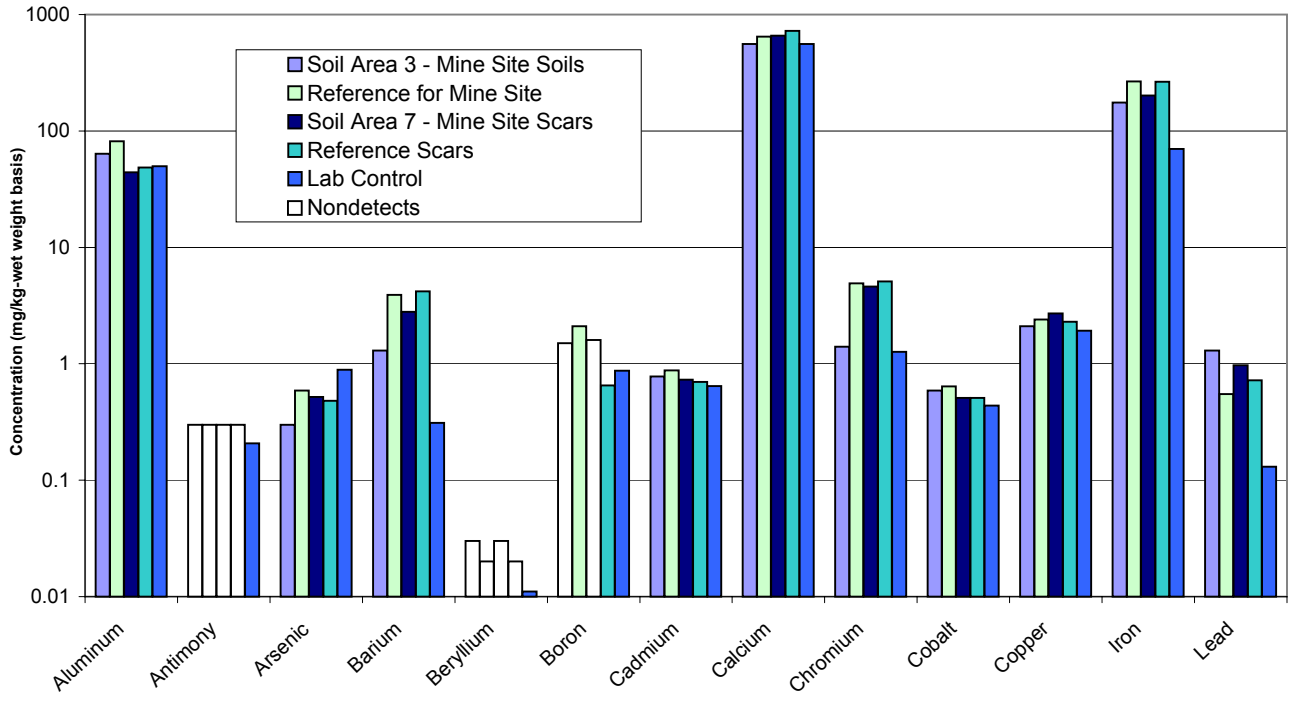
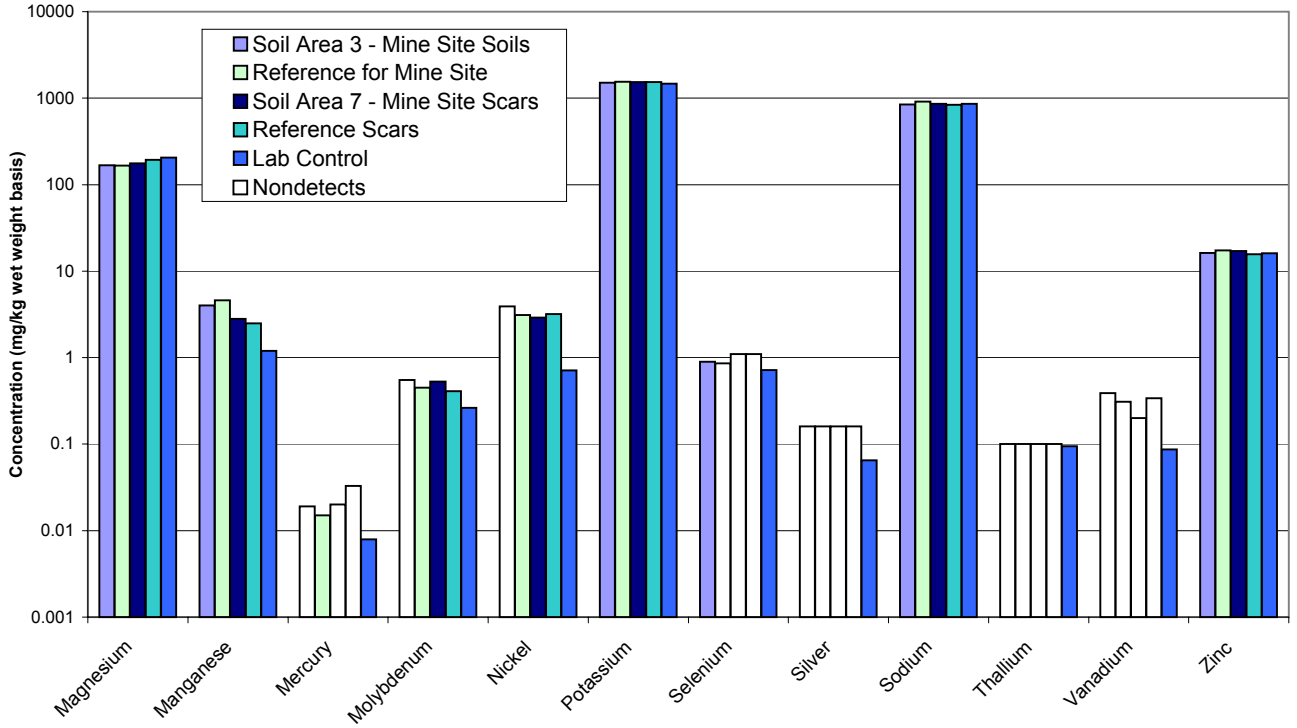


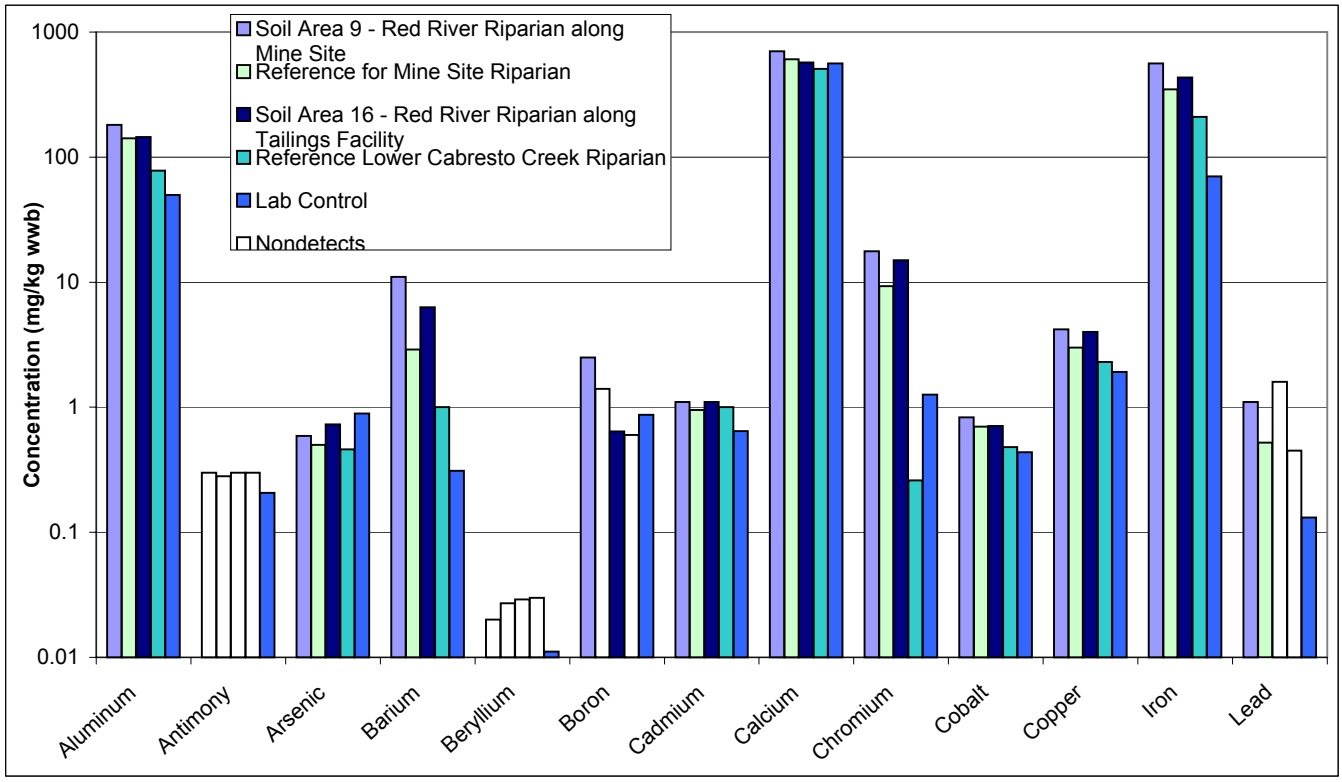
Figure 11-16a
Comparison of Earthworm Analytical Data By Upland Location

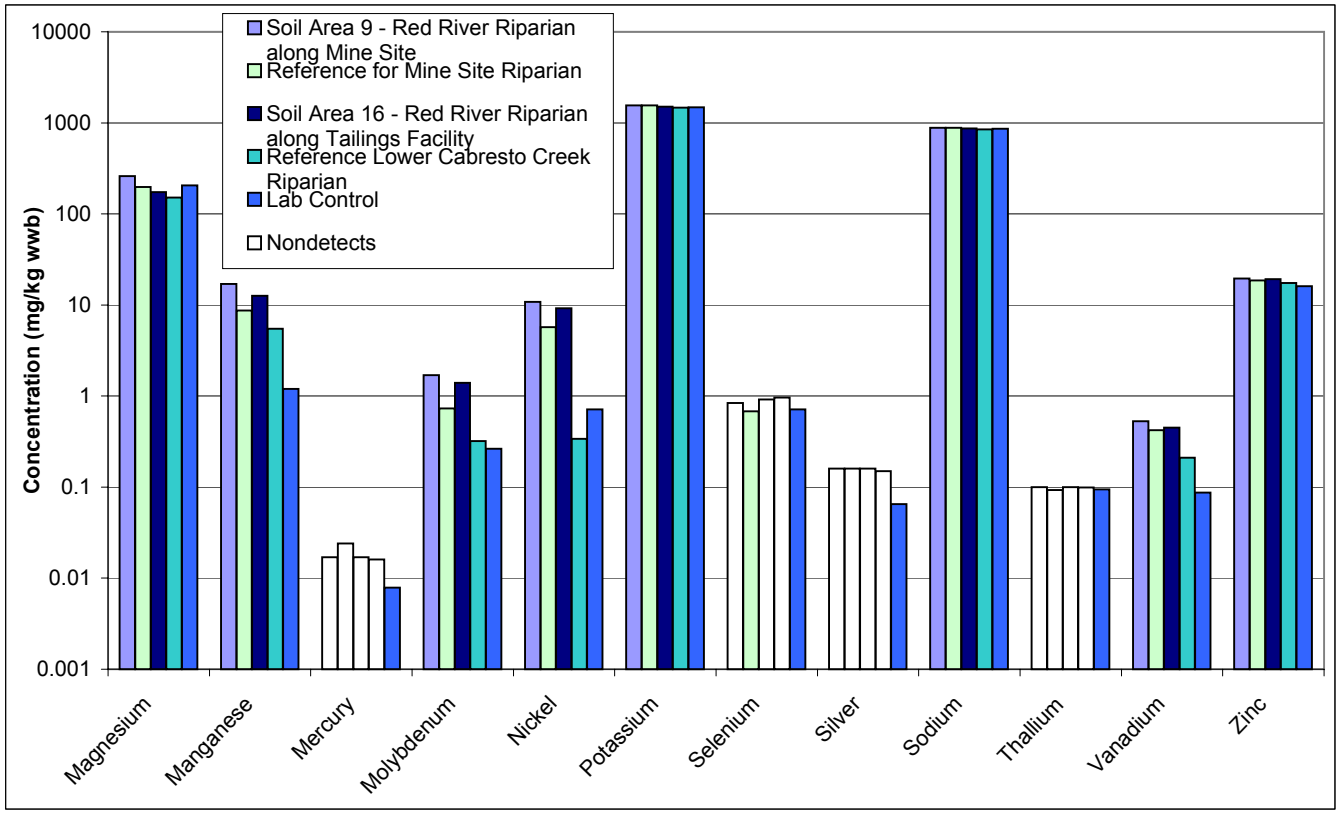




Note: A white bar indicates that 50% or more of the values were not detected, and a mean was not calculated.
In these cases, the maximum detected value or the maximum reporting limit, whichever was greater, was plotted.

Figure 11-16b
Comparison of Earthworm Analytical Data By Riparian Location





Note: A white bar indicates that 50% or more of the values were not detected, and a mean was not calculated.
In these cases, the maximum detected value or the maximum reporting limit, whichever was greater, was plotted.

APPENDIX A-11

SMALL ANIMALS

VALIDATED ANALYTICAL RESULTS

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area													
			CR-10 7/23/2003 CR-10-T02N-WORM RCR		CR-11 7/23/2003 CR-11-T02N-WORM RCR		CR-13 7/23/2003 CR-13-T02N-WORM RCR		CR-14 7/23/2003 CR-14-T02N-WORM RCR		CR-2 7/23/2003 CR-2-T02N-WORM RCR		CR-4 7/23/2003 CR-4-T02N-WORM RCR	
Laboratory Parameters														
Solids, Percent	%	T	20.	:	21.7	:	17.6	:	17.	:	17.9	:	20.2	:
Metals														
Aluminum	mg/Kg	T	150.	J	1550.	J	162.	J	152.	J	72.1	J	147.	J
Antimony	mg/Kg	T	<0.35	:	<1.7	:	<0.47	:	<0.41	:	<0.46	:	<0.41	:
Arsenic	mg/Kg	T	2.1	:	2.6	:	2.4	:	3.1	:	3.3	:	2.4	:
Barium	mg/Kg	T	2.1	:	21.2	:	2.1	:	1.9	:	1.4	:	2.3	:
Beryllium	mg/Kg	T	<0.018	:	<0.091	J	<0.019	:	<0.019	:	<0.02	:	<0.02	:
Boron	mg/Kg	T	0.57	:	4.	:	0.57	:	0.49	:	<0.46	:	0.47	:
Cadmium	mg/Kg	T	0.39	:	4.	:	0.42	:	0.41	:	0.36	:	0.29	:
Calcium	mg/Kg	T	621.	:	3400.	:	520.	:	635.	:	794.	:	1030.	:
Chromium	mg/Kg	T	0.86	:	5.2	:	0.51	:	0.58	:	0.33	:	0.54	:
Cobalt	mg/Kg	T	0.28	:	3.	:	0.31	:	0.24	:	<0.18	:	0.33	:
Copper	mg/Kg	T	1.7	:	9.7	:	1.9	:	1.7	:	1.4	:	1.8	:
Iron	mg/Kg	T	201.	J	1700.	J	198.	J	214.	J	138.	J	196.	J
Lead	mg/Kg	T	<0.14	J	1.8	J	<0.15	J	<0.15	J	<0.18	J	<0.15	J
Magnesium	mg/Kg	T	193.	:	1180.	:	166.	:	187.	:	208.	:	321.	:
Manganese	mg/Kg	T	5.9	:	64.	:	5.2	:	5.4	:	3.2	:	6.	:
Mercury	mg/Kg	T	0.018	:	0.019	:	<0.016	:	<0.015	:	<0.015	:	<0.016	:
Molybdenum	mg/Kg	T	<0.15	:	1.2	:	<0.16	:	<0.16	:	<0.16	:	<0.16	:
Nickel	mg/Kg	T	<0.19	J	2.3	:	<0.19	J	<0.19	J	<0.2	J	<0.2	J
Potassium	mg/Kg	T	1680.	:	10500.	:	1610.	:	1800.	:	1750.	:	1860.	:
Selenium	mg/Kg	T	1.9	J	2.2	J	2.2	J	2.9	J	2.9	J	1.8	J
Silver	mg/Kg	T	<0.083	J	<1.4	:	<0.087	J	<0.087	J	<0.089	J	<0.089	J
Sodium	mg/Kg	T	730.	:	3900.	:	685.	:	756.	:	750.	:	796.	:
Thallium	mg/Kg	T	<0.49	:	<0.46	:	<0.53	:	<0.55	:	<0.53	:	<0.44	:
Vanadium	mg/Kg	T	0.26	:	4.	:	0.33	:	0.27	:	<0.22	:	0.39	:
Zinc	mg/Kg	T	17.3	:	101.	:	16.7	:	17.8	:	17.4	:	18.7	:

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID		CR-5 7/23/2003 CR-5-T02N-WORM RCR		CR-6 7/23/2003 CR-6-T02N-WORM RCR		CR-7 7/23/2003 CR-7-T02N-WORM RCR		CR-8 7/23/2003 CR-8-T02N-WORM RCR		MRSS-1 11/16/2002 MRSS-1-T02N-WORM RefMine		MRSS-10 11/16/2002 MRSS-10-T02N-WORM RSCAR	
Laboratory Parameters																
Solids, Percent	%	T			16.3	:	20.8	:	20.7	:	23.3	:	16.2	:	15.6	:
Metals																
Aluminum	mg/Kg	T			154.	J	37.3	J	85.	J	212.	:	43.	J	59.2	J
Antimony	mg/Kg	T			<0.52	:	<0.32	:	<0.58	:	<0.54	:	<0.3	:	<0.29	:
Arsenic	mg/Kg	T			1.9	:	3.3	:	3.8	:	2.	:	0.89	J	0.31	J
Barium	mg/Kg	T			2.3	:	1.2	:	2.4	:	3.4	:	3.1	:	4.6	:
Beryllium	mg/Kg	T			<0.02	:	<0.017	:	<0.02	:	<0.017	:	<0.02	:	<0.02	:
Boron	mg/Kg	T			0.56	:	0.68	:	0.77	:	0.72	:	<0.45	:	1.2	:
Cadmium	mg/Kg	T			0.43	:	0.31	:	0.27	:	0.41	:	0.77	:	0.64	:
Calcium	mg/Kg	T			624.	:	679.	:	772.	:	795.	:	493.	:	594.	:
Chromium	mg/Kg	T			0.43	:	0.28	:	0.33	:	0.6	:	2.5	:	2.8	:
Cobalt	mg/Kg	T			0.25	:	0.37	:	0.39	:	0.51	:	0.4	:	0.38	:
Copper	mg/Kg	T			1.5	:	1.9	:	2.2	:	2.7	:	1.7	:	2.4	:
Iron	mg/Kg	T			215.	J	79.9	J	128.	J	299.	:	168.	J	266.	J
Lead	mg/Kg	T			<0.15	J	<0.13	J	<0.15	J	<0.29	J	0.5	:	0.59	:
Magnesium	mg/Kg	T			176.	:	185.	:	229.	:	253.	:	160.	:	180.	:
Manganese	mg/Kg	T			4.7	:	3.6	:	3.6	:	7.6	:	2.7	:	2.8	:
Mercury	mg/Kg	T			<0.015	:	<0.016	:	<0.016	:	<0.016	:	<0.015	:	0.033	:
Molybdenum	mg/Kg	T			<0.16	:	<0.14	:	<0.16	:	<0.14	:	0.28	:	0.38	:
Nickel	mg/Kg	T			<0.2	J	<0.17	J	<0.2	J	<0.17	J	1.8	:	1.7	:
Potassium	mg/Kg	T			1520.	:	1760.	:	1920.	:	1940.	:	1660.	J	1530.	J
Selenium	mg/Kg	T			2.1	J	<1.4	J	<1.4	J	1.7	:	<0.8	J	<0.76	J
Silver	mg/Kg	T			<0.09	J	<0.077	J	<0.089	J	<0.077	J	<0.16	:	<0.16	:
Sodium	mg/Kg	T			611.	:	678.	:	733.	:	739.	:	894.	:	827.	:
Thallium	mg/Kg	T			<0.56	:	<0.48	:	<0.46	:	<0.39	:	<0.1	:	<0.095	:
Vanadium	mg/Kg	T			0.32	:	<0.19	:	0.33	:	0.56	:	<0.18	:	<0.18	:
Zinc	mg/Kg	T			15.2	:	17.5	:	19.4	:	21.1	:	17.4	:	15.2	:

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	MRSS-11 11/16/2002 MRSS-11-T02N-WORM RSCAR		MRSS-12 11/16/2002 MRSS-12-T02N-WORM RSCAR		MRSS-13 11/16/2002 MRSS-13-T02N-WORM RSCAR		MRSS-14 11/16/2002 MRSS-14-T02N-WORM RSCAR		MRSS-15 11/16/2002 MRSS-15-T02N-WORM RSCAR		MRSS-16 11/16/2002 MRSS-16-T02N-WORM RefMine	
Laboratory Parameters														
Solids, Percent	%	T	13.5	:	15.1	:	12.8	:	16.1	:	15.4	:	13.2	:
Metals														
Aluminum	mg/Kg	T	11.6	J	17.3	J	17.2	J	45.	J	220.	J	94.3	J
Antimony	mg/Kg	T	<0.3	:	<0.3	:	<0.25	:	<0.29	:	<0.29	:	<0.24	:
Arsenic	mg/Kg	T	0.7	J	<0.19	J	0.29	J	0.21	J	0.6	J	0.98	J
Barium	mg/Kg	T	0.62	:	2.	:	3.1	:	1.3	:	17.3	:	2.9	:
Beryllium	mg/Kg	T	<0.019	:	<0.018	:	<0.019	:	<0.02	:	<0.019	:	<0.019	:
Boron	mg/Kg	T	0.86	:	1.	:	<1.5	:	0.55	:	0.49	:	<2.1	:
Cadmium	mg/Kg	T	0.6	:	0.76	:	0.67	:	0.81	:	0.88	:	0.73	:
Calcium	mg/Kg	T	471.	:	740.	:	700.	:	804.	:	1240.	:	904.	:
Chromium	mg/Kg	T	1.4	:	1.4	:	6.3	:	19.6	:	10.2	:	8.8	:
Cobalt	mg/Kg	T	0.4	:	0.43	:	0.47	:	0.67	:	0.61	:	0.64	:
Copper	mg/Kg	T	1.6	:	2.2	:	2.2	:	3.3	:	3.	:	2.3	:
Iron	mg/Kg	T	91.8	J	135.	J	142.	J	354.	J	557.	J	295.	J
Lead	mg/Kg	T	0.25	:	0.57	:	0.93	:	1.2	:	1.1	:	0.53	:
Magnesium	mg/Kg	T	83.7	:	216.	:	165.	:	198.	:	591.	:	129.	:
Manganese	mg/Kg	T	1.1	:	1.9	:	2.	:	5.9	:	3.7	:	3.2	:
Mercury	mg/Kg	T	0.016	:	<0.015	:	<0.016	:	<0.017	:	0.025	:	0.023	:
Molybdenum	mg/Kg	T	0.14	:	0.2	:	0.6	:	0.93	:	0.51	:	0.69	:
Nickel	mg/Kg	T	0.72	J	0.93	:	3.5	:	13.8	:	5.5	:	5.2	:
Potassium	mg/Kg	T	1250.	J	1530.	J	1470.	:	1570.	J	1780.	J	1530.	:
Selenium	mg/Kg	T	<0.8	J	<0.77	J	0.96	J	<0.77	J	1.1	J	0.63	J
Silver	mg/Kg	T	<0.15	:	<0.14	:	<0.15	:	<0.16	:	<0.16	:	<0.15	:
Sodium	mg/Kg	T	718.	:	843.	:	852.	:	892.	:	892.	:	907.	:
Thallium	mg/Kg	T	<0.1	:	<0.096	:	<0.083	:	<0.096	:	<0.098	:	<0.079	:
Vanadium	mg/Kg	T	<0.17	:	<0.16	:	<0.17	:	0.2	:	0.34	:	<0.17	:
Zinc	mg/Kg	T	12.8	:	15.8	:	15.3	:	16.6	:	17.8	:	18.1	:

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area / Fraction	Site ID / Sample Date / Sample ID		MRSS-17 Biota 11/16/2002 MRSS-17-T02N-WORM RefMine		MRSS-18 11/16/2002 MRSS-18-T02N-WORM RefMine		MRSS-19 11/16/2002 MRSS-19-T02N-WORM RefMine		MRSS-2 11/16/2002 MRSS-2-T02N-WORM RefMine		MRSS-20 11/16/2002 MRSS-20-T02N-WORM RefMine		MRSS-3 11/16/2002 MRSS-3-T02N-WORM RefMine	
Laboratory Parameters																
Solids, Percent	%	T			13.3	:	14.	:	15.4	:	14.8	:	15.2	:	15.6	:
Metals																
Aluminum	mg/Kg	T			143.	J	90.5	J	21.9	J	110.	J	144.	J	45.2	J
Antimony	mg/Kg	T			<0.25	:	<0.28	:	<0.29	:	<0.29	:	<0.25	:	<0.29	:
Arsenic	mg/Kg	T			0.68	J	0.84	J	0.63	J	0.26	J	0.29	J	0.36	J
Barium	mg/Kg	T			4.9	:	1.5	:	0.76	:	3.1	:	8.1	:	2.9	:
Beryllium	mg/Kg	T			<0.02	:	<0.018	:	<0.02	:	<0.017	:	<0.02	:	<0.02	:
Boron	mg/Kg	T			<0.8	:	0.32	:	0.48	:	0.47	:	<1.3	:	0.95	:
Cadmium	mg/Kg	T			0.91	:	0.99	:	0.97	:	0.83	:	1.	:	0.9	:
Calcium	mg/Kg	T			605.	:	556.	:	599.	:	503.	:	744.	:	718.	:
Chromium	mg/Kg	T			7.8	:	5.	:	4.6	:	2.7	:	8.5	:	2.5	:
Cobalt	mg/Kg	T			0.73	:	0.66	:	0.67	:	0.5	:	0.99	:	0.55	:
Copper	mg/Kg	T			2.5	:	2.	:	2.3	:	2.3	:	2.4	:	3.4	:
Iron	mg/Kg	T			374.	J	194.	J	115.	J	333.	J	254.	J	240.	J
Lead	mg/Kg	T			0.71	:	0.43	:	0.26	:	0.67	:	0.58	:	0.52	:
Magnesium	mg/Kg	T			144.	:	119.	:	166.	:	179.	:	250.	:	129.	:
Manganese	mg/Kg	T			7.2	:	4.7	:	1.7	:	6.6	:	3.9	:	4.6	:
Mercury	mg/Kg	T			0.018	:	<0.017	:	0.016	:	<0.016	:	0.022	:	0.017	:
Molybdenum	mg/Kg	T			0.74	:	0.4	:	0.41	:	0.27	:	0.76	:	0.27	:
Nickel	mg/Kg	T			4.7	:	3.3	:	2.8	:	2.	:	5.3	:	1.6	:
Potassium	mg/Kg	T			1540.	:	1540.	J	1500.	J	1610.	J	1550.	:	1560.	J
Selenium	mg/Kg	T			0.86	J	<0.75	J	<0.78	J	<0.78	J	<0.66	J	<0.78	J
Silver	mg/Kg	T			<0.16	:	<0.14	:	<0.16	:	<0.14	:	<0.16	:	<0.16	:
Sodium	mg/Kg	T			965.	:	978.	:	888.	:	862.	:	924.	:	920.	:
Thallium	mg/Kg	T			<0.083	:	<0.094	:	<0.098	:	<0.098	:	<0.082	:	<0.098	:
Vanadium	mg/Kg	T			0.27	:	<0.16	:	<0.18	:	0.31	:	0.2	:	<0.18	:
Zinc	mg/Kg	T			18.	:	17.4	:	16.5	:	16.9	:	17.9	:	17.8	:

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	MRSS-4 11/16/2002 MRSS-4-T02N-WORM RefMine		MRSS-5 11/16/2002 MRSS-5-T02N-WORM RefMine		MRSS-6 11/16/2002 MRSS-6-T02N-WORM RSCAR		MRSS-7 11/16/2002 MRSS-7-T02N-WORM RSCAR		MRSS-8 11/16/2002 MRSS-8-T02N-WORM RSCAR		MRSS-9 11/16/2002 MRSS-9-T02N-WORM RSCAR	
Laboratory Parameters														
Solids, Percent	%	T	15.4	:	14.5	:	16.7	:	16.7	:	14.6	:	14.3	:
Metals														
Aluminum	mg/Kg	T	53.6	J	69.5	J	54.5	J	13.3	J	24.9	J	20.5	J
Antimony	mg/Kg	T	<0.27	:	<0.29	:	<0.29	:	<0.29	:	<0.28	:	<0.3	:
Arsenic	mg/Kg	T	0.34	J	0.68	J	0.83	J	0.45	J	0.32	J	0.97	J
Barium	mg/Kg	T	6.1	:	6.	:	2.3	:	7.9	:	2.1	:	0.86	:
Beryllium	mg/Kg	T	<0.02	:	<0.019	:	<0.018	:	<0.018	:	<0.019	:	<0.018	:
Boron	mg/Kg	T	<0.27	:	0.78	:	<0.25	:	0.74	:	0.39	:	<0.75	:
Cadmium	mg/Kg	T	0.71	:	1.	:	0.68	:	0.67	:	0.66	:	0.65	:
Calcium	mg/Kg	T	629.	:	714.	:	813.	:	735.	:	580.	:	573.	:
Chromium	mg/Kg	T	1.9	:	5.1	:	2.8	:	3.1	:	1.6	:	1.3	:
Cobalt	mg/Kg	T	0.62	:	0.67	:	0.61	:	0.42	:	0.5	:	0.64	:
Copper	mg/Kg	T	2.4	:	2.7	:	2.2	:	2.2	:	1.7	:	1.8	:
Iron	mg/Kg	T	384.	J	303.	J	333.	J	144.	J	244.	J	388.	J
Lead	mg/Kg	T	0.83	:	0.48	:	0.8	:	0.7	:	0.52	:	0.53	:
Magnesium	mg/Kg	T	253.	:	129.	:	136.	:	110.	:	140.	:	113.	:
Manganese	mg/Kg	T	6.5	:	5.2	:	2.9	:	1.4	:	1.7	:	1.6	:
Mercury	mg/Kg	T	<0.016	:	0.019	:	<0.016	:	0.017	:	<0.017	:	<0.016	:
Molybdenum	mg/Kg	T	0.36	:	0.32	:	0.31	:	0.32	:	0.27	:	0.4	:
Nickel	mg/Kg	T	1.4	:	3.3	:	1.6	:	1.9	:	0.98	:	0.93	:
Potassium	mg/Kg	T	1490.	J	1520.	J	1480.	J	1600.	J	1510.	J	1530.	J
Selenium	mg/Kg	T	<0.71	J	<0.77	J	<0.76	J	<0.77	J	<0.74	J	<0.8	J
Silver	mg/Kg	T	<0.16	:	<0.16	:	<0.15	:	<0.14	:	<0.15	:	<0.14	:
Sodium	mg/Kg	T	825.	:	939.	:	827.	:	847.	:	825.	:	827.	:
Thallium	mg/Kg	T	<0.088	:	<0.096	:	<0.095	:	<0.096	:	<0.093	:	<0.1	:
Vanadium	mg/Kg	T	<0.18	:	<0.17	:	<0.16	:	<0.16	:	<0.17	:	0.17	:
Zinc	mg/Kg	T	17.2	:	17.3	:	15.8	:	16.1	:	15.2	:	15.9	:

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T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area											
			MSS3-1 12/13/2002 MSS3-1-T02N-WORM SS3		MSS3-10 12/13/2002 MSS3-10-T02N-WORM SS3		MSS3-2 12/13/2002 MSS3-2-T02N-WORM SS3		MSS3-3 12/13/2002 MSS3-3-T02N-WORM SS3		MSS3-4 12/13/2002 MSS3-4-T02N-WORM SS3		MSS3-5 12/6/2002 MSS3-5-T02N-WORM SS3	
Laboratory Parameters														
Solids, Percent	%	T	13.5	:	13.3	:	16.7	:	15.5	:	14.5	:	14.	:
Metals														
Aluminum	mg/Kg	T	37.1	J	16.2	J	78.3	J	93.	J	31.7	J	49.	J
Antimony	mg/Kg	T	<0.28	:	<0.3	:	<0.3	:	<0.25	:	<0.28	:	<0.28	:
Arsenic	mg/Kg	T	0.25	J	<0.2	J	0.75	J	<0.17	J	0.2	J	0.19	J
Barium	mg/Kg	T	<0.79	:	1.5	:	1.5	:	1.3	:	<0.73	:	1.5	:
Beryllium	mg/Kg	T	<0.028	:	<0.03	:	<0.029	:	<0.029	:	<0.026	:	<0.017	:
Boron	mg/Kg	T	<0.53	:	<0.63	:	<0.74	:	<0.6	:	<0.58	:	<0.91	:
Cadmium	mg/Kg	T	0.59	:	0.78	:	0.96	:	1.	:	0.6	:	0.77	:
Calcium	mg/Kg	T	522.	:	370.	:	508.	:	1120.	:	441.	:	635.	:
Chromium	mg/Kg	T	0.14	:	0.19	:	0.16	:	0.24	:	0.13	:	0.2	:
Cobalt	mg/Kg	T	0.35	:	0.54	:	0.39	:	0.58	:	0.4	:	0.57	:
Copper	mg/Kg	T	1.4	:	0.88	:	1.9	:	3.2	:	1.3	:	2.7	:
Iron	mg/Kg	T	90.9	J	60.3	J	179.	J	207.	J	84.9	J	224.	J
Lead	mg/Kg	T	<0.43	:	<0.26	:	<0.39	:	<0.45	:	<0.3	:	0.84	:
Magnesium	mg/Kg	T	125.	:	91.1	:	121.	:	498.	:	109.	:	131.	:
Manganese	mg/Kg	T	2.	:	1.3	:	2.8	:	7.6	:	1.8	:	2.9	:
Mercury	mg/Kg	T	0.019	:	<0.016	:	<0.015	:	0.018	:	<0.015	:	<0.015	:
Molybdenum	mg/Kg	T	<0.2	:	0.41	:	<0.47	:	<0.18	:	<0.27	:	<0.38	:
Nickel	mg/Kg	T	<0.32	:	<0.34	:	<0.33	:	<0.33	:	<0.3	:	<0.13	:
Potassium	mg/Kg	T	1560.	J	1380.	J	1430.	J	1430.	J	1420.	J	1590.	J
Selenium	mg/Kg	T	<0.75	J	<0.79	J	0.9	J	0.7	J	<0.75	J	0.82	J
Silver	mg/Kg	T	<0.14	:	<0.15	:	<0.15	:	<0.15	:	<0.13	:	0.16	:
Sodium	mg/Kg	T	755.	:	819.	:	848.	:	895.	:	801.	:	897.	:
Thallium	mg/Kg	T	<0.093	:	<0.099	:	<0.1	:	<0.083	:	<0.094	:	<0.093	:
Vanadium	mg/Kg	T	<0.17	:	<0.18	:	0.21	:	<0.17	:	<0.16	:	<0.16	:
Zinc	mg/Kg	T	15.6	:	12.6	:	17.	:	18.	:	14.1	:	18.6	:

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T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	MSS3-6 11/16/2002 MSS3-6-T02N-WORM SS3 T		MSS3-7 12/13/2002 MSS3-7-T02N-WORM SS3 T		MSS3-8 11/16/2002 MSS3-8-T02N-WORM SS3 T		MSS3-9 11/16/2002 MSS3-9-T02N-WORM SS3 T		MSS7-1 11/23/2002 MSS7-1-T02N-WORM SS7 T		MSS7-10 11/23/2002 MSS7-10-T02N-WORM SS7 T	
Laboratory Parameters														
Solids, Percent	%	T	15.4	:	15.1	:	12.2	:	14.	:	13.2	:	14.7	:
Metals														
Aluminum	mg/Kg	T	36.1	J	62.2	J	141.	J	93.5	J	81.9	J	80.2	J
Antimony	mg/Kg	T	<0.29	:	<0.29	:	<0.25	:	<0.22	:	<0.29	:	<0.28	:
Arsenic	mg/Kg	T	0.31	J	0.25	J	0.35	J	0.47	J	0.95	J	0.86	J
Barium	mg/Kg	T	1.5	:	1.4	:	1.6	:	2.2	:	1.1	:	8.2	:
Beryllium	mg/Kg	T	<0.02	:	<0.026	:	<0.018	:	<0.02	:	<0.019	:	<0.02	:
Boron	mg/Kg	T	<1.1	:	<0.61	:	<0.84	:	<1.5	:	0.97	:	1.3	:
Cadmium	mg/Kg	T	0.67	:	0.63	:	0.87	:	0.95	:	0.85	:	0.84	:
Calcium	mg/Kg	T	458.	:	486.	:	551.	:	494.	:	628.	:	567.	:
Chromium	mg/Kg	T	2.5	:	0.16	:	4.7	:	5.9	:	9.3	:	15.1	:
Cobalt	mg/Kg	T	0.78	:	0.8	:	0.75	:	0.79	:	0.6	:	0.68	:
Copper	mg/Kg	T	2.6	:	2.5	:	2.4	:	2.6	:	2.4	:	3.2	:
Iron	mg/Kg	T	160.	J	221.	J	290.	J	234.	J	278.	J	348.	J
Lead	mg/Kg	T	0.76	:	1.3	:	0.34	:	0.68	:	1.1	:	1.4	:
Magnesium	mg/Kg	T	120.	:	127.	:	200.	:	162.	:	191.	:	154.	:
Manganese	mg/Kg	T	2.9	:	3.1	:	9.2	:	6.3	:	4.2	:	3.9	:
Mercury	mg/Kg	T	<0.015	:	<0.015	:	<0.016	:	<0.016	:	<0.016	:	<0.017	:
Molybdenum	mg/Kg	T	0.33	:	<0.38	:	0.53	:	0.55	:	0.98	:	1.4	:
Nickel	mg/Kg	T	1.6	:	<0.29	:	3.5	:	3.9	:	5.6	:	8.9	:
Potassium	mg/Kg	T	1650.	J	1510.	J	1640.	:	1500.	:	1520.	J	1510.	J
Selenium	mg/Kg	T	<0.78	J	<0.76	J	0.83	J	0.73	J	<0.77	J	0.98	J
Silver	mg/Kg	T	<0.16	:	<0.13	:	<0.15	:	<0.16	:	<0.15	:	<0.16	:
Sodium	mg/Kg	T	843.	:	872.	:	890.	:	834.	:	879.	:	864.	:
Thallium	mg/Kg	T	<0.097	:	<0.095	:	<0.082	:	<0.074	:	<0.096	:	<0.094	:
Vanadium	mg/Kg	T	<0.18	:	0.16	:	0.39	:	0.22	:	<0.17	:	0.2	:
Zinc	mg/Kg	T	15.8	:	16.1	:	18.2	:	16.2	:	16.6	:	16.8	:

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T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	MSS7-2 11/23/2002 MSS7-2-T02N-WORM SS7 T		MSS7-3 11/16/2002 MSS7-3-T02N-WORM SS7 T		MSS7-4 12/13/2002 MSS7-4-T02N-WORM SS7 T		MSS7-5 12/13/2002 MSS7-5-T02N-WORM SS7 T		MSS7-6 12/13/2002 MSS7-6-T02N-WORM SS7 T		MSS7-7 11/16/2002 MSS7-7-T02N-WORM SS7 T	
Laboratory Parameters														
Solids, Percent	%	T	13.	:	17.6	:	14.8	:	10.3	:	15.2	:	15.6	:
Metals														
Aluminum	mg/Kg	T	68.1	J	36.4	J	13.2	J	18.5	J	5.9	J	36.9	J
Antimony	mg/Kg	T	<0.27	:	<0.3	:	<0.25	:	<0.29	:	<0.29	:	<0.28	:
Arsenic	mg/Kg	T	0.84	J	0.74	J	0.23	J	<0.19	J	0.41	J	0.43	J
Barium	mg/Kg	T	2.2	:	1.7	:	1.	:	<0.82	:	<0.71	:	1.1	:
Beryllium	mg/Kg	T	<0.02	:	<0.018	:	<0.03	:	<0.029	:	<0.025	:	<0.018	:
Boron	mg/Kg	T	0.93	:	1.6	:	<0.45	:	<0.48	:	<0.53	:	<0.32	:
Cadmium	mg/Kg	T	0.76	:	0.94	:	0.57	:	0.68	:	0.57	:	0.74	:
Calcium	mg/Kg	T	690.	:	814.	:	558.	:	663.	:	664.	:	569.	:
Chromium	mg/Kg	T	9.8	:	5.1	:	0.17	:	0.14	:	0.24	:	0.93	:
Cobalt	mg/Kg	T	0.57	:	0.67	:	0.29	:	0.49	:	0.48	:	0.42	:
Copper	mg/Kg	T	2.3	:	3.2	:	3.2	:	2.6	:	2.3	:	2.4	:
Iron	mg/Kg	T	227.	J	233.	J	112.	J	159.	J	98.5	J	157.	J
Lead	mg/Kg	T	2.1	:	2.1	:	<0.44	:	<0.65	:	<0.62	:	0.49	:
Magnesium	mg/Kg	T	191.	:	128.	:	165.	:	202.	:	147.	:	115.	:
Manganese	mg/Kg	T	3.3	:	2.	:	1.1	:	1.5	:	1.3	:	5.2	:
Mercury	mg/Kg	T	<0.017	:	<0.016	:	<0.017	:	<0.017	:	<0.016	:	<0.016	:
Molybdenum	mg/Kg	T	<0.89	:	0.56	:	0.34	:	0.34	:	0.33	:	0.2	:
Nickel	mg/Kg	T	6.9	:	2.9	:	<0.34	:	<0.33	:	<0.29	:	0.62	J
Potassium	mg/Kg	T	1600.	J	1670.	J	1470.	J	1450.	:	1570.	J	1680.	J
Selenium	mg/Kg	T	<0.71	J	<0.8	J	0.74	J	<0.77	J	<0.76	J	<0.75	J
Silver	mg/Kg	T	<0.16	:	<0.15	:	<0.15	:	<0.15	:	<0.13	:	<0.14	:
Sodium	mg/Kg	T	864.	:	948.	:	846.	:	806.	:	839.	:	898.	:
Thallium	mg/Kg	T	<0.089	:	<0.1	:	<0.085	:	<0.096	J	<0.095	:	<0.094	:
Vanadium	mg/Kg	T	<0.18	:	<0.16	:	<0.18	:	<0.17	:	<0.15	:	<0.16	:
Zinc	mg/Kg	T	24.	:	18.3	:	15.7	:	14.7	:	16.4	:	16.1	:

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID		MSS7-8 12/13/2002 MSS7-8-T02N-WORM SS7		MSS7-9 11/16/2002 MSS7-9-T02N-WORM SS7		RRS-1 12/13/2002 RRS-1-T02N-WORM RefMineR		RRS-10 11/23/2002 RRS-10-T02N-WORM RefMineR		RRS-11 11/23/2002 RRS-11-T02N-WORM RefMineR		RRS-12 11/23/2002 RRS-12-T02N-WORM RefMineR	
Laboratory Parameters																
Solids, Percent	%	T			14.8	:	13.6	:	11.4	:	15.9	:	13.2	:	14.6	:
Metals																
Aluminum	mg/Kg	T			10.2	J	89.3	J	86.2	J	207.	J	107.	J	270.	J
Antimony	mg/Kg	T			<0.25	:	<0.24	:	<0.28	:	<0.25	:	<0.24	:	<0.25	:
Arsenic	mg/Kg	T			<0.17	J	0.56	J	0.28	J	0.8	J	0.84	J	0.71	J
Barium	mg/Kg	T			<0.82	:	11.6	:	1.4	:	5.3	:	1.7	:	3.5	:
Beryllium	mg/Kg	T			<0.029	:	<0.018	:	<0.027	:	<0.02	:	<0.02	:	<0.02	:
Boron	mg/Kg	T			<0.57	:	<1.2	:	<0.93	:	0.91	:	<0.84	:	<1.4	:
Cadmium	mg/Kg	T			0.56	:	0.82	:	0.72	:	0.96	:	1.3	:	0.92	:
Calcium	mg/Kg	T			610.	:	837.	:	602.	:	553.	:	544.	:	779.	:
Chromium	mg/Kg	T			0.11	:	5.2	:	0.23	:	20.	:	8.4	:	13.7	:
Cobalt	mg/Kg	T			0.36	:	0.58	:	0.43	:	0.7	:	0.8	:	0.93	:
Copper	mg/Kg	T			2.4	:	2.9	:	1.5	:	2.6	:	2.5	:	2.7	:
Iron	mg/Kg	T			117.	J	282.	J	186.	J	474.	J	251.	J	516.	J
Lead	mg/Kg	T			<0.25	:	1.5	:	<0.25	:	<0.76	:	0.38	:	0.94	:
Magnesium	mg/Kg	T			143.	:	330.	:	176.	:	194.	:	158.	:	364.	:
Manganese	mg/Kg	T			1.4	:	3.7	:	4.4	:	12.	:	8.5	:	17.3	:
Mercury	mg/Kg	T			<0.014	:	0.02	:	0.024	:	<0.017	:	<0.016	:	<0.015	:
Molybdenum	mg/Kg	T			<0.17	:	0.6	:	<0.33	:	1.3	:	0.74	:	0.88	:
Nickel	mg/Kg	T			<0.33	:	3.4	:	<0.3	:	11.7	:	5.8	:	8.3	:
Potassium	mg/Kg	T			1350.	J	1620.	:	1530.	J	1550.	J	1500.	:	1480.	:
Selenium	mg/Kg	T			0.75	J	1.1	J	0.76	J	0.74	J	0.68	J	1.1	J
Silver	mg/Kg	T			<0.15	:	<0.14	:	<0.13	:	<0.16	:	<0.16	:	<0.16	:
Sodium	mg/Kg	T			768.	:	887.	:	848.	:	886.	:	829.	:	915.	:
Thallium	mg/Kg	T			<0.085	:	<0.079	:	<0.093	:	<0.084	:	<0.079	:	<0.083	:
Vanadium	mg/Kg	T			<0.17	:	0.17	:	0.29	:	0.45	:	0.21	:	0.68	:
Zinc	mg/Kg	T			14.	:	18.3	:	17.3	:	18.8	:	19.	:	22.6	:

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Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RRS-13 11/23/2002 RRS-13-T02N-WORM RefMineR		RRS-17 12/6/2002 RRS-17-T02N-WORM RLCCR		RRS-18 12/6/2002 RRS-18-T02N-WORM RLCCR		RRS-19 12/6/2002 RRS-19-T02N-WORM RLCCR		RRS-2 12/13/2002 RRS-2-T02N-WORM RefMineR		RRS-20 12/6/2002 RRS-20-T02N-WORM RLCCR	
Laboratory Parameters														
Solids, Percent	%	T	13.8	:	13.2	:	11.6	:	15.	:	14.8	:	14.	:
Metals														
Aluminum	mg/Kg	T	85.2	J	71.2	J	53.5	J	35.3	J	137.	J	104.	J
Antimony	mg/Kg	T	<0.25	:	<0.26	:	<0.29	:	<0.27	:	<0.26	:	<0.3	:
Arsenic	mg/Kg	T	0.45	J	0.31	J	0.27	J	0.52	J	0.23	J	0.91	J
Barium	mg/Kg	T	1.3	:	0.87	:	1.2	:	<0.84	:	2.7	:	1.2	:
Beryllium	mg/Kg	T	<0.019	:	<0.028	:	<0.026	:	<0.03	:	<0.025	:	<0.025	:
Boron	mg/Kg	T	<1.1	:	<0.49	:	<0.31	:	<0.34	:	<0.64	:	<0.44	:
Cadmium	mg/Kg	T	0.92	:	1.2	:	1.	:	0.98	:	0.89	:	0.8	:
Calcium	mg/Kg	T	578.	:	513.	:	565.	:	482.	:	568.	:	468.	:
Chromium	mg/Kg	T	9.9	:	0.32	:	0.18	:	0.19	:	0.3	:	0.34	:
Cobalt	mg/Kg	T	0.54	:	0.47	:	0.57	:	0.41	:	0.55	:	0.51	:
Copper	mg/Kg	T	2.3	:	2.	:	2.5	:	1.9	:	2.6	:	2.9	:
Iron	mg/Kg	T	245.	J	159.	J	200.	J	146.	J	246.	J	252.	J
Lead	mg/Kg	T	0.35	:	<0.31	:	<0.37	:	<0.39	:	<0.36	:	<0.44	:
Magnesium	mg/Kg	T	157.	:	142.	:	146.	:	121.	:	180.	:	164.	:
Manganese	mg/Kg	T	4.5	:	4.2	:	5.1	:	4.	:	5.4	:	6.1	:
Mercury	mg/Kg	T	<0.016	:	<0.015	:	<0.016	:	<0.014	:	<0.015	:	<0.016	:
Molybdenum	mg/Kg	T	0.75	:	0.35	:	0.32	:	0.34	:	<0.31	:	0.34	:
Nickel	mg/Kg	T	6.2	:	<0.32	:	<0.3	:	<0.34	:	<0.28	:	<0.29	:
Potassium	mg/Kg	T	1610.	:	1440.	J	1470.	J	1460.	J	1560.	J	1500.	J
Selenium	mg/Kg	T	0.78	J	0.96	J	<0.78	J	<0.71	J	0.73	J	<0.79	J
Silver	mg/Kg	T	<0.15	:	<0.14	:	<0.13	:	<0.15	:	<0.12	:	<0.13	:
Sodium	mg/Kg	T	877.	:	845.	:	866.	:	850.	:	900.	:	874.	:
Thallium	mg/Kg	T	<0.083	:	<0.086	:	<0.097	:	<0.088	:	<0.086	:	<0.099	:
Vanadium	mg/Kg	T	0.26	:	<0.17	:	0.18	:	<0.18	:	0.37	:	0.3	:
Zinc	mg/Kg	T	17.5	:	16.8	:	18.3	:	17.3	:	17.4	:	16.9	:

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Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RRS-21 12/6/2002 RRS-21-T02N-WORM		RRS-3 11/16/2002 RRS-3-T02N-WORM		RRS-4 11/16/2002 RRS-4-T02N-WORM		RRS-5 11/16/2002 RRS-5-T02N-WORM		RRS-9 11/23/2002 RRS-9-T02N-WORM		RS-1 11/23/2002 RS-1-T02N-WORM	
			RLCCR		RefMineR		RefMineR		RefMineR		RefMineR		SS9	
Laboratory Parameters														
Solids, Percent	%	T	14.	:	13.3	:	16.3	:	14.3	:	18.2	:	15.9	:
Metals														
Aluminum	mg/Kg	T	125.	J	58.7	J	221.	J	65.3	J	171.	J	198.	J
Antimony	mg/Kg	T	<0.26	:	<0.22	:	<0.23	:	<0.24	:	<0.24	:	<0.3	:
Arsenic	mg/Kg	T	0.28	J	0.2	J	0.45	J	0.52	J	0.51	J	0.71	J
Barium	mg/Kg	T	1.4	:	1.9	:	5.2	:	2.7	:	3.1	:	13.4	:
Beryllium	mg/Kg	T	<0.027	:	<0.018	:	<0.018	:	<0.02	:	<0.019	:	<0.019	:
Boron	mg/Kg	T	<0.6	:	<1.1	:	<0.38	:	<0.64	:	<1.1	:	0.57	:
Cadmium	mg/Kg	T	1.	:	0.98	:	0.9	:	0.85	:	1.1	:	1.	:
Calcium	mg/Kg	T	517.	:	656.	:	572.	:	558.	:	663.	:	620.	:
Chromium	mg/Kg	T	0.26	:	7.3	:	9.6	:	5.7	:	17.5	:	26.7	:
Cobalt	mg/Kg	T	0.42	:	0.71	:	0.82	:	0.61	:	0.88	:	0.82	:
Copper	mg/Kg	T	2.	:	2.7	:	5.7	:	4.2	:	2.9	:	4.1	:
Iron	mg/Kg	T	295.	J	220.	J	709.	J	241.	J	391.	J	669.	J
Lead	mg/Kg	T	<0.45	:	0.44	:	1.5	:	0.49	:	0.46	:	1.1	:
Magnesium	mg/Kg	T	181.	:	145.	:	235.	:	159.	:	213.	:	194.	:
Manganese	mg/Kg	T	7.9	:	5.6	:	13.1	:	5.2	:	10.7	:	13.1	:
Mercury	mg/Kg	T	<0.016	:	<0.015	:	<0.016	:	<0.016	:	<0.015	:	<0.016	:
Molybdenum	mg/Kg	T	0.27	:	0.62	:	0.8	:	0.64	:	1.2	:	2.	:
Nickel	mg/Kg	T	<0.3	:	4.7	:	6.1	:	3.5	:	10.9	:	15.9	:
Potassium	mg/Kg	T	1470.	J	1500.	:	1600.	:	1590.	:	1630.	:	1530.	J
Selenium	mg/Kg	T	0.75	J	0.59	J	0.8	J	<0.63	J	<0.64	J	<0.79	J
Silver	mg/Kg	T	<0.13	:	<0.15	:	<0.15	:	<0.16	:	<0.15	:	<0.16	:
Sodium	mg/Kg	T	821.	:	855.	:	904.	:	923.	:	912.	:	878.	:
Thallium	mg/Kg	T	<0.088	:	<0.073	:	<0.078	:	<0.079	:	<0.08	:	<0.099	:
Vanadium	mg/Kg	T	0.37	:	0.25	:	0.95	:	0.25	:	0.46	:	0.65	:
Zinc	mg/Kg	T	18.	:	17.9	:	20.	:	17.2	:	18.8	:	17.7	:

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Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area	RS-10 11/23/2002 RS-10-T02N-WORM SS9	RS-11 11/23/2002 RS-11-T02N-WORM SS16	RS-12 11/23/2002 RS-12-T02N-WORM SS16	RS-13 11/23/2002 RS-13-T02N-WORM SS16	RS-14 11/23/2002 RS-14-T02N-WORM SS16	RS-15 11/23/2002 RS-15-T02N-WORM SS16
Laboratory Parameters									
Solids, Percent	%	T		15.6 :	14.8 :	15.8 :	13.8 :	14.7 :	12.5 :
Metals									
Aluminum	mg/Kg	T		203. J	237. J	58.9 J	182. J	139. J	195. J
Antimony	mg/Kg	T		<0.23 :	<0.28 :	<0.27 :	<0.29 :	<0.29 :	<0.3 :
Arsenic	mg/Kg	T		1. J	0.26 J	0.51 J	0.55 J	1.1 J	2.2 J
Barium	mg/Kg	T		8.6 :	6.3 :	1.5 :	8.9 :	8. :	6.2 :
Beryllium	mg/Kg	T		<0.02 :	<0.019 :	<0.02 :	<0.019 :	<0.017 :	<0.018 :
Boron	mg/Kg	T		<0.74 :	0.39 :	0.65 :	0.74 :	0.44 :	0.73 :
Cadmium	mg/Kg	T		1.2 :	1.2 :	0.89 :	1.3 :	1.1 :	0.77 :
Calcium	mg/Kg	T		656. :	575. :	523. :	655. :	553. :	598. :
Chromium	mg/Kg	T		8.1 :	14.3 :	12.6 :	17.7 :	16.1 :	21.1 :
Cobalt	mg/Kg	T		0.99 :	0.86 :	0.55 :	0.87 :	0.79 :	0.82 :
Copper	mg/Kg	T		4.5 :	4.3 :	3.4 :	5.7 :	4. :	4.3 :
Iron	mg/Kg	T		432. J	662. J	280. J	478. J	402. J	581. J
Lead	mg/Kg	T		1. :	<0.75 :	<0.47 :	<0.77 :	<0.68 :	1.6 :
Magnesium	mg/Kg	T		178. :	255. :	134. :	178. :	158. :	171. :
Manganese	mg/Kg	T		23.1 :	25. :	6.6 :	9.5 :	18.4 :	18.2 :
Mercury	mg/Kg	T		<0.015 :	<0.015 :	<0.016 :	<0.016 :	<0.015 :	<0.016 :
Molybdenum	mg/Kg	T		0.91 :	1.5 :	1.1 :	1.6 :	1.3 :	1.8 :
Nickel	mg/Kg	T		5.8 :	9.4 :	7.6 :	10.8 :	9.9 :	12.7 :
Potassium	mg/Kg	T		1550. :	1480. J	1500. J	1560. J	1470. J	1560. J
Selenium	mg/Kg	T		<0.61 J	0.84 J	0.92 J	<0.78 J	<0.78 J	<0.8 J
Silver	mg/Kg	T		<0.16 :	<0.16 :	<0.16 :	<0.15 :	<0.13 :	<0.14 :
Sodium	mg/Kg	T		881. :	853. :	861. :	871. :	852. :	857. :
Thallium	mg/Kg	T		<0.076 :	<0.092 :	<0.091 :	<0.098 :	<0.098 :	<0.1 :
Vanadium	mg/Kg	T		0.42 :	0.69 :	0.2 :	0.59 :	0.39 :	0.55 :
Zinc	mg/Kg	T		22.9 :	20.6 :	17.9 :	19.2 :	20.4 :	20.1 :

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Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID		RS-16 12/6/2002 RS-16-T02N-WORM SS16		RS-17 11/23/2002 RS-17-T02N-WORM SS16		RS-18 11/23/2002 RS-18-T02N-WORM SS16		RS-19 11/23/2002 RS-19-T02N-WORM SS16		RS-2 11/23/2002 RS-2-T02N-WORM SS9		RS-20 11/23/2002 RS-20-T02N-WORM SS16	
Laboratory Parameters																
Solids, Percent	%	T			11.4	:	14.6	:	14.6	:	15.2	:	14.9	:	16.7	:
Metals																
Aluminum	mg/Kg	T			29.2	J	172.	J	151.	J	171.	J	174.	J	114.	J
Antimony	mg/Kg	T			<0.29	:	<0.29	:	<0.28	:	<0.29	:	<0.28	:	<0.28	:
Arsenic	mg/Kg	T			<0.19	J	0.79	J	0.31	J	1.	J	0.76	J	0.46	J
Barium	mg/Kg	T			<0.82	:	7.6	:	7.1	:	8.7	:	11.1	:	8.5	:
Beryllium	mg/Kg	T			<0.029	:	<0.02	:	<0.019	:	<0.019	:	<0.019	:	<0.02	:
Boron	mg/Kg	T			<0.54	:	1.1	:	0.75	:	0.54	:	0.75	:	0.81	:
Cadmium	mg/Kg	T			1.	:	1.3	:	1.2	:	1.1	:	0.79	:	1.4	:
Calcium	mg/Kg	T			622.	:	588.	:	454.	:	592.	:	704.	:	546.	:
Chromium	mg/Kg	T			0.19	:	13.8	:	8.7	:	30.6	:	12.	:	15.4	:
Cobalt	mg/Kg	T			0.42	:	0.69	:	0.57	:	0.84	:	0.63	:	0.66	:
Copper	mg/Kg	T			2.7	:	3.8	:	4.1	:	4.2	:	3.6	:	3.7	:
Iron	mg/Kg	T			104.	J	444.	J	400.	J	559.	J	563.	J	408.	J
Lead	mg/Kg	T			<0.22	:	1.1	:	<0.77	:	<0.73	:	1.2	:	<0.53	:
Magnesium	mg/Kg	T			146.	:	194.	:	160.	:	167.	:	292.	:	166.	:
Manganese	mg/Kg	T			3.2	:	9.2	:	10.5	:	12.5	:	11.	:	13.	:
Mercury	mg/Kg	T			<0.017	:	<0.016	:	<0.016	:	<0.016	:	<0.016	:	<0.017	:
Molybdenum	mg/Kg	T			0.29	:	1.4	:	<0.91	:	3.1	:	1.2	:	1.3	:
Nickel	mg/Kg	T			<0.33	:	8.3	:	5.7	:	18.1	:	6.8	:	9.2	:
Potassium	mg/Kg	T			1500.	J	1460.	J	1480.	J	1450.	J	1510.	J	1580.	J
Selenium	mg/Kg	T			<0.78	J	<0.76	J	0.85	J	0.85	J	<0.73	J	<0.74	J
Silver	mg/Kg	T			<0.15	:	<0.16	:	<0.15	:	<0.15	:	<0.15	:	<0.16	:
Sodium	mg/Kg	T			898.	:	822.	:	884.	:	887.	:	882.	:	871.	:
Thallium	mg/Kg	T			<0.097	:	<0.095	:	<0.092	:	<0.098	:	<0.092	:	<0.093	:
Vanadium	mg/Kg	T			<0.17	:	0.48	:	0.45	:	0.58	:	0.47	:	0.44	:
Zinc	mg/Kg	T			16.2	:	20.7	:	20.5	:	17.3	:	17.3	:	19.5	:

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RS-3 11/23/2002 RS-3-T02N-WORM SS9		RS-4 11/23/2002 RS-4-T02N-WORM SS9		RS-5 11/23/2002 RS-5-T02N-WORM SS9		RS-6 11/23/2002 RS-6-T02N-WORM SS9		RS-7 11/23/2002 RS-7-T02N-WORM SS9		RS-8 11/23/2002 RS-8-T02N-WORM SS9	
Laboratory Parameters														
Solids, Percent	%	T	14.8	:	12.5	:	11.1	:	15.2	:	14.5	:	17.	:
Metals														
Aluminum	mg/Kg	T	124.	J	179.	J	154.	J	190.	J	125.	J	217.	J
Antimony	mg/Kg	T	<0.23	:	<0.24	:	<0.24	J	<0.24	:	<0.28	:	<0.3	:
Arsenic	mg/Kg	T	0.43	J	0.44	J	0.53	J	0.31	J	0.7	J	0.47	J
Barium	mg/Kg	T	8.1	:	9.3	:	11.8	:	15.8	:	9.7	:	12.4	:
Beryllium	mg/Kg	T	<0.018	:	<0.018	:	<0.02	:	<0.019	:	<0.018	:	<0.018	:
Boron	mg/Kg	T	<1.4	:	<0.92	:	<2.5	:	<1.	:	0.42	:	0.71	:
Cadmium	mg/Kg	T	1.3	:	1.3	:	1.4	:	0.8	:	1.1	:	1.1	:
Calcium	mg/Kg	T	531.	:	620.	:	587.	:	933.	:	1250.	:	533.	:
Chromium	mg/Kg	T	15.6	:	11.1	:	20.3	:	13.4	:	17.8	:	19.6	:
Cobalt	mg/Kg	T	0.76	:	0.78	:	0.77	:	1.4	:	0.57	:	0.76	:
Copper	mg/Kg	T	4.3	:	4.3	:	4.2	:	3.9	:	3.7	:	4.9	:
Iron	mg/Kg	T	447.	J	556.	J	545.	J	706.	J	420.	J	535.	J
Lead	mg/Kg	T	1.1	:	1.3	:	0.97	:	1.6	:	<0.75	:	1.3	:
Magnesium	mg/Kg	T	184.	:	204.	:	189.	:	423.	:	549.	:	182.	:
Manganese	mg/Kg	T	11.2	:	14.2	:	14.4	:	20.5	:	10.7	:	31.3	:
Mercury	mg/Kg	T	<0.017	:	<0.016	:	<0.017	:	<0.016	:	<0.016	:	<0.016	:
Molybdenum	mg/Kg	T	1.7	:	1.2	:	1.6	:	2.1	:	2.	:	1.7	:
Nickel	mg/Kg	T	9.7	:	7.1	:	12.6	:	8.5	:	10.9	:	12.4	:
Potassium	mg/Kg	T	1560.	:	1610.	:	1580.	:	1550.	:	1450.	J	1630.	J
Selenium	mg/Kg	T	0.77	J	0.84	J	0.8	J	<0.65	J	<0.74	J	0.83	J
Silver	mg/Kg	T	<0.15	:	<0.14	:	<0.16	:	<0.15	:	<0.14	:	<0.15	:
Sodium	mg/Kg	T	904.	:	882.	:	888.	:	891.	:	943.	:	835.	:
Thallium	mg/Kg	T	<0.078	:	<0.081	:	<0.081	:	<0.081	:	<0.093	:	<0.1	:
Vanadium	mg/Kg	T	0.41	:	0.54	:	0.48	:	0.67	:	0.42	:	0.42	:
Zinc	mg/Kg	T	19.5	:	20.4	:	19.4	:	18.6	:	17.4	:	23.8	:

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T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area													
			RS-9 / 11/23/2002 / RS-9-T02N-WORM / SS9		TSS14-1 / 7/23/2003 / TSS14-1-T02N-WORM / SS14		TSS14-10 / 7/23/2003 / TSS14-10-T02N-WORM / SS14		TSS14-2 / 7/23/2003 / TSS14-2-T02N-WORM / SS14		TSS14-3 / 7/23/2003 / TSS14-3-T02N-WORM / SS14		TSS14-4 / 7/23/2003 / TSS14-4-T02N-WORM / SS14	
Laboratory Parameters																
Solids, Percent	%	T	15.3	:	23.3	:	19.5	:	19.4	:	18.8	:	21.6	:		
Metals																
Aluminum	mg/Kg	T	247.	J	103.	J	145.	J	73.	J	86.3	J	183.	J		
Antimony	mg/Kg	T	<0.27	:	<0.73	:	<0.7	:	<0.47	:	<0.33	:	<0.38	:		
Arsenic	mg/Kg	T	0.51	J	2.	:	2.9	:	2.1	:	2.3	:	1.1	:		
Barium	mg/Kg	T	9.6	:	1.3	:	1.9	:	1.1	:	1.1	:	3.	:		
Beryllium	mg/Kg	T	<0.017	:	<0.02	:	<0.018	:	<0.02	:	<0.018	:	<0.017	:		
Boron	mg/Kg	T	0.71	:	0.68	:	0.67	:	<0.46	:	0.52	:	0.69	:		
Cadmium	mg/Kg	T	1.1	:	0.36	:	0.36	:	0.89	:	0.32	:	0.43	:		
Calcium	mg/Kg	T	586.	:	710.	:	935.	:	750.	:	709.	:	1080.	:		
Chromium	mg/Kg	T	32.6	:	0.71	:	0.47	:	0.53	:	0.32	:	0.98	:		
Cobalt	mg/Kg	T	0.82	:	0.21	:	0.31	:	0.39	:	0.22	:	0.51	:		
Copper	mg/Kg	T	4.5	:	4.	:	3.6	:	7.6	:	4.2	:	6.1	:		
Iron	mg/Kg	T	731.	J	219.	J	202.	J	218.	J	134.	J	395.	J		
Lead	mg/Kg	T	1.2	:	<0.35	:	<0.59	J	1.8	J	<0.21	J	<0.48	J		
Magnesium	mg/Kg	T	212.	:	182.	:	204.	:	162.	:	175.	:	265.	:		
Manganese	mg/Kg	T	20.7	:	11.4	:	9.2	:	9.6	:	4.8	:	12.2	:		
Mercury	mg/Kg	T	<0.016	:	<0.016	:	<0.016	:	<0.016	:	<0.017	:	<0.015	:		
Molybdenum	mg/Kg	T	2.3	:	2.	:	1.3	:	2.2	:	0.83	:	4.5	:		
Nickel	mg/Kg	T	18.6	:	<0.2	J	<0.18	J	<0.2	J	<0.18	J	0.29	J		
Potassium	mg/Kg	T	1500.	J	1650.	:	1730.	:	1870.	:	1760.	:	1840.	:		
Selenium	mg/Kg	T	<0.71	J	1.9	J	1.4	J	<1.5	J	1.6	J	<1.3	J		
Silver	mg/Kg	T	<0.13	:	<0.089	J	<0.083	J	<0.089	J	<0.079	J	<0.076	J		
Sodium	mg/Kg	T	845.	:	656.	:	694.	:	704.	:	636.	:	691.	:		
Thallium	mg/Kg	T	<0.089	:	<0.42	:	<0.45	:	<0.5	:	<0.52	:	<0.44	:		
Vanadium	mg/Kg	T	0.79	:	0.3	:	0.34	:	<0.22	:	<0.19	:	0.69	:		
Zinc	mg/Kg	T	19.3	:	17.4	:	18.6	:	21.9	:	17.7	:	19.4	:		

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11a
Small Animals - Earthworms
Validated Analytical Results

Parameter	Units	Fraction	TSS14-5		TSS14-6		TSS14-7		TSS14-8		TSS14-9		----
Sample Date			7/23/2003		7/23/2003		7/23/2003		7/23/2003		7/23/2003		
Sample ID			TSS14-5-T02N-WORM		TSS14-6-T02N-WORM		TSS14-7-T02N-WORM		TSS14-8-T02N-WORM		TSS14-9-T02N-WORM		
Exposure Area			SS14		SS14		SS14		SS14		SS14		
Laboratory Parameters													
Solids, Percent	%	T	19.5	:	19.1	:	15.3	:	18.4	:	15.7	:	-
Metals													
Aluminum	mg/Kg	T	172.	J	111.	J	33.5	J	111.	J	65.9	J	-
Antimony	mg/Kg	T	<0.61	:	<0.33	:	<0.58	:	<0.35	:	<0.49	:	-
Arsenic	mg/Kg	T	3.8	:	3.8	:	2.	:	2.2	:	5.1	:	-
Barium	mg/Kg	T	2.1	:	2.8	:	1.	:	1.5	:	1.4	:	-
Beryllium	mg/Kg	T	<0.019	:	<0.018	:	<0.018	:	<0.018	:	<0.018	:	-
Boron	mg/Kg	T	0.48	:	0.71	:	<0.41	:	0.55	:	0.6	:	-
Cadmium	mg/Kg	T	0.41	:	0.29	:	0.29	:	0.34	:	0.41	:	-
Calcium	mg/Kg	T	1010.	:	982.	:	515.	:	813.	:	582.	:	-
Chromium	mg/Kg	T	0.67	:	0.43	:	0.27	:	0.51	:	0.51	:	-
Cobalt	mg/Kg	T	0.37	:	0.3	:	0.24	:	0.36	:	0.39	:	-
Copper	mg/Kg	T	4.9	:	2.4	:	1.4	:	4.6	:	4.3	:	-
Iron	mg/Kg	T	290.	J	143.	J	74.6	J	235.	J	128.	J	-
Lead	mg/Kg	T	<0.6	:	<0.13	:	<0.14	J	<0.6	J	<0.14	:	-
Magnesium	mg/Kg	T	241.	:	193.	:	138.	:	212.	:	147.	:	-
Manganese	mg/Kg	T	9.	:	4.8	:	4.2	:	6.5	:	4.7	:	-
Mercury	mg/Kg	T	<0.016	:	<0.016	:	<0.015	:	<0.016	:	<0.015	:	-
Molybdenum	mg/Kg	T	2.	:	0.59	:	0.16	:	1.5	:	0.65	:	-
Nickel	mg/Kg	T	<0.19	J	<0.18	J	<0.18	J	<0.18	J	0.25	J	-
Potassium	mg/Kg	T	1990.	:	1690.	:	1520.	:	1880.	:	1480.	:	-
Selenium	mg/Kg	T	2.1	J	<1.5	J	<1.8	J	<1.6	J	2.2	J	-
Silver	mg/Kg	T	<0.086	J	<0.079	J	<0.081	J	<0.083	J	<0.083	:	-
Sodium	mg/Kg	T	765.	:	683.	:	594.	:	662.	:	662.	:	-
Thallium	mg/Kg	T	<0.46	:	<0.49	:	<0.61	:	<0.54	:	<0.64	:	-
Vanadium	mg/Kg	T	0.47	:	0.34	:	<0.2	:	0.34	:	0.25	:	-
Zinc	mg/Kg	T	20.1	:	17.1	:	14.8	:	18.5	:	15.6	:	-

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction
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Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area													
			BOC-1 6/4/2003 BOC-1-T04N-TRV SS4A1		BOC-2 6/4/2003 BOC-2-T04N-TRV SS4A1		BOC-3 6/5/2003 BOC-3-T04N-TRV SS4A1		BOC-4 6/5/2003 BOC-4-T04N-TRV SS4A1		BOC-5 6/6/2003 BOC-5-T04N-TRV SS4A1		CR-10 6/5/2003 CR-10-T01N-TRV RCR	
Laboratory Parameters																
Solids, Percent	%	T	20.76936	:	20.95868	:	23.95345	:	20.27261	:	24.54088	:	27.9	:
Metals																
Aluminum	mg/kg	T	13.43626	J	10.51673	J	14.49371	J	8.35315	J	13.02738	J	42.	:
Antimony	mg/kg	T	0.03151	J	<0.03332	:	0.03389	J	<0.03146	:	0.03128	J	<0.033	:
Arsenic	mg/kg	T	0.0884	J	<0.07674	:	<0.07806	:	<0.07245	:	<0.06767	:	0.083	J
Barium	mg/kg	T	5.44202	:	5.75626	J	8.54853	:	10.46614	:	6.09802	:	5.1	:
Beryllium	mg/kg	T	0.02948	J	<0.0313	:	<0.03184	:	<0.02955	:	<0.0276	:	<0.031	:
Boron	mg/kg	T	1.07038	:	0.38547	:	0.48493	J	0.4862	J	0.41668	J	<0.36	:
Cadmium	mg/Kg	T	0.16654	J	0.05419	:	0.11767	J	0.03974	:	0.05259	:	0.043	J
Calcium	mg/Kg	T	6870.691	:	5849.897	:	10563.01	:	5996.261	:	7938.05	:	10000.	:
Chromium	mg/Kg	T	0.2454	:	0.22675	:	0.38235	:	0.22702	:	0.39997	:	0.5	:
Cobalt	mg/kg	T	0.05237	J	0.03161	J	0.03477	J	0.03598	J	0.02744	J	0.092	J
Copper	mg/kg	T	2.37792	J	1.93647	J	2.27132	J	1.7908	J	2.45233	J	3.6	J
Iron	mg/Kg	T	68.50677	J	65.74463	J	65.85439	J	57.71692	J	78.11644	J	130.	:
Lead	mg/Kg	T	0.18405	J	0.12753	J	0.20482	J	0.13797	J	0.18838	J	0.18	J
Magnesium	mg/kg	T	303.6287	:	233.601	:	381.4567	:	266.0453	:	416.8683	:	380.	:
Manganese	mg/Kg	T	4.783	J	1.97271	J	2.00023	J	1.93328	J	2.41464	J	5.	J
Mercury	mg/kg	T	<0.00214	:	<0.00224	:	<0.00209	:	<0.00215	:	<0.00212	:	0.0024	J
Molybdenum	mg/kg	T	0.18982	J	0.11863	:	0.15485	J	0.10619	J	0.11099	J	0.16	J
Nickel	mg/Kg	T	0.42287	J	0.16587	J	0.23472	J	0.26934	J	0.24421	J	0.94	J
Potassium	mg/Kg	T	2225.512	:	2014.989	:	2013.653	:	2210.258	:	2196.868	:	2700.	:
Selenium	mg/kg	T	0.32588	J	0.27604	J	0.35187	J	0.18015	J	0.34115	J	0.59	:
Silver	mg/Kg	T	<0.03473	:	<0.03208	:	<0.0346	:	<0.03268	:	<0.02968	:	<0.034	:
Sodium	mg/Kg	T	999.8717	:	1120.694	:	1411.301	:	1209.101	:	1401.496	:	1100.	:
Thallium	mg/Kg	T	0.02699	J	<0.0212	:	<0.02157	:	<0.02002	:	<0.0187	:	<0.021	:
Vanadium	mg/Kg	T	0.25809	J	0.20937	J	0.22114	J	0.20212	J	0.20183	J	0.33	J
Zinc	mg/kg	T	23.1158	J	47.69674	J	53.1245	:	60.09882	:	81.58897	:	64.	J

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T = Total Fraction

Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Fraction	CR-10		CR-11		CR-13		CR-14		CR-2		CR-4	
Sample Date			6/7/2003		6/3/2003		6/5/2003		6/4/2003		6/6/2003		6/3/2003	
Sample ID			CR-10-T02N-TRV		CR-11-T01N-TRV		CR-13-T01N-TRV		CR-14-T01N-TRV		CR-2-T01N-TRV		CR-4-T01N-TRV	
Exposure Area			RCR		RCR		RCR		RCR		RCR		RCR	
Laboratory Parameters														
Solids, Percent	%	T	22.9	:	19.9	:	24.1	:	19.6	:	25.9	:	26.3	:
Metals														
Aluminum	mg/kg	T	53.	:	52.	:	51.	:	49.	:	24.	:	22.	:
Antimony	mg/kg	T	<0.03028	:	<0.033	:	<0.03235	:	<0.03267	:	<0.03235	:	<0.03143	:
Arsenic	mg/kg	T	0.077	J	<0.076	:	<0.07451	:	<0.07525	:	<0.07451	:	<0.07238	:
Barium	mg/kg	T	7.4	:	2.9	J	2.4	J	1.7	J	2.2	J	1.1	J
Beryllium	mg/kg	T	<0.02844	:	<0.031	:	<0.03039	:	<0.03069	:	<0.03039	:	<0.02952	:
Boron	mg/kg	T	1.9	:	0.55	J	0.55	J	0.53	J	<0.35294	:	<0.34286	:
Cadmium	mg/Kg	T	<0.03486	:	0.045	J	<0.03725	:	<0.03762	:	0.11	J	0.31	:
Calcium	mg/Kg	T	11000.	:	4600.	:	4500.	:	3200.	:	6000.	:	3400.	:
Chromium	mg/Kg	T	0.44	:	0.33	:	0.51	:	0.21	:	0.44	:	0.23	:
Cobalt	mg/kg	T	0.11	J	0.057	J	0.065	J	0.054	J	0.059	J	0.042	J
Copper	mg/kg	T	2.6	J	3.9	J	4.7	J	4.5	J	4.1	J	4.3	J
Iron	mg/Kg	T	120.	:	110.	:	120.	:	100.	:	81.	J	66.	J
Lead	mg/Kg	T	0.087	J	0.13	J	0.12	J	0.084	J	0.058	J	0.12	J
Magnesium	mg/kg	T	420.	:	270.	:	290.	:	270.	:	330.	:	300.	:
Manganese	mg/Kg	T	6.3	J	4.9	J	4.	J	3.4	J	3.9	J	3.4	J
Mercury	mg/kg	T	0.003	J	0.0036	J	0.0051	J	0.0039	J	0.0026	J	<0.00205	:
Molybdenum	mg/kg	T	0.13	J	0.19	J	0.21	J	0.17	J	0.2	J	0.19	J
Nickel	mg/Kg	T	0.33	J	0.23	J	0.3	J	0.16	J	0.32	J	0.18	J
Potassium	mg/Kg	T	2400.	:	2200.	:	2300.	:	2000.	:	2300.	:	2200.	:
Selenium	mg/kg	T	0.44	J	0.41	J	0.74	:	0.51	:	0.61	:	0.44	J
Silver	mg/Kg	T	<0.03238	:	<0.03333	:	<0.03301	:	<0.03366	:	<0.03301	:	<0.03148	:
Sodium	mg/Kg	T	1000.	:	920.	:	870.	:	730.	:	800.	:	760.	:
Thallium	mg/Kg	T	<0.01927	:	<0.021	:	<0.02059	:	<0.02079	:	<0.02059	:	<0.02	:
Vanadium	mg/Kg	T	0.26	J	0.23	J	0.25	J	0.25	J	0.24	J	0.19	J
Zinc	mg/kg	T	24.	:	19.	J	20.	J	17.	J	56.	J	25.	J

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area													
			CR-5 6/2/2003 CR-5-T01N-TRV RCR		CR-6 6/5/2003 CR-6-T01N-TRV RCR		CR-7 6/2/2003 CR-7-T01N-TRV RCR		CR-7 6/4/2003 CR-7-T02N-TRV RCR		CR-8 6/1/2003 CR-8-T01N-TRV RCR		CR-8 6/6/2003 CR-8-T02N-TRV RCR	
Laboratory Parameters														
Solids, Percent	%	T	25.4	:	27.1	:	27.1	:	23.9	:	22.7	:	25.5	:
Metals														
Aluminum	mg/kg	T	38.	:	35.	:	37.	:	77.	:	62.	:	77.	:
Antimony	mg/kg	T	<0.03235	:	<0.03028	:	<0.03267	:	<0.03204	:	<0.03204	:	<0.03267	:
Arsenic	mg/kg	T	<0.07451	:	<0.06972	:	<0.07525	:	0.074	J	<0.07379	:	0.076	J
Barium	mg/kg	T	1.9	J	2.7	J	3.4	J	4.1	J	2.5	J	7.9	:
Beryllium	mg/kg	T	<0.03039	:	<0.02844	:	<0.03069	:	<0.0301	:	<0.0301	:	<0.03069	:
Boron	mg/kg	T	0.39	J	0.56	J	0.45	J	1.2	:	<0.34951	:	0.94	J
Cadmium	mg/Kg	T	0.044	J	<0.03486	:	<0.03762	:	0.057	J	<0.03689	:	<0.03762	:
Calcium	mg/Kg	T	5200.	:	5600.	:	6100.	:	8500.	:	4900.	:	9100.	:
Chromium	mg/Kg	T	0.42	:	0.48	:	0.38	:	0.79	:	0.48	:	0.69	:
Cobalt	mg/kg	T	0.045	J	0.038	J	0.052	J	0.099	J	0.064	J	0.12	J
Copper	mg/kg	T	3.6	J	4.7	J	3.5	J	2.2	J	4.	J	5.5	J
Iron	mg/Kg	T	89.	J	96.	:	99.	:	130.	:	130.	:	150.	:
Lead	mg/Kg	T	0.075	J	0.084	J	0.082	J	0.1	J	0.11	J	0.24	J
Magnesium	mg/kg	T	280.	:	290.	:	330.	:	380.	:	310.	:	370.	:
Manganese	mg/Kg	T	2.5	J	3.3	J	3.3	J	4.6	J	3.8	J	5.	J
Mercury	mg/kg	T	0.0031	J	0.003	J	0.0028	J	0.0037	J	0.0058	J	0.0041	J
Molybdenum	mg/kg	T	0.18	J	0.2	J	0.17	J	0.23	J	0.24	J	0.49	J
Nickel	mg/Kg	T	0.26	J	0.28	J	0.27	J	0.51	J	0.31	J	1.3	J
Potassium	mg/Kg	T	2400.	:	2200.	:	2400.	:	2100.	:	2200.	:	2000.	:
Selenium	mg/kg	T	0.59	:	0.65	:	0.61	:	0.53	:	0.77	:	0.51	:
Silver	mg/Kg	T	<0.03301	:	<0.03333	:	<0.034	:	<0.034	:	<0.03366	:	<0.03301	:
Sodium	mg/Kg	T	900.	:	830.	:	1000.	:	1100.	:	980.	:	980.	:
Thallium	mg/Kg	T	<0.02059	:	<0.01927	:	<0.02079	:	<0.02039	:	<0.02039	:	<0.02079	:
Vanadium	mg/Kg	T	0.27	J	0.27	J	0.3	J	0.26	J	0.26	J	0.29	J
Zinc	mg/kg	T	25.	J	29.	J	29.	:	24.	J	19.	J	28.	J

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T = Total Fraction

Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area											
			MRSS-1 10/4/2002 MSSR-1-T01N-TRV RefMine		MRSS-16 9/30/2002 MRSS-16-T01N-TRV RefMine		MRSS-17 9/30/2002 MRSS-17-T01N-TRV RefMine		MRSS-18 9/29/2002 MRSS-18-T02N-TRV RefMine		MRSS-19 9/28/2002 MRSS-19-T01N-TRV RefMine		MRSS-2 10/4/2002 MSSR-2-T01N-TRV RefMine	
Laboratory Parameters														
Solids, Percent	%	T	28.1	:	26.6	:	32.4	:	26.2	:	30.2	:	25.2	:
Metals														
Aluminum	mg/kg	T	25.	:	21.	:	12.	J	11.	J	22.	:	16.	J
Antimony	mg/kg	T	<0.032	:	<0.033	:	0.038	J	<0.031	:	<0.033	:	<0.033	:
Arsenic	mg/kg	T	0.11	J	0.31	:	0.7	:	0.24	:	0.83	:	0.13	J
Barium	mg/kg	T	5.5	:	13.	:	9.4	:	4.	J	7.4	:	6.5	:
Beryllium	mg/kg	T	<0.03	:	<0.031	:	<0.031	:	<0.029	:	<0.031	:	<0.031	:
Boron	mg/kg	T	0.74	J	0.95	J	1.3	:	<0.34	:	0.66	J	0.51	J
Cadmium	mg/Kg	T	<0.037	:	0.069	J	0.062	J	<0.036	:	<0.038	:	<0.038	:
Calcium	mg/Kg	T	10000.	:	5900.	:	9200.	:	5300.	:	9600.	:	5200.	:
Chromium	mg/Kg	T	0.79	:	0.51	:	0.49	:	0.2	:	0.46	:	0.21	:
Cobalt	mg/kg	T	0.069	J	0.12	J	0.059	J	<0.029	:	0.089	J	0.077	J
Copper	mg/kg	T	8.2	J	2.9	J	3.8	J	2.6	J	5.2	J	2.7	J
Iron	mg/Kg	T	130.	J	130.	J	130.	J	68.	J	120.	J	97.	J
Lead	mg/Kg	T	0.19	J	0.25	J	0.26	J	0.18	J	0.3	J	0.14	J
Magnesium	mg/kg	T	420.	:	430.	:	440.	:	250.	:	480.	:	290.	:
Manganese	mg/Kg	T	4.7	J	9.1	J	3.2	J	2.1	J	5.5	J	3.3	J
Mercury	mg/kg	T	<0.0021	J	<0.0021	J	<0.0021	J	0.012	J	0.0048	J	<0.0021	J
Molybdenum	mg/kg	T	0.37	J	0.21	J	0.14	J	0.11	J	1.1	:	0.7	J
Nickel	mg/Kg	T	0.58	J	0.86	J	0.65	J	0.27	J	0.88	J	0.41	J
Potassium	mg/Kg	T	2900.	:	2700.	:	2700.	:	2000.	:	2600.	:	2100.	:
Selenium	mg/kg	T	0.42	J	0.35	J	0.46	J	0.28	J	0.35	J	0.3	J
Silver	mg/Kg	T	<0.041	:	<0.042	:	<0.041	:	<0.041	:	<0.042	:	<0.042	:
Sodium	mg/Kg	T	1200.	:	1200.	:	1100.	:	840.	:	1200.	:	890.	:
Thallium	mg/Kg	T	<0.021	:	<0.021	:	<0.021	:	<0.02	:	<0.021	:	<0.021	:
Vanadium	mg/Kg	T	0.23	J	0.29	J	0.3	J	0.13	J	0.18	J	0.12	J
Zinc	mg/kg	T	33.	:	64.	:	61.	:	21.	J	55.	:	35.	:

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Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID													
			MRSS-20 9/28/2002 MRSS-20-T01N-TRV		MRSS-3 10/4/2002 MSSR-3-T01N-TRV		MRSS-4 10/4/2002 MSSR-4-T01N-TRV		MRSS-5 10/5/2002 MSSR-5-T01N-TRV		MSS3-1 9/27/2002 MSS3-1-T01N-TRV		MSS3-10 9/26/2002 MSS3-10-T01N-TRV	
			RefMine		RefMine		RefMine		RefMine		SS3		SS3	
Laboratory Parameters														
Solids, Percent	%	T	27.7	:	27.5	:	28.3	:	28.	:	41.3	:	28.	:
Metals														
Aluminum	mg/kg	T	34.	:	19.	:	14.	J	14.	J	27.	:	14.	J
Antimony	mg/kg	T	<0.032	:	<0.03	:	<0.029	:	<0.032	:	<0.033	:	0.035	J
Arsenic	mg/kg	T	0.41	:	0.69	:	0.3	:	0.36	:	0.37	:	0.26	:
Barium	mg/kg	T	24.	:	4.4	J	6.5	:	6.8	:	5.7	:	5.6	:
Beryllium	mg/kg	T	<0.03	:	<0.028	:	<0.027	:	<0.03	:	<0.031	:	<0.028	:
Boron	mg/kg	T	0.54	J	0.66	J	0.33	J	0.89	J	1.1	:	0.56	J
Cadmium	mg/Kg	T	<0.037	:	<0.035	:	<0.033	:	<0.037	:	<0.038	:	<0.035	:
Calcium	mg/Kg	T	7900.	:	8100.	:	12000.	:	7000.	:	11000.	:	6400.	:
Chromium	mg/Kg	T	0.69	:	0.29	:	0.35	:	0.33	:	0.38	:	0.27	:
Cobalt	mg/kg	T	0.18	J	0.065	J	0.05	J	0.053	J	0.043	J	0.045	J
Copper	mg/kg	T	2.	J	4.	J	3.	J	8.7	J	7.4	J	3.3	J
Iron	mg/Kg	T	140.	J	120.	J	140.	J	130.	J	100.	J	95.	J
Lead	mg/Kg	T	0.18	J	0.24	J	0.42	J	0.4	J	0.22	J	0.29	J
Magnesium	mg/kg	T	480.	:	360.	:	440.	:	400.	:	440.	:	310.	:
Manganese	mg/Kg	T	11.	J	8.6	J	2.8	J	5.1	J	5.8	J	2.7	J
Mercury	mg/kg	T	<0.0021	J	0.013	J	0.021	J	0.025	J	0.045	J	0.015	J
Molybdenum	mg/kg	T	0.17	J	<0.077	:	<0.074	:	<0.082	:	0.2	J	0.26	J
Nickel	mg/Kg	T	1.5	J	0.62	J	0.59	J	0.92	J	0.25	J	0.39	J
Potassium	mg/Kg	T	2400.	:	2300.	:	2900.	:	2700.	:	3100.	:	2100.	:
Selenium	mg/kg	T	0.31	J	0.46	:	0.67	:	0.46	J	0.46	J	0.4	J
Silver	mg/Kg	T	<0.04	:	<0.039	:	<0.038	:	<0.04	:	<0.039	:	<0.036	:
Sodium	mg/Kg	T	980.	:	1000.	:	1200.	:	1200.	:	1200.	:	930.	:
Thallium	mg/Kg	T	<0.021	:	<0.019	:	<0.018	:	<0.02	:	<0.021	:	<0.019	:
Vanadium	mg/Kg	T	0.24	J	0.24	J	0.24	J	0.23	J	0.18	J	0.12	J
Zinc	mg/kg	T	60.	:	24.	:	37.	:	29.	:	28.	:	130.	:

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Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area													
			MSS3-2		MSS3-3		MSS3-4		MSS3-5		MSS3-6		MSS3-7	
			9/28/2002		9/30/2002		9/30/2002		9/27/2002		9/28/2002		10/2/2002	
			MSS3-2-T01N-TRV		MSS3-3-T01N-TRV		MSS3-4-T01N-TRV		MSS3-5-T01N-TRV		MSS3-6-T01N-TRV		MSS3-7-T01N-TRV	
			SS3		SS3		SS3		SS3		SS3		SS3	
Laboratory Parameters														
Solids, Percent	%	T	28.7	:	28.9	:	33.3	:	27.5	:	35.8	:	23.8	:
Metals														
Aluminum	mg/kg	T	22.	:	37.	:	7.8	J	18.	J	23.	:	19.	J
Antimony	mg/kg	T	<0.03	:	0.035	J	<0.03	:	<0.031	:	<0.029	:	<0.033	:
Arsenic	mg/kg	T	0.16	J	<0.07	:	0.11	J	0.13	J	0.21	:	0.19	J
Barium	mg/kg	T	7.3	:	24.	:	3.3	J	2.1	J	4.2	J	3.1	J
Beryllium	mg/kg	T	<0.028	:	<0.028	:	<0.028	:	<0.029	:	<0.027	:	<0.031	:
Boron	mg/kg	T	0.53	J	0.62	J	0.53	J	0.69	J	0.74	J	0.61	J
Cadmium	mg/Kg	T	<0.034	:	<0.035	:	<0.034	:	<0.036	:	<0.033	:	<0.038	:
Calcium	mg/Kg	T	9200.	:	12000.	:	8800.	:	8000.	:	8400.	:	8100.	:
Chromium	mg/Kg	T	0.36	:	0.89	:	0.36	:	0.27	:	0.24	:	0.37	:
Cobalt	mg/kg	T	0.059	J	0.19	J	0.034	J	<0.029	:	0.035	J	0.052	J
Copper	mg/kg	T	4.2	J	2.8	J	4.8	J	3.8	J	3.1	J	3.1	J
Iron	mg/Kg	T	110.	J	170.	J	82.	J	100.	J	110.	J	130.	J
Lead	mg/Kg	T	0.4	J	0.35	J	0.14	J	0.3	J	0.22	J	0.37	J
Magnesium	mg/kg	T	390.	:	600.	:	390.	:	300.	:	340.	:	310.	:
Manganese	mg/Kg	T	5.	J	9.7	J	3.7	J	2.1	J	4.2	J	5.7	J
Mercury	mg/kg	T	0.0067	J	<0.0021	J	<0.0021	J	0.019	J	0.023	J	0.0093	J
Molybdenum	mg/kg	T	0.17	J	0.18	J	0.22	J	0.14	J	0.3	J	<0.084	:
Nickel	mg/Kg	T	0.75	J	1.4	J	0.39	J	0.19	J	0.29	J	0.48	J
Potassium	mg/Kg	T	2200.	:	2500.	:	2600.	:	2200.	:	2600.	:	2100.	:
Selenium	mg/kg	T	0.34	J	0.31	J	0.32	J	0.34	J	0.45	:	0.31	J
Silver	mg/Kg	T	<0.036	:	<0.041	:	<0.04	:	<0.039	:	<0.036	:	0.062	J
Sodium	mg/Kg	T	930.	:	1300.	:	1100.	:	940.	:	1000.	:	940.	:
Thallium	mg/Kg	T	<0.019	:	<0.019	:	<0.019	:	<0.02	:	<0.018	:	<0.021	:
Vanadium	mg/Kg	T	0.13	J	0.27	J	0.25	J	0.13	J	0.18	J	0.24	J
Zinc	mg/kg	T	70.	:	110.	:	28.	:	19.	J	25.	:	53.	:

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Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area		MSS3-8 9/29/2002 MSS3-8-T01N-TRV SS3		MSS3-9 9/28/2002 MSS3-9-T01N-TRV SS3		RRS-1 9/27/2002 RRS-1-T01N-TRV RefMineR		RRS-10 10/2/2002 RRS-10-T01N-TRV RefMineR		RRS-11 10/3/2002 RRS-11-T01N-TRV RefMineR		RRS-12 10/3/2002 RRS-12-T01N-TRV RefMineR	
Laboratory Parameters																
Solids, Percent	%	T			28.5	:	37.	:	28.5	:	30.5	:	23.7	:	26.2	:
Metals																
Aluminum	mg/kg	T			57.	:	35.	:	23.	:	21.	:	54.	:	23.	:
Antimony	mg/kg	T			<0.031	:	<0.028	:	<0.031	:	<0.033	:	<0.033	:	<0.033	:
Arsenic	mg/kg	T			0.12	J	0.2	:	<0.071	:	0.17	J	0.56	:	0.23	:
Barium	mg/kg	T			2.5	J	5.4	:	6.5	:	4.6	J	14.	:	8.	:
Beryllium	mg/kg	T			<0.029	:	<0.027	:	<0.029	:	<0.031	:	<0.031	:	<0.031	:
Boron	mg/kg	T			0.9	J	0.79	J	0.84	J	0.55	J	0.68	J	0.62	J
Cadmium	mg/Kg	T			0.039	J	0.039	J	<0.036	:	0.2	J	0.11	J	0.045	J
Calcium	mg/Kg	T			7100.	:	8300.	:	11000.	:	6300.	:	8900.	:	9100.	J
Chromium	mg/Kg	T			0.45	:	0.32	:	0.37	:	0.6	:	0.61	:	0.51	:
Cobalt	mg/kg	T			0.13	J	0.05	J	0.037	J	0.05	J	0.19	J	0.093	J
Copper	mg/kg	T			4.	J	3.2	J	9.9	J	7.3	J	4.2	J	3.3	J
Iron	mg/Kg	T			160.	J	140.	J	95.	J	98.	J	210.	J	130.	J
Lead	mg/Kg	T			0.2	J	0.55	J	0.24	J	0.41	J	0.27	J	0.18	J
Magnesium	mg/kg	T			350.	:	340.	:	380.	:	320.	:	720.	:	510.	:
Manganese	mg/Kg	T			7.1	J	4.3	J	3.5	J	4.7	J	12.	J	6.5	J
Mercury	mg/kg	T			0.0078	J	0.016	J	0.014	J	<0.0021	J	<0.002	J	<0.0021	J
Molybdenum	mg/kg	T			0.49	J	0.32	J	0.22	J	0.24	J	<0.083	:	<0.084	:
Nickel	mg/Kg	T			0.68	J	0.26	J	0.29	J	0.62	J	1.5	J	0.89	J
Potassium	mg/Kg	T			2400.	:	2300.	:	2400.	:	2200.	:	2600.	:	2500.	:
Selenium	mg/kg	T			0.35	J	0.37	J	0.42	J	0.54	:	0.51	:	0.33	J
Silver	mg/Kg	T			0.053	J	<0.039	:	<0.042	:	<0.039	:	<0.04	:	<0.042	:
Sodium	mg/Kg	T			970.	:	1000.	:	1200.	:	950.	:	1200.	:	1100.	:
Thallium	mg/Kg	T			<0.019	:	<0.018	:	<0.02	:	<0.021	:	<0.021	:	<0.021	:
Vanadium	mg/Kg	T			0.22	J	0.2	J	0.16	J	0.21	J	0.26	J	0.3	J
Zinc	mg/kg	T			21.	J	24.	:	28.	:	25.	:	80.	:	41.	:

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Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area											
			RRS-13 10/3/2002 RRS-13-T01N-TRV RefMineR		RRS-19 10/8/2002 RRS-19-T01N-TRV RLCCR		RRS-20 10/6/2002 RRS-20-T01N-TRV RLCCR		RRS-29 10/9/2002 RRS-29-T01N-TRV RLCCR		RRS-3 9/28/2002 RRS-3-T01N-TRV RefMineR		RRS-5 9/27/2002 RRS-5-T01N-TRV RefMineR	
Laboratory Parameters														
Solids, Percent	%	T	30.7	:	33.5	:	27.5	:	34.9	:	24.6	:	27.	:
Metals														
Aluminum	mg/kg	T	27.	:	32.	:	20.	:	7.	J	13.	J	19.	:
Antimony	mg/kg	T	<0.033	:	<0.03	:	<0.032	:	<0.031	:	0.032	J	<0.028	:
Arsenic	mg/kg	T	0.078	J	0.11	J	0.095	J	<0.07	:	0.24	:	0.089	J
Barium	mg/kg	T	7.1	:	12.	:	8.6	:	6.3	:	7.	:	7.7	:
Beryllium	mg/kg	T	<0.031	:	<0.028	:	<0.03	:	<0.029	:	<0.028	:	<0.026	:
Boron	mg/kg	T	0.67	J	0.51	J	0.72	J	1.4	:	0.48	J	0.38	J
Cadmium	mg/Kg	T	<0.038	:	<0.034	:	0.04	J	<0.035	:	<0.034	:	<0.032	:
Calcium	mg/Kg	T	7500.	:	12000.	:	11000.	:	14000.	:	10000.	:	8400.	:
Chromium	mg/Kg	T	0.72	:	0.65	:	0.41	:	0.35	:	0.23	:	0.44	:
Cobalt	mg/kg	T	0.091	J	0.12	J	0.067	J	0.031	J	0.042	J	0.06	J
Copper	mg/kg	T	8.8	J	4.1	J	4.1	J	19.	:	3.4	J	5.3	J
Iron	mg/Kg	T	120.	J	160.	J	150.	J	110.	J	100.	J	100.	J
Lead	mg/Kg	T	0.1	J	0.7	J	0.1	J	0.14	J	0.32	J	0.24	J
Magnesium	mg/kg	T	480.	:	580.	:	500.	:	550.	:	390.	:	370.	:
Manganese	mg/Kg	T	4.6	J	5.9	J	3.3	J	2.5	J	2.4	J	3.9	J
Mercury	mg/kg	T	<0.0021	J	0.0037	J	<0.002	J	0.0022	J	0.0084	J	0.0085	J
Molybdenum	mg/kg	T	0.24	J	<0.076	:	<0.082	:	<0.078	:	0.23	J	0.36	J
Nickel	mg/Kg	T	0.84	J	1.1	J	0.78	J	0.33	J	0.4	J	0.57	J
Potassium	mg/Kg	T	2800.	:	3200.	:	2700.	:	3200.	:	1900.	:	2300.	:
Selenium	mg/kg	T	0.4	J	0.5	:	0.35	J	0.45	J	0.41	J	0.47	:
Silver	mg/Kg	T	<0.04	:	<0.039	:	<0.041	:	<0.039	:	<0.038	:	<0.039	:
Sodium	mg/Kg	T	1100.	:	1400.	:	1400.	:	1600.	:	940.	:	1100.	:
Thallium	mg/Kg	T	<0.021	:	<0.019	:	<0.021	:	<0.019	:	<0.019	:	<0.018	:
Vanadium	mg/Kg	T	0.23	J	0.36	J	0.27	J	0.24	J	0.11	J	0.17	J
Zinc	mg/kg	T	32.	:	36.	:	35.	:	34.	:	110.	:	44.	:

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID		RRS-7 9/30/2002 RRS-7-T01N-TRV RefMineR		RRS-8 9/27/2002 RRS-8-T01N-TRV RefMineR		RRS-9 10/2/2002 RRS-9-T01N-TRV RefMineR		RS-1 9/26/2002 RS-1-T01N-TRV SS9		RS-10 10/2/2002 RS-10-T01N-TRV SS9		RS-11 10/3/2002 RS-11-T01N-TRV SS16	
Laboratory Parameters																
Solids, Percent	%	T			29.3	:	28.6	:	31.6	:	29.2	:	24.4	:	29.7	:
Metals																
Aluminum	mg/kg	T			47.	:	27.	:	29.	:	95.	:	17.	:	13.	J
Antimony	mg/kg	T			<0.032	:	<0.031	:	<0.029	:	<0.031	:	<0.029	:	<0.033	:
Arsenic	mg/kg	T			0.093	J	0.82	:	0.52	:	0.088	J	<0.066	:	<0.076	:
Barium	mg/kg	T			13.	:	7.	:	12.	:	5.2	:	1.2	J	4.3	J
Beryllium	mg/kg	T			<0.03	:	<0.029	:	<0.027	:	<0.03	:	<0.027	:	<0.031	:
Boron	mg/kg	T			0.78	J	0.64	J	0.5	J	0.93	J	0.38	J	1.1	:
Cadmium	mg/Kg	T			0.048	J	0.045	J	0.14	J	0.23	J	<0.033	:	<0.038	:
Calcium	mg/Kg	T			8600.	:	8900.	:	7000.	:	6800.	:	4900.	:	8800.	:
Chromium	mg/Kg	T			0.73	:	0.51	:	0.77	:	1.4	:	0.33	:	0.3	:
Cobalt	mg/kg	T			0.19	J	0.088	J	0.12	J	0.084	J	0.033	J	0.032	J
Copper	mg/kg	T			3.5	J	5.3	J	5.4	J	5.4	J	5.	J	4.9	J
Iron	mg/Kg	T			160.	J	140.	J	120.	J	260.	J	93.	J	98.	J
Lead	mg/Kg	T			0.18	J	0.32	J	0.25	J	0.85	J	0.14	J	0.11	J
Magnesium	mg/kg	T			520.	:	480.	:	410.	:	410.	:	290.	:	390.	:
Manganese	mg/Kg	T			13.	J	5.9	J	4.7	J	7.	J	2.2	J	3.8	J
Mercury	mg/kg	T			<0.0021	J	<0.0021	J	<0.0021	J	<0.0021	J	<0.0021	J	<0.0021	J
Molybdenum	mg/kg	T			0.57	J	1.3	:	0.13	J	0.24	J	0.14	J	0.32	J
Nickel	mg/Kg	T			1.5	J	0.86	J	1.2	J	0.49	J	0.18	J	0.37	J
Potassium	mg/Kg	T			2700.	:	2600.	:	1900.	:	2300.	:	1900.	:	2500.	:
Selenium	mg/kg	T			0.32	J	0.38	J	0.52	:	0.33	J	0.18	J	0.39	J
Silver	mg/Kg	T			<0.037	:	<0.037	:	<0.037	:	<0.042	:	<0.036	:	<0.041	:
Sodium	mg/Kg	T			1300.	:	1200.	:	990.	:	910.	:	840.	:	1100.	:
Thallium	mg/Kg	T			<0.02	:	<0.02	:	<0.018	:	<0.02	:	<0.018	:	<0.021	:
Vanadium	mg/Kg	T			0.25	J	0.16	J	0.21	J	0.7	J	0.091	J	0.23	J
Zinc	mg/kg	T			30.	:	57.	:	29.	:	24.	:	19.	J	30.	:

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T = Total Fraction

Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID		RS-12 10/6/2002 RS-12-T01N-TRV SS16		RS-13 10/2/2002 RS-13-T01N-TRV SS16		RS-14 10/5/2002 RS-14-T01N-TRV SS16		RS-15 10/7/2002 RS-15-T01N-TRV SS16		RS-16 10/6/2002 RS-16-T01N-TRV SS16		RS-17 10/6/2002 RS-17-T01N-TRV SS16	
Laboratory Parameters																
Solids, Percent	%	T			34.3	:	29.7	:	28.9	:	26.1	:	23.4	:	25.5	:
Metals																
Aluminum	mg/kg	T			28.	:	43.	:	21.	:	25.	:	27.	:	13.	J
Antimony	mg/kg	T			<0.028	:	<0.031	:	<0.03	:	<0.029	:	<0.031	:	<0.032	:
Arsenic	mg/kg	T			0.072	J	<0.072	:	0.14	J	0.083	J	<0.072	:	<0.074	:
Barium	mg/kg	T			25.	:	13.	:	5.3	:	3.8	J	4.4	J	1.8	J
Beryllium	mg/kg	T			<0.027	:	<0.029	:	<0.028	:	<0.027	:	<0.03	:	<0.03	:
Boron	mg/kg	T			0.52	J	0.71	J	1.2	:	0.81	J	0.86	J	0.7	J
Cadmium	mg/Kg	T			<0.033	:	<0.036	:	0.085	J	<0.034	:	<0.036	:	0.038	J
Calcium	mg/Kg	T			17000.	:	9400.	:	7900.	:	5700.	:	6800.	:	5900.	:
Chromium	mg/Kg	T			0.69	:	0.85	:	0.25	:	0.29	:	0.34	:	0.25	:
Cobalt	mg/kg	T			0.15	J	0.19	J	0.081	J	0.05	J	0.047	J	0.04	J
Copper	mg/kg	T			4.7	J	5.2	J	5.4	J	7.7	J	4.5	J	4.9	J
Iron	mg/Kg	T			180.	J	170.	J	110.	J	70.	J	98.	J	72.	J
Lead	mg/Kg	T			0.16	J	0.19	J	0.14	J	0.17	J	0.084	J	0.088	J
Magnesium	mg/kg	T			680.	:	610.	:	480.	:	260.	:	350.	:	290.	:
Manganese	mg/Kg	T			6.3	J	7.2	J	4.3	J	2.7	J	2.7	J	1.8	J
Mercury	mg/kg	T			<0.0021	J	<0.0021	J	0.027	J	<0.0021	J	0.022	J	<0.002	J
Molybdenum	mg/kg	T			<0.072	:	0.21	J	<0.077	:	0.17	J	<0.08	:	0.35	J
Nickel	mg/Kg	T			1.2	J	2.	J	0.39	J	0.4	J	0.39	J	0.33	J
Potassium	mg/Kg	T			3700.	:	2400.	:	2800.	:	2200.	:	2300.	:	2000.	:
Selenium	mg/kg	T			0.68	:	0.28	J	0.5	:	0.31	J	0.36	J	0.21	J
Silver	mg/Kg	T			<0.037	:	<0.042	:	<0.041	:	<0.041	:	<0.039	:	<0.036	:
Sodium	mg/Kg	T			1600.	:	1200.	:	1200.	:	870.	:	1100.	:	950.	:
Thallium	mg/Kg	T			<0.018	:	<0.02	:	<0.019	:	<0.019	:	<0.02	:	<0.02	:
Vanadium	mg/Kg	T			0.42	J	0.23	J	0.3	J	0.14	J	0.23	J	0.19	J
Zinc	mg/kg	T			42.	:	41.	:	27.	:	23.	:	23.	J	21.	J

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T = Total Fraction

Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area											
			RS-18 10/5/2002 RS-18-T01N-TRV SS16		RS-19 10/5/2002 RS-19-T01N-TRV SS16		RS-2 9/26/2002 RS-2-T01N-TRV SS9		RS-20 10/5/2002 RS-20-T01N-TRV SS16		RS-3 9/26/2002 RS-3-T01N-TRV SS9		RS-4 9/30/2002 RS-4-T01N-TRV SS9	
Laboratory Parameters														
Solids, Percent	%	T	24.5	:	27.5	:	27.6	:	24.2	:	27.9	:	31.9	:
Metals														
Aluminum	mg/kg	T	25.	:	32.	:	17.	J	25.	:	21.	:	19.	:
Antimony	mg/kg	T	0.053	J	<0.029	:	<0.032	:	<0.033	:	<0.032	:	<0.028	:
Arsenic	mg/kg	T	0.11	J	<0.066	:	0.32	:	<0.076	:	0.7	:	0.085	J
Barium	mg/kg	T	7.	:	3.7	J	5.9	:	5.8	:	15.	:	7.6	:
Beryllium	mg/kg	T	0.047	J	<0.027	:	<0.03	:	<0.031	:	<0.03	:	<0.026	:
Boron	mg/kg	T	1.	:	0.68	J	0.77	J	0.58	J	0.45	J	0.67	J
Cadmium	mg/Kg	T	0.093	J	<0.033	:	<0.037	:	<0.038	:	<0.037	:	<0.032	:
Calcium	mg/Kg	T	11000.	:	7000.	:	7000.	:	11000.	:	6900.	:	12000.	:
Chromium	mg/Kg	T	0.53	:	0.44	:	0.36	:	0.32	:	0.52	:	0.43	:
Cobalt	mg/kg	T	0.15	J	0.059	J	0.075	J	0.071	J	0.1	J	0.091	J
Copper	mg/kg	T	5.2	J	5.3	J	3.6	J	5.5	J	14.	J	3.7	J
Iron	mg/Kg	T	130.	J	100.	J	96.	J	130.	J	93.	J	130.	J
Lead	mg/Kg	T	0.19	J	0.19	J	0.16	J	0.23	J	0.61	J	0.15	J
Magnesium	mg/kg	T	510.	:	410.	:	350.	:	480.	:	350.	:	510.	:
Manganese	mg/Kg	T	4.2	J	3.1	J	5.2	J	3.7	J	3.7	J	4.8	J
Mercury	mg/kg	T	<0.0021	J	<0.0021	J	<0.0021	J	<0.0021	J	<0.0021	J	<0.002	J
Molybdenum	mg/kg	T	<0.084	:	0.26	J	0.71	J	0.27	J	0.15	J	<0.072	:
Nickel	mg/Kg	T	1.1	J	0.54	J	0.61	J	0.53	J	12.	:	0.84	J
Potassium	mg/Kg	T	2700.	:	2400.	:	2400.	:	2400.	:	2100.	:	2900.	:
Selenium	mg/kg	T	0.49	J	0.31	J	0.31	J	0.37	J	0.31	J	0.42	J
Silver	mg/Kg	T	<0.042	:	<0.039	:	<0.042	:	<0.036	:	<0.04	:	<0.04	:
Sodium	mg/Kg	T	1200.	:	1100.	:	990.	:	1200.	:	880.	:	1300.	:
Thallium	mg/Kg	T	0.052	J	<0.018	:	<0.02	:	<0.021	:	<0.02	:	<0.018	:
Vanadium	mg/Kg	T	0.29	J	0.2	J	0.13	J	0.14	J	0.11	J	0.32	J
Zinc	mg/kg	T	54.	:	120.	:	29.	:	120.	J	300.	:	35.	:

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T = Total Fraction

Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area	RS-5 9/30/2002 RS-5-T01N-TRV SS9		RS-6 9/30/2002 RS-6-T01N-TRV SS9		RS-7 10/2/2002 RS-7-T01N-TRV SS9		RS-8 10/5/2002 RS-8-T01N-TRV SS9		RS-9 10/5/2002 RS-9-T01N-TRV SS9		TSS14-1 6/4/2003 TSS14-1-T01N-TRV SS14	
Laboratory Parameters															
Solids, Percent	%	T		34.	:	24.9	:	28.4	:	27.7	:	23.9	:	26.1	:
Metals															
Aluminum	mg/kg	T		12.	J	23.	:	16.	J	19.	J	11.	J	38.	:
Antimony	mg/kg	T		<0.032	:	0.039	J	<0.033	:	<0.033	:	<0.032	:	<0.02946	:
Arsenic	mg/kg	T		0.14	J	0.16	J	<0.076	:	<0.076	:	0.083	J	0.079	J
Barium	mg/kg	T		5.3	:	6.	:	5.7	:	3.8	J	2.1	J	1.7	J
Beryllium	mg/kg	T		<0.03	:	<0.03	:	<0.031	:	<0.031	:	<0.03	:	<0.02768	:
Boron	mg/kg	T		0.98	:	1.1	:	1.3	:	0.85	J	0.55	J	0.78	J
Cadmium	mg/Kg	T		<0.037	:	0.14	J	0.098	J	0.11	J	0.064	J	<0.03393	:
Calcium	mg/Kg	T		8000.	:	7900.	:	6200.	:	9100.	:	7100.	:	6900.	:
Chromium	mg/Kg	T		0.66	:	0.36	:	0.32	:	0.35	:	0.44	:	0.44	:
Cobalt	mg/kg	T		0.044	J	0.09	J	0.13	J	0.057	J	0.05	J	0.08	J
Copper	mg/kg	T		8.3	J	2.9	J	2.4	J	5.7	J	4.7	J	4.7	J
Iron	mg/Kg	T		98.	J	89.	J	86.	J	120.	J	80.	J	150.	:
Lead	mg/Kg	T		0.27	J	0.34	J	0.075	J	0.3	J	0.14	J	0.41	J
Magnesium	mg/kg	T		390.	:	350.	:	360.	:	430.	:	330.	:	390.	:
Manganese	mg/Kg	T		3.6	J	15.	J	14.	J	3.9	J	2.1	J	5.7	J
Mercury	mg/kg	T		<0.0021	J	<0.0021	J	<0.0021	J	<0.0021	J	<0.0021	J	0.0021	J
Molybdenum	mg/kg	T		0.33	J	0.87	J	0.48	J	<0.084	:	0.32	J	2.9	:
Nickel	mg/Kg	T		0.36	J	0.58	J	0.68	J	0.69	J	0.31	J	0.45	J
Potassium	mg/Kg	T		2400.	:	2400.	:	2300.	:	2800.	:	2100.	:	2700.	:
Selenium	mg/kg	T		0.34	J	0.26	J	0.26	J	0.32	J	0.31	J	0.29	J
Silver	mg/Kg	T		<0.042	:	<0.038	:	<0.041	:	0.057	J	<0.041	:	<0.03333	:
Sodium	mg/Kg	T		1200.	:	1200.	:	1000.	:	1200.	:	920.	:	950.	:
Thallium	mg/Kg	T		<0.02	:	<0.02	:	<0.021	:	<0.021	:	0.021	J	<0.01875	:
Vanadium	mg/Kg	T		0.21	J	0.28	J	0.22	J	0.35	J	0.18	J	0.3	J
Zinc	mg/kg	T		22.	J	36.	:	27.	:	32.	:	23.	J	20.	J

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T = Total Fraction

Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area											
			TSS14-1 6/5/2003 TSS14-1-T02N-TRV SS14		TSS14-10 6/3/2003 TSS14-10-T02N-TRV SS14		TSS14-10 6/3/2003 TSS14-10-T01N-TRV SS14		TSS14-2 6/5/2003 TSS14-2-T01N-TRV SS14		TSS14-3 6/7/2003 TSS14-3-T01N-TRV SS14		TSS14-4 6/4/2003 TSS14-4-T01N-TRV SS14	
Laboratory Parameters														
Solids, Percent	%	T	22.1	:	24.9	:	24.5	:	26.4	:	16.5	:	26.7	:
Metals														
Aluminum	mg/kg	T	66.	:	33.	:	21.	:	62.	:	30.	:	30.	:
Antimony	mg/kg	T	<0.03204	:	<0.03204	:	<0.0287	:	<0.03056	:	<0.033	:	<0.0292	:
Arsenic	mg/kg	T	0.11	J	<0.07379	:	<0.06609	:	0.072	J	<0.076	:	<0.06726	:
Barium	mg/kg	T	3.	J	6.7	:	1.7	J	2.3	J	2.1	J	1.7	J
Beryllium	mg/kg	T	<0.0301	:	<0.0301	:	<0.02696	:	<0.0287	:	<0.031	:	<0.02743	:
Boron	mg/kg	T	0.57	J	<0.34951	:	1.1	:	0.77	J	0.76	J	0.61	J
Cadmium	mg/Kg	T	0.047	J	<0.03689	:	<0.03304	:	0.08	J	<0.038	:	<0.03363	:
Calcium	mg/Kg	T	3300.	:	9100.	:	5100.	:	6000.	:	5700.	:	4700.	:
Chromium	mg/Kg	T	0.66	:	0.83	:	0.42	:	0.48	:	0.48	:	0.28	:
Cobalt	mg/kg	T	0.16	J	0.07	J	0.057	J	0.084	J	0.063	J	0.044	J
Copper	mg/kg	T	4.3	J	3.2	J	4.6	J	13.	J	5.	J	3.1	J
Iron	mg/Kg	T	240.	:	140.	:	90.	:	150.	:	95.	J	91.	:
Lead	mg/Kg	T	0.76	J	1.2	J	0.23	J	0.75	J	0.17	J	0.16	J
Magnesium	mg/kg	T	200.	:	280.	:	300.	:	430.	:	400.	:	350.	:
Manganese	mg/Kg	T	8.9	J	6.3	J	4.2	J	5.2	J	5.6	J	3.7	J
Mercury	mg/kg	T	<0.00205	:	<0.00205	:	0.0023	J	0.0043	J	0.0023	J	0.0042	J
Molybdenum	mg/kg	T	3.8	:	5.5	:	1.8	:	2.	:	0.94	J	2.4	:
Nickel	mg/Kg	T	0.49	J	0.55	J	0.3	J	0.33	J	0.37	J	0.21	J
Potassium	mg/Kg	T	2400.	:	2100.	:	2400.	:	2700.	:	2800.	:	2500.	:
Selenium	mg/kg	T	0.13	J	0.26	J	0.3	J	0.37	J	0.27	J	0.29	J
Silver	mg/Kg	T	<0.03269	:	<0.03178	:	<0.03366	:	<0.034	:	<0.03208	:	<0.03301	:
Sodium	mg/Kg	T	730.	:	1100.	:	990.	:	1200.	:	1200.	:	930.	:
Thallium	mg/Kg	T	<0.02039	:	<0.02039	:	<0.01826	:	<0.01944	:	<0.021	:	<0.01858	:
Vanadium	mg/Kg	T	0.33	J	0.2	J	0.24	J	0.3	J	0.34	J	0.26	J
Zinc	mg/kg	T	20.	J	28.	:	19.	J	24.	:	19.	J	26.	:

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11b
Small Animals - Whole Body
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area											
			TSS14-5 6/6/2003 TSS14-5-T01N-TRV SS14		TSS14-6 6/4/2003 TSS14-6-T01N-TRV SS14		TSS14-7 6/5/2003 TSS14-7-T01N-TRV SS14		TSS14-8 6/4/2003 TSS14-8-T01N-TRV SS14		TSS14-9 6/3/2003 TSS14-9-T02N-TRV SS14		TSS14-9 6/3/2003 TSS14-9-T01N-TRV SS14	
Laboratory Parameters														
Solids, Percent	%	T	26.7	:	28.6	:	36.7	:	30.4	:	22.7	:	25.1	:
Metals														
Aluminum	mg/kg	T	93.	:	34.	:	35.	:	33.	:	67.	:	44.	:
Antimony	mg/kg	T	<0.03235	:	<0.02895	:	<0.033	:	<0.033	:	<0.03267	:	<0.02821	:
Arsenic	mg/kg	T	0.092	J	<0.06667	:	<0.076	:	<0.076	:	0.085	J	<0.06496	:
Barium	mg/kg	T	4.8	J	1.4	J	1.7	J	1.2	J	4.9	J	2.3	J
Beryllium	mg/kg	T	<0.03039	:	<0.02719	:	<0.031	:	<0.031	:	<0.03069	:	<0.0265	:
Boron	mg/kg	T	1.8	:	0.78	J	0.76	J	0.58	J	1.	:	1.	:
Cadmium	mg/Kg	T	0.043	J	<0.03333	:	<0.038	:	<0.038	:	0.042	J	0.036	J
Calcium	mg/Kg	T	5300.	:	3100.	:	3600.	:	7800.	:	7600.	J	5500.	:
Chromium	mg/Kg	T	0.55	:	0.29	:	0.34	:	0.47	:	0.99	:	0.41	:
Cobalt	mg/kg	T	0.094	J	0.046	J	0.054	J	0.077	J	0.14	J	0.1	J
Copper	mg/kg	T	7.3	J	3.7	J	4.5	J	3.3	J	7.9	J	7.1	J
Iron	mg/Kg	T	160.	:	89.	:	100.	:	120.	:	210.	:	130.	:
Lead	mg/Kg	T	0.2	J	0.15	J	0.17	J	0.3	J	1.5	J	0.39	J
Magnesium	mg/kg	T	300.	:	440.	:	290.	:	360.	:	290.	J	350.	:
Manganese	mg/Kg	T	6.8	J	4.6	J	5.5	J	3.5	J	5.3	J	9.4	J
Mercury	mg/kg	T	0.0024	J	0.0021	J	<0.00205	:	<0.00205	:	<0.00205	:	<0.00205	:
Molybdenum	mg/kg	T	3.9	:	0.99	:	1.2	:	2.7	:	13.	:	5.	:
Nickel	mg/Kg	T	0.5	J	0.2	J	0.22	J	0.32	J	0.61	J	1.1	J
Potassium	mg/Kg	T	3600.	:	2200.	:	2600.	:	2300.	:	2000.	:	2700.	:
Selenium	mg/kg	T	0.52	:	0.2	J	0.19	J	0.36	J	0.34	J	0.36	J
Silver	mg/Kg	T	<0.03063	:	<0.02931	:	<0.02906	:	<0.03119	:	<0.02931	:	<0.03238	:
Sodium	mg/Kg	T	960.	:	1300.	:	770.	:	970.	:	970.	:	1000.	:
Thallium	mg/Kg	T	<0.02059	:	<0.01842	:	<0.021	:	<0.021	:	<0.02079	:	<0.01795	:
Vanadium	mg/Kg	T	0.44	J	0.2	J	0.26	J	0.28	J	0.42	J	0.29	J
Zinc	mg/kg	T	23.	J	22.	J	18.	J	20.	J	24.	J	21.	:

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11c
Small Animals - Kidney
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area												----
			BOC-1 6/4/2003 BOC-1-T02N-TRV SS4A1		BOC-2 6/4/2003 BOC-2-T02N-TRV SS4A1		BOC-3 6/5/2003 BOC-3-T02N-TRV SS4A1		BOC-4 6/5/2003 BOC-4-T02N-TRV SS4A1		BOC-5 6/6/2003 BOC-5-T02N-TRV SS4A1			
Laboratory Parameters															
Solids, Percent	%	T	29.9	:	30.9	:	29.9	:	31.4	:	30.4	:	-	
Metals															
Aluminum	mg/kg	T	<3.5	:	<8.75	:	<5.83333	:	<2.69231	:	<3.68421	:	-	
Antimony	mg/kg	T	<0.0825	:	<0.20625	:	<0.1375	:	<0.06346	:	<0.08684	:	-	
Arsenic	mg/kg	T	<0.19	:	<0.475	:	<0.31667	:	<0.14615	:	<0.2	:	-	
Barium	mg/kg	T	0.29	J	<0.23125	:	0.28	J	0.21	J	0.29	J	-	
Beryllium	mg/kg	T	<0.0775	:	<0.19375	:	<0.12917	:	<0.05962	:	<0.08158	:	-	
Boron	mg/kg	T	<0.9	:	3.	J	<1.5	:	<0.69231	:	<0.94737	:	-	
Cadmium	mg/kg	T	7.7	:	1.4	J	5.5	:	0.45	J	1.4	:	-	
Calcium	mg/kg	T	160.	J	120.	J	150.	J	170.	J	160.	J	-	
Chromium	mg/kg	T	0.25	J	<0.5125	:	0.39	J	0.25	J	0.25	J	-	
Cobalt	mg/kg	T	<0.0775	:	<0.19375	:	<0.12917	:	<0.05962	:	<0.08158	:	-	
Copper	mg/kg	T	5.4	J	6.3	J	6.2	J	5.5	J	5.1	J	-	
Iron	mg/kg	T	98.	J	59.	J	94.	J	97.	J	83.	J	-	
Lead	mg/kg	T	<0.12	:	<0.3	:	<0.2	:	0.13	J	<0.12632	:	-	
Magnesium	mg/kg	T	230.	J	170.	J	230.	J	270.	:	230.	J	-	
Manganese	mg/kg	T	1.7	J	1.1	J	1.7	J	2.5	J	1.4	J	-	
Mercury	mg/kg	T	<0.0123	:	<0.01118	:	<0.00615	:	<0.0123	:	<0.00946	:	-	
Molybdenum	mg/kg	T	0.3	J	0.66	J	0.43	J	0.4	J	0.26	J	-	
Nickel	mg/kg	T	<0.135	:	<0.3375	:	0.3	J	<0.10385	:	<0.14211	:	-	
Potassium	mg/kg	T	3500.	:	2600.	:	2800.	:	3300.	:	2600.	:	-	
Selenium	mg/kg	T	1.7	:	1.3	J	1.6	J	1.6	:	0.87	J	-	
Silver	mg/kg	T	<0.14167	:	<0.17	:	<0.17	:	<0.09444	:	<0.08947	:	-	
Sodium	mg/kg	T	2200.	:	1800.	:	2600.	:	2600.	:	2300.	:	-	
Thallium	mg/kg	T	<0.0525	:	<0.13125	:	<0.0875	:	<0.04038	:	<0.05526	:	-	
Vanadium	mg/kg	T	0.31	J	<0.4625	:	<0.30833	:	0.3	J	0.25	J	-	
Zinc	mg/kg	T	28.	J	27.	J	39.	J	32.	J	34.	J	-	

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11d
Small Animals - Liver
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area												----
			BOC-1 6/4/2003 BOC-1-T03N-TRV SS4A1		BOC-2 6/4/2003 BOC-2-T03N-TRV SS4A1		BOC-3 6/5/2003 BOC-3-T03N-TRV SS4A1		BOC-4 6/5/2003 BOC-4-T03N-TRV SS4A1		BOC-5 6/6/2003 BOC-5-T03N-TRV SS4A1			
Laboratory Parameters															
Solids, Percent	%	T	28.1	:	18.3	:	23.8	:	21.8	:	21.6	:	-	
Metals															
Aluminum	mg/kg	T	<1.42857	:	<1.37255	:	<1.27273	:	<1.34615	:	<1.16667	:	-	
Antimony	mg/kg	T	<0.03367	:	<0.03235	:	<0.03	:	<0.03173	:	<0.0275	:	-	
Arsenic	mg/kg	T	<0.07755	:	<0.07451	:	<0.06909	:	<0.07308	:	<0.06333	:	-	
Barium	mg/kg	T	0.071	J	0.046	J	0.065	J	0.045	J	0.11	J	-	
Beryllium	mg/kg	T	<0.03163	:	<0.03039	:	<0.02818	:	<0.02981	:	<0.02583	:	-	
Boron	mg/kg	T	<0.36735	:	0.67	J	<0.32727	:	<0.34615	:	<0.3	:	-	
Cadmium	mg/kg	T	0.63	:	0.15	J	0.49	:	<0.03654	:	0.13	J	-	
Calcium	mg/kg	T	42.	J	53.	J	56.	J	65.	J	58.	J	-	
Chromium	mg/kg	T	0.13	J	0.11	J	0.14	J	0.15	J	0.15	J	-	
Cobalt	mg/kg	T	<0.03163	:	0.033	J	0.03	J	<0.02981	:	0.026	J	-	
Copper	mg/kg	T	3.7	J	3.8	J	3.3	J	3.1	J	2.8	J	-	
Iron	mg/kg	T	100.	:	160.	:	84.	J	210.	:	160.	:	-	
Lead	mg/kg	T	<0.04898	:	<0.04706	:	<0.04364	:	0.091	J	<0.04	:	-	
Magnesium	mg/kg	T	160.	:	120.	:	160.	:	170.	:	130.	:	-	
Manganese	mg/kg	T	2.5	J	1.6	J	2.1	J	2.6	J	1.4	J	-	
Mercury	mg/kg	T	<0.00241	:	<0.00439	:	<0.00205	:	<0.00205	J	<0.00205	:	-	
Molybdenum	mg/kg	T	0.91	J	0.76	J	0.85	J	0.33	J	0.59	J	-	
Nickel	mg/kg	T	<0.0551	:	<0.05294	:	<0.04909	:	<0.05192	:	<0.045	:	-	
Potassium	mg/kg	T	2600.	:	2200.	:	2200.	:	2200.	:	2100.	:	-	
Selenium	mg/kg	T	0.44	J	0.4	J	0.34	J	0.33	J	0.42	:	-	
Silver	mg/kg	T	<0.03091	:	<0.02931	:	<0.03269	:	<0.03269	:	<0.03333	:	-	
Sodium	mg/kg	T	1000.	:	1400.	:	1400.	:	1100.	:	1300.	:	-	
Thallium	mg/kg	T	<0.02143	:	<0.02059	:	<0.01909	:	<0.02019	:	<0.0175	:	-	
Vanadium	mg/kg	T	0.2	J	0.15	J	0.23	J	0.23	J	0.22	J	-	
Zinc	mg/kg	T	25.	J	26.	J	30.	J	21.	J	42.	:	-	

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area / Fraction	Site ID / Sample Date / Sample ID					
			CR-10 6/9/2003 CR-10-T02N-SOL	CR-11 6/9/2003 CR-11-T02N-SOL	CR-13 6/10/2003 CR-13-T02N-SOL	CR-14 6/11/2003 CR-14-T02N-SOL	CR-2 6/10/2003 CR-2-T02N-SOL	CR-4 6/10/2003 CR-4-T02N-SOL
			RCR	RCR	RCR	RCR	RCR	RCR
Field Measurements								
Density	#bugs/L	T	<1.9 :	<0. :	<2.1 :	<1.5 :	<0.5 :	<1.4 :
Soil Invert # of Taxa	number	T	<3. :	<0. :	<3. :	<1. :	<1. :	<2. :
Bioassay								
Earthworm Average Body Weight	mg	T	<317.5 :	<317.9487 :	<390. :	<365. :	<380. :	<332.5 :
Earthworm Reproduction	proportion	T	<0.5 :	<0.975 :	<0.75 :	<1. :	<0.25 :	<1. :
Earthworm Survival	proportion	T	<0.5 :	<0.975 :	<0.75 :	<1. :	<0.25 :	<1. :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID	
			CR-5 6/11/2003 CR-5-T02N-SOL		CR-6 6/10/2003 CR-6-T02N-SOL		CR-7 6/9/2003 CR-7-T02N-SOL		CR-8 6/9/2003 CR-8-T02N-SOL		MRSS-1 10/6/2002 MRSS-1-T02N-SOL	MRSS-10 10/6/2002 MRSS-10-T02N-SOL
			RCR		RCR		RCR		RCR		RefMine	RSCAR
Field Measurements												
Density	#bugs/L	T	<4.32432	:	<1.3	:	<1.1	:	<1.6	:	<15. :	<0. :
Soil Invert # of Taxa	number	T	<2.	:	<2.	:	<2.	:	<2.	:	<4. :	<1. :
Bioassay												
Earthworm Average Body Weight	mg	T	<312.5	:	<350.	:	<305.1282	:	<246.1538	:	<348.718 :	<287.1795 :
Earthworm Reproduction	proportion	T	<1.	:	<1.	:	<0.975	:	<0.5	:	<1. :	<0.975 :
Earthworm Survival	proportion	T	<1.	:	<1.	:	<0.975	:	<0.5	:	<1. :	<0.975 :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			MRSS-11 10/6/2002 MRSS-11-T02N-SOL	MRSS-12 10/8/2002 MRSS-12-T02N-SOL	MRSS-13 10/8/2002 MRSS-13-T02N-SOL	MRSS-14 10/8/2002 MRSS-14-T02N-SOL	MRSS-15 10/7/2002 MRSS-15-T02N-SOL	MRSS-16 10/8/2002 MRSS-16-T02N-SOL
			RSCAR	RSCAR	RSCAR	RSCAR	RSCAR	RefMine
Field Measurements								
Density	#bugs/L	T	<2. :	<0. :	<0. :	<0. :	<96. :	<41. :
Soil Invert # of Taxa	number	T	<2. :	<0. :	<0. :	<0. :	<4. :	<10. :
Bioassay								
Earthworm Average Body Weight	mg	T	<328.9474 :	<342.5 :	<335. :	<310.2564 :	<356.4102 :	<277.4193 :
Earthworm Reproduction	proportion	T	<0. :	<1. :	<1. :	<0. :	<1. :	<0.25 :
Earthworm Survival	proportion	T	<0. :	<1. :	<1. :	<0. :	<1. :	<0.25 :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area					
			MRSS-17 10/8/2002 MRSS-17-T02N-SOL RefMine	MRSS-18 10/8/2002 MRSS-18-T02N-SOL RefMine	MRSS-19 10/8/2002 MRSS-19-T02N-SOL RefMine	MRSS-2 10/7/2002 MRSS-2-T02N-SOL RefMine	MRSS-20 10/9/2002 MRSS-20-T02N-SOL RefMine	MRSS-3 10/6/2002 MRSS-3-T02N-SOL RefMine
Field Measurements								
Density	#bugs/L	T	<11. :	<12. :	<264. :	<141. :	<192. :	<20. :
Soil Invert # of Taxa	number	T	<4. :	<6. :	<22. :	<15. :	<16. :	<9. :
Bioassay								
Earthworm Average Body Weight	mg	T	<297.5 :	<330.7692 :	<282.0513 :	<297.5 :	<290. :	<292.3077 :
Earthworm Reproduction	proportion	T	<1. :	<1. :	<1. :	<1. :	<1. :	<0.75 :
Earthworm Survival	proportion	T	<1. :	<1. :	<1. :	<1. :	<1. :	<0.75 :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			MRSS-4 10/6/2002 MRSS-4-T02N-SOL	MRSS-5 10/7/2002 MRSS-5-T02N-SOL	MRSS-6 10/7/2002 MRSS-6-T02N-SOL	MRSS-7 10/7/2002 MRSS-7-T02N-SOL	MRSS-8 10/7/2002 MRSS-8-T02N-SOL	MRSS-9 10/6/2002 MRSS-9-T02N-SOL
			RefMine	RefMine	RSCAR	RSCAR	RSCAR	RSCAR
Field Measurements								
Density	#bugs/L	T	<71. :	<3. :	<0. :	<0. :	<0. :	<1. :
Soil Invert # of Taxa	number	T	<11. :	<3. :	<0. :	<0. :	<0. :	<1. :
Bioassay								
Earthworm Average Body Weight	mg	T	<323.0769 :	<287.1795 :	<272.5 :	<356.4102 :	<325. :	<315. :
Earthworm Reproduction	proportion	T	<0.975 :	<0.975 :	<1. :	<0.975 :	<0.5 :	<1. :
Earthworm Survival	proportion	T	<0.975 :	<0.975 :	<1. :	<0.975 :	<0.5 :	<1. :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			MSS3-1 9/27/2002 MSS3-1-T02N-SOL	MSS3-10 10/1/2002 MSS3-10-T02N-SOL	MSS3-2 9/27/2002 MSS3-2-T02N-SOL	MSS3-3 9/30/2002 MSS3-3-T02N-SOL	MSS3-4 9/30/2002 MSS3-4-T02N-SOL	MSS3-5 10/22/2002 MSS3-5-T02N-SOL
			SS3	SS3	SS3	SS3	SS3	SS3
Field Measurements								
Density	#bugs/L	T	<123. :	<0. :	<29. :	<8. :	<14. :	<1. :
Soil Invert # of Taxa	number	T	<16. :	<0. :	<6. :	<4. :	<4. :	<1. :
Bioassay								
Earthworm Average Body Weight	mg	T	<384.6154 :	<327.7778 :	<308.5714 :	<328.9474 :	<334.2105 :	<327.7778 :
Earthworm Reproduction	proportion	T	<0.25 :	<1. :	<0.875 :	<0.95 :	<0.95 :	<0.9 :
Earthworm Survival	proportion	T	<0.25 :	<1. :	<0.875 :	<0.95 :	<0.95 :	<0.9 :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			MSS3-6 10/3/2002 MSS3-6-T02N-SOL	MSS3-7 10/1/2002 MSS3-7-T02N-SOL	MSS3-8 10/9/2002 MSS3-8-T02N-SOL	MSS3-9 10/9/2002 MSS3-9-T02N-SOL	MSS7-1 10/15/2002 MSS7-1-T02N-SOL	MSS7-10 10/15/2002 MSS7-10-T02N-SOL
			SS3	SS3	SS3	SS3	SS7	SS7
Field Measurements								
Density	#bugs/L	T	<2. :	<7. :	<25. :	<10. :	<9. :	<0. :
Soil Invert # of Taxa	number	T	<2. :	<6. :	<3. :	<6. :	<7. :	<0. :
Bioassay								
Earthworm Average Body Weight	mg	T	<387.5 :	<310.8108 :	<320. :	<305. :	<321.0526 :	<308.3333 :
Earthworm Reproduction	proportion	T	<0. :	<0.925 :	<1. :	<1. :	<1. :	<0.25 :
Earthworm Survival	proportion	T	<0. :	<0.925 :	<1. :	<1. :	<1. :	<0.25 :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			MSS7-2 10/15/2002 MSS7-2-T02N-SOL	MSS7-3 10/3/2002 MSS7-3-T02N-SOL	MSS7-4 10/2/2002 MSS7-4-T02N-SOL	MSS7-5 10/1/2002 MSS7-5-T02N-SOL	MSS7-6 10/2/2002 MSS7-6-T02N-SOL	MSS7-7 10/4/2002 MSS7-7-T02N-SOL
			SS7	SS7	SS7	SS7	SS7	SS7
Field Measurements								
Density	#bugs/L	T	<0. :	<0. :	<2. :	<0. :	<1. :	<0. :
Soil Invert # of Taxa	number	T	<0. :	<0. :	<2. :	<0. :	<1. :	<0. :
Bioassay								
Earthworm Average Body Weight	mg	T	<307.8947 :	<305.1282 :	<358.8235 :	<366.6667 :	<370.5882 :	<329.7297 :
Earthworm Reproduction	proportion	T	<0.95 :	<1. :	<0.85 :	<0.975 :	<0.75 :	<0.5 :
Earthworm Survival	proportion	T	<0.95 :	<1. :	<0.85 :	<0.975 :	<0.75 :	<0.5 :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID Sample Date Sample ID Exposure Area	MSS7-8 10/2/2002 MSS7-8-T02N-SOL SS7	MSS7-9 10/9/2002 MSS7-9-T02N-SOL SS7	QC-1 6/20/2003 Artificial Soil 1 Control	QC-10 6/20/2003 Artificial Soil 1 03 Control	QC-2 6/20/2003 Artificial Soil 2 Control	QC-3 6/20/2003 Artificial Soil 3 Control
Field Measurements									
Density	#bugs/L	T		<0. :	<5. :	-	-	-	-
Soil Invert # of Taxa	number	T		<0. :	<1. :	-	-	-	-
Bioassay									
Earthworm Average Body Weight	mg	T		<354.2857 :	<338.4615 :	<324.2424 :	<305. :	<305.1282 :	<239.4737 :
Earthworm Reproduction	proportion	T		<0.875 :	<0.25 :	<1. :	<0.75 :	<1. :	<1. :
Earthworm Survival	proportion	T		<0.875 :	<0.25 :	<1. :	<0.75 :	<1. :	<1. :

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area													
			QC-4 6/20/2003 Artificial Soil 4 Control		RRS-1 9/29/2002 RRS-1-T02N-SOL RefMineR		RRS-10 10/15/2002 RRS-10-T02N-SOL RefMineR		RRS-11 10/14/2002 RRS-11-T02N-SOL RefMineR		RRS-12 10/14/2002 RRS-12-T02N-SOL RefMineR		RRS-13 10/14/2002 RRS-13-T02N-SOL RefMineR	
Field Measurements														
Density	#bugs/L	T	-		<116.	:	<92.	:	<8.	:	<81.	:	<24.	:
Soil Invert # of Taxa	number	T	-		<12.	:	<10.	:	<2.	:	<6.	:	<8.	:
Bioassay														
Earthworm Average Body Weight	mg	T	<345.7143	:	<338.8889	:	<238.4615	:	<280.5555	:	<360.5263	:	<297.3684	:
Earthworm Reproduction	proportion	T	<1.	:	<0.9	:	<0.25	:	<1.	:	<0.75	:	<0.95	:
Earthworm Survival	proportion	T	<1.	:	<0.9	:	<0.25	:	<1.	:	<0.75	:	<0.95	:

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Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID	
			RRS-17 10/18/2002 RRS-17-T02N-SOL		RRS-18 10/18/2002 RRS-18-T02N-SOL		RRS-19 10/19/2002 RRS-19-T02N-SOL		RRS-2 9/29/2002 RRS-2-T02N-SOL		RRS-20 10/18/2002 RRS-20-T02N-SOL		RRS-21 10/18/2002 RRS-21-T02N-SOL	
			RLCCR		RLCCR		RLCCR		RefMineR		RLCCR		RLCCR	
Field Measurements														
Density	#bugs/L	T	<43.	:	<30.	:	<390.	:	<18.	:	<148.	:	<23.	:
Soil Invert # of Taxa	number	T	<5.	:	<6.	:	<12.	:	<7.	:	<7.	:	<4.	:
Bioassay														
Earthworm Average Body Weight	mg	T	<336.1111	:	<323.0769	:	<322.8571	:	<315.7895	:	<330.5555	:	<338.8889	:
Earthworm Reproduction	proportion	T	<0.9	:	<1.	:	<0.5	:	<1.	:	<0.9	:	<0.9	:
Earthworm Survival	proportion	T	<0.9	:	<1.	:	<0.5	:	<1.	:	<0.9	:	<0.9	:

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Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			RRS-3 10/9/2002 RRS-3-T02N-SOL	RRS-4 10/9/2002 RRS-4-T02N-SOL	RRS-5 10/9/2002 RRS-5-T02N-SOL	RRS-9 10/22/2002 RRS-9-T02N-SOL	RS-1 10/17/2002 RS-1-T02N-SOL	RS-10 10/10/2002 RRS-10-T02N-SOL
			RefMineR	RefMineR	RefMineR	RefMineR	SS9	SS9
Field Measurements								
Density	#bugs/L	T	<6. :	<91. :	<22. :	<31. :	<14. :	<33. :
Soil Invert # of Taxa	number	T	<1. :	<8. :	<11. :	<3. :	<5. :	<3. :
Bioassay								
Earthworm Average Body Weight	mg	T	<294.8718 :	<381.5789 :	<290. :	<285.7143 :	<337.5 :	<247.5 :
Earthworm Reproduction	proportion	T	<0.975 :	<0.95 :	<1. :	<0.875 :	<0. :	<0.25 :
Earthworm Survival	proportion	T	<0.975 :	<0.95 :	<1. :	<0.875 :	<0. :	<0.25 :

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Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area													
			RS-11 10/17/2002 RS-11-T02N-SOL SS16		RS-12 10/16/2002 RS-12-T02N-SOL SS16		RS-13 10/16/2002 RS-13-T02N-SOL SS16		RS-14 10/16/2002 RS-14-T02N-SOL SS16		RS-15 10/16/2002 RS-15-T02N-SOL SS16		RS-16 10/18/2002 RRS-16-T02N-SOL SS16	
Field Measurements														
Density	#bugs/L	T	<34.	:	<1.	:	<0.	:	<6.	:	<1.	:	<14.	:
Soil Invert # of Taxa	number	T	<11.	:	<1.	:	<0.	:	<3.	:	<1.	:	<7.	:
Bioassay														
Earthworm Average Body Weight	mg	T	<307.6923	:	<284.2105	:	<372.5	:	<294.8718	:	<322.2222	:	<321.2121	:
Earthworm Reproduction	proportion	T	<1.	:	<0.	:	<0.25	:	<0.975	:	<0.	:	<0.825	:
Earthworm Survival	proportion	T	<1.	:	<0.	:	<0.25	:	<0.975	:	<0.	:	<0.825	:

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Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RS-17 10/17/2002 RS-17-T02N-SOL		RS-18 10/17/2002 RS-18-T02N-SOL		RS-19 10/16/2002 RS-19-T02N-SOL		RS-2 10/17/2002 RS-2-T02N-SOL		RS-20 10/16/2002 RS-20-T02N-SOL		RS-3 10/14/2002 RS-3-T02N-SOL	
			SS16		SS16		SS16		SS9		SS16		SS9	
Field Measurements														
Density	#bugs/L	T	<27.	:	<47.	:	<98.	:	<17.	:	<80.	:	<53.	:
Soil Invert # of Taxa	number	T	<7.	:	<9.	:	<11.	:	<7.	:	<9.	:	<10.	:
Bioassay														
Earthworm Average Body Weight	mg	T	<330.7692	:	<377.5	:	<340.	:	<292.1053	:	<337.5	:	<340.	:
Earthworm Reproduction	proportion	T	<0.975	:	<1.	:	<1.	:	<0.	:	<1.	:	<0.75	:
Earthworm Survival	proportion	T	<0.975	:	<1.	:	<1.	:	<0.	:	<1.	:	<0.75	:

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Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RS-4 10/14/2002 RS-4-T02N-SOL		RS-5 10/14/2002 RS-5-T02N-SOL		RS-6 10/14/2002 RS-6-T02N-SOL		RS-7 10/16/2002 RS-7-T02N-SOL		RS-8 10/17/2002 RS-8-T02N-SOL		RS-9 10/17/2002 RS-9-T02N-SOL	
			SS9		SS9		SS9		SS9		SS9		SS9	
Field Measurements														
Density	#bugs/L	T	<2.	:	<10.	:	<189.	:	<7.	:	<22.	:	<7.	:
Soil Invert # of Taxa	number	T	<2.	:	<2.	:	<12.	:	<3.	:	<11.	:	<4.	:
Bioassay														
Earthworm Average Body Weight	mg	T	<361.5385	:	<370.	:	<310.5263	:	<346.1538	:	<387.5	:	<302.5	:
Earthworm Reproduction	proportion	T	<0.75	:	<1.	:	<0.25	:	<0.	:	<1.	:	<1.	:
Earthworm Survival	proportion	T	<0.75	:	<1.	:	<0.25	:	<0.	:	<1.	:	<1.	:

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Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			TSS14-1 6/11/2003 TSS14-1-T02N-SOL	TSS14-10 6/11/2003 TSS14-10-T02N-SOL	TSS14-2 6/11/2003 TSS14-2-T02N-SOL	TSS14-3 6/11/2003 TSS14-3-T02N-SOL	TSS14-4 6/11/2003 TSS14-4-T02N-SOL	TSS14-4 6/11/2003 TSS14-3-T02N-SOL
			SS14	SS14	SS14	SS14	SS14	SS14
Field Measurements								
Density	#bugs/L	T	<13.5 :	<10. :	<2.9 :	<1.1 :	-	<0.6 :
Soil Invert # of Taxa	number	T	<5. :	<4. :	<2. :	<1. :	-	<1. :
Bioassay								
Earthworm Average Body Weight	mg	T	<372.5 :	<362.5 :	<400. :	<357.5 :	<373.6842 :	-
Earthworm Reproduction	proportion	T	<0.5 :	<1. :	<0. :	<1. :	<0.95 :	-
Earthworm Survival	proportion	T	<0.5 :	<1. :	<0. :	<1. :	<0.95 :	-

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T = Total Fraction

Appendix A-11e
Small Mammals - Earthworm Bioassay
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID		Site ID / Sample Date / Sample ID	
			TSS14-5 6/11/2003 TSS14-5-T02N-SOL		TSS14-5 6/11/2003 TSS14-3-T02N-SOL		TSS14-6 6/11/2003 TSS14-6-T02N-SOL		TSS14-7 6/11/2003 TSS14-7-T02N-SOL		TSS14-8 6/11/2003 TSS14-8-T02N-SOL		TSS14-9 6/11/2003 TSS14-9-T02N-SOL	
			SS14		SS14		SS14		SS14		SS14		SS14	
Field Measurements														
Density	#bugs/L	T	-		<1.1	:	<1.6	:	<2.1	:	<0.5	:	<1.1	:
Soil Invert # of Taxa	number	T	-		<2.	:	<3.	:	<1.	:	<1.	:	<1.	:
Bioassay														
Earthworm Average Body Weight	mg	T	<362.5	:	-		<315.25	:	<338.4615	:	<342.5	:	<315.	:
Earthworm Reproduction	proportion	T	<1.	:	-		<0.	:	<0.975	:	<1.	:	<0.25	:
Earthworm Survival	proportion	T	<1.	:	-		<0.	:	<0.975	:	<1.	:	<0.25	:

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APPENDIX B-11

SMALL MAMMAL PHYSICAL DATA

APPENDIX B-11a
SMALL MAMMAL PHYSICAL DATA

Exposure area	SITE ID	SAMPLE ID	TRAP NIGHT	SPECIES	SEX	WEIGHT	AGE	HB LENGTH	TAIL LENGTH	RF LENGTH	VISUAL ABNORMALITIES	EAR	SPECIES RELEASED
Soil Area 4A1 - Capulin and Goathill N and S Rock Piles	BOC		3-Jun-03										*Peromyscus maniculatus*
	BOC-1	BOC-1-T04N-TRV-060403	3-Jun-03	*Spermophilus lateralis*	F	187.32 g	Adult	15 cm	11 cm	3.5 cm	No (Whole Body)	NM	*Microtus montanus*
	BOC-1	BOC-1-T03N-TRV-060403	3-Jun-03	*Spermophilus lateralis*	F	7.52 g	Adult	NA	NA	NA	No (Liver sample)	NM	
	BOC-1	BOC-1-T02N-TRV-060403	3-Jun-03	*Spermophilus lateralis*	F	1.54 g	Adult	NA	NA	NA	No (Kidney sample)	NM	
	BOC-2	BOC-2-T04N-TRV-060403	3-Jun-03	*Spermophilus lateralis*	F	176.02 g	Adult	11 cm	7 cm	3.9 cm	No (Whole Body)	NM	
	BOC-2	BOC-2-T02N-TRV-060403	3-Jun-03	*Spermophilus lateralis*	F	1.67 g	Adult	NA	NA	NA	No (Kidney sample)	NM	
	BOC-2	BOC-2-T03N-TRV-060403	3-Jun-03	*Spermophilus lateralis*	F	8.98 g	Adult	NA	NA	NA	No (Liver sample)	NM	
	BOC-3	BOC-3-T03N-TRV-060503	4-Jun-03	*Spermophilus lateralis*	F	5.62 g	Adult	NA	NA	NA	No (Liver sample)	NM	
	BOC-3	BOC-3-T02N-TRV-060503	4-Jun-03	*Spermophilus lateralis*	F	1.73 g	Adult	NA	NA	NA	No (Kidney sample)	NM	
	BOC-3	BOC-3-T04N-TRV-060503	4-Jun-03	*Spermophilus lateralis*	F	176.35 g	Adult	17.8 cm	1.4 cm	3.9 cm	No (Whole Body / Lactating)	NM	
	BOC-4	BOC-4-T04N-TRV-060503	4-Jun-03	*Neotoma albigula*	F	194.81 g	Adult	15 cm	13 cm	3.1 cm	No (Whole Body)	NM	
	BOC-4	BOC-4-T02N-TRV-060503	4-Jun-03	*Neotoma albigula*	F	1.91 g	Adult	NA	NA	NA	No (Kidney sample)	NM	
	BOC-4	BOC-4-T03N-TRV-060503	4-Jun-03	*Neotoma albigula*	F	8.1 g	Adult	NA	NA	NA	No (Liver sample)	NM	
	BOC-5	BOC-5-T02N-TRV-060603	5-Jun-03	*Spermophilus lateralis*	F	1.38 g	Adult	NA	NA	NA	No (Kidney sample)	NM	
	BOC-5	BOC-5-T04N-TRV-060603	5-Jun-03	*Spermophilus lateralis*	F	137.52 g	Adult	18 cm	7 cm	3.7 cm	No (Whole Body / Lactating)	NM	4-*Peromyscus maniculatus*
	BOC-5	BOC-5-T03N-TRV-060603	5-Jun-03	*Spermophilus lateralis*	F	10.19 g	Adult	NA	NA	NA	No (Liver sample)	NM	
Reference Soil at Cater Ranch	CR-10	CR-10-T01N-TRV-060503	4-Jun-03	*Dipodomys ordii*	M	68.71 g	Adult	11.5 cm	10.5 cm	3.8 cm	No	NM	
	CR-10	CR-10-T01N-TRV-060503	4-Jun-03	*Dipodomys ordii*	F	60.65 g	Adult	11.4 cm	10.9 cm	3.5 cm	No	NM	
	CR-10	CR-10-T01N-TRV-060503	4-Jun-03	*Dipodomys ordii*	M	62.95 g	Adult	11.1 cm	11.1 cm	3.9 cm	No	NM	
	CR-10	CR-10-T02N-TRV-060703	6-Jun-03	*Thomomys spp.*	M	57.66 g	Juvenile	11.4 cm	4.4 cm	2.5 cm	No	NM	
	CR-11	CR-11-T01N-TRV-060203	1-Jun-03	*Peromyscus maniculatus*	M	22.72 g	Adult	8.5 cm	6 cm	1.9 cm	No	1.6 cm	
	CR-11	CR-11-T01N-TRV-060203	1-Jun-03	*Peromyscus maniculatus*	M	9.64 g	Adult	7 cm	5 cm	1.9 cm	No	1.5 cm	
	CR-11	CR-11-T01N-TRV-060203	1-Jun-03	*Peromyscus maniculatus*	M	9.79 g	Adult	7 cm	4.8 cm	1.4 cm	No	NM	
	CR-11	CR-11-T01N-TRV-060203	1-Jun-03	*Peromyscus maniculatus*	F	27.08 g	Adult	9.1 cm	7.2 cm	1.7 cm	No	1.8 cm	
	CR-11	CR-11-T01N-TRV-060203	1-Jun-03	*Peromyscus maniculatus*	F	32.06 g	Adult	9.1 cm	6.6 cm	1.8 cm	No (pregnant)	1.7 cm	
	CR-11	CR-11-T01N-TRV-060203	2-Jun-03	*Peromyscus maniculatus*	F	NM	Adult	9.7 cm	5.3 cm	1.6 cm	No	NM	
	CR-11	CR-11-T01N-TRV-060203	2-Jun-03	*Peromyscus maniculatus*	M	NM	Adult	9.5 cm	5.6 cm	2 cm	No	NM	
	CR-11	CR-11-T01N-TRV-060203	2-Jun-03	*Peromyscus maniculatus*	M	NM	Adult	7.5 cm	5.2 cm	1.9 cm	No	NM	
	CR-13	CR-13-T01N-TRV-060503	3-Jun-03	*Peromyscus maniculatus*	M	13.43 g	Juvenile	8.5 cm	5.2 cm	1.9 cm	No	NM	
	CR-13	CR-13-T01N-TRV-060503	3-Jun-03	*Peromyscus maniculatus*	M	20.99 g	Adult	9.7 cm	5.4 cm	2 cm	No	NM	
	CR-13	CR-13-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	M	24.02 g	Adult	10.7 cm	7.5 cm	2.1 cm	No	NM	
	CR-13	CR-13-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	F	23.48 g	Adult	8.6 cm	7 cm	1.9 cm	No	NM	
	CR-14	CR-14-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	M	20 g	Adult	8 cm	5.4 cm	1.9 cm	No	NM	
	CR-14	CR-14-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	F	31.42 g	Adult	10 cm	6.1 cm	1.9 cm	No (lactating)	NM	
	CR-14	CR-14-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	F	25.97 g	Adult	9.5 cm	6.5 cm	1.9 cm	No (pregnant)	NM	
	CR-14	CR-14-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	M	18.94 g	Adult	9.8 cm	5.7 cm	1.8 cm	No (Breeding)	NM	
	CR-2	CR-2-T01N-TRV-060603	5-Jun-03	*Peromyscus maniculatus*	M	16.16 g	Juvenile	8.7 cm	5.5 cm	2 cm	No	NM	
	CR-2	CR-2-T01N-TRV-060603	5-Jun-03	*Peromyscus maniculatus*	F	23.09 g	Adult	9 cm	6.4 cm	1.9 cm	No	NM	
	CR-2	CR-2-T01N-TRV-060603	5-Jun-03	*Peromyscus maniculatus*	M	19.28 g	Adult	9.7 cm	5.7 cm	1.7 cm	No	NM	
	CR-4	CR-4-T01N-TRV-060303	1-Jun-03	*Peromyscus maniculatus*	F	27.25 g	Adult	9.8 cm	6 cm	1.9 cm	No (lactating)	1.7 cm	
	CR-4	CR-4-T01N-TRV-060303	1-Jun-03	*Peromyscus maniculatus*	M	25.12 g	Adult	9 cm	6.2 cm	2 cm	No	1.6 cm	
	CR-4	CR-4-T01N-TRV-060303	1-Jun-03	*Peromyscus maniculatus*	M	21.18 g	Adult	8.5 cm	6 cm	1.8 cm	No	1.5 cm	
	CR-4	CR-4-T01N-TRV-060303	1-Jun-03	*Peromyscus maniculatus*	M	22.56 g	Adult	8.5 cm	6.8 cm	1.9 cm	No (has fleas)	1.4 cm	
	CR-5	CR-5-T01N-TRV-060303	1-Jun-03	*Peromyscus maniculatus*	M	18.53 g	Adult	8.4 cm	5.2 cm	1.7 cm	No	1.7 cm	
	CR-5	CR-5-T01N-TRV-060303	1-Jun-03	*Peromyscus maniculatus*	M	21.09 g	Adult	8.3 cm	5.9 cm	1.9 cm	No (has fleas)	1.7 cm	
	CR-5	CR-5-T01N-TRV-060303	2-Jun-03	*Peromyscus maniculatus*	F	NM	Adult	7.5 cm	5.8 cm	1.9 cm	No	NM	
	CR-5	CR-5-T01N-TRV-060303	2-Jun-03	*Dipodomys ordii*	M	NM	Adult	10.6 cm	12 cm	3.6 cm	No	3.9 cm	
	CR-5	CR-5-T01N-TRV-060303	2-Jun-03	*Peromyscus maniculatus*	F	NM	Adult	8.9 cm	5.6 cm	1.8 cm	No	NM	
	CR-6	CR-6-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	M	17.95 g	Juvenile	9.1 cm	NM	1.7 cm	Yes (tail damaged in trap)	NM	
	CR-6	CR-6-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	M	21.94 g	Adult	9 cm	5.9 cm	1.9 cm	No	NM	
	CR-6	CR-6-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	F	19.74 g	Adult	10.1 cm	6.5 cm	1.9 cm	No	NM	
	CR-7	CR-7-T01N-TRV-060203	31-May-03	*Peromyscus maniculatus*	F	23.95 g	Adult	8.8 cm	7.3 cm	1.9 cm	No (lactating)	1.4 cm	
	CR-7	CR-7-T01N-TRV-060203	31-May-03	*Dipodomys ordii*	M	63.04 g	Adult	10.9 cm	16.9 cm	4 cm	No	NM	
	CR-7	CR-7-T01N-TRV-060203	31-May-03	*Peromyscus maniculatus*	M	29.43 g	Adult	9 cm	7.7 cm	1.9 cm	No	1.6 cm	

Sample IDs that contain T04N display calculated whole body weights.
NA - Not Applicable
NM - No Measurement
R:\Projects\22236212\Task\6.0_Project Deliv\Section 11_Sm Animals\New_Appendix B-11a.xls

APPENDIX B-11a
SMALL MAMMAL PHYSICAL DATA

Exposure area	SITE ID	SAMPLE ID	TRAP NIGHT	SPECIES	SEX	WEIGHT	AGE	HB LENGTH	TAIL LENGTH	RF LENGTH	VISUAL ABNORMALITIES	EAR	SPECIES RELEASED
Reference Soil at Cater Ranch	CR-7	CR-7-T01N-TRV-060203	1-Jun-03	*Dipodomys ordii*	M	63.6 g	Adult	11.6 cm	15.15 cm	4.1 cm	Yes (has fleas)	NM	
	CR-7	CR-7-T02N-TRV-060403	3-Jun-03	*Thomomys spp.*	M	113.73 g	Adult	1.6 cm	3.9 cm	2.3 cm	No (breeding)	NM	
	CR-8	CR-8-T01N-TRV-060103	31-May-03	*Peromyscus maniculatus*	M	25.68 g	Adult	8.8 cm	6.9 cm	1.9 cm	No	1.6 cm	
	CR-8	CR-8-T01N-TRV-060103	31-May-03	*Peromyscus maniculatus*	F	31.54 g	Adult	9.5 cm	6.2 cm	1.8 cm	Yes (tail short)	1.3 cm	
	CR-8	CR-8-T01N-TRV-060103	31-May-03	*Peromyscus maniculatus*	M	26.63 g	Adult	9.2 cm	6.1 cm	1.8 cm	Yes (tail short, has fleas)	1.6 cm	
	CR-8	CR-8-T01D-TRV-060203	1-Jun-03	*Peromyscus maniculatus*	M	19.46 g	Adult	7.7 cm	6.1 cm	1.6 cm	Yes	1.5 cm	
	CR-8	CR-8-T01D-TRV-060203	1-Jun-03	*Peromyscus maniculatus*	M	24.89 g	Adult	9.2 cm	6.8 cm	1.9 cm	No	1.4 cm	
	CR-8	CR-8-T01D-TRV-060203	1-Jun-03	*Peromyscus maniculatus*	M	24.43 g	Adult	9.3 cm	6.3 cm	1.9 cm	No	1.5 cm	
	CR-8	CR-8-T01D-TRV-060203	1-Jun-03	*Dipodomys Ordii*	F	62.69 g	Adult	10.9 cm	15.9 cm	4 cm	No	0 cm	
	CR-8	CR-8-T02N-TRV-060603	5-Jun-03	*Thomomys spp.*	M	84.22 g	Adult	15.7 cm	3.8 cm	2.1 cm	No	NM	
Soil Area 3 - Mine Site Soils	MSS3-1	MSS3-1-T01N-TRV-092702	26-Sep-02	*Peromyscus truei*	M	8.69 g	Adult	NM	9.7 cm	2.1 cm	No	NM	
	MSS3-1	MSS3-1-T01N-TRV-092702	26-Sep-02	*Peromyscus truei*	M	20.72 g	Adult	9.7 cm	9 cm	2.1 cm	No	2.2 cm	
	MSS3-10	MSS3-10-T01N-TRV-092702	25-Sep-02	*Eutamias minimus*	F	59.72 g	Adult	12.3 cm	6.5 cm	3 cm	No	NM	
	MSS3-10	MSS3-10-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	F	16.82 g	Adult	7.5 cm	6.5 cm	2 cm	No	NM	
	MSS3-10	MSS3-10-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	F	14.23 g	Juvenile	6.5 cm	5.5 cm	1.5 cm	No	NM	
	MSS3-10		28-Sep-02										*1-Eutamias minimus, 1-Peromyscus maniculatus*
	MSS3-2	MSS3-2-T01N-TRV-092802	25-Sep-02	*Peromyscus maniculatus*	M	13.82 g	Adult	9 cm	6.5 cm	1.9 cm	No	1.5 cm	
	MSS3-2	MSS3-2-T01N-TRV-092802	26-Sep-02	*Peromyscus maniculatus*	M	17.41 g	Adult	7 cm	5.4 cm	2 cm	No	1.5 cm	
	MSS3-2	MSS3-2-T01N-TRV-092802	26-Sep-02	*Peromyscus maniculatus*	M	15.47 g	Adult	8.5 cm	6.3 cm	1.9 cm	No	1.6 cm	
	MSS3-2	MSS3-2-T01D-TRV-092802	26-Sep-02	*Peromyscus maniculatus*	M	18.07 g	Adult	8.6 cm	5.5 cm	1.6 cm	No	1.7 cm	
	MSS3-2	MSS3-2-T01N-TRV-092802	27-Sep-02	*Eutamias minimus*	M	48.86 g	Adult	8 cm	8 cm	2.5 cm	No	NM	
	MSS3-2	MSS3-2-T01D-TRV-092802	27-Sep-02	*Peromyscus maniculatus*	M	17.53 g	Adult	6 cm	6 cm	2 cm	No	1.5 cm	
	MSS3-2	MSS3-2-T01D-TRV-092802	27-Sep-02	*Eutamias minimus*	F	39.09 g	Adult	11.5 cm	7 cm	2.9 cm	No	NM	
	MSS3-3	MSS3-3-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	14.52 g	Juvenile	7.5 cm	5.5 cm	2 cm	No	NM	
	MSS3-3	MSS3-3-T01N-TRV-093002	29-Sep-02	*Neotoma mexicana*	F	107.8 g	Adult	15 cm	13.5 cm	2.8 cm	No	NM	
	MSS3-4	MSS3-4-T01N-TRV-093002	28-Sep-02	*Peromyscus maniculatus*	F	20.73 g	Adult	7.5 cm	5.3 cm	1.7 cm	No	NM	
	MSS3-4	MSS3-4-T01N-TRV-093002	28-Sep-02	*Peromyscus boylii*	M	28.01 g	Adult	9.5 cm	9.5 cm	2.1 cm	No	NM	
	MSS3-4	MSS3-4-T01N-TRV-093002	28-Sep-02	*Peromyscus boylii*	M	22.44 g	Adult	8.5 cm	8.7 cm	2 cm	No	NM	
	MSS3-5	MSS3-5-T01N-TRV-092702	25-Sep-02	*Peromyscus boylii*	F	20.2 g	Adult	9 cm	9.8 cm	2.2 cm	No	1.8 cm	
	MSS3-5	MSS3-5-T01N-TRV-092702	25-Sep-02	*Permoyscus boylii / Peromyscus truei*	M	23.8 g	Adult	9.5 cm	9 cm	2.1 cm	No (tawney)	2 cm	
	MSS3-5	MSS3-5-T01N-TRV-092702	25-Sep-02	*Permoyscus boylii / Peromyscus truei*	F	25.27 g	Adult	9.7 cm	8.7 cm	2.3 cm	No	1.8 cm	
	MSS3-6	MSS3-6-T01N-TRV-092802	27-Sep-02	*Peromyscus boylii*	M	25.53 g	Adult	10 cm	8.8 cm	2.4 cm	No	NM	
	MSS3-6	MSS3-6-T01N-TRV-092802	27-Sep-02	*Peromyscus boylii*	M	25.25 g	Adult	9 cm	8.5 cm	2.2 cm	No	2.7 cm	
	MSS3-6	MSS3-6-T01N-TRV-092802	27-Sep-02	*Peromyscus boylii*	M	23.79 g	Adult	9 cm	9 cm	2.2 cm	No	NM	
	MSS3-6	MSS3-6-T01N-TRV-092802	27-Sep-02	*Eutamias minimus*	F	60.35 g	Adult	12 cm	9 cm	2 cm	No	NM	
	MSS3-7	MSS3-7-T01N-TRV-100302	1-Oct-02	*Peromyscus boylii*	M	25.9 g	Adult	8.5 cm	9 cm	2.2 cm	No	1.5 cm	
	MSS3-7	MSS3-7-T01N-TRV-100302	1-Oct-02	*Peromyscus boylii*	F	21.2 g	Adult	6.5 cm	8.1 cm	2 cm	No	2.1 cm	
	MSS3-7	MSS3-7-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	20.08 g	Adult	9.1 cm	8.7 cm	2.1 cm	No	1.8 cm	
	MSS3-7	MSS3-7-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	24 g	Adult	9.4 cm	9.5 cm	2.1 cm	No	2.1 cm	*2-Eutamias minimus, 1 Peromyscus boylii*
	MSS3-7	MSS3-7-T01N-TRV-100302	2-Oct-02	*Eutamias minimus*	F	67.38 g	Adult	14 cm	12 cm	3.3 cm	No	NM	
	MSS3-8	MSS3-8-T01N-TRV-092902	28-Sep-02	*Peromyscus maniculatus*	F	14.89 g	Adult	6.5 cm	7 cm	2.1 cm	No	0.7 cm	
	MSS3-8	MSS3-8-T01N-TRV-092902	28-Sep-02	*Peromyscus maniculatus*	M	22.25 g	Adult	8.5 cm	9 cm	2 cm	No	2 cm	
	MSS3-8	MSS3-8-T01N-TRV-092902	28-Sep-02	*Peromyscus maniculatus*	M	23 g	Adult	9 cm	9 cm	2 cm	No	2 cm	
	MSS3-8	MSS3-8-T01N-TRV-092902	28-Sep-02	*Peromyscus maniculatus*	M	17.5 g	Adult	7.5 cm	8.5 cm	2 cm	No	1.7 cm	
	MSS3-8	MSS3-8-T01N-TRV-092902	28-Sep-02	*Peromyscus maniculatus*	M	12.5 g	Adult	7 cm	7 cm	2 cm	No	1.3 cm	
	MSS3-8	MSS3-8-T01N-TRV-092902	28-Sep-02	*Peromyscus maniculatus*	F	17.75 g	Adult	8 cm	9 cm	2 cm	No	2 cm	
	MSS3-8	MSS3-8-T01N-TRV-092902	28-Sep-02	*Peromyscus maniculatus*	M	23.73 g	Adult	9.5 cm	9.5 cm	2.1 cm	No	1.7 cm	
	MSS3-8	MSS3-8-T01N-TRV-092902	28-Sep-02	*Peromyscus maniculatus*	M	19.85 g	Adult	9 cm	9.5 cm	2.2 cm	No	1 cm	
	MSS3-9	MSS3-9-T01N-TRV-092802	26-Sep-02	*Eutamias minimus*	F	57.5 g	Adult	12 cm	7.5 cm	3 cm	No	NM	
	MSS3-9	MSS3-9-T01N-TRV-092802	26-Sep-02	*Peromyscus maniculatus*	M	18.06 g	Adult	8 cm	6 cm	1.5 cm	No	NM	
	MSS3-9	MSS3-9-T01N-TRV-092802	26-Sep-02	*Peromyscus maniculatus*	F	18.09 g	Adult	8.4 cm	5.5 cm	1.8 cm	No	NM	

Sample IDs that contain T04N display calculated whole body weights.
NA - Not Applicable
NM - No Measurement

APPENDIX B-11a
SMALL MAMMAL PHYSICAL DATA

Exposure area	SITE ID	SAMPLE ID	TRAP NIGHT	SPECIES	SEX	WEIGHT	AGE	HB LENGTH	TAIL LENGTH	RF LENGTH	VISUAL ABNORMALITIES	EAR	SPECIES RELEASED
Soil Area 3 - Mine Site Soils	MSS3-9	MSS3-9-T01N-TRV-092802	27-Sep-02	*Peromyscus maniculatus*	F	16.66 g	Adult	8 cm	6 cm	1.6 cm	No	NM	
	MSS3-9	MSS3-9-T01N-TRV-092802	27-Sep-02	*Peromyscus maniculatus*	M	15.99 g	Adult	8 cm	5.5 cm	1.8 cm	No	NM	
	MSS3-9	MSS3-9-T01D-TRV-092802	27-Sep-02	*Peromyscus maniculatus*	M	17.52 g	Adult	6.8 cm	5.5 cm	1.7 cm	No	NM	
	MSS3-9	MSS3-9-T01D-TRV-092802	27-Sep-02	*Peromyscus maniculatus*	M	23.62 g	Adult	8.3 cm	5.8 cm	1.8 cm	No	NM	
	MSS3-9	MSS3-9-T01D-TRV-092802	27-Sep-02	*Peromyscus maniculatus*	M	22.64 g	Adult	7.8 cm	6.2 cm	2.2 cm	No	NM	
Reference Soils Above Mine Site	MSS3-9	MSS3-9-T01D-TRV-092802	27-Sep-02	*Peromyscus maniculatus*	F	25.8 g	Adult	10 cm	6.4 cm	1.8 cm	No	1.7 cm	
	MRSS-1	MSSR-1-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	16.24 g	Adult	8.5 cm	5.5 cm	1.8 cm	No	NM	*3-Peromyscus maniculatus, Eutamias minimus*
	MRSS-1	MSSR-1-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	19.89 g	Adult	8.3 cm	6 cm	1.9 cm	No	NM	
	MRSS-1	MSSR-1-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	F	24.3 g	Adult	8.5 cm	9 cm	2 cm	No	NM	
	MRSS-2	MSSR-2-T01N-TRV-100402	3-Oct-02	*Neotoma albigula*	M	130.65 g	Adult	14 cm	12.2 cm	3.1 cm	No	NM	*Neotoma albigula, Peromyscus maniculatus*
	MRSS-2	MSSR-2-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	21.23 g	Adult	8.7 cm	6.5 cm	1.8 cm	No	1.2 cm	
	MRSS-2	MSSR-2-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	19.09 g	Adult	8 cm	6.7 cm	1.8 cm	No	1.3 cm	
	MRSS-2	MSSR-2-T01N-TRV-100402	3-Oct-02	*Eutamias minimus*	F	42.38 g	Adult	11.5 cm	11 cm	3 cm	No	NM	
	MRSS-2	MSSR-2-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	18.99 g	Adult	8 cm	5.5 cm	2 cm	No	1.5 cm	
	MRSS-2	MSSR-2-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	F	14.68 g	Adult	7 cm	5 cm	1.8 cm	No	1.2 cm	
	MRSS-3	MSSR-3-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	14.67 g	Adult	7.2 cm	6.5 cm	1.8 cm	No	1.4 cm	*3-Peromyscus maniculatus, Eutamias minimus*
	MRSS-3	MSSR-3-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	17.55 g	Adult	8 cm	6 cm	1.8 cm	No	1.4 cm	
	MRSS-3	MSSR-3-T01N-TRV-100402	3-Oct-02	*Eutamias minimus*	F	61.94 g	Adult	12 cm	13.5 cm	3 cm	No	NM	
	MRSS-3	MSSR-3-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	16.8 g	Adult	7.5 cm	6.3 cm	1.8 cm	No	1.3 cm	
	MRSS-4	MSSR-4-T01N-TRV-100402	3-Oct-02	*Eutamias minimus*	F	67.75 g	Adult	13.4 cm	12.5 cm	3.3 cm	No	NM	
	MRSS-4	MSSR-4-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	16.74 g	Adult	8 cm	6.4 cm	1.8 cm	No	1.2 cm	
	MRSS-4	MSSR-4-T01N-TRV-100402	3-Oct-02	*Peromyscus maniculatus*	M	17.94 g	Adult	8.6 cm	6.3 cm	2 cm	No	1.1 cm	
	MRSS-5	MSSR-5-T01N-TRV-100502	3-Oct-02	*Peromyscus maniculatus*	M	18.23 g	Adult	7.5 cm	5.3 cm	1.7 cm	No	NM	
	MRSS-5	MSSR-5-T01N-TRV-100502	3-Oct-02	*Peromyscus maniculatus*	M	19.08 g	Adult	9 cm	6.5 cm	1.5 cm	No	1.4 cm	
	MRSS-5	MSSR-5-T01N-TRV-100502	4-Oct-02	*Peromyscus boylii*	F	24.32 g	Juvenile	6 cm	6.5 cm	1.9 cm	No	NM	
Reference Lower Cabresto Creek Riparian	MRSS-5	MSSR-5-T01N-TRV-100502	4-Oct-02	*Eutamias minimus*	M	54.44 g	Adult	9 cm	9 cm	2.5 cm	No	NM	
	RRS-19	RRS-19-T01N-TRV-100802	5-Oct-02	*Peromyscus maniculatus*	M	17.31 g	Adult	7 cm	5.6 cm	1.8 cm	No (Has fleas)	NM	
	RRS-19	RRS-19-T01N-TRV-100802	6-Oct-02	*Peromyscus maniculatus*	M	15.89 g	Adult	7 cm	5.8 cm	1.8 cm	No	NM	
	RRS-19	RRS-19-T01N-TRV-100802	7-Oct-02	*Peromyscus maniculatus*	F	17.65 g	Adult	8.3 cm	6.1 cm	1.8 cm	No	NM	
	RRS-20	RRS-20-T01N-TRV-100602	5-Oct-02	*Peromyscus maniculatus*	M	18.4 g	Adult	7.5 cm	5.5 cm	1.6 cm	No	NM	
	RRS-20	RRS-20-T01N-TRV-100602	5-Oct-02	*Peromyscus maniculatus*	F	16.54 g	Adult	8.1 cm	6 cm	1.8 cm	No	NM	
	RRS-20	RRS-20-T01N-TRV-100602	5-Oct-02	*Eutamias minimus*	F	45.76 g	Juvenile	10.5 cm	11.5 cm	3 cm	No	NM	
Reference Red River Riparian	RRS-29	RRS-29-T01N-TRV-100902	7-Oct-02	*Peromyscus maniculatus*	M	22.42 g	Adult	9.5 cm	6.8 cm	2 cm	No	1.5 cm	
	RRS-1	RRS-1-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	M	17.46 g	Adult	7.5 cm	6.1 cm	2 cm	No	NM	
	RRS-1	RRS-1-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	F	18.28 g	Adult	7.2 cm	5.8 cm	2 cm	No	NM	
	RRS-1	RRS-1-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	M	16.6 g	Adult	7.7 cm	5.8 cm	1.9 cm	No	NM	
	RRS-3	RRS-3-T01N-TRV-092802	26-Sep-02	*Peromyscus maniculatus*	F	14.38 g	Juvenile	7 cm	5.4 cm	1.8 cm	No	NM	
	RRS-3	RRS-3-T01N-TRV-092802	27-Sep-02	*Sorex cinereus*	M	7.31 g	Adult	5.5 cm	4 cm	1.4 cm	No	NM	*Tamiasciurus hudsonicus*
	RRS-3	RRS-3-T01N-TRV-092802	27-Sep-02	*Sorex cinereus*	M	7.09 g		6.5 cm	4.1 cm	NM	No	NM	
	RRS-3	RRS-3-T01N-TRV-092802	27-Sep-02	*Microtus montanus*	F	33.34 g	Adult	10.5 cm	3.8 cm	1.8 cm	No	NM	
	RRS-3	RRS-3-T01N-TRV-092802	27-Sep-02	*Sorex cinereus*	F	6.17 g		6 cm	4.4 cm	NM	No	NM	
	RRS-5	RRS-5-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	M	14.45 g	Juvenile	7 cm	5.5 cm	1.8 cm	No	NM	
	RRS-5	RRS-5-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	M	14.75 g	Juvenile	6.2 cm	5.3 cm	1.7 cm	No	NM	
	RRS-5	RRS-5-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	M	16.86 g	Juvenile	7 cm	5 cm	1.8 cm	No	NM	
	RRS-7	RRS-7-T01N-TRV-093002	29-Sep-02	*Neotoma albigula*	M	59.62 g	Adult	11 cm	7 cm	3 cm	No	NM	*4-Peromyscus maniculatus*
	RRS-7	RRS-7-T01N-TRV-093002	29-Sep-02	*Microtus pennsylvanicus*	F	37.07 g	Adult	10 cm	4.8 cm	2 cm	No	NM	
	RRS-7	RRS-7-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	18.46 g	Adult	7.5 cm	6 cm	1.8 cm	No	NM	
	RRS-8	RRS-8-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	M	20.12 g	Adult	8 cm	6.4 cm	2 cm	No	NM	
	RRS-8	RRS-8-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	F	13.36 g	Juvenile	6.5 cm	5 cm	1.8 cm	No	NM	

Sample IDs that contain T04N display calculated whole body weights.
NA - Not Applicable
NM - No Measurement

APPENDIX B-11a
SMALL MAMMAL PHYSICAL DATA

Exposure area	SITE ID	SAMPLE ID	TRAP NIGHT	SPECIES	SEX	WEIGHT	AGE	HB LENGTH	TAIL LENGTH	RF LENGTH	VISUAL ABNORMALITIES	EAR	SPECIES RELEASED
Reference Soil Cabresto Creek	RRS-8	RRS-8-T01N-TRV-092702	26-Sep-02	*Peromyscus maniculatus*	M	22.56 g	Adult	8.4 cm	6.5 cm	2 cm	No	NM	
	MRSS-16	MRSS-16-T01N-TRV-093002	29-Sep-02	*Microtus montanus*	F	15.5 g	Juvenile	9.2 cm	3 cm	1.7 cm	No	1.2 cm	
	MRSS-16	MRSS-16-T01N-TRV-093002	29-Sep-02	*Microtus montanus*	M	24.6 g	Adult	9.5 cm	2.5 cm	1.9 cm	No	NM	
	MRSS-16	MRSS-16-T01N-TRV-093002	29-Sep-02	*Eutamias minimus*	F	46.44 g	Adult	10 cm	8.5 cm	3 cm	No	NM	
	MRSS-16	MRSS-16-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	10.7 g	Juvenile	6.5 cm	6 cm	1.8 cm	No	1.5 cm	
	MRSS-17	MRSS-17-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	18.4 g	Adult	8.5 cm	6.1 cm	1.8 cm	No	NM	
	MRSS-17	MRSS-17-T01N-TRV-093002	29-Sep-02	*Eutamias minimus*	M	40.43 g	Adult	11 cm	8 cm	2.4 cm	No	NM	
	MRSS-17	MRSS-17-T01N-TRV-093002	29-Sep-02	*Eutamias minimus*	F	65.7 g	Adult	13 cm	12 cm	3 cm	No	NM	
	MRSS-18	MRSS-18-T02N-TRV-092902	28-Sep-02	*Eutamias minimus*	F	41.41 g	Adult	11 cm	9.5 cm	2.5 cm	No	NM	
	MRSS-18	MRSS-18-T02N-TRV-092902	28-Sep-02	*Peromyscus maniculatus*	M	10.35 g	Juvenile	7.5 cm	6.5 cm	1.9 cm	No	1.5 cm	
	MRSS-19	MRSS-19-T01N-TRV-092802	27-Sep-02	*Peromyscus maniculatus*	M	20.89 g	Adult	7 cm	5 cm	2 cm	No	NM	
	MRSS-19	MRSS-19-T01N-TRV-092802	27-Sep-02	*Neotoma cinerea*	M	NM	Adult	16 cm	16 cm	4 cm	No	NM	
	MRSS-20	MRSS-20-T01N-TRV-092802	27-Sep-02	*Peromyscus maniculatus*	F	24.06 g	Adult	8 cm	6.6 cm	1.8 cm	No	NM	*Tamiasciurus hudsonicus*
Reference Upper Cabresto Creek Riparian	MRSS-20	MRSS-20-T01N-TRV-092802	27-Sep-02	*Neotoma cinerea*	M	NM	Adult	16 cm	14 cm	3 cm	No (Tail missing)	NM	
	RRS-10	RRS-10-T01N-TRV-100202	1-Oct-02	*Peromyscus maniculatus*	M	20.77 g	Adult	7.9 cm	6.1 cm	1.8 cm	No	NM	*Eutamias minimus*
	RRS-10	RRS-10-T01N-TRV-100202	1-Oct-02	*Peromyscus maniculatus*	M	21.65 g	Adult	7.5 cm	5.7 cm	2 cm	No	NM	
	RRS-10	RRS-10-T01N-TRV-100202	1-Oct-02	*Peromyscus maniculatus*	M	23.2 g	Adult	9 cm	6.5 cm	2 cm	No	NM	
	RRS-11	RRS-11-T01N-TRV-100302	1-Oct-02	*Peromyscus spp.*	F	25.7 g	Adult	7.5 cm	4.5 cm	1.8 cm	Yes (wet and dirty from rain. Scaly tail.)	NM	
	RRS-11	RRS-11-T01N-TRV-100302	1-Oct-02	*Peromyscus maniculatus*	F	20.01 g	Adult	8.4 cm	5.8 cm	1.7 cm	No	NM	
	RRS-11	RRS-11-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	19.9 g	Adult	7 cm	6 cm	1.9 cm	No	NM	
	RRS-11	RRS-11-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	19.85 g	Adult	8 cm	7 cm	2 cm	No	NM	
	RRS-11	RRS-11-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	23.7 g	Adult	9.5 cm	7.5 cm	2 cm	No	NM	
	RRS-11	RRS-11-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	20.42 g	Adult	8 cm	6 cm	2 cm	No	NM	
	RRS-11	RRS-11-T01N-TRV-100302	2-Oct-02	*Sorex Cinereus*	F	5.64 g	Adult	6 cm	4 cm	1.3 cm	No	NM	
	RRS-12	RRS-12-T01N-TRV-100302	1-Oct-02	*Peromyscus maniculatus*	F	18.79 g	Adult	8 cm	6.1 cm	1.7 cm	No	NM	
	RRS-12	RRS-12-T01N-TRV-100302	1-Oct-02	*Peromyscus maniculatus*	M	20.24 g	Adult	7.5 cm	5.9 cm	1.6 cm	No	NM	
	RRS-12	RRS-12-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	18.93 g	Adult	8.3 cm	6.7 cm	2.1 cm	No	NM	*Peromyscus maniculatus*
	RRS-12	RRS-12-T01N-TRV-100302	2-Oct-02	*Peromyscus boylei*	M	9.63 g	Juvenile	6 cm	5 cm	1.6 cm	No	NM	
	RRS-12	RRS-12-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	F	25.71 g	Adult	9 cm	6.8 cm	1.9 cm	No	NM	
	RRS-12	RRS-12-T01N-TRV-100302	2-Oct-02	*Microtus montanus*	M	30.1 g	Adult	11.3 cm	5.8 cm	2.1 cm	No	NM	
	RRS-13	RRS-13-T01N-TRV-100302	1-Oct-02	*Peromyscus maniculatus*	F	16.95 g	Adult	8.2 cm	5.9 cm	2.1 cm	No	NM	
	RRS-13	RRS-13-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	17.25 g	Adult	8.3 cm	6 cm	2 cm	No	NM	
	RRS-13	RRS-13-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	17.85 g	Adult	7.2 cm	5.4 cm	2 cm	No	NM	
	RRS-9	RRS-9-T01N-TRV-100202	1-Oct-02	*Eutamias minimus*	F	51.09 g	Adult	11 cm	10 cm	2.9 cm	No	NM	*Eutamias minimus*
Soil Area 16 - Red River Riparian along Tailings Facility	RRS-9	RRS-9-T01N-TRV-100202	1-Oct-02	*Peromyscus maniculatus*	M	14.62 g	Adult	8.5 cm	6.1 cm	1.9 cm	No	NM	
	RS-11	RS-11-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	21.51 g	Adult	8.5 cm	6.2 cm	1.9 cm	No	NM	
	RS-11	RS-11-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	15.13 g	Adult	7.7 cm	6.2 cm	1.9 cm	No	NM	
	RS-11	RS-11-T01N-TRV-100302	2-Oct-02	*Peromyscus boylii*	F	15.06 g	Adult	7 cm	5 cm	1.8 cm	No	NM	
	RS-12	RRS-25-T01N-TRV-100302	1-Oct-02	*Peromyscus maniculatus*	M	18.24 g	Adult	7 cm	6 cm	1.8 cm	No	NM	
	RS-12	RRS-25-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	7.75 g	Juvenile	6 cm	4.5 cm	1.6 cm	No	NM	
	RS-12	RRS-25-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	16.92 g	Adult	6.5 cm	5.7 cm	1.6 cm	No	NM	
	RS-12	RRS-25-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	M	23.91 g	Adult	8.5 cm	6.5 cm	1.8 cm	No	NM	
	RS-12	RRS-25-T01N-TRV-100302	2-Oct-02	*Peromyscus maniculatus*	F	16.75 g	Adult	7.5 cm	6.5 cm	1.9 cm	No	NM	
	RS-12	RRS-25-T01N-TRV-100302	2-Oct-02	*Meadow Vole*	M	30.77 g	Adult	10.5 cm	5 cm	1.9 cm	No	NM	
	RS-13	RS-13-T01N-TRV-100202	1-Oct-02	*Microtus pennsylvanicus*	F	30.18 g	Adult	9 cm	3.5 cm	1.9 cm	No	NM	
	RS-13	RS-13-T01N-TRV-100202	1-Oct-02	*Reithrodontomys megalotis*	F	14.53 g	Adult	7 cm	6.7 cm	1.5 cm	No	NM	
	RS-14	RS-14-T01N-TRV-100502	4-Oct-02	*Peromyscus boylii*	M	28.97 g	Adult	9.9 cm	9.1 cm	2.3 cm	No	1.5 cm	
	RS-14	RS-14-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	F	22.95 g	Adult	8.5 cm	9.7 cm	2.2 cm	No	1.9 cm	
	RS-14	RS-14-T01N-TRV-100502	4-Oct-02	*Sorex cinereus*	M	2.04 g	Adult	6.5 cm	4.2 cm	1.3 cm	No	NM	
	RS-15	RS-15-T01N-TRV-100702	4-Oct-02	*Peromyscus boylii*	M	24.5 g	Adult	9 cm	8.2 cm	2.1 cm	No	NM	
	RS-15	RS-15-T01N-TRV-100702	4-Oct-02	*Peromyscus boylii*	M	23.53 g	Adult	10 cm	9.5 cm	2.2 cm	No	NM	

Sample IDs that contain T04N display calculated whole body weights.
NA - Not Applicable
NM - No Measurement

APPENDIX B-11a
SMALL MAMMAL PHYSICAL DATA

Exposure area	SITE ID	SAMPLE ID	TRAP NIGHT	SPECIES	SEX	WEIGHT	AGE	HB LENGTH	TAIL LENGTH	RF LENGTH	VISUAL ABNORMALITIES	EAR	SPECIES RELEASED
Soil Area 16 - Red River Riparian along Tailings Facility	RS-15	RS-15-T01N-TRV-100702	6-Oct-02	*Peromyscus maniculatus*	M	23.56 g	Adult	8.7 cm	9.1 cm	2.2 cm	No	NM	
	RS-16	RS-16-T01N-TRV-100602	5-Oct-02	*Peromyscus boylii*	M	26.5 g	Adult	9.3 cm	9.5 cm	2.1 cm	No	NM	*Eutamias minimus*
	RS-16	RS-16-T01N-TRV-100602	5-Oct-02	*Peromyscus maniculatus*	M	21.51 g	Adult	8.5 cm	6 cm	1.6 cm	No	NM	
	RS-16	RS-16-T01N-TRV-100602	5-Oct-02	*Peromyscus boylii*	M	25.78 g	Adult	9.5 cm	8.5 cm	2.2 cm	No	NM	
	RS-16	RS-16-T01N-TRV-100602	5-Oct-02	*Peromyscus boylii*	M	25.42 g	Adult	9.1 cm	8.7 cm	2.1 cm	No	NM	
	RS-17	RS-17-T01N-TRV-100602	4-Oct-02	*Peromyscus maniculatus*	F	20.17 g	Adult	8.3 cm	5.5 cm	2 cm	No	NM	
	RS-17	RS-17-T01N-TRV-100602	4-Oct-02	*Peromyscus maniculatus*	M	20.06 g	Adult	6.5 cm	5.5 cm	1.9 cm	No	NM	
	RS-17	RS-17-T01N-TRV-100602	5-Oct-02	*Peromyscus maniculatus*	M	18.48 g	Adult	8.6 cm	6.6 cm	1.8 cm	No	NM	
	RS-18	RS-18-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	M	14.78 g	Adult	7.5 cm	5.6 cm	1.6 cm	No	NM	*3-Peromyscus maniculatus*
	RS-18	RS-18-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	M	17.32 g	Adult	8.5 cm	5.4 cm	1.7 cm	No	NM	
	RS-18	RS-18-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	M	15.24 g	Adult	6.5 cm	5.5 cm	1.7 cm	No	NM	
	RS-18	RS-18-T01N-TRV-100502	4-Oct-02	*Sorex cinereus*	F	5.89 g	Adult	5.5 cm	4.4 cm	1 cm	No	NM	
	RS-19	RS-19-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	M	21.41 g	Adult	8.5 cm	6 cm	2.1 cm	No	NM	
	RS-19	RS-19-T01N-TRV-100502	4-Oct-02	*Peromyscus boylii*	F	22.48 g	Adult	9 cm	9.2 cm	2.9 cm	No	NM	
	RS-19	RS-19-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	F	16.32 g	Adult	7.5 cm	6 cm	1.8 cm	No	NM	
	RS-19	RS-19-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	F	17.77 g	Adult	7.5 cm	6.1 cm	1.7 cm	No	NM	
	RS-20	RS-20-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	M	12.69 g	Juvenile	5.5 cm	5.3 cm	1.6 cm	No	NM	*3-Peromyscus maniculatus*
	RS-20	RS-20-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	M	18.87 g	Adult	7.8 cm	6.3 cm	1.8 cm	No	NM	
Soil Area 9 - Red River Riparian along Mine Site	RS-20	RS-20-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	F	17.02 g	Adult	7 cm	5 cm	1.8 cm	No	NM	
	RS-1	RS-1-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	F	18.07 g	Adult	8 cm	6 cm	2 cm	No	NM	
	RS-1	RS-1-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	M	15.12 g	Juvenile	7.9 cm	6.2 cm	1.3 cm	No	NM	
	RS-1	RS-1-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	F	14.21 g	Juvenile	6.9 cm	6.3 cm	1.9 cm	No	NM	
	RS-10	RS-10-T01N-TRV-100202	1-Oct-02	*Mus musculus*	F	20.05 g	Adult	7.5 cm	8.8 cm	1.6 cm	No	NM	
	RS-10	RS-10-T01N-TRV-100202	1-Oct-02	*Mus musculus*	F	18.1 g	Adult	8 cm	8 cm	1.6 cm	No	NM	
	RS-10	RS-10-T01N-TRV-100202	1-Oct-02	*Reithrodontomys megalotis*	F	21.21 g	Adult	8 cm	7 cm	1.7 cm	No	NM	
	RS-2	RS-2-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	M	18.36 g	Adult	8.5 cm	6.2 cm	1.9 cm	No	NM	
	RS-2	RS-2-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	M	13.4 g	Juv/Adult	6 cm	5.5 cm	1.6 cm	No	NM	*Microtus montanus*
	RS-2	RS-2-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	M	18.96 g	Adult	8.5 cm	6 cm	2 cm	No	NM	
	RS-2	RS-2-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	M	18.88 g	Adult	8 cm	4.8 cm	1.5 cm	No	NM	
	RS-2	RS-2-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	F	19.83 g	Adult	8.7 cm	6.6 cm	1.6 cm	No	NM	
	RS-3	RS-3-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	M	15.08 g	Juvenile	8.4 cm	5.5 cm	1.5 cm	No	NM	
	RS-3	RS-3-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	F	14.51 g	Juvenile	7.8 cm	5.6 cm	1.6 cm	No	NM	
	RS-3	RS-3-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	F	14.64 g		7.4 cm	6 cm	1.8 cm	No	NM	
	RS-3	RS-3-T01N-TRV-092602	25-Sep-02	*Peromyscus maniculatus*	F	15.4 g	Juvenile	7 cm	6.2 cm	2.1 cm	No	NM	
	RS-3	RS-3-T01N-TRV-092602	25-Sep-02	*Vole*		29.2 g		9.5 cm	5 cm	1.5 cm	No	NM	
	RS-4	RS-4-T01D-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	18.59 g	Adult	7.5 cm	6.1 cm	1.2 cm	No	NM	
	RS-4	RS-4-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	17.01 g	Adult	7.5 cm	5.4 cm	1.6 cm	No	NM	
	RS-4	RS-4-T01D-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	F	17.45 g	Adult	7.8 cm	5.6 cm	2 cm	No	NM	
	RS-4	RS-4-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	17.81 g	Adult	7 cm	5.7 cm	1.9 cm	No	NM	
	RS-4	RS-4-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	F	16.77 g	Adult	6 cm	5.4 cm	1.9 cm	No	NM	
	RS-4	RS-4-T01D-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	12.92 g	Juvenile	6.4 cm	6.2 cm	1.6 cm	No	NM	
	RS-4	RS-4-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	F	17.74 g	Adult	8.4 cm	5.6 cm	1.7 cm	No	NM	
	RS-4	RS-4-T01D-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	F	19.17 g	Adult	8.3 cm	5.5 cm	1.8 cm	No	NM	
	RS-5	RS-5-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	19.75 g	Adult	8.2 cm	5.3 cm	1.8 cm	No	NM	*Eutamias minimus*
	RS-5	RS-5-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	16.83 g	Adult	7.5 cm	4.6 cm	1.9 cm	No	NM	
	RS-5	RS-5-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	13.23 g	Juvenile	5.6 cm	5.6 cm	1.9 cm	No	NM	
	RS-6	RS-6-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	12.8 g	Adult	7.7 cm	6.2 cm	1.8 cm	No	NM	
	RS-6	RS-6-T01N-TRV-093002	29-Sep-02	*Eutamias minimus*	F	61.26 g	Adult	12 cm	9 cm	2.7 cm	No	NM	
	RS-6	RS-6-T01N-TRV-093002	29-Sep-02	*Neotoma mexicana*	F	95.55 g	Adult	12 cm	11.4 cm	3 cm	No	NM	
	RS-6	RS-6-T01N-TRV-093002	29-Sep-02	*Peromyscus maniculatus*	M	17.73 g	Adult	7.5 cm	6.2 cm	1.9 cm	No	NM	
	RS-7	RS-7-T01N-TRV-100202	1-Oct-02	*Peromyscus maniculatus*	M	14.41 g	Adult	7.5 cm	5.5 cm	1.7 cm	No	NM	*Peromyscus maniculatus, Peromyscus boylii*
	RS-7	RS-7-T01N-TRV-100202	1-Oct-02	*Neotoma albigula*	M	86.95 g	Adult	12.5 cm	9.5 cm	3.2 cm	No	NM	
	RS-8	RS-8-T01N-TRV-100502	2-Oct-02	*Peromyscus maniculatus*	M	15.4 g	Adult	7.6 cm	5.9 cm	1.9 cm	No	1.3 cm	

Sample IDs that contain T04N display calculated whole body weights.
NA - Not Applicable
NM - No Measurement

APPENDIX B-11a
SMALL MAMMAL PHYSICAL DATA

Exposure area	SITE ID	SAMPLE ID	TRAP NIGHT	SPECIES	SEX	WEIGHT	AGE	HB LENGTH	TAIL LENGTH	RF LENGTH	VISUAL ABNORMALITIES	EAR	SPECIES RELEASED
Soil Area 9 - Red River Riparian along Mine Site	RS-8	RS-8-T01N-TRV-100502	3-Oct-02	*Peromyscus maniculatus*	M	21.86 g	Adult	9.8 cm	6.3 cm	2.1 cm	No	1.5 cm	
	RS-8	RS-8-T01N-TRV-100502	4-Oct-02	*Sorex cinereus*	M	3.25 g	Adult	5.8 cm	4.1 cm	1.3 cm	No	NM	
	RS-8	RS-8-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	M	14.03 g	Adult	8.5 cm	6.5 cm	2 cm	No	NM	
	RS-8	RS-8-T01N-TRV-100502	4-Oct-02	*Eutamias minimus*	F	43.84 g	Adult	12.5 cm	9.2 cm	3.2 cm	No	NM	
	RS-8	RS-8-T01N-TRV-100502	4-Oct-02	*Microtus montanus*	M	16.57 g	Adult	8.7 cm	3.5 cm	1.9 cm	No	NM	
	RS-9	RS-9-T01N-TRV-100502	3-Oct-02	*Peromyscus maniculatus*	M	16.28 g	Adult	8.5 cm	7 cm	1.8 cm	No	1.4 cm	
	RS-9	RS-9-T01N-TRV-100502	4-Oct-02	*Eutamias minimus*	F	39.13 g	Adult	10.4 cm	9.2 cm	3.1 cm	No	NM	
Soil Area 14 - Tailings Impoundments	RS-9	RS-9-T01N-TRV-100502	4-Oct-02	*Peromyscus maniculatus*	F	12.04 g	Adult	8 cm	5.8 cm	2 cm	No	1.5 cm	
	TSS14-1	TSS14-1-T01N-TRV-060403	3-Jun-03	*Dipodomys ordii*	M	64.77 g	Adult	11.1 cm	10 cm	4 cm	Yes (missing part of tail)	NM	
	TSS14-1	TSS14-1-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	F	20.31 g	Adult	8.1 cm	5.3 cm	1.8 cm	No (lactating)	NM	
	TSS14-1	TSS14-1-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	F	18.66 g	Adult	8.5 cm	6.2 cm	1.2 cm	No (lactating)	NM	
	TSS14-1	TSS14-1-T02N-TRV-060503	4-Jun-03	*Thomomys spp.*	F	57.25 g	Juvenile	12.5 cm	3.6 cm	2.5 cm	No (Kidney sample)	NM	
	TSS14-10	TSS14-10-T01N-TRV-060303	2-Jun-03	*Peromyscus leucopus*	F	NM	Adult	9.8 cm	6.1 cm	2 cm	No (lactating)	NM	
	TSS14-10	TSS14-10-T01N-TRV-060303	2-Jun-03	*Peromyscus maniculatus*	M	NM	Adult	9 cm	5.4 cm	1.8 cm	No	NM	
	TSS14-10	TSS14-10-T01N-TRV-060303	2-Jun-03	*Peromyscus maniculatus*	M	NM	Adult	8.4 cm	6.6 cm	1.8 cm	No (may be a Leocopus very gold)	NM	
	TSS14-10	TSS14-10-T02N-TRV-060303	2-Jun-03	*Thomomys spp.*	F	NM	Adult	16 cm	6 cm	3 cm	No	NM	
	TSS14-10	TSS14-10-T01D-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	M	15.22 g	Juv/Adult	7 cm	5.8 cm	1.9 cm	No	NM	
	TSS14-10	TSS14-10-T01D-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	M	15.27 g	Juv/Adult	8 cm	6 cm	1.8 cm	No	NM	
	TSS14-10	TSS14-10-T01D-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	M	15.01 g	Juv/Adult	7.5 cm	5.1 cm	2 cm	No	NM	
	TSS14-2	TSS14-2-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	F	15.86 g	Adult	8.1 cm	5 cm	1.7 cm	No (pregnant)	1.5 cm	
	TSS14-2	TSS14-2-T01N-TRV-060503	4-Jun-03	*Onychomys torridus*	M	46.84 g	Adult	11.6 cm	4.1 cm	2 cm	No	NM	
	TSS14-2	TSS14-2-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	F	16.34 g	Adult	8.2 cm	5.6 cm	1.8 cm	No	1.6 cm	
	TSS14-3	TSS14-3-T01N-TRV-060703	5-Jun-03	*Peromyscus maniculatus*	M	15.37 g	Juvenile	8.3 cm	6.1 cm	2.1 cm	No	NM	
	TSS14-3	TSS14-3-T01N-TRV-060703	6-Jun-03	*Peromyscus maniculatus*	M	21.03 g	Adult	8.1 cm	5.5 cm	1.8 cm	No	NM	
	TSS14-4	TSS14-4-T01N-TRV-060403	2-Jun-03	*Peromyscus maniculatus*	M	NM	Adult	8 cm	6.2 cm	1.8 cm	Yes (has fleas)	NM	
	TSS14-4	TSS14-4-T01N-TRV-060403	2-Jun-03	*Peromyscus maniculatus*	M	NM	Adult	9 cm	5.8 cm	2.2 cm	Yes (has fleas)	NM	
	TSS14-4	TSS14-4-T01N-TRV-060403	3-Jun-03	*Onychomys leucogaster*	M	35.03 g	Adult	10.1 cm	3.6 cm	2 cm	No	NM	
	TSS14-4	TSS14-4-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	M	25.97 g	Adult	10.1 cm	5.7 cm	1.6 cm	No	NM	
	TSS14-5	TSS14-5-T01N-TRV-060603	5-Jun-03	*Dipodomys ordii*	F	65.01 g	Adult	11.2 cm	12.1 cm	4.2 cm	No	NM	
	TSS14-5	TSS14-5-T01N-TRV-060603	5-Jun-03	*Peromyscus maniculatus*	F	12.68 g	Juvenile	7.7 cm	5.5 cm	1.9 cm	No	NM	
	TSS14-5	TSS14-5-T01N-TRV-060603	5-Jun-03	*Peromyscus maniculatus*	F	16.35 g	Juvenile	7.9 cm	5.5 cm	1.8 cm	No	NM	
	TSS14-6	TSS14-6-T01N-TRV-060403	2-Jun-03	*Peromyscus maniculatus*	F	NM	Adult	9.1 cm	5.6 cm	1.8 cm	No	NM	
	TSS14-6	TSS14-6-T01N-TRV-060403	2-Jun-03	*Peromyscus maniculatus*	F	NM	Adult	10.2 cm	6 cm	1.9 cm	No	NM	
	TSS14-6	TSS14-6-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	F	28.39 g	Adult	8.5 cm	6.5 cm	1.7 cm	No (lactating)	NM	
	TSS14-6	TSS14-6-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	M	NM	Adult	9.2 cm	6.3 cm	1.9 cm	No (breeding)	NM	
	TSS14-6	TSS14-6-T01N-TRV-060403	3-Jun-03	*Peromyscus maniculatus*	M	14.11 g	Juvenile	6 cm	5.4 cm	1.8 cm	No	NM	
	TSS14-7	TSS14-7-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	M	26.34 g	Adult	9.2 cm	7.4 cm	1.8 cm	No	1.7 cm	
	TSS14-7	TSS14-7-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	F	12.07 g	Juvenile	7 cm	5.6 cm	1.5 cm	No	1.5 cm	
	TSS14-7	TSS14-7-T01N-TRV-060503	4-Jun-03	*Peromyscus leucopus*	F	26.57 g	Adult	9.6 cm	6.9 cm	2.1 cm	No (lactating)	1.8 cm	
	TSS14-7	TSS14-7-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	M	23.62 g	Adult	9.3 cm	7.2 cm	1.8 cm	No	1.6 cm	
	TSS14-7	TSS14-7-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	M	13.36 g	Juvenile	6.3 cm	5.4 cm	1.6 cm	No	1.5 cm	
	TSS14-7	TSS14-7-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	F	27.02 g	Adult	9.7 cm	6.3 cm	1.8 cm	No (lactating)	1.7 cm	
	TSS14-7	TSS14-7-T01N-TRV-060503	4-Jun-03	*Peromyscus maniculatus*	M	18.27 g	Adult	8.9 cm	7 cm	1.8 cm	No	1.6 cm	
	TSS14-8	TSS14-8-T01N-TRV-060403	2-Jun-03	*Dipodomys ordii*	M	NM	Adult	11.2 cm	18 cm	4 cm	No	NM	
	TSS14-8	TSS14-8-T01N-TRV-060403	3-Jun-03	*Dipodomys ordii*	M	70.13 g	Adult	12 cm	13.2 cm	3.9 cm	No (breeding)	NM	
	TSS14-8	TSS14-8-T01N-TRV-060403	3-Jun-03	*Dipodomys ordii*	F	49.89 g	Adult	10 cm	12.9 cm	3.8 cm	No	NM	
	TSS14-8	TSS14-8-T01N-TRV-060403	3-Jun-03	*Perognathus flavescens*	M	9.77 g	Adult	6.3 cm	4 cm	1.2 cm	No	NM	
	TSS14-9	TSS14-9-T01N-TRV-060303	2-Jun-03	*Peromyscus spp.*	M	NM	Adult	7.6 cm	5.6 cm	2.1 cm	No	NM	
	TSS14-9	TSS14-9-T01N-TRV-060303	2-Jun-03	*Onychomys leucogaster*	F	NM	Adult	8.7 cm	3.6 cm	2.2 cm	No	NM	
	TSS14-9	TSS14-9-T01N-TRV-060303	2-Jun-03	*Peromyscus maniculatus*	F	NM	Adult	10.6 cm	6.2 cm	1.2 cm	No	NM	
	TSS14-9	TSS14-9-T01N-TRV-060303	2-Jun-03	*Peromyscus maniculatus*	F	NM	Adult	8.2 cm	6.3 cm	1.8 cm	No (lactating)	NM	
	TSS14-9	TSS14-9-T02N-TRV-060303	2-Jun-03	*Thomomys spp.*	F	NM	Adult	15.4 cm	5.5 cm	2.7 cm	No (Kidney sample)	NM	
	TSS14-9	TSS14-9-T02D-TRV-060403	3-Jun-03	*Thomomys spp.*		115.22 g	Adult	15.5 cm	5.5 cm	3 cm	No	NM	

Sample IDs that contain T04N display calculated whole body weights.
NA - Not Applicable
NM - No Measurement

Appendix B-11b
Number of Animals Trapped

EXPOSURE AREA	SITE	SAMPLE DATE	NUMBER OF TRAPS				# OF TRAP NIGHTS	# OF GOPHER TRAP NIGHTS	Total Trap Nights
			SNAP TRAP	SHERMAN TRAP	PLASTIC LIVE TRAP	GOPHER TRAP			
Minesite Rockpiles	BOC	02-Jun-03		20			20		20
	BOC	03-Jun-03		20			20		20
	BOC	04-Jun-03		40			40		40
	BOC	05-Jun-03		40			40		40
	BOC	06-Jun-03		40			40		40
Total Trap Nights Per Exposure Area:							**160**	**0**	**160**
Cater Ranch	CR-10	05-Jun-03	10	10		3	20	3	23
	CR-10	06-Jun-03				3		3	3
	CR-10	07-Jun-03				5		5	5
	CR-11	02-Jun-03	10	1			11		11
	CR-11	03-Jun-03	19	1			20		20
	CR-13	04-Jun-03	20			9	20	9	29
	CR-13	05-Jun-03	20			9	20	9	29
	CR-13	06-Jun-03				9		9	9
	CR-14	04-Jun-03	20				20		20
	CR-2	05-Jun-03	6	6		2	12	2	14
	CR-2	06-Jun-03	10	10		5	20	5	25
	CR-2	07-Jun-03				10		10	10
	CR-4	02-Jun-03	10	10		3	20	3	23
	CR-4	03-Jun-03				4		4	4
	CR-4	04-Jun-03				5		5	5
	CR-4	05-Jun-03				5		5	5
	CR-4	06-Jun-03				5		5	5
	CR-4	07-Jun-03				8		8	8
	CR-5	02-Jun-03	10	10			20		20
	CR-5	03-Jun-03	10	10			20		20
	CR-5	04-Jun-03				3		3	3
	CR-5	05-Jun-03				2		2	2
	CR-6	05-Jun-03	10	10			20		20
	CR-7	01-Jun-03	7	10		6	17	6	23
	CR-7	02-Jun-03	7	10		6	17	6	23
	CR-7	03-Jun-03				2		2	2
	CR-7	04-Jun-03				4		4	4
	CR-8	01-Jun-03	20				20		20
	CR-8	02-Jun-03	20				20		20
	CR-8	06-Jun-03				4		4	4
Total Trap Nights Per Exposure Area:							**297**	**112**	**409**

Appendix B-11b
Number of Animals Trapped

EXPOSURE AREA	SITE	SAMPLE DATE	NUMBER OF TRAPS				# OF TRAP NIGHTS	# OF GOPHER TRAP NIGHTS	Total Trap Nights
			SNAP TRAP	SHERMAN TRAP	PLASTIC LIVE TRAP	GOPHER TRAP			
Minesite Soils	MSS3-10	26-Sep-02	12	8			20		20
	MSS3-10	27-Sep-02	12	8			20		20
	MSS3-10	28-Sep-02		8			8		8
	MSS3-1	27-Sep-02	20				20		20
	MSS3-1	28-Sep-02	20				20		20
	MSS3-2	26-Sep-02	10	10			20		20
	MSS3-2	27-Sep-02	10	10			20		20
	MSS3-2	28-Sep-02	10	10			20		20
	MSS3-3	30-Sep-02	10	10			20		20
	MSS3-4	30-Sep-02	10	10			20		20
	MSS3-5	27-Sep-02	20				20		20
	MSS3-6	27-Sep-02	20				20		20
	MSS3-6	28-Sep-02	20				20		20
	MSS3-7	02-Oct-02	10	10			20		20
	MSS3-7	03-Oct-02	10	10			20		20
	MSS3-8	29-Sep-02	20				20		20
	MSS3-9	27-Sep-02	20				20		20
	MSS3-9	28-Sep-02	20				20		20
Total Trap Nights Per Exposure Area:							**348**	**0**	**348**
Minesite Reference Soils	MRSS-16	29-Sep-02	10	10			20		20
	MRSS-16	30-Sep-02	10	10			20		20
	MRSS-17	29-Sep-02	10	10			20		20
	MRSS-17	30-Sep-02	10	10			20		20
	MRSS-18	29-Sep-02	10	10			20		20
	MRSS-19	28-Sep-02	10	10			20		20
	MRSS-1	04-Oct-02	10	10			20		20
	MRSS-20	28-Sep-02	10	10			20		20
	MRSS-2	04-Oct-02	10	9			19		19
	MRSS-3	04-Oct-02	10	10			20		20
	MRSS-4	04-Oct-02	10	10			20		20
	MRSS-5	04-Oct-02	20				20		20
	MRSS-5	05-Oct-02	20				20		20
Total Trap Nights Per Exposure Area:							**259**	**0**	**259**

Appendix B-11b
Number of Animals Trapped

EXPOSURE AREA	SITE	SAMPLE DATE	NUMBER OF TRAPS				# OF TRAP NIGHTS	# OF GOPHER TRAP NIGHTS	Total Trap Nights
			SNAP TRAP	SHERMAN TRAP	PLASTIC LIVE TRAP	GOPHER TRAP			
Tailings Facility Riparian Reference Area (LowerCabresto Cr.)	RRS-19	06-Oct-02	10	10			20		20
	RRS-19	07-Oct-02	10	10			20		20
	RRS-20	08-Oct-02	10	10			20		20
	RRS-25	06-Oct-02	10	10			20		20
	RRS-25	06-Oct-02	10	10			20		20
	RRS-25	07-Oct-02	10	10			20		20
	RRS-25	08-Oct-02	10	10			20		20
	RRS-25	09-Oct-02	10	10			20		20
	RRS-26	06-Oct-02	10	10			20		20
	RRS-26	07-Oct-02	10	10			20		20
	RRS-26	08-Oct-02	10	10			20		20
	RRS-26	09-Oct-02	10	10			20		20
	RRS-29	06-Oct-02	10	10			20		20
	RRS-29	07-Oct-02	10	10			20		20
	RRS-29	08-Oct-02	10	10			20		20
	RRS-29	09-Oct-02	10	10			20		20
Total Trap Nights Per Exposure Area:							**320**	**0**	**320**
Miinsite Riparian Reference Area	RRS-1	27-Sep-02	10	10			20		20
	RRS-3	27-Sep-02	10	10			20		20
	RRS-3	28-Sep-02	10	10			20		20
	RRS-5	27-Sep-02	10	10			20		20
	RRS-7	30-Sep-02	10	10			20		20
	RRS-8	27-Sep-02	10	10			20		20
	RRS-9	02-Oct-02	10	10			20		20
	RRS-10	02-Oct-02	10	10			20		20
	RRS-11	02-Oct-02	10	10			20		20
	RRS-11	03-Oct-02	10	10			20		20
	RRS-12	02-Oct-02	10	10			20		20
	RRS-12	03-Oct-02	10	10			20		20
	RRS-13	02-Oct-02	9	10			19		19
	RRS-13	03-Oct-02	9	10			19		19
Total Trap Nights Per Exposure Area:							**278**	**0**	**278**

Appendix B-11b
Number of Animals Trapped

EXPOSURE AREA	SITE	SAMPLE DATE	NUMBER OF TRAPS				# OF TRAP NIGHTS	# OF GOPHER TRAP NIGHTS	Total Trap Nights
			SNAP TRAP	SHERMAN TRAP	PLASTIC LIVE TRAP	GOPHER TRAP			
Tailings Facility Riparian Area (Soil Area 16)	RS-11	03-Oct-02	10	10			20		20
	RS-12	03-Oct-02	10	10			20		20
	RS-13	02-Oct-02	11	9			20		20
	RS-14	05-Oct-02	20				20		20
	RS-15	05-Oct-02	20				20		20
	RS-15	06-Oct-02	20				20		20
	RS-15	07-Oct-02	20				20		20
	RS-16	05-Oct-02	20				20		20
	RS-16	06-Oct-02	20				20		20
	RS-17	04-Oct-02	20				20		20
	RS-17	05-Oct-02	20				20		20
	RS-17	06-Oct-02	20				20		20
	RS-18	05-Oct-02	10	10			20		20
	RS-19	05-Oct-02	10	10			20		20
	RS-20	05-Oct-02	10	10			20		20
Total Trap Nights Per Exposure Area:							**300**	**0**	**300**
Miinsite Riparian Area	RS-10	02-Oct-02	20				20		20
	RS-1	26-Sep-02	10	6	4		20		20
	RS-20	26-Sep-02	10	6	4		20		20
	RS-3	26-Sep-02	11	6	3		20		20
	RS-4	30-Sep-02	10	10			20		20
	RS-5	30-Sep-02	10	10			20		20
	RS-6	30-Sep-02	10	10			20		20
	RS-7	02-Oct-02	10	10			20		20
	RS-8	02-Oct-02	20				20		20
	RS-8	03-Oct-02	20				20		20
	RS-8	04-Oct-02	20				20		20
	RS-8	05-Oct-02	20				20		20
	RS-9	02-Oct-02	20				20		20
	RS-9	03-Oct-02	20				20		20
	RS-9	04-Oct-02	20				20		20
	RS-9	05-Oct-02	20				20		20
Total Trap Nights Per Exposure Area:							**320**	**0**	**320**

Appendix B-11b
Number of Animals Trapped

EXPOSURE AREA	SITE	SAMPLE DATE	NUMBER OF TRAPS				# OF TRAP NIGHTS	# OF GOPHER TRAP NIGHTS	Total Trap Nights
			SNAP TRAP	SHERMAN TRAP	PLASTIC LIVE TRAP	GOPHER TRAP			
Tailiings Facility (Soil Area 14)	TSS14-10	03-Jun-03	20			2	20	2	22
	TSS14-10	04-Jun-03	20			2	20	2	22
	TSS14-1	04-Jun-03	20			4	20	4	24
	TSS14-1	05-Jun-03				3		3	3
	TSS14-2	05-Jun-03	20				20		20
	TSS14-3	05-Jun-03	20				20		20
	TSS14-3	06-Jun-03	20				20		20
	TSS14-3	07-Jun-03	20				20		20
	TSS14-3	08-Jun-03	20				20		20
	TSS14-4	03-Jun-03	20			2	20	2	22
	TSS14-4	04-Jun-03	20			2	20	2	22
	TSS14-4	05-Jun-03				2		2	2
	TSS14-4	06-Jun-03				2		2	2
	TSS14-5	06-Jun-03	20				20		20
	TSS14-6	03-Jun-03	20				20		20
	TSS14-6	04-Jun-03	20				20		20
	TSS14-7	05-Jun-03	20				20		20
	TSS14-8	03-Jun-03	20				20		20
	TSS14-8	04-Jun-03	20				20		20
	TSS14-9	03-Jun-03	20			5	20	5	25
	TSS14-9 (T02N)	03-Jun-03				3		3	3
	TSS14-9 (T02D)	04-Jun-03				3		3	3
	Total Trap Nights						**340**	**30**	**370**