SECTION 2

PRELIMINARY SITE CHARACTERIZATION SURFACE WATER TECHNICAL MEMORANDUM

MOLYCORP MINE RI/FS

REVISION 0

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SECTIONTWO Surface Water

This section documents and summarizes analytical results for surface water samples collected as part of the RI/FS at the Molycorp mine and tailings facility in Questa, New Mexico. Surface water data collection for the RI began in fall 2002 and ended in spring 2004.

Red River sampling locations were established to characterize surface water in the vicinity of the mine site and tailings facility and to provide the necessary data to evaluate potential exposure to human and ecological receptors. Red River sampling locations were selected utilizing a biased sampling design in order to: (1) supplement historical data (i.e., co-locate with historic sampling stations); and (2) to provide upstream and downstream bracketing of defined sources, such as springs and tributaries. Other surface water sampling locations included lakes, ponds, irrigation ditches, and mine site stormwater catchments. Reference areas were also established and sampled to characterize the range of physical and chemical conditions that exist in the area exclusive of mine-induced changes (i.e., natural background conditions). Surface water sampling locations are shown on Figure 2-1.

Sampling frequency of Red River and reference areas was seasonally based. Samples were collected in fall 2002, spring 2003 (pre-snowmelt), summer 2003, and fall 2003. Flow conditions during each of these times were moderately low to low. Sampling of Red River was also performed at the onset of snowmelt runoff (spring 2003) during the rising limb of the typically higher snowmelt flows. This provided data to assess the effects of the "first flush" of surface water constituents being carried downstream. Storm event sampling (high and moderate flows) was conducted in summer 2003 to evaluate water quality as a result of the less frequent, short-term precipitation events.

Surface water samples were analyzed for 25 dissolved and total metal analytes, and between seven and 18 inorganic analytes. A limited number of surface water samples were additionally analyzed for volatile organic compounds, semivolatile organic compounds, and explosives during the fall 2002 event. Surface water from the tailings ponds only was analyzed for total petroleum hydrocarbons. Rationale for each sampling location, sampling frequency, analyte list, and analyte methods are provided in the Molycorp RI/FS Draft Final Work Plan (URS 2002b).

Appendix A-2 for this section contains tables of analyte concentrations and field measurements for all surface water samples collected during the RI. Some values or concentrations may have been rejected during the data validation process; rejected data are not in Appendix A-2, but are discussed in their respective section of this memorandum. Summary tables for each sampling event at each particular surface water body or river reach have been prepared. Summary tables contain the number of samples collected; percent detection; and minimum, maximum, mean, and median values. The summary tables also contain EPA Region 6 Risk-Based SLC for human health and promulgated New Mexico Surface Water Standards or pertinent National Recommended Ambient Water Quality Criteria for ecological freshwater. Surface Water Data Quality Objectives (URS 2001) require comparison of analyte concentrations to these SLC as a first step in the Data Quality Objectives process. For those analytes that have hardness-dependent ecological SLC, a hardness of 100 milligrams per liter (mg/L) was used to calculate the SLC.

Section 15.4 (Field or Laboratory Contaminants) describes an evaluation of observed field or laboratory contaminants and provides a list by medium of analytes that are considered as

attributable to laboratory or field contamination rather than being related to presence in the medium under evaluation. These compounds are not included in the summary results tables in this section, but results for analysis of these compounds are included in the printout of the RI sample analysis results in Appendix A-2.

Summary tables for some water bodies (e.g., irrigation ditches, stormwater catchments) were not prepared for each sampling event. Instead, data from all sampling events were combined and reported in a single summary table. This did not follow the seasonally-based presentation of data that was used for the majority of the surface water data, but was done because the number of samples was limited or the water quality did not change seasonally.

Sections 2.1 through 2.6 briefly discuss detected analytes for each of the river reaches or surface water bodies. Section 2.7 (Summary) discusses mean analyte concentrations that exceed human health or ecological SLC, and how those concentrations compare to reference areas.

2.1 REFERENCE RED RIVER ABOVE MINE SITE

Reference data were collected in Red River at eight locations upstream of the mine site (Figure 2-1). Upstream to downstream, these locations include Zwergle, RR-1, RR-3, RR-4, RR-5, RR-6V, RR-6, and RR-6A. The RR-6V location was added during summer 2003. It is at a location where previous investigators had sampled and was added so that surface water data collected during the RI could be compared to historical data at that particular location. These reference sample locations reflect both natural processes and anthropogenic activities (e.g., discharges from the town of Red River) upstream of the mine site and were sampled during the same event as the mine area.

2.1.1 Fall 2002 Sampling Event

Surface water samples for the fall 2002 event were collected from October 3 through 7, at a time when Red River was at low-flow conditions. Table 2-1 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Seven samples were collected and analyzed. The dissolved oxygen value at RR-5 was rejected during data validation.

Five of the seven surface water locations were sampled and analyzed for organic compounds that included five explosives compounds, and 61 semivolatile and 41 volatile organics. No organic compounds were detected.

Twelve inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, sulfate, alkalinity, and total dissolved solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 16 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, potassium, sodium, and molybdenum were detected in each sample. A total of 22 metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, potassium, sodium, and vanadium were detected in each sample.

2.1.2 Spring 2003 Sampling Event

Surface water samples for the spring 2003 event were collected from March 21 through 23. The sampling occurred approximately one month prior to the onset of snowmelt runoff in the Red River watershed when the river was at low-flow conditions. Table 2-2 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Seven samples were collected and analyzed.

Fourteen inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, sulfate, and alkalinity were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 14 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, and potassium were detected in each sample. A total of 16 metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, and potassium were detected in each sample.

2.1.3 Summer 2003 Sampling Event

Surface water samples for the summer 2003 event were collected on July 15 and 16. Red River was near low-flow conditions. Table 2-3 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. The RR-6V location was additionally sampled during this and subsequent events. Eight samples were collected and analyzed.

Eleven inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, sulfate, alkalinity, and total organic carbon (TOC) were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 16 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, manganese, potassium, and sodium were detected in each sample. A total of 17 metal (total) analytes were detected. Of the detected total metals, barium, calcium, iron, magnesium, manganese, potassium, and sodium were detected in each sample.

2.1.4 Fall 2003 Sampling Event

Surface water samples for the fall 2003 event were collected on September 24 and 25. Red River was at low-flow conditions. Table 2-4 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Eight samples were collected and analyzed.

Fourteen inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, nitrate, sulfate, alkalinity, total dissolved solids, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 13 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, and sodium were detected in each sample. A total of 17 metal (total) analytes

were detected. Of the detected total metals, barium, calcium, magnesium, and sodium were detected in each sample.

2.2 REFERENCE UPPER CABRESTO CREEK

Upper Cabresto Creek is another reference area for Red River along the mine site. Reference surface water samples were collected in upper Cabresto Creek at five locations. Upstream to downstream, the locations included RRS-9, RRS-12, RRS-13, RRS-15, and UPPER CABRESTO CREEK (Figures 2-1). These reference sample locations reflect natural processes in a watershed that is similar to the Red River watershed (i.e., similar elevations, slope aspect, and general terrain). Surface water samples were collected at these reference locations during the same sampling events as the mine area sampling locations, thereby reflecting the same flow conditions. An exception to this was the UPPER CABRESTO CREEK location that was not sampled during the initial fall 2002 event.

2.2.1 Fall 2002 Sampling Event

Surface water samples for the fall 2002 event were collected on October 6 and 7, at a time when Cabresto Creek was at low-flow conditions. Table 2-5 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. The UPPER CABRESTO CREEK location was not sampled during this event. Four samples were collected and analyzed.

Ten inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, sulfate, alkalinity, and total dissolved solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 13 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, potassium, and sodium were detected in each sample. A total of 15 metal (total) analytes were detected. Of the detected total metals, aluminum, barium, calcium, magnesium, potassium, sodium, and vanadium were detected in each sample.

2.2.2 Spring 2003 Sampling Event

Surface water samples for the spring 2003 event were collected on March 23. The sampling occurred approximately one month prior to the onset of snowmelt runoff, based on observation of runoff conditions in the neighboring Red River watershed. Cabresto Creek was at low-flow conditions. Table 2-6 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. The UPPER CABRESTO CREEK location was sampled during this and subsequent events. Five samples were collected and analyzed.

Eight inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, sulfate, and alkalinity were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of six dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, and potassium were detected in each sample. A total of eight metal (total)

analytes were detected. Of the detected total metals, barium, calcium, magnesium, and potassium were detected in each sample.

2.2.3 Summer 2003 Sampling Event

Surface water samples for the summer 2003 event were collected on July 16. Cabresto Creek was at low-flow conditions. Table 2-7 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Five samples were collected and analyzed.

Nine inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), sulfate, alkalinity, and TOC were always detected in each sample. Each sample was additionally tested for cyanide (total), which was not detected.

A total of 11 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, potassium, and sodium were detected in each sample. A total of 14 metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, potassium, sodium, and vanadium were detected in each sample.

2.2.4 Fall 2003 Sampling Event

Surface water samples for the fall 2003 event were collected on September 25. Cabresto Creek was at low-flow conditions during the sampling event. Table 2-8 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Five samples were collected and analyzed.

Eleven inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), fluoride, sulfate, alkalinity, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 10 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, and sodium were detected in each sample. A total of 11 metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, and sodium were detected in each sample.

2.3 REFERENCE LOWER CABRESTO CREEK

Lower Cabresto Creek was established as a reference for Red River south of the tailings facility to the fish hatchery. Surface water samples were collected at a total of four reference locations, RRS-18, RRS-20, RRS-23, and RRS-27 (upstream to downstream, Figure 2-1). These reference sampling locations reflect both natural processes and anthropogenic activities in a watershed having similar characteristics as the Red River watershed. Samples were collected at these reference locations during the same sampling events at the tailings facility area sampling locations, thereby reflecting the same flow conditions. Stream flow diminishes in lower Cabresto Creek due to surface water diversions from the creek by the Llano and Cabresto #4 Ditches during the irrigation season. Diversions resulted in no surface water flow in the creek at RRS-18 during the summer 2003 sampling event; thus, no sample was collected.

2.3.1 Fall 2002 Sampling Event

Surface water samples for the fall 2002 event were collected on October 6, at a time when Cabresto Creek was at low-flow conditions. Table 2-9 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Four samples were collected and analyzed.

Eight inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), ortho phosphate, sulfate, alkalinity, and total dissolved solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 12 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, manganese, potassium, and sodium were detected in each sample. A total of 15 metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, potassium, sodium, and vanadium were detected in each sample.

2.3.2 Spring 2003 Sampling Event

Surface water samples for the spring 2003 event were collected on March 23. The sampling occurred approximately one month prior to the onset of snowmelt runoff, based on observation of runoff conditions in the neighboring Red River watershed. Cabresto Creek was at low-flow conditions. Table 2-10 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Four samples were collected and analyzed.

Nine inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, sulfate, and alkalinity were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of five dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, and potassium were detected in each sample. A total of five metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, and potassium were detected in each sample.

2.3.3 Summer 2003 Sampling Event

Surface water samples for the summer 2003 event were collected on July 16. Cabresto Creek was at low-flow conditions. As previously mentioned, the RRS-18 location was dry due to diversion of all surface water by the Llano and Cabresto #4 Ditches. Table 2-11 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Three samples were collected and analyzed.

Eight inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), sulfate, alkalinity, total dissolved solids, and TOC were always detected in each sample. Each sample was additionally tested for cyanide (total), which was not detected.

A total of 12 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, manganese, potassium, and sodium were detected in each sample. A total of

10 metal total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, manganese, potassium, and sodium were detected in each sample.

2.3.4 Fall 2003 Sampling Event

Surface water samples for the fall 2003 event were collected on September 25. Cabresto Creek was at low-flow conditions during the sampling event. Table 2-12 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Four samples were collected and analyzed.

Eleven inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), fluoride, sulfate, alkalinity, total dissolved solids, and TOC were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 10 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, and sodium were detected in each sample. A total of 14 metal (total) analytes were detected. Barium, calcium, magnesium, manganese, and sodium were detected in each sample.

2.4 RED RIVER

Red River along the mine site and tailings facility consists of two surface water exposure areas and a total of 23 surface water sample locations (Figures 2-1). Exposure area SW-1 is from the eastern mine boundary to just downstream of the State Road 522 bridge south of the tailings facility. The number of Red River surface water sampling locations in this exposure area is 18 and include (upstream to downstream): RR-7, -8, -8A, -10, -10A1, -11A1, -11B, -11C, -12, -13, -14, -15, -16, -17, 18A, -18B, -20, and LR-1. Exposure area SW-11 is from just upstream of the 002 Outfall, south of the tailings facility, to the fish hatchery. The number of Red River surface water sampling locations in this exposure area is five and includes (upstream to downstream): LR-5, -8A, -11A, -13, and -16. Data from surface water exposure area SW-1 and SW-11 have been combined in this section to represent the entire reach from the mine site to downstream of the tailings facility. Each of these locations was sampled in fall 2002, and spring, summer, and fall 2003.

2.4.1 Fall 2002 Sampling Event

Surface water samples for the fall 2002 event were collected from September 26 through October 6, at a time when Red River was at low-flow conditions. Table 2-13 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Twenty-three samples were collected and analyzed. Dissolved oxygen values at LR-11A, LR-13, and LR-16 were rejected during data validation.

Nine of the 23 surface water locations were sampled and analyzed for organic compounds that included five explosives compounds, 61 semivolatile and 41 volatile organics. Only one semi-volatile compound, styrene, was detected at a concentration of 0.001 mg/L.

Fourteen inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), sulfate, alkalinity, and total dissolved solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 19 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, manganese, molybdenum, nickel, potassium, and sodium were detected in each sample. A total of 20 metal (total) analytes were detected. Of the detected total metals, aluminum, barium, cadmium, calcium, copper, iron, magnesium, manganese, nickel, potassium, sodium, and vanadium were detected in each sample.

2.4.2 Spring 2003 Sampling Event

Surface water samples for the spring 2003 event were collected from March 19 through March 23. The sampling occurred approximately one month prior to the onset of snowmelt runoff within the Red River watershed, which was a time of low-flow conditions. A single sample ONFH of water entering Red River from the fish hatchery was collected on March 20 and sample results have been incorporated into the spring 2003 dataset. A total of 24 samples were collected during the spring 2003 sampling period. Table 2-14 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC.

Dissolved oxygen values at RR-16, RR-17, RR-18A, and RR-18B were rejected during data validation. A large number of samples were qualified for total aluminum due to contamination of laboratory blank samples. As a result, the samples have been qualified as non-detect.

Fourteen inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, nitrate, sulfate, alkalinity, and total dissolved solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 20 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, and potassium were detected in each sample. A total of 22 metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, and potassium were detected in each sample.

2.4.3 Summer 2003 Sampling Event

Surface water samples for the spring 2003 event were collected from July 14 through 16. The river was near low-flow conditions. Table 2-15 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC. Twenty-three samples were collected and analyzed.

Eleven inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, phosphorus, sulfate, alkalinity, and total dissolved solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 18 dissolved metal analytes were detected. Of the detected dissolved metals, barium, boron, calcium, copper, magnesium, manganese, nickel, potassium, and sodium were detected in each sample. A total of 20 metal (total) analytes were detected. Of the detected total metals,

barium, boron, calcium, magnesium, manganese, nickel, potassium, and sodium were detected in each sample.

2.4.4 Fall 2003 Sampling Event

Surface water samples for the fall 2003 event were collected from September 21 through 25. Red River was at low-flow conditions during the sampling event. A total of 24 samples were collected during the fall 2003 sampling period. Table 2-16 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC.

Ten inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, nitrate fluoride, phosphorus sulfate, alkalinity, total dissolved solids, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 18 dissolved metal analytes were detected. Of the detected dissolved metals, barium (0.035 mg/L), calcium 47.7 mg/L), magnesium (9.4 mg/L), and sodium (5.5 mg/L) were detected in each sample; mean concentrations are in parentheses. A total of 21 metal (total) analytes were detected. Of the detected total metals, aluminum (0.91 mg/L), barium (0.042 mg/L), calcium (48.5 mg/L), iron (0.49 mg/L), magnesium (9.6 mg/L), manganese (0.2 mg/L), nickel (0.013 mg/L), and sodium (5.6 mg/L) were detected in each sample; mean concentrations are in parentheses.

2.5 LAKES/PONDS

Eagle Rock and upper Fawn Lake were sampled as part of the RI. Eagle Rock Lake is surface water exposure area SW-2 and upper Fawn Lake is the reference for Eagle Rock Lake. Each lake was sampled at three locations – at littoral areas near the inlet, near the outlet, and near the middle of the lake. These three locations were deemed adequate within this biased sampling design to describe differences/similarities in small lakes. Surface water samples from the lakes were collected during the same sampling events at the mine area sampling locations (i.e., fall 2002, spring, summer, and fall 2003).

Ponds were also sampled. Hunt's Pond, located in southern Questa, was sampled at two locations during spring 2004. Ponds created by beaver dams were also sampled and referred to as "unique habitats." These unique habitats represent ponded water within the active channel of Red River. Surface water samples from a total of six beaver ponds were collected during the RI. Three of the ponds were in surface water exposure area SW-4, along the mine site, and three ponds were in exposure area SW-13, south of the tailings facility. Samples from beaver ponds were collected in spring and fall 2003. Unlike the summary table for Red River and lakes that are seasonally based, summary tables for ponds combine data across all events (i.e., one summary table for Hunt's Pond and one summary table for all Unique Habitat data). Lake and pond sampling locations are shown on Figures 2-1.

2.5.1 Reference Upper Fawn Lake

Surface water samples collected at upper Fawn Lake are references for samples collected at Eagle Rock Lake. Upper Fawn Lake is located upstream of the mine site and receives water from the Red River.

2.5.1.1 Fall 2002 Sampling Event

Surface water samples were collected on October 8, a time when Red River was at low-flow conditions, and near the time of the fall 2002 low-flow sampling of the river. Table 2-17 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the lake samples. Three samples were collected and analyzed.

One of the three lake samples was analyzed for organic compounds that included five explosives compounds, and 61 semivolatile and 41 volatile organics. No organic compounds were detected.

Nine inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), biologic oxygen demand, chloride, sulfate, alkalinity, total dissolved solids, and TOC were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 13 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, copper, magnesium, manganese, molybdenum, nickel, potassium, sodium, and vanadium were detected in each sample. A total of 16 metal (total) analytes were detected. Of the detected total metals, aluminum, barium, calcium, copper, iron, lead, magnesium, manganese, nickel, potassium, sodium, and vanadium were detected in each sample.

2.5.1.2 Spring 2003 Sampling Event

Surface water samples were collected on April 9, a time when Red River was still at low-flow conditions. Sampling of the upper Fawn Lake was planned for the previous month (March) when Eagle Rock Lake was sampled, but the lake was still covered with ice and sampling had to be delayed. Table 2-18 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the lake samples. Three samples were collected and analyzed.

Eleven inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, nitrate, phosphorus, sulfate, alkalinity, total dissolved solids, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of six dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, manganese, and nickel were detected in each sample. A total of nine metal (total) analytes were detected. Of the detected total metals, aluminum, barium, calcium, copper, magnesium, manganese, nickel, and vanadium were detected in each sample.

2.5.1.3 Summer 2003 Sampling Event

Surface water samples were collected on July 17, a time when Red River was near low-flow conditions. Table 2-19 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the lake samples. Three samples were collected and analyzed.

Eleven inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, nitrate, phosphorus, sulfate, alkalinity, total dissolved solids, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 13 dissolved metal analytes were detected. Of the detected dissolved metals, aluminum, barium, boron, calcium, iron, magnesium, manganese, nickel, potassium, and sodium were detected in each sample. A total of 17 metal (total) analytes were detected. Of the detected total metals, aluminum, barium, boron, calcium, iron, lead, magnesium, manganese, nickel, potassium, sodium, and vanadium were detected in each sample.

2.5.1.4 Fall 2003 Sampling Event

Surface water samples were collected on September 25 when the Red River was near low-flow conditions. Table 2-20 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the lake samples. Three samples were collected and analyzed.

Eleven inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, nitrate, phosphorus, sulfate, alkalinity, total dissolved solids, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total), which was not detected.

A total of 11 dissolved metal analytes were detected. Of the detected dissolved metals, barium, cadmium, calcium, magnesium, manganese, and sodium were detected in each sample. A total of 19 metal (total) analytes were detected. Of the detected total metals, aluminum, barium, cadmium, calcium, iron, lead, magnesium, manganese, nickel, potassium, sodium, and zinc were detected in each sample.

2.5.2 Surface Water Area 2 – Eagle Rock Lake

Eagle Rock Lake is downstream of the mine, approximately 1,000 feet downstream of the Questa Ranger Station and receives water from Red River.

2.5.2.1 Fall 2002 Sampling Event

Surface water samples were collected on October 7, a time when Red River was at low-flow conditions. Table 2-21 contains summary statistics for analyte values and comparisons to human

health and ecological chronic SLC for the lake samples. Three samples were collected and analyzed.

One of the three lake samples was analyzed for organic compounds that included five explosives compounds, and 61 semivolatile and 41 volatile organics. No organic compounds were detected.

Nine inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, nitrate, sulfate, alkalinity, and total dissolved solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 15 dissolved metal analytes were detected. Of the detected dissolved metals, barium, cadmium, calcium, magnesium, manganese, molybdenum, nickel, potassium, sodium, and zinc were detected in each sample. A total of 17 metal (total) analytes were detected. Of the detected total metals, aluminum, barium, cadmium, calcium, copper, iron, magnesium, manganese, molybdenum, nickel, potassium, sodium, vanadium, and zinc were detected in each sample.

2.5.2.2 Spring 2003 Sampling Event

Surface water samples were collected on March 21 when Red River was at low-flow conditions. Table 2-22 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the lake samples. Three samples were collected and analyzed.

Eleven inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, nitrate, nitrite, sulfate, alkalinity, total dissolved solids, TOC, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 15 dissolved metal analytes were detected. Of the detected dissolved metals, barium, cadmium, calcium, cobalt, copper, magnesium, manganese, nickel, potassium, sodium, and zinc were detected in each sample. A total of 14 metal (total) analytes were detected. Of the detected total metals, barium, cadmium, calcium, cobalt, copper, magnesium, manganese, molybdenum, nickel, potassium, and zinc were detected in each sample.

2.5.2.3 Summer 2003 Sampling Event

Surface water samples were collected on July 17. Red River was near low-flow conditions during the sampling event. Table 2-23 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the lake samples. Three samples were collected and analyzed.

Nine inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, phosphorus, sulfate, alkalinity, total dissolved solids, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 17 dissolved metal analytes were detected. Of the detected dissolved metals, aluminum, barium, cadmium, calcium, magnesium, manganese, nickel, potassium, sodium, and zinc were detected in each sample. A total of 22 metal (total) analytes were detected. Of the detected total

metals, aluminum, barium, boron, cadmium, calcium, cobalt, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, potassium, sodium, and zinc were detected in each sample.

2.5.2.4 Fall 2003 Sampling Event

Surface water samples were collected on September 25 when the Red River was at low-flow conditions. Table 2-24 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the lake samples. Three samples were collected and analyzed.

Eleven inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, nitrate, phosphorus, sulfate, alkalinity, total dissolved solids, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 11 dissolved metal analytes were detected. Of the detected dissolved metals, aluminum, barium, cadmium, calcium, cobalt, magnesium, manganese, molybdenum, nickel, potassium, sodium, and zinc were detected in each sample. A total of 16 metal (total) analytes were detected. Of the detected total metals, aluminum, barium, cadmium, calcium, iron, magnesium, manganese, nickel, potassium, sodium, and zinc were detected in each sample.

2.5.3 Hunt's Pond

Surface water samples were collected on May 11, 2004 at two locations in Hunt's Pond (Hunts Pond NW and Hunts Pond MID). Table 2-25 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the lake samples.

Nine inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), biologic oxygen demand, chloride, fluoride, sulfate, alkalinity, total dissolved solids, and TOC, were always detected in each sample. Each sample was additionally tested for cyanide (total), which was not detected.

A total of 14 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, molybdenum, nickel, potassium, sodium, and zinc were detected in each sample. A total of 14 metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, molybdenum, nickel, potassium, sodium, and zinc were detected in each sample.

2.5.4 Unique Habitats (Beaver Ponds)

Beaver dams resulting in areas of ponded water have created unique habitats within the Red River channel. Two general areas of ponded surface water were sampled during the RI, one along the mine site and the other south of the tailings facility. The ponds along the mine site are in the vicinity of Spring 39. Surface water samples collected from these ponds have been identified as Unique1, 4, and 5. The pond sampling south of the tailings facility included two locations approximately 500 feet downstream of Hunt's Pond Unique2 and 3, and one location approximately

100 feet west of the 002 Outfall at Red River (Unique6). During the RI data collection period, some of these ponds had breached and no longer impounded any water, and samples were not collected. Unique1, 2, and 3 were sampled in spring 2003 (March), and Unique 3, 4, 5, and 6 were sampled in fall 2003 (September). Both of these sampling events were at times when Red River was at low-flow conditions. Table 2-26 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the pond samples. The summary table for unique habitats combines samples from all events because of the limited number of samples collected in the spring and fall 2003. Seven samples were collected and analyzed.

Fourteen inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, nitrate, sulfate, alkalinity, total dissolved solids, TOC, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 16 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, magnesium, and manganese were detected in each sample. A total of 18 metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, manganese, and potassium were detected in each sample.

2.6 ADDITIONAL SURFACE WATER

Sampling of surface water during high-flow conditions in Red River was performed for the RI. This included sampling of the river at the onset of snowmelt runoff (spring 2003) and during rainstorm events (summer 2003). Additional surface water samples were collected from the tailings ponds, mine site stormwater catchments, drainages upstream of the mine site (Hansen and Hottentot creeks), locations upstream and downstream of the Spring 39 and 13 water collection systems, irrigation ditches, and irrigation return flows south of the tailings facility.

2.6.1 Spring 2003 Snowmelt Sampling Event

Water samples were collected from the Red River coinciding with the rising limb of snowmelt runoff on April 20, 22, and 24, 2003. The objective of the sampling was to measure surface water quality of the Red River upstream of the mine site, and to evaluate water quality changes as it flows past the mine site and tailings facility during the "first flush" from snowmelt runoff. Automatic samplers manufactured by ISCO, Inc. were positioned at five locations along Red River. One sampler was located at surface water sampling location RR-6, which is approximately 0.5 mile upstream of the mine property boundary. The RR-6 location represents water upstream of the mine site and is considered to be reference. Two samplers bordered the mine site, one at RR-8, which is near base of the Middle Rock Pile, and the other at RR-12, which is at the Goathill Campground. Another sampler was located about 0.5 mile downstream of the mine property boundary at RR-15. The last sampler was located about one mile downstream of the tailings facility, at LR-16 near the fish hatchery (Figures 2-1). Table 2-27 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the snowmelt samples. A total of 60 samples were collected and analyzed.

Six inorganic analytes were detected. Of the detected analytes, chloride, fluoride, sulfate, total dissolved solids, and total suspended solids were always detected in each sample.

A total of 19 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, and magnesium were detected in each sample. A total of 22 metal (total) analytes were detected. Of the detected total metals, aluminum, barium, calcium, magnesium, and vanadium were detected in each sample.

2.6.2 Summer 2003 Storm Events

The objective of storm event sampling was to measure surface water quality of Red River upstream of the mine site, and to evaluate water quality changes as it flows past the mine site and tailings facility under selected high-flow events. ISCO™ automatic samplers at the same five surface water sampling locations used for the snowmelt runoff sampling (RR-6, -8, -12, -15, and LR-16) were used to collect river samples during rainstorms. Storm event sampling began the last week of July and ended the first week of September.

2.6.2.1 Storm Event 1

The first storm event sampling occurred the evening of July 27 through the morning of July 28. Samples were collected at the RR-6, RR-12, and LR-16 Red River locations. Table 2-28 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the first storm event samples. A total of 12 samples were collected and analyzed.

Seven inorganic analytes were detected. Of the detected analytes, chloride, fluoride, sulfate, and total suspended solids were always detected in each sample.

A total of 17 dissolved metal analytes were detected. Those dissolved metals always detected in each sample are tabulated below.

Analyte	Analyte
Barium	Manganese
Boron	Nickel
Calcium	Potassium
Cobalt	Sodium
Magnesium	

A total of 24 metal (total) analytes were detected. Those total metals always detected in each sample are tabulated below.

Analyte	Analyte	Analyte
Aluminum	Cobalt	Molybdenum
Arsenic	Copper	Nickel
Barium	Iron	Potassium
Boron	Lead	Sodium
Cadmium	Magnesium	Vanadium
Calcium	Manganese	Zinc

2.6.2.2 Storm Event 2

The second storm event sampling occurred the afternoon and evening of August 13. Samples were collected from each of the five Red River locations. Table 2-29 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the second storm event samples. A total of 20 samples were collected and analyzed.

Nine inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, nitrate, sulfate, alkalinity, and total suspended solids were always detected in each sample.

A total of 21 dissolved metal analytes were detected. Those dissolved metals always detected in each sample are tabulated below.

Analyte	Analyte
Barium	Magnesium
Boron	Manganese
Calcium	Potassium
Copper	Sodium

A total of 24 metal (total) analytes were detected. Those total metals always detected in each sample are tabulated below.

Analyte	Analyte	Analyte
Aluminum	Copper	Nickel
Arsenic	Iron	Potassium
Barium	Lead	Sodium
Boron	Magnesium	Vanadium
Calcium	Manganese	Zinc

2.6.2.3 Storm Event 3

The third storm event sampling occurred the evening of September 3. Samples were collected at the RR-6, RR-8, and RR-12 Red River locations. Table 2-30 contains summary statistics for analyte

values and comparisons to human health and ecological chronic SLC for the third storm event samples. A total of 12 samples were collected and analyzed.

Six inorganic analytes were detected. Of the detected analytes, chloride, fluoride, nitrate, sulfate, total suspended solids, and total dissolved solids were always detected in each sample.

A total of 20 dissolved metal analytes were detected. Those dissolved metals always detected in each sample are tabulated below.

Analyte	Analyte
Barium	Manganese
Calcium	Potassium
Cobalt	Sodium
Magnesium	Zinc

A total of 23 metal (total) analytes were detected. Those total metals always detected in each sample are tabulated below.

Analyte	Analyte	Analyte
Aluminum	Cobalt	Potassium
Arsenic	Copper	Selenium
Barium	Iron	Sodium
Beryllium	Lead	Thallium
Boron	Magnesium	Vanadium
Cadmium	Manganese	Zinc
Calcium	Molybdenum	
Chromium	Nickel	

2.6.2.4 Storm Event 4

The fourth storm event sampling occurred the evening of September 5 through the early morning of September 6. Samples were collected from each of the five Red River locations. Table 2-31 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the fourth storm event samples. A total of 20 samples were collected and analyzed. The total antimony concentration at RR-6 was rejected during data validation.

Seven inorganic analytes were detected. Of the detected analytes, chloride, fluoride, nitrate, sulfate, and total suspended solids were always detected in each sample.

A total of 21 dissolved metal analytes were detected. Those dissolved metals always detected in each sample are tabulated below.

Analyte	Analyte
Barium	Manganese
Calcium	Potassium
Magnesium	Sodium

A total of 24 metal (total) analytes were detected. Those total metals always detected in each sample are tabulated below.

Analyte	Analyte	Analyte
Aluminum	Chromium	Molybdenum
Arsenic	Cobalt	Nickel
Barium	Copper	Potassium
Beryllium	Iron	Sodium
Boron	Lead	Vanadium
Cadmium	Magnesium	Zinc
Calcium	Manganese	

2.6.2.5 Post-Storm Sampling

A post-storm sampling at the RR-6 location was performed on September 10. A substantial rainstorm occurred the previous day when approximately one and one-half inches of rainfall was measured at the mine site. RR-6 was sampled to assess the potential lingering impacts to water quality upstream of the mine site after a large rainstorm. The sampling occurred about 12 hours after the heaviest rainfall had ceased. Table 2-32 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the post-storm samples. A total of four samples were collected and analyzed.

Five inorganic analytes were detected. Of the detected analytes, chloride, fluoride, nitrate, and sulfate were always detected in each sample.

A total of 16 dissolved metal analytes were detected. Those dissolved metals always detected in each sample are tabulated below.

Analyte	Analyte
Barium	Molybdenum
Calcium	Potassium
Copper	Nickel
Magnesium	Sodium
Manganese	Vanadium

A total of 22 metal (total) analytes were detected. Those total metals always detected in each sample are tabulated below.

Analyte	Analyte	Analyte
Aluminum	Copper	Potassium
Arsenic	Iron	Selenium
Barium	Lead	Sodium
Cadmium	Magnesium	Thallium
Calcium	Manganese	Vanadium
Chromium	Molybdenum	Zinc
Cobalt	Nickel	

2.6.3 Surface Water Area 12 – Tailings Impoundments

Water in the tailings impoundments was sampled at several locations (Figure 2-1). The tailings impoundments are operational ponds that impound water and tailings. As such, the surface water does not occur naturally like water in the river. During the RI data collection period, there were four operational ponds and each was sampled. The tailings impoundments water is within surface water exposure area SW12. The greatest number of samples was collected during the fall 2002 sampling event. Samples SW12-1 through SW12-10 represent locations from each of the four ponds. Another location at the western tailings pond (SW12-WTP) was tested for field parameters only in February 2003. Table 2-33 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the tailings pond samples. Results from all samples have been combined and summarized, instead of an event-by-event basis because of the limited number of samples. A total of 10 samples were collected and analyzed.

Fifteen inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, fluoride, sulfate, alkalinity, total dissolved solids, and TOC were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 21 dissolved metal analytes were detected. Of the detected dissolved metals, calcium, magnesium, manganese, molybdenum, nickel, potassium, sodium, and vanadium were detected in each sample. A total of 21 metal (total) analytes were detected. Of the detected total metals, aluminum, calcium, magnesium, manganese, molybdenum, nickel, potassium, sodium, and vanadium were detected in each sample.

2.6.4 Mine Site Stormwater Runoff Catchment Ponds

Water from the mine site surface water catchments was sampled. These catchments temporarily collect water from seeps and springs, or from snowmelt and stormwater runoff, and are within surface water exposure area SW3. Locations of the catchments are shown on Figure 2-1.

The upper Capulin Canyon catchment (CAPULIN1) is an operational system that collects seepage and runoff from the Capulin Rock Pile area. Water from the catchment is pumped/piped eastward through the ridge between the Capulin Canyon and Goathill Gulch watersheds, and discharged to the Goathill Gulch drainage. The catchment may be dry in the summer or covered by ice in the winter. The Capulin Spring sample location (CAPULIN SPRING) is at the end of the pipe and is essentially the same water that collects in the upper Capulin Canyon catchment. For this reason, CAPULIN SPRING is included in this section. Water from the catchment and CAPULIN SPRING was sampled during the fall 2002, and spring and fall 2003 sampling events.

The other catchments at the mine site temporarily collect runoff from snowmelt or rainstorms. They include:

- Mill area (STORM1)
- Sugar Shack West (SUGAR SHACK WEST CATCHMENT)
- Goathill Gulch Catchment (GHGC POND)
- Lower Goathill Gulch (LOWER REACH GOATHILL GULCH)
- Lower Capulin Canyon (LOWER REACH CAPULIN CANYON)

Water from these catchments was sampled if water was found to flow or pond for 24 hours or more.

Table 2-34 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the catchment samples. Results from all samples have been combined and summarized in one table. A total of 24 samples were collected and analyzed. All total metal concentrations for CAPULIN1 and CAPULIN SPRING in October 2002 were rejected during data validation. Other rejected data included phosphorus from CAPULIN SPRING in January 2003 and dissolved oxygen from LOWER REACH GOATHILL GULCH in September 2003.

Eighteen inorganic analytes were detected. Of the detected analytes, chloride, fluoride, phosphate, sulfate, and total dissolved solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected. One sample was analyzed for hexavalent chromium and it was detected at 0.016 mg/L.

A total of 23 dissolved metal analytes were detected. Of the detected dissolved metals, calcium, magnesium, and manganese were detected in each sample. A total of 25 metal (total) analytes were detected. Of the detected total metals, calcium, magnesium, and manganese were detected in each sample.

2.6.5 Drainages Upstream of the Mine Site

Drainages upstream of the mine site were sampled when possible during the RI. These ephemeral drainages included (upstream to downstream): Hottentot, Straight, and Hansen Creeks. The drainages may flow during and shortly after rainstorms, depending on location, duration, and intensity of rainstorms. Hansen Creek was sampled twice, once each in summer and fall 2003. The summer 2003 sample was collected near the base of the Hansen Creek scar and represented baseflow. The fall 2003 sample was collected near the mouth of the creek during the post-storm sampling on September 10. The Hottentot Creek sample was also collected during the September 10 post-storm sampling event near the mouth of the creek. Locations where surface water samples were collected are shown on Figure 2-1. Table 2-35 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the creek samples. Results from all samples have been combined and summarized in one table, instead of separate summary tables for each event. A total of four samples were collected and analyzed.

Thirteen inorganic analytes were detected. Of the detected analytes, phosphate, phosphorous, total dissolved solids, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 13 dissolved metal analytes were detected. Of the detected dissolved metals, aluminum, beryllium, calcium, magnesium, manganese, nickel, and zinc were detected in each sample. A total of 14 metal (total) analytes were detected. Of the detected total metals, aluminum, beryllium, calcium, magnesium, manganese, nickel, and zinc were detected in each sample.

2.6.6 Red River Upstream/Downstream of Springs 13 & 39

A groundwater seepage collection system was installed along the Red River near the mine. Part of the water collection system was designed to intercept seepage at two locations, Spring 39 and Spring 13, and are part of Molycorp's Best Management Practices included in the National Pollutant Discharge Elimination System (NPDES) permit. Each location consists of a perforated drain along the northern bank of the Red River that collects seepage water. This water is conveyed to the mill. The system began operation in early February 2003.

Two Red River sampling locations were established at each system, one upstream of the drain and one downstream of the drain. For the Spring 13 system, the sample locations were identified as RR-US-Spring 13 and RR-DS-Spring 13. For the Spring 39 system, the sample locations were identified as RR-US-Spring 39 and RR-DS-Spring 39. The "US" and "DS" denote upstream and downstream locations, respectively. The sampling locations were established to assist in evaluating the effectiveness of the systems in removing metals loading of the river. These locations were not part of the original RI data collection, but were added after the systems became operational. Sample locations are shown on Figure 2-1. Table 2-36 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the river samples. Results from all samples have been combined and summarized in one table, instead of separate summary tables for each event. A total of 53 surface water samples were collected and analyzed.

Eighteen inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), phosphate, sulfate, alkalinity, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total), which was not detected.

A total of 21 dissolved metal analytes were detected. Of the detected dissolved metals, calcium, magnesium, and manganese were detected in each sample. A total of 23 metal (total) analytes were detected. Of the detected total metals, calcium and manganese were detected in each sample.

2.6.7 Irrigation Ditches

Several irrigation ditches divert water from the Red River or Cabresto Creek. Ditches diverting water from Red River that were sampled included the North Ditch 1 (ND-1, a.k.a. Embargo Road Ditch), Central Ditch 1 (CD-1, a.k.a. Middle Ditch), and South Ditch 1 (SD-1, a.k.a. South Side Ditch). The Cabresto #4 Ditch diverts water from Cabresto Creek and it was also sampled. Each of these ditches was sampled if they were flowing during the fall 2002, spring, summer, and fall 2003 sampling events of the Red River. Surface water samples from ditches were collected just downstream of the point of diversion (head gate). During May 2004, the North Ditch was additionally sampled near its terminus, which is at the western end of Embargo Road. The identification for this sample location was ND-6. Locations of ditch samples are shown on Figure 2-1. Table 2-37 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the ditch samples. Results from all samples have been combined and summarized in one table, instead of separate summary tables for each event. A total of 11 samples were collected and analyzed.

Thirteen inorganic analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), sulfate, alkalinity, total dissolved solids, and total suspended solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 20 dissolved metal analytes were detected. Of the detected dissolved metals, barium, calcium, and magnesium were detected in each sample. A total of 22 metal (total) analytes were detected. Of the detected total metals, barium, calcium, magnesium, and manganese were detected in each sample.

2.6.8 Irrigation Ditch Return Flows

The area south of the tailings facility is an area where flood irrigation is practiced. This area is also the terminus for the North Ditch where non-diverted irrigation water flows onto pastures bordering Red River. The irrigation practices and return flows have created a saturated low-lying area south of the tailings facility where irrigation return water enters Red River via small ditches and overland flow. Two of the irrigation return flow ditches were sampled as part of the RI. Return ditch (LR-4) is located approximately 400 feet upstream of Molycorp's 002 Outfall pipe, approximately 10 feet from the confluence with Red River. This location was sampled in fall 2002, spring, summer, and fall 2003, and in spring 2004. During spring 2004, this return ditch was also sampled approximately 150 feet further upstream than the LR-4 location at LR-4U. The other return ditch that was sampled (LR-6) empties into Red River approximately 100 feet downstream of the 002 Outfall pipe. Locations of irrigation return ditches are shown on Figure 2-1. LR-6 was sampled in fall 2002, fall

2003, and spring 2004. Table 2-38 contains summary statistics for analyte values and comparisons to human health and ecological chronic SLC for the return ditch samples. Results from all samples have been combined and summarized in one table, instead of separate summary tables for each event. A total of nine samples were collected and analyzed.

Surface water samples were tested for 18 inorganic analytes and 14 analytes were detected. Of the detected analytes, bicarbonate (as $CaCO_3$), chloride, sulfate, alkalinity, and total dissolved solids were always detected in each sample. Each sample was additionally tested for cyanide (total) and cyanide was not detected.

A total of 17 dissolved metal analytes were detected. Of the detected dissolved metals, barium, boron, calcium, magnesium, molybdenum, and potassium were detected in each sample. A total of 20 metal (total) analytes were detected. Of the detected total metals, barium, boron, calcium, magnesium, manganese, molybdenum, and potassium were detected in each sample.

2.7 SUMMARY

The following summarizes detected analytes in surface water and in reference waters. Analytes exceeding SLC are also discussed. Comparisons between analytes that exceeded SLC for the mine site/tailings surface water and reference areas are presented.

Red River and Reference Areas

The number of metal analytes detected in Red River ranged from 18 (dissolved) to 22 (total), out of 25 metals that were analyzed. Red River reference areas had a lower number of detectable metals, ranging between 13 (dissolved) and 17 (total) for Red River upstream of the mine site and between five (dissolved) and 15 (total) in Cabresto Creek. The number of metal analytes always detected in each sample was greater in Red River, as compared to the upstream and Cabresto Creek reference areas. Of the four low-flow sampling events, spring 2003 had the fewest number of detectable metal analytes in Red River and in reference areas.

The fall 2002 sampling of Red River reference upstream of the mine site, Cabresto Creek reference, and Red River resulted in no detections of organic compounds inclusive of explosives, semivolatiles, and volatile organic compounds.

All inorganic and metal analytes were below human health SLC for the Red River reference area, Cabresto Creek reference area, and Red River along the mine site and tailings facility.

Metal analytes exceeded chronic ecological SLC in the Red River reference area, Cabresto Creek reference area, and Red River along the mine site and tailings facility. The table below lists the metal analytes exceeding the ecological SLC and shows the time when the individual analytes were exceeded. Metal analytes that exceeded ecological SLC are similar between Red River and the Red River reference area upstream of the mine site, and typically include aluminum, barium, boron, cadmium, and sometimes iron. Two differences were noticeable, however. During the summer 2003 event, copper exceeded the ecological SLC in the upstream Red River reference area, but it was not exceeded in Red River. During the spring 2003 event, zinc exceeded the ecological SLC in Red River, but it was not exceeded in the Red River upstream reference area. Also, during spring

2003, iron exceeded the SLC in the upstream reference area, but not in the river along the mine and tailings facility. The upper and lower Cabresto Creek reference areas typically had exceeded ecological SLC for barium and boron, with the aluminum SLC being exceeded only in upper Cabresto Creek.

Metal Analytes Exceeding Chronic Ecological SLC in Red River and Reference Areas				
Sampling Event	Reference Red River Upstream of Mine	Reference Upper Cabresto Creek	Reference Lower Cabresto Creek	Red River Along Mine Site and Tailings Facility
Fall 2002	Al, Ba, Cd, Fe	Al, Ba	Ba	Al, Ba, Cd, Fe
Spring 2003	Al, Ba, B, Cd, Fe	Ba	Ba	Al, Ba, B, Cd, Zn
Summer 2003	Al, Ba, B, Cd, Cu	Al, Ba	Ba, B	Al, Ba, B, Cd
Fall 2003	Al, Ba, Cd	Al, Ba, B	Ba, B	Al, Ba, B, Cd

Figures 2-2 through 2-8 are bar graphs of mean concentrations of metal analytes that exceeded ecological SLC in Red River or in reference areas. Metal analytes meeting this criteria include: aluminum (total), dissolved barium, boron, cadmium, copper, iron (total), and dissolved zinc. Mean concentrations for these metals are shown on Figures 2-2 through 2-8, respectively. A white bar on the graphs indicates the 50 percent 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, which ever was greater, was plotted.

The mean concentration of total aluminum (Figure 2-2) in Red River was generally two to three times greater than the mean concentration in the Red River upstream reference area. Mean concentrations of total aluminum in both the Red River and the upstream Red River reference area were greater than the aluminum ecological SLC. Mean concentrations of total aluminum in Cabresto Creek were less than the aluminum ecological SLC.

The mean concentrations of dissolved barium (Figure 2-3) in Red River were equal to or less than the mean concentration in the Red River upstream reference area. Mean barium concentrations in Red River and in all reference areas were greater than the barium ecological SLC.

The mean dissolved boron concentrations are shown on Figure 2-4. Mean concentrations were calculated only for summer and fall 2003, because during all other sampling events, boron was non-detect for greater than 50 percent of the values in Red River and reference areas. For summer 2003, the mean boron concentration in Red River was about two times greater than the lower Cabresto Creek reference, and both were greater than the boron ecological SLC.

The mean concentrations of dissolved cadmium (Figure 2-5) in Red River were slightly greater to about two times greater than the mean concentration in the Red River upstream reference area during fall 2002 and 2003. During spring and summer 2003, and during all events in Cabresto Creek, cadmium was non-detect for greater than 50 percent of the values. Mean cadmium concentrations in Red River were greater than the cadmium ecological SLC during each of the four sampling events. For the two events in the upstream Red River reference area when cadmium was detected in greater than 50 percent of the samples, the mean concentration was below the SLC.

The mean concentrations of dissolved copper in Red River (Figure 2-6) ranged from slightly higher to two times less than the mean concentration in the Red River upstream reference area. Mean copper concentrations in Red River and in the upstream Red River reference area were less than the copper ecological SLC.

Mean concentrations of iron (total) are shown on Figure 2-7. For those sampling events having greater than 50 percent detections, the mean concentration of iron in Red River ranged from about two times greater to slightly lower than reference areas. During spring 2003, iron was non-detect in greater than 50 percent of the samples collected from Red River and reference areas. During the other three sampling events, the mean concentration of iron was below the ecological SLC for Red River and reference areas.

The mean concentrations of dissolved zinc are shown on Figure 2-8. The mean zinc concentration in Red River was below the ecologic SLC during each of the sampling events.

Lakes/Ponds

In general, both upper Fawn Lake (reference) and Eagle Rock lakes had similar numbers of detectable metal analytes. Eagle Rock Lake had a greater number of metal analytes that were always detected in each sample, as compared to upper Fawn Lake. The lowest number of metal analyte detections occurred during spring 2003 in both lakes. The fall 2002 sampling of the lakes resulted in no detections of organic compounds inclusive of explosives, semivolatiles, and volatile organic compounds.

All inorganic analytes were below human health SLC for lakes and ponds. All metal analytes were below human health SLC for the lakes. All metal analytes were below human health SLC for the ponds, except for total molybdenum in a single sample from a beaver pond. The sample was collected from Unique6, approximately 100 feet west of the 002 Outfall at Red River, and the sample detected total molybdenum at 0.39 mg/L (human health SLC = 0.18 mg/L). The beaver pond impounded water for only two weeks and no longer exists.

The table below lists the metal analytes exceeding the ecological SLC and shows the time when the individual analytes were exceeded. Metal analytes exceeding ecological SLC in the upper Fawn Lake include aluminum (total) and dissolved barium during each event, with the addition of dissolved boron in summer 2003 and iron (total) in fall 2003. The same metal analytes exceeded ecological SLC in Eagle Rock Lake, with the addition of dissolved cadmium and dissolved zinc (spring 2003 only). Metal analytes in Hunt's Pond samples exceeded ecological SLC for dissolved barium and boron. Aluminum (total), dissolved barium, boron, cadmium, zinc, and iron (total) exceeded ecological SLC in the Unique Habitats.

Metal Analytes Exceeding Chronic Ecological SLC in Lakes and Ponds				
Sampling Event	Reference Upper Fawn Lake	Eagle Rock Lake	Hunt's Pond	Unique Habitats
Fall 2002	Al, Ba	Al, Ba, Cd	Ba, B	Al, Ba, B, Cd, Zn, Fe
Spring 2003	Al, Ba	Ba, Cd, Zn		
Summer 2003	Al, Ba, B	Al, Ba, B, Cd, Fe		
Fall 2003	Al, Ba, Fe	Al, Ba, Cd		

Figures 2-9 through 2-14 are graphs of mean concentrations for those metal analytes that exceeded ecological SLC in either upper Fawn (reference) or Eagle Rock lakes. The graphs compare mean concentrations for aluminum (total), and dissolved barium, boron, cadmium, iron (total), and dissolved zinc, respectively, for the four surface water events during which both lakes were sampled. A white bar on the graphs indicates the 50 percent 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, which ever was greater, was plotted.

The mean concentrations of total aluminum (Figure 2-9) in Eagle Rock Lake ranged from about two to 10 times greater than mean concentrations in the upper Fawn Lake. The mean concentration of aluminum was greater than the ecological SLC for both lakes during each sampling event, with the exception of Eagle Rock Lake in spring 2003 when greater than 50 percent of the values were non-detect.

The mean concentrations of dissolved barium (Figure 2-10) in Eagle Rock Lake ranged from slightly greater to slightly less than the mean concentrations in upper Fawn Lake. The mean concentrations of barium for both lakes were greater than the ecological SLC during each sampling event.

The mean concentration of dissolved boron is shown on Figure 2-11. Summer 2003 was the only sampling event when detected concentrations of boron were greater than 50 percent in both lakes. During summer 2003, the mean concentration of boron was slightly less in Eagle Rock Lake as compared to upper Fawn Lake, and the mean concentrations for both lakes were greater than the ecological SLC.

The mean concentrations of dissolved cadmium are graphed on Figure 2-12. During all of the events in upper Fawn Lake except for fall 2003, dissolved cadmium had greater than 50 percent non-detects; thus, mean concentrations were not calculated. Mean concentrations of cadmium in Eagle Rock Lake exceeded the ecological SLC during each event and ranged from slightly greater to two times greater than the SLC.

The mean concentrations of iron (total) are shown on Figure 2-13. The SLC for iron was exceeded during summer 2003 in Eagle Rock Lake and in Upper Fawn Lake during fall 2003.

The mean concentration of zinc (dissolved) is shown on Figure 2-14. The SLC for zinc was exceeded in Eagle Rock Lake only during the spring 2003 event.

Spring 2003 Snowmelt Sampling Event

The number of detected inorganic and metal analytes, both dissolved and total forms, during the snowmelt sampling were generally similar to the number of detected analytes during the four low-flow sampling events of Red River (fall 2002, and spring, summer, and fall 2003). The magnitude of analyte concentrations was also similar to the low-flow sampling events.

All inorganic and metal analytes were below human health SLC.

Aluminum (total), and dissolved barium, boron, cadmium, copper, and nickel exceeded chronic ecological SLC. Each metal exceeded SLC at locations along the mine site and at the upstream reference location (RR-6), except for nickel. Ecological SLC were exceeded for nickel and copper, but in a small percentage of the total samples (in only one or two of the 60 total samples) suggesting that the elevated concentrations may be outliers.

Summer 2003 Storm Event Sampling

The number of detected inorganic and dissolved metal analytes during the storm event sampling was generally similar to the number of detected analytes during the four low-flow sampling events of Red River (fall 2002, and spring, summer, and fall 2003). However, the number of detected metals (total form) increased during the storm event sampling. The magnitude of analyte concentrations increased several times to two to three orders of magnitude for some trace metal analytes (total), as compared to the low-flow sampling results. The increase in the particulate (total) form of metal analyte concentrations was primarily due to the high sediment load carried by the river during storm events.

During the post-storm sampling at RR-6, the number of detected inorganic and metal analytes (dissolve and total) was generally similar to the number of detected analytes during the storm sampling events. The metal (total) analyte concentrations remained elevated but were generally one order of magnitude less than analyte concentrations during the storm events.

Storm event sampling resulted in exceedances of inorganic and metal human health and chronic ecological SLC. The greatest number of exceedances of human health and ecologic SLC occurred during Storm Event 4.

All inorganic analytes were below human health SLC, except for fluoride during Storm Event 4. The human health SLC for fluoride (2.2 mg/L) was exceeded in one sample that had a concentration of 2.3 mg/L.

The following table lists the metal analytes that exceeded SLC during one or more of the summer 2003 storm events.

SLC	Analytes Exceeding SLC
Human Health	Al, As, Ba, Cr, Fe, Pb, Mn, Th, V
Chronic Ecological	Al, Ba, Be, B, Cd, Cu, Fe, Mn, Ni, Zn

Each of the above metals were generally greatest at the upstream reference location RR-6. Metals concentrations generally decreased downstream from the RR-6 location.

During post-storm sampling, which occurred approximately 12 hours after a substantial rain event ended the preceding day, the following metals exceeded SLC.

SLC	Analytes Exceeding SLC
Human Health	Fe, Pb
Chronic Ecological	Al, Ba, B, Cd, Fe

Tailings Impoundments

Twenty-one of the 25 metal analytes were detected in samples of tailings impoundment water. Metal analytes always detected in each sample included calcium, magnesium, manganese, molybdenum, nickel, potassium, and sodium.

Two inorganic analytes exceeded human health SLC: fluoride and sulfate.

The following table lists the metal analytes that exceeded SLC in tailings impoundment water.

SLC	Analytes Exceeding SLC
Human Health	Mn, Mo
Chronic Ecological	Al, Ba, B, Cd, Fe, Mn, Mo, Ni, Zn

Mine Site Storm Water Catchments

Twenty-two (dissolved) and 24 (total) metals were detected in water samples from mine site catchments. The large number of detected metal analytes occurred in the upper Capulin Canyon catchment and Capulin Spring. However, the number of metal analytes always detected in water samples was much lower and limited to four or five analytes. This is because the other storm water catchments at the mine site generally had lower concentrations of inorganics and metals.

Two inorganic analytes exceeded human health SLC: fluoride and sulfate.

The following table lists the metal analytes that exceeded SLC in mine site catchments.

SLC	Analytes Exceeding SLC
Human Health	Al, As, Be, Cd, Cr, Fe, Mn, Mo, Ni, Pb, V, Zn
Chronic Ecological	Al, Ba, B, Cd, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Se, Zn

The large number of metal analytes exceeding SLC primarily occurred at the upper Capulin Canyon catchment and Capulin Spring. The number of exceeded SLC was less for the other mine site catchments.

Drainages Upstream of the Mine Site

The number of dissolved and total metal analytes detected in water from drainages upstream of the mine site (13 dissolved to 14 total) were generally lower than the numbers detected during the four low-flow sampling events of Red River (13 dissolved to 22 total). However, the concentrations of detected metal analytes in the drainages ranged from several times to two orders of magnitude greater than concentrations in Red River during low-flow conditions.

Two inorganic analytes exceeded human health SLC: fluoride and sulfate.

Five metal analytes exceeded the human health SLC. These metals included aluminum, chromium, iron, manganese, and nickel. A total of eight metal analytes exceeded the chronic ecological SLC including, aluminum (total), iron (total), and dissolved beryllium, chromium, copper, manganese, nickel, and zinc.

Red River Upstream/Downstream of Springs 13 & 39

Nearly all of the metal analytes were detected in the Red River samples upstream and downstream of the Spring 39 and Spring 13 systems. The number of detected metal analytes ranged from 21 (dissolved) to 23 (total). Although many of the metal analytes were detected, only calcium, magnesium, and manganese were detected in every sample.

All inorganic analytes were below human health SLC. All metal analytes were below human health SLC. Aluminum (total), and dissolved barium, boron, cadmium, and zinc exceeded chronic ecological SLC.

Irrigation Ditches

The detected metal analytes in irrigation water numbered between 20 (dissolved) and 22 (total), of the 25 metals that were analyzed. The number of detected metal analytes is similar to the number of metal analytes detected in Red River during the low-flow sampling events. Of the detected metal analytes, barium, calcium, magnesium, and manganese were always detected in each sample. The number of metals always detected in samples was fewer than the number always detected in Red River samples during low-flow sampling events.

All inorganic analytes were below human health SLC. All metal analytes were below human health SLC. Aluminum (total), and dissolved barium, boron, cadmium, and zinc exceeded chronic ecological SLC.

Irrigation Return Flows

The number of detected metal analytes was similar to the number of metal analytes detected in irrigation ditch water.

All inorganic analytes were below human health SLC. All metal analytes were below the human health SLC, except for molybdenum. Aluminum, barium, boron, copper, and silver exceeded chronic ecological SLC.

SECTION 2

SURFACE WATER

TABLES

Table 2-1

Surface Water Fall 2002

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Explosives													
2,4,6-Trinitrotoluene	T	mg/L	5	0	HH DW (HQ=1)	0.0022	0	0.00025	0.00025	ND	ND		
Cyclotetramethylenetetranitramine	T	mg/L	5	0	No SLC			0.00025	0.00025	ND	ND		
Cyclotrimethylenetrinitramine	T	mg/L	5	0	No SLC			0.00025	0.00025	ND	ND		
Pentaerythritol tetranitrate	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
PYX	T	mg/L	5	0	No SLC			0.00025	0.00025	ND	ND		
Field													
DO	T	mg/L	6	NA	No SLC					7.9	10.1	9	8.9
Eh	T	millivolts	7	NA	No SLC					93.1	336	186	131
Flow	T	cfs	7	NA	No SLC					6	12.4	10.1	10.1
pH	T	SU	7	NA	No SLC					6.8	7.7	7.1	7.1
Specific Conductance	T	uS/cm	7	NA	No SLC					212	330	270	282
Temperature	T	Celsius	7	NA	No SLC					5.6	11.5	9.3	10.4
Turbidity	T	NTU	7	NA	No SLC					6.6	19.2	11.8	9
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	7	100	No SLC					65	91.8	75.8	74.1
Biochemical Oxygen Demand	T	mg/L	7	14.3	No SLC			1.3	1.4	ND	6.8		
Carbonate (as CaCO3)	T	mg/L	7	14.3	No SLC			1	1	ND	2.1		
Chemical Oxygen Demand	T	mg/L	7	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	7	100	ECO Chronic	230	0			1.3	3.2	2.5	2.6
Chloride	T	mg/L	7	100	HH DW (HQ=1)	250	0			1.3	3.2	2.5	2.6
Cyanide	T	mg/L	7	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	7	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	7	0	HH DW (HQ=1)	2.2	0	0.2	0.4	ND	ND		
Hydroxide (as CaCO3)	T	mg/L	7	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	7	14.3	HH DW (HQ=1)	10	0	0.2	0.5	ND	0.5		
Nitrite	T	mg/L	7	14.3	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.008		
Phosphate, Ortho As P	T	mg/L	7	42.9	No SLC			0.01	0.01	ND	0.041		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-1

Surface Water Fall 2002

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Phosphorus	T	mg/L	7	0	No SLC			0.01	0.072	ND	ND		
Sulfate	T	mg/L	7	100	HH DW (HQ=1)	1500	0			21.5	92.8	57.9	62
Total Alkalinity	T	mg/L	7	100	No SLC					65	91.8	76.1	74.1
Total Dissolved Solids	T	mg/L	7	100	No SLC					124	200	170	178
Total Kjeldahl Nitrogen	T	mg/L	7	0	No SLC			0.24	0.24	ND	ND		
Total Organic Carbon	T	mg/L	7	57.1	No SLC			1	1	ND	5.3	1.6	1.2
Total Suspended Solids	T	mg/L	7	42.9	No SLC			1.2	12.3	ND	17.3		
Metals													
Aluminum	D	mg/L	7	57.1	HH DW (HQ=1)	37	0	0.003	0.08	ND	0.16	0.08	0.09
Antimony	D	mg/L	7	0	ECO Chronic	0.69	0	0.0002	0.00023	ND	ND		
Antimony	D	mg/L	7	0	HH DW (HQ=1)	0.015	0	0.0002	0.00023	ND	ND		
Arsenic	D	mg/L	7	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	7	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	7	100	ECO Chronic	0.004	100			0.034	0.048	0.04	0.04
Barium	D	mg/L	7	100	HH DW (HQ=1)	2.6	0			0.034	0.048	0.04	0.04
Beryllium	D	mg/L	7	0	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	ND		
Beryllium	D	mg/L	7	0	ECO Chronic	0.0053	0	0.0002	0.0003	ND	ND		
Boron	D	mg/L	7	0	ECO Chronic	0.0016	0	0.0048	0.005	ND	ND		
Boron	D	mg/L	7	0	HH DW (HQ=1)	3.3	0	0.0048	0.005	ND	ND		
Cadmium	D	mg/L	7	71.4	ECO Chronic	0.00025	40	0.0001	0.0001	ND	0.00044	0.00022	0.00018
Cadmium	D	mg/L	7	71.4	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	0.00044	0.00022	0.00018
Calcium	D	mg/L	7	100	No SLC					36.1	44.1	39.6	39.3
Chromium	D	mg/L	7	0	ECO Chronic	0.074	0	0.0004	0.0046	ND	ND		
Chromium	D	mg/L	7	0	HH DW (HQ=1)	0.1	0	0.0004	0.0046	ND	ND		
Chromium, Hexavalent	D	mg/L	1	0	HH DW (HQ=1)	0.11	0	0.01	0.01	ND	ND		
Chromium, Hexavalent	D	mg/L	1	0	ECO Chronic	0.011	0	0.01	0.01	ND	ND		
Cobalt	D	mg/L	7	28.6	ECO Chronic	1.5	0	0.0001	0.0022	ND	0.0024		
Cobalt	D	mg/L	7	28.6	HH DW (HQ=1)	0.73	0	0.0001	0.0022	ND	0.0024		
Copper	D	mg/L	7	71.4	HH DW (HQ=1)	1.4	0	0.00034	0.003	ND	0.0082	0.0038	0.0036

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-1

Surface Water Fall 2002

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	D	mg/L	7	71.4	ECO Chronic	0.009	0	0.00034	0.003	ND	0.0082	0.0038	0.0036
Hardness	D	mg/L	7	100	No SLC					112	149	130	131
Iron	D	mg/L	7	28.6	HH DW (HQ=1)	11	0	0.023	0.023	ND	0.042		
Lead	D	mg/L	7	0	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	ND		
Lead	D	mg/L	7	0	ECO Chronic	0.0025	0	0.0001	0.0001	ND	ND		
Magnesium	D	mg/L	7	100	No SLC					5.2	9.4	7.5	8.1
Manganese	D	mg/L	7	85.7	ECO Chronic	1.7	0	0.0025	0.0025	ND	0.21	0.12	0.13
Manganese	D	mg/L	7	85.7	HH DW (HQ=1)	1.7	0	0.0025	0.0025	ND	0.21	0.12	0.13
Mercury	D	mg/L	7	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	7	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	7	100	ECO Chronic	2.2	0			0.0009	0.0014	0.0012	0.0012
Molybdenum	D	mg/L	7	100	HH DW (HQ=1)	0.18	0			0.0009	0.0014	0.0012	0.0012
Nickel	D	mg/L	7	71.4	ECO Chronic	0.052	0	0.0002	0.0002	ND	0.011	0.0051	0.0062
Nickel	D	mg/L	7	71.4	HH DW (HQ=1)	0.73	0	0.0002	0.0002	ND	0.011	0.0051	0.0062
Potassium	D	mg/L	7	100	No SLC					0.85	1.7	1.3	1.2
Selenium	D	mg/L	7	42.9	ECO Chronic	0.046	0	0.0002	0.0002	ND	0.00029		
Selenium	D	mg/L	7	42.9	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.00029		
Silver	D	mg/L	7	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	7	100	No SLC					3	5.2	4.2	4.3
Thallium	D	mg/L	7	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	7	85.7	HH DW (HQ=1)	0.26	0	0.0001	0.0001	ND	0.00032	0.00018	0.00017
Vanadium	D	mg/L	7	85.7	ECO Chronic	0.019	0	0.0001	0.0001	ND	0.00032	0.00018	0.00017
Zinc	D	mg/L	7	42.9	ECO Chronic	0.12	0	0.0021	0.033	ND	0.041		
Zinc	D	mg/L	7	42.9	HH DW (HQ=1)	11	0	0.0021	0.033	ND	0.041		
Aluminum	T	mg/L	7	85.7	ECO Chronic	0.087	83.3	0.011	0.011	ND	0.88	0.45	0.47
Aluminum	T	mg/L	7	85.7	HH DW (HQ=1)	37	0	0.011	0.011	ND	0.88	0.45	0.47
Antimony	T	mg/L	7	14.3	HH DW (HQ=1)	0.015	0	0.0002	0.00046	ND	0.0043		
Arsenic	T	mg/L	7	28.6	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00075		

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"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-1

Surface Water Fall 2002

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Barium	T	mg/L	7	100	HH DW (HQ=1)	2.6	0			0.036	0.053	0.046	0.047
Beryllium	T	mg/L	7	14.3	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	0.00051		
Boron	T	mg/L	7	0	HH DW (HQ=1)	3.3	0	0.0048	0.005	ND	ND		
Cadmium	T	mg/L	7	71.4	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	0.00074	0.00029	0.00027
Calcium	T	mg/L	7	100	No SLC					35	44	39.6	39.8
Chromium	T	mg/L	7	0	HH DW (HQ=1)	0.1	0	0.00045	0.0046	ND	ND		
Cobalt	T	mg/L	7	28.6	HH DW (HQ=1)	0.73	0	0.0001	0.0022	ND	0.0061		
Copper	T	mg/L	7	71.4	HH DW (HQ=1)	1.4	0	0.00058	0.00075	ND	0.02	0.011	0.015
Hardness	T	mg/L	7	100	No SLC					108	149	130	133
Iron	T	mg/L	7	71.4	ECO Chronic	1	20	0.023	0.052	ND	1.1	0.41	0.39
Iron	T	mg/L	7	71.4	HH DW (HQ=1)	11	0	0.023	0.052	ND	1.1	0.41	0.39
Lead	T	mg/L	7	42.9	HH DW (HQ=1)	0.015	0	0.0001	0.0035	ND	0.0051		
Magnesium	T	mg/L	7	100	No SLC					5	9.4	7.5	8.2
Manganese	T	mg/L	7	71.4	HH DW (HQ=1)	1.7	0	0.0027	0.0035	ND	0.22	0.12	0.14
Mercury	T	mg/L	7	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	7	85.7	HH DW (HQ=1)	0.18	0	0.00096	0.00096	ND	0.0057	0.0017	0.00096
Nickel	T	mg/L	7	71.4	HH DW (HQ=1)	0.73	0	0.0002	0.0002	ND	0.017	0.0065	0.0064
Potassium	T	mg/L	7	100	No SLC					0.84	1.8	1.3	1.3
Selenium	T	mg/L	7	28.6	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.00037		
Silver	T	mg/L	7	14.3	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	0.00048		
Sodium	T	mg/L	7	100	No SLC					2.7	5.3	4.2	4.3
Thallium	T	mg/L	7	14.3	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	0.00047		
Vanadium	T	mg/L	7	100	HH DW (HQ=1)	0.037	0			0.00025	0.0053	0.0012	0.00048
Zinc	T	mg/L	7	57.1	HH DW (HQ=1)	11	0	0.0021	0.045	ND	0.059	0.031	0.034
Semi-Volatile Organics													
1,1`-Biphenyl	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2,4,5-Trichlorophenol	T	mg/L	5	0	No SLC			0.026	0.026	ND	ND		
2,4,6-Trichlorophenol	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2,4-Dichlorophenol	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-1

Surface Water Fall 2002

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
2,4-Dimethylphenol	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2,4-Dinitrophenol	T	mg/L	5	0	No SLC			0.026	0.026	ND	ND		
2,4-Dinitrotoluene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2,6-Dinitrotoluene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2-Chloronaphthalene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2-Chlorophenol	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2-Methylnaphthalene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2-Methylphenol	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2-Nitroaniline	T	mg/L	5	0	No SLC			0.026	0.026	ND	ND		
2-Nitrophenol	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
3,3-Dichlorobenzidine	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
3-Nitroaniline	T	mg/L	5	0	No SLC			0.026	0.026	ND	ND		
4,6-Dinitro-2-methylphenol	T	mg/L	5	0	No SLC			0.026	0.026	ND	ND		
4-Bromophenyl phenyl ether	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
4-Chloro-3-methylphenol	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
4-Chloroaniline	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
4-Chlorophenyl phenyl ether	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
4-Methylphenol	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
4-Nitroaniline	T	mg/L	5	0	No SLC			0.026	0.026	ND	ND		
4-Nitrophenol	T	mg/L	5	0	No SLC			0.026	0.026	ND	ND		
Acenaphthene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Acenaphthylene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Anthracene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Benzo(a)anthracene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Benzo(a)pyrene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Benzo(b)fluoranthene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Benzo(g,h,i)perylene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Benzo(k)fluoranthene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Bis(2-chloroethoxy)methane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-1

Surface Water Fall 2002

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Bis(2-chloroethyl)ether	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Carbazole	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Chrysene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Dibenz(a,h)anthracene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Dibenzofuran	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Dichlorodiisopropyl ether	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Fluoranthene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Fluorene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Hexachlorobenzene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Hexachlorobutadiene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Hexachlorocyclopentadiene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Hexachloroethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Indeno(1,2,3-cd)pyrene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Isophorone	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Naphthalene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Nitrobenzene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
N-Nitrosodi-n-propylamine	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
N-Nitrosodiphenylamine	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Pentachlorophenol	T	mg/L	5	0	No SLC			0.026	0.026	ND	ND		
Phenanthrene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Phenol	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Pyrene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Volatile Organics													
1,1,1-Trichloroethane	T	mg/L	5	0	HH DW (HQ=1)	0.84	0	0.01	0.01	ND	ND		
1,1,2,2-Tetrachloroethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,1,2-Trichloro-1,2,2-trifluoroethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,1,2-Trichloroethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,1-Dichloroethane	T	mg/L	5	0	HH DW (HQ=1)	0.81	0	0.01	0.01	ND	ND		
1,1-Dichloroethene	T	mg/L	5	0	HH DW (HQ=1)	0.34	0	0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-1

Surface Water Fall 2002

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
1,2,4-Trichlorobenzene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,2-Dibromo-3-chloropropane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichlorobenzene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloroethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloroethene (total)	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloropropane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,3-Dichlorobenzene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
1,4-Dichlorobenzene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
2-Butanone	T	mg/L	5	0	HH DW (HQ=1)	7.1	0	0.01	0.01	ND	ND		
2-Hexanone	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
4-Methyl-2-pentanone	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Benzene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Bromodichloromethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Bromoform	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Bromomethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Carbon tetrachloride	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Chlorobenzene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Chloroethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Chloroform	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Chloromethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
cis-1,2-Dichloroethene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
cis-1,3-Dichloropropene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Dibromochloromethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Dichlorodifluoromethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Ethylbenzene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Styrene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Tetrachloroethene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Toluene	T	mg/L	5	0	HH DW (HQ=1)	0.72	0	0.01	0.01	ND	ND		
Total Xylene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-1

Surface Water Fall 2002

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
trans-1,2-Dichloroethene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
trans-1,3-Dichloropropene	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Trichloroethene	T	mg/L	5	0	HH DW (HQ=1)	0.000028	0	0.01	0.01	ND	ND		
Trichlorofluoromethane	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		
Vinyl chloride	T	mg/L	5	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-2

Surface Water Spring 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	7	NA	No SLC					9.3	12.6	11	11.3
EH	T	millivolts	7	NA	No SLC					111	343	192	154
Flow	T	cfs	7	NA	No SLC					4.7	9.7	7.6	8.1
pH	T	SU	6	NA	No SLC					7.3	8	7.7	7.7
Specific Conductance	T	uS/cm	7	NA	No SLC					218	639	368	294
Temperature	T	Celsius	7	NA	No SLC					0.56	4.4	2.2	2.2
Turbidity	T	NTU	7	NA	No SLC					26.8	98.6	53.1	46.3
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	7	100	No SLC					59.5	96.4	74.7	70.7
Biochemical Oxygen Demand	T	mg/L	7	14.3	No SLC			1.4	1.5	ND	1.3		
Carbonate (as CaCO3)	T	mg/L	7	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	7	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	7	100	ECO Chronic	230	0			3.3	8.1	5.7	6.4
Chloride	T	mg/L	7	100	HH DW (HQ=1)	250	0			3.3	8.1	5.7	6.4
Cyanide	T	mg/L	7	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	7	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	7	71.4	HH DW (HQ=1)	2.2	0	0.1	0.1	ND	0.46	0.28	0.34
Hydroxide (as CaCO3)	T	mg/L	7	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	7	42.9	HH DW (HQ=1)	10	0	0.4	0.4	ND	0.92		
Nitrite	T	mg/L	7	42.9	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.031		
pH	T	SU	7	100	No SLC					7.2	7.9	7.7	7.7
Phosphate, Ortho As P	T	mg/L	7	71.4	No SLC			0.01	0.01	ND	0.84	0.21	0.081
Phosphorus	T	mg/L	7	57.1	No SLC			0.01	0.025	ND	0.14	0.071	0.073
Specific Conductance	T	umhos/cm	7	100	No SLC					181	296	244	249
Sulfate	T	mg/L	7	100	HH DW (HQ=1)	1500	0			12.7	105	62.3	68.1
Total Alkalinity	T	mg/L	7	100	No SLC					59.5	96.4	74.7	70.7
Total Dissolved Solids	T	mg/L	7	57.1	No SLC			106	142	ND	198	134	184
Total Kjeldahl Nitrogen	T	mg/L	7	42.9	No SLC			0.24	0.24	ND	0.47		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-2

Surface Water Spring 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	7	85.7	No SLC			1	1	ND	2.2	1.5	1.6
Total Suspended Solids	T	mg/L	7	85.7	No SLC			1.4	1.4	ND	56.4	15.6	7.9
Metals													
Aluminum	D	mg/L	7	42.9	HH DW (HQ=1)	37	0	0.05	0.063	ND	0.12		
Antimony	D	mg/L	7	0	ECO Chronic	0.69	0	0.0006	0.0006	ND	ND		
Antimony	D	mg/L	7	0	HH DW (HQ=1)	0.015	0	0.0006	0.0006	ND	ND		
Arsenic	D	mg/L	7	0	ECO Chronic	0.15	0	0.0002	0.00043	ND	ND		
Arsenic	D	mg/L	7	0	HH DW (HQ=1)	0.01	0	0.0002	0.00043	ND	ND		
Barium	D	mg/L	7	100	ECO Chronic	0.004	100			0.036	0.052	0.045	0.044
Barium	D	mg/L	7	100	HH DW (HQ=1)	2.6	0			0.036	0.052	0.045	0.044
Beryllium	D	mg/L	7	0	ECO Chronic	0.0053	0	0.0003	0.0003	ND	ND		
Beryllium	D	mg/L	7	0	HH DW (HQ=1)	0.073	0	0.0003	0.0003	ND	ND		
Boron	D	mg/L	7	28.6	ECO Chronic	0.0016	100	0.0084	0.0084	ND	0.011		
Boron	D	mg/L	7	28.6	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	0.011		
Cadmium	D	mg/L	7	42.9	HH DW (HQ=1)	0.018	0	0.0002	0.00055	ND	0.00037		
Cadmium	D	mg/L	7	42.9	ECO Chronic	0.00025	100	0.0002	0.00055	ND	0.00037		
Calcium	D	mg/L	7	100	No SLC					35.7	49.7	41.1	39.2
Chromium	D	mg/L	7	14.3	ECO Chronic	0.074	0	0.001	0.001	ND	0.0036		
Chromium	D	mg/L	7	14.3	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	0.0036		
Cobalt	D	mg/L	7	0	ECO Chronic	1.5	0	0.0038	0.0038	ND	ND		
Cobalt	D	mg/L	7	0	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	ND		
Copper	D	mg/L	7	57.1	ECO Chronic	0.009	0	0.0015	0.0053	ND	0.0065	0.0043	0.0051
Copper	D	mg/L	7	57.1	HH DW (HQ=1)	1.4	0	0.0015	0.0053	ND	0.0065	0.0043	0.0051
Hardness	D	mg/L	7	100	No SLC					111	173	139	136
Iron	D	mg/L	7	14.3	HH DW (HQ=1)	11	0	0.31	0.42	ND	0.042		
Lead	D	mg/L	7	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Lead	D	mg/L	7	0	ECO Chronic	0.0025	0	0.0002	0.0002	ND	ND		
Magnesium	D	mg/L	7	100	No SLC					5.4	11.8	8.8	9.4
Manganese	D	mg/L	7	71.4	HH DW (HQ=1)	1.7	0	0.013	0.013	ND	0.28	0.17	0.2

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-2

Surface Water Spring 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	7	71.4	ECO Chronic	1.7	0	0.013	0.013	ND	0.28	0.17	0.2
Mercury	D	mg/L	7	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	7	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.0022	0.0023	ND	ND		
Molybdenum	D	mg/L	7	0	ECO Chronic	2.2	0	0.0022	0.0023	ND	ND		
Nickel	D	mg/L	7	71.4	HH DW (HQ=1)	0.73	0	0.003	0.003	ND	0.011	0.0061	0.005
Nickel	D	mg/L	7	71.4	ECO Chronic	0.052	0	0.003	0.003	ND	0.011	0.0061	0.005
Potassium	D	mg/L	7	100	No SLC					0.66	1.9	1.3	1.2
Selenium	D	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.001	0.0037	ND	ND		
Selenium	D	mg/L	7	0	ECO Chronic	0.046	0	0.001	0.0037	ND	ND		
Silver	D	mg/L	7	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	7	57.1	No SLC			9.2	9.2	ND	14.2	8.5	8.4
Thallium	D	mg/L	7	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	7	14.3	ECO Chronic	0.019	0	0.0002	0.0002	ND	0.00026		
Vanadium	D	mg/L	7	14.3	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	0.00026		
Zinc	D	mg/L	7	0	ECO Chronic	0.12	0	0.031	0.06	ND	ND		
Zinc	D	mg/L	7	0	HH DW (HQ=1)	11	0	0.031	0.06	ND	ND		
Aluminum	T	mg/L	7	71.4	ECO Chronic	0.087	100	0.43	0.89	ND	3.4	1	0.5
Aluminum	T	mg/L	7	71.4	HH DW (HQ=1)	37	0	0.43	0.89	ND	3.4	1	0.5
Antimony	T	mg/L	7	0	HH DW (HQ=1)	0.015	0	0.0006	0.0006	ND	ND		
Arsenic	T	mg/L	7	14.3	HH DW (HQ=1)	0.01	0	0.00036	0.00057	ND	0.00047		
Barium	T	mg/L	7	100	HH DW (HQ=1)	2.6	0			0.043	0.075	0.053	0.05
Beryllium	T	mg/L	7	0	HH DW (HQ=1)	0.073	0	0.0003	0.0003	ND	ND		
Boron	T	mg/L	7	14.3	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	0.0092		
Cadmium	T	mg/L	7	0	HH DW (HQ=1)	0.018	0	0.0005	0.0005	ND	ND		
Calcium	T	mg/L	7	100	No SLC					36.7	49.4	41.6	41.5
Chromium	T	mg/L	7	14.3	HH DW (HQ=1)	0.1	0	0.001	0.0014	ND	0.0037		
Cobalt	T	mg/L	7	0	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-2

Surface Water Spring 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	7	71.4	HH DW (HQ=1)	1.4	0	0.0015	0.0034	ND	0.034	0.017	0.021
Hardness	T	mg/L	7	100	No SLC					115	172	141	145
Iron	T	mg/L	7	28.6	HH DW (HQ=1)	11	0	0.42	0.44	ND	2.9		
Iron	T	mg/L	7	28.6	ECO Chronic	1	50	0.42	0.44	ND	2.9		
Lead	T	mg/L	7	71.4	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	0.0059	0.0012	0.00057
Magnesium	T	mg/L	7	100	No SLC					5.6	11.7	9	10
Manganese	T	mg/L	7	71.4	HH DW (HQ=1)	1.7	0	0.013	0.013	ND	0.3	0.17	0.21
Mercury	T	mg/L	7	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.0022	0.0023	ND	ND		
Nickel	T	mg/L	7	71.4	HH DW (HQ=1)	0.73	0	0.003	0.003	ND	0.011	0.0072	0.0077
Potassium	T	mg/L	7	100	No SLC					0.73	2	1.4	1.6
Selenium	T	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.001	0.0026	ND	ND		
Silver	T	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	7	57.1	No SLC			9.2	9.2	ND	13.4	7.9	7.3
Thallium	T	mg/L	7	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	T	mg/L	7	85.7	HH DW (HQ=1)	0.037	0	0.0002	0.0002	ND	0.0047	0.00095	0.00041
Zinc	T	mg/L	7	71.4	HH DW (HQ=1)	11	0	0.039	0.039	ND	0.092	0.065	0.078

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-3

Surface Water Summer 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	9	NA	No SLC					8	9.5	8.6	8.4
EH	T	millivolts	9	NA	No SLC					102	257	155	131
Flow	T	cfs	8	NA	No SLC					12.3	23.8	16.9	17.3
pH	T	SU	9	NA	No SLC					7.5	8.7	8.2	8.3
Specific Conductance	T	uS/cm	9	NA	No SLC					170	254	223	234
Temperature	T	Celsius	9	NA	No SLC					11.9	17.6	14.4	14.6
Turbidity	T	NTU	9	NA	No SLC					0	3.4	0.38	0
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	8	100	No SLC					63.2	78.5	70	70
Biochemical Oxygen Demand	T	mg/L	8	12.5	No SLC			1.4	1.5	ND	1.5		
Carbonate (as CaCO3)	T	mg/L	8	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	8	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	8	75	HH DW (HQ=1)	250	0	1	1.3	ND	2.9	2.1	2.5
Chloride	T	mg/L	8	75	ECO Chronic	230	0	1	1.3	ND	2.9	2.1	2.5
Cyanide	T	mg/L	8	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	8	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	8	0	HH DW (HQ=1)	2.2	0	0.1	0.89	ND	ND		
Hydroxide (as CaCO3)	T	mg/L	8	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	8	0	HH DW (HQ=1)	10	0	1	1	ND	ND		
Nitrite	T	mg/L	8	12.5	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.0092		
pH	T	SU	8	100	No SLC					7	8.2	7.9	7.9
Phosphate, Ortho As P	T	mg/L	8	37.5	No SLC			0.01	0.01	ND	0.037		
Phosphorus	T	mg/L	8	62.5	No SLC			0.01	0.01	ND	0.071	0.031	0.02
Specific Conductance	T	umhos/cm	8	100	No SLC					164	262	211	214
Sulfate	T	mg/L	8	100	HH DW (HQ=1)	1500	0			18.2	72.5	45.3	48.3
Total Alkalinity	T	mg/L	8	100	No SLC					63.2	78.5	70	70
Total Dissolved Solids	T	mg/L	8	87.5	No SLC			74	74	ND	176	131	144
Total Kjeldahl Nitrogen	T	mg/L	8	0	No SLC			0.24	0.24	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-3

Surface Water Summer 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	8	100	No SLC					1	1.8	1.3	1.2
Total Suspended Solids	T	mg/L	8	87.5	No SLC			1.5	1.5	ND	6.6	4.2	4.7
Metals													
Aluminum	D	mg/L	8	50	HH DW (HQ=1)	37	0	0.024	0.16	ND	0.26	0.11	0.084
Antimony	D	mg/L	8	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Antimony	D	mg/L	8	0	ECO Chronic	0.69	0	0.0005	0.0005	ND	ND		
Arsenic	D	mg/L	8	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	8	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	8	100	ECO Chronic	0.004	100			0.026	0.039	0.034	0.035
Barium	D	mg/L	8	100	HH DW (HQ=1)	2.6	0			0.026	0.039	0.034	0.035
Beryllium	D	mg/L	8	0	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	ND		
Beryllium	D	mg/L	8	0	ECO Chronic	0.0053	0	0.0002	0.0002	ND	ND		
Boron	D	mg/L	8	50	ECO Chronic	0.0016	100	0.0048	0.0048	ND	0.007	0.0044	0.004
Boron	D	mg/L	8	50	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	0.007	0.0044	0.004
Cadmium	D	mg/L	8	12.5	ECO Chronic	0.00025	100	0.0002	0.0002	ND	0.00028		
Cadmium	D	mg/L	8	12.5	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.00028		
Calcium	D	mg/L	8	100	No SLC					28.2	37.9	33.5	34.3
Chromium	D	mg/L	8	0	HH DW (HQ=1)	0.1	0	0.0014	0.0014	ND	ND		
Chromium	D	mg/L	8	0	ECO Chronic	0.074	0	0.0014	0.0014	ND	ND		
Cobalt	D	mg/L	8	0	HH DW (HQ=1)	0.73	0	0.002	0.002	ND	ND		
Cobalt	D	mg/L	8	0	ECO Chronic	1.5	0	0.002	0.002	ND	ND		
Copper	D	mg/L	8	87.5	HH DW (HQ=1)	1.4	0	0.0024	0.0024	ND	0.024	0.0072	0.0053
Copper	D	mg/L	8	87.5	ECO Chronic	0.009	14.3	0.0024	0.0024	ND	0.024	0.0072	0.0053
Hardness	D	mg/L	8	100	No SLC					85.9	127	109	113
Iron	D	mg/L	8	50	HH DW (HQ=1)	11	0	0.033	0.033	ND	0.066	0.035	0.028
Lead	D	mg/L	8	0	ECO Chronic	0.0025	0	0.0001	0.00014	ND	ND		
Lead	D	mg/L	8	0	HH DW (HQ=1)	0.015	0	0.0001	0.00014	ND	ND		
Magnesium	D	mg/L	8	100	No SLC					3.8	7.9	6.2	6.7
Manganese	D	mg/L	8	100	ECO Chronic	1.7	0			0.0036	0.1	0.064	0.083

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-3

Surface Water Summer 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	8	100	HH DW (HQ=1)	1.7	0			0.0036	0.1	0.064	0.083
Mercury	D	mg/L	8	12.5	ECO Chronic	0.00077	0	0.0001	0.00021	ND	0.00017		
Mercury	D	mg/L	8	12.5	HH DW (HQ=1)	0.011	0	0.0001	0.00021	ND	0.00017		
Molybdenum	D	mg/L	8	62.5	HH DW (HQ=1)	0.18	0	0.0017	0.0017	ND	0.002	0.0011	0.0011
Molybdenum	D	mg/L	8	62.5	ECO Chronic	2.2	0	0.0017	0.0017	ND	0.002	0.0011	0.0011
Nickel	D	mg/L	8	75	HH DW (HQ=1)	0.73	0	0.0021	0.0021	ND	0.0061	0.0038	0.0041
Nickel	D	mg/L	8	75	ECO Chronic	0.052	0	0.0021	0.0021	ND	0.0061	0.0038	0.0041
Potassium	D	mg/L	8	100	No SLC					0.8	1.5	1.2	1.2
Selenium	D	mg/L	8	0	ECO Chronic	0.046	0	0.0008	0.0008	ND	ND		
Selenium	D	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	ND		
Silver	D	mg/L	8	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	8	100	No SLC					2.4	5.4	4	4.1
Thallium	D	mg/L	8	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	8	50	ECO Chronic	0.019	0	0.0002	0.0002	ND	0.00028	0.00018	0.00018
Vanadium	D	mg/L	8	50	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	0.00028	0.00018	0.00018
Zinc	D	mg/L	8	50	HH DW (HQ=1)	11	0	0.0032	0.022	ND	0.028	0.013	0.011
Zinc	D	mg/L	8	50	ECO Chronic	0.12	0	0.0032	0.022	ND	0.028	0.013	0.011
Aluminum	T	mg/L	8	75	HH DW (HQ=1)	37	0	0.067	0.071	ND	0.62	0.3	0.31
Aluminum	T	mg/L	8	75	ECO Chronic	0.087	100	0.067	0.071	ND	0.62	0.3	0.31
Antimony	T	mg/L	8	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Arsenic	T	mg/L	8	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	T	mg/L	8	100	HH DW (HQ=1)	2.6	0			0.028	0.04	0.037	0.038
Beryllium	T	mg/L	8	0	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	ND		
Boron	T	mg/L	8	62.5	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	0.0074	0.0048	0.0059
Cadmium	T	mg/L	8	25	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.00028		
Calcium	T	mg/L	8	100	No SLC					28.5	37.6	33.7	34
Chromium	T	mg/L	8	0	HH DW (HQ=1)	0.1	0	0.0014	0.0014	ND	ND		
Cobalt	T	mg/L	8	12.5	HH DW (HQ=1)	0.73	0	0.002	0.002	ND	0.0021		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-3

Surface Water Summer 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	8	75	HH DW (HQ=1)	1.4	0	0.0024	0.0024	ND	0.02	0.01	0.011
Hardness	T	mg/L	8	100	No SLC					87.4	126	110	113
Iron	T	mg/L	8	100	ECO Chronic	1	0			0.083	0.3	0.19	0.19
Iron	T	mg/L	8	100	HH DW (HQ=1)	11	0			0.083	0.3	0.19	0.19
Lead	T	mg/L	8	75	HH DW (HQ=1)	0.015	0	0.0001	0.00039	ND	0.00092	0.00044	0.00033
Magnesium	T	mg/L	8	100	No SLC					3.9	7.8	6.2	6.7
Manganese	T	mg/L	8	100	HH DW (HQ=1)	1.7	0			0.0069	0.12	0.072	0.09
Mercury	T	mg/L	8	12.5	HH DW (HQ=1)	0.011	0	0.0001	0.0002	ND	0.00017		
Molybdenum	T	mg/L	8	62.5	HH DW (HQ=1)	0.18	0	0.0017	0.0017	ND	0.0021	0.0011	0.00093
Nickel	T	mg/L	8	75	HH DW (HQ=1)	0.73	0	0.0021	0.0021	ND	0.0066	0.0038	0.0037
Potassium	T	mg/L	8	100	No SLC					0.97	1.6	1.3	1.3
Selenium	T	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	ND		
Silver	T	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	8	100	No SLC					2.5	5.2	4	4.1
Thallium	T	mg/L	8	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	8	87.5	HH DW (HQ=1)	0.037	0	0.0002	0.0002	ND	0.00042	0.00031	0.00033
Zinc	T	mg/L	8	62.5	HH DW (HQ=1)	11	0	0.0055	0.025	ND	0.038	0.022	0.025

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-4

Surface Water Fall 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	8	NA	No SLC					7.9	10.4	9.3	9.2
Eh	T	millivolts	8	NA	No SLC					201	409	285	281
Flow	T	cfs	8	NA	No SLC					12	16.3	13.7	13.5
pH	T	SU	8	NA	No SLC					5.8	8.2	7.2	7.4
Specific Conductance	T	uS/cm	8	NA	No SLC					205	461	280	264
Temperature	T	Celsius	8	NA	No SLC					6.1	14.1	10.5	11
Turbidity	T	NTU	8	NA	No SLC					2.7	21.5	12.2	10.4
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	8	100	No SLC					65	84.1	75.9	75.9
Biochemical Oxygen Demand	T	mg/L	8	25	No SLC			1.4	1.4	ND	2		
Carbonate (as CaCO3)	T	mg/L	8	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	8	12.5	No SLC			20	20	ND	32.2		
Chloride	T	mg/L	8	100	ECO Chronic	230	0			1.2	2.9	2.3	2.5
Chloride	T	mg/L	8	100	HH DW (HQ=1)	250	0			1.2	2.9	2.3	2.5
Cyanide	T	mg/L	8	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	8	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	8	75	HH DW (HQ=1)	2.2	0	0.1	0.1	ND	0.32	0.21	0.24
Hydroxide (as CaCO3)	T	mg/L	8	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	8	100	HH DW (HQ=1)	10	0			0.27	0.52	0.36	0.37
Nitrite	T	mg/L	8	12.5	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.0052		
pH	T	SU	8	100	No SLC					7.7	8.2	8	8
Phosphate, Ortho As P	T	mg/L	8	12.5	No SLC			0.01	0.019	ND	0.69		
Phosphorus	T	mg/L	8	75	No SLC			0.01	0.01	ND	0.035	0.02	0.02
Specific Conductance	T	umhos/cm	8	100	No SLC					176	273	225	228
Sulfate	T	mg/L	8	100	HH DW (HQ=1)	1500	0			19.6	74.3	45.5	45.6
Total Alkalinity	T	mg/L	8	100	No SLC					65	84.1	75.9	75.9
Total Dissolved Solids	T	mg/L	8	100	No SLC					90	186	145	153
Total Kjeldahl Nitrogen	T	mg/L	8	0	No SLC			0.24	0.29	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-4

Surface Water Fall 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	8	87.5	No SLC			1	1	ND	1.7	1.3	1.4
Total Suspended Solids	T	mg/L	8	100	No SLC					1	7.5	3.9	3.4
Metals													
Aluminum	D	mg/L	8	75	HH DW (HQ=1)	37	0	0.0029	0.0036	ND	0.19	0.1	0.11
Antimony	D	mg/L	8	0	ECO Chronic	0.69	0	0.00011	0.0016	ND	ND		
Antimony	D	mg/L	8	0	HH DW (HQ=1)	0.015	0	0.00011	0.0016	ND	ND		
Arsenic	D	mg/L	8	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Arsenic	D	mg/L	8	0	ECO Chronic	0.15	0	0.00038	0.00038	ND	ND		
Barium	D	mg/L	8	100	HH DW (HQ=1)	2.6	0			0.034	0.044	0.038	0.037
Barium	D	mg/L	8	100	ECO Chronic	0.004	100			0.034	0.044	0.038	0.037
Beryllium	D	mg/L	8	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Beryllium	D	mg/L	8	0	ECO Chronic	0.0053	0	0.00047	0.00047	ND	ND		
Boron	D	mg/L	8	0	HH DW (HQ=1)	3.3	0	0.0048	0.016	ND	ND		
Boron	D	mg/L	8	0	ECO Chronic	0.0016	0	0.0048	0.016	ND	ND		
Cadmium	D	mg/L	8	75	ECO Chronic	0.00025	16.7	0.00008	0.00008	ND	0.00028	0.00016	0.00017
Cadmium	D	mg/L	8	75	HH DW (HQ=1)	0.018	0	0.00008	0.00008	ND	0.00028	0.00016	0.00017
Calcium	D	mg/L	8	100	No SLC					33.7	40.7	36	34.9
Chromium	D	mg/L	8	0	ECO Chronic	0.074	0	0.001	0.001	ND	ND		
Chromium	D	mg/L	8	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	D	mg/L	8	62.5	ECO Chronic	1.5	0	0.0011	0.0011	ND	0.0026	0.0013	0.0014
Cobalt	D	mg/L	8	62.5	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	0.0026	0.0013	0.0014
Copper	D	mg/L	8	12.5	HH DW (HQ=1)	1.4	0	0.00049	0.0066	ND	0.0038		
Copper	D	mg/L	8	12.5	ECO Chronic	0.009	0	0.00049	0.0066	ND	0.0038		
Hardness	D	mg/L	8	100	No SLC					104	134	116	114
Iron	D	mg/L	8	0	HH DW (HQ=1)	11	0	0.044	0.044	ND	ND		
Lead	D	mg/L	8	12.5	ECO Chronic	0.0025	0	0.00004	0.00006	ND	0.0001		
Lead	D	mg/L	8	12.5	HH DW (HQ=1)	0.015	0	0.00004	0.00006	ND	0.0001		
Magnesium	D	mg/L	8	100	No SLC					4.8	7.9	6.4	6.5
Manganese	D	mg/L	8	75	ECO Chronic	1.7	0	0.0018	0.0022	ND	0.14	0.077	0.084

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-4

Surface Water Fall 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	8	75	HH DW (HQ=1)	1.7	0	0.0018	0.0022	ND	0.14	0.077	0.084
Mercury	D	mg/L	8	0	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	ND		
Mercury	D	mg/L	8	0	ECO Chronic	0.00077	0	0.00006	0.00006	ND	ND		
Molybdenum	D	mg/L	8	0	ECO Chronic	2.2	0	0.00096	0.002	ND	ND		
Molybdenum	D	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.00096	0.002	ND	ND		
Nickel	D	mg/L	8	62.5	ECO Chronic	0.052	0	0.001	0.0051	ND	0.0073	0.004	0.0043
Nickel	D	mg/L	8	62.5	HH DW (HQ=1)	0.73	0	0.001	0.0051	ND	0.0073	0.004	0.0043
Potassium	D	mg/L	8	37.5	No SLC			0.94	1.1	ND	1.2		
Selenium	D	mg/L	8	0	ECO Chronic	0.046	0	0.00073	0.00073	ND	ND		
Selenium	D	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	D	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	8	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	8	100	No SLC					2.4	4.2	3.4	3.6
Thallium	D	mg/L	8	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	D	mg/L	8	0	ECO Chronic	0.019	0	0.00029	0.00061	ND	ND		
Vanadium	D	mg/L	8	0	HH DW (HQ=1)	0.26	0	0.00029	0.00061	ND	ND		
Zinc	D	mg/L	8	25	ECO Chronic	0.12	0	0.013	0.03	ND	0.034		
Zinc	D	mg/L	8	25	HH DW (HQ=1)	11	0	0.013	0.03	ND	0.034		
Aluminum	T	mg/L	8	87.5	ECO Chronic	0.087	85.7	0.051	0.051	ND	0.66	0.31	0.29
Aluminum	T	mg/L	8	87.5	HH DW (HQ=1)	37	0	0.051	0.051	ND	0.66	0.31	0.29
Antimony	T	mg/L	8	12.5	HH DW (HQ=1)	0.015	0	0.00011	0.0016	ND	0.0016		
Arsenic	T	mg/L	8	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Barium	T	mg/L	8	100	HH DW (HQ=1)	2.6	0			0.033	0.047	0.041	0.041
Beryllium	T	mg/L	8	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Boron	T	mg/L	8	25	HH DW (HQ=1)	3.3	0	0.0048	0.0087	ND	0.038		
Cadmium	T	mg/L	8	75	HH DW (HQ=1)	0.018	0	0.00008	0.00008	ND	0.00029	0.00018	0.00022
Calcium	T	mg/L	8	100	No SLC					33	38.5	36.2	36.9
Chromium	T	mg/L	8	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	T	mg/L	8	62.5	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	0.0024	0.0013	0.0013

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-4

Surface Water Fall 2003

RI/FS Reference Upper Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	8	62.5	HH DW (HQ=1)	1.4	0	0.00045	0.0069	ND	0.011	0.0062	0.008
Hardness	T	mg/L	8	100	No SLC					102	127	117	121
Iron	T	mg/L	8	62.5	ECO Chronic	1	0	0.044	0.13	ND	0.33	0.2	0.28
Iron	T	mg/L	8	62.5	HH DW (HQ=1)	11	0	0.044	0.13	ND	0.33	0.2	0.28
Lead	T	mg/L	8	37.5	HH DW (HQ=1)	0.015	0	0.00006	0.00049	ND	0.00075		
Magnesium	T	mg/L	8	100	No SLC					4.6	7.5	6.4	6.8
Manganese	T	mg/L	8	75	HH DW (HQ=1)	1.7	0	0.0035	0.0045	ND	0.14	0.082	0.087
Mercury	T	mg/L	8	0	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	ND		
Molybdenum	T	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.00099	0.0022	ND	ND		
Nickel	T	mg/L	8	62.5	HH DW (HQ=1)	0.73	0	0.001	0.0053	ND	0.0079	0.0042	0.0044
Potassium	T	mg/L	8	50	No SLC			0.94	1.2	ND	1.2	0.83	0.86
Selenium	T	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	T	mg/L	8	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	8	100	No SLC					2.4	4	3.4	3.7
Thallium	T	mg/L	8	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	T	mg/L	8	87.5	HH DW (HQ=1)	0.037	0	0.00061	0.00061	ND	0.00059	0.00049	0.00052
Zinc	T	mg/L	8	37.5	HH DW (HQ=1)	11	0	0.013	0.046	ND	0.039		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-5

Surface Water Fall 2002

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	4	NA	No SLC					8.8	10.1	9.5	9.5
Eh	T	millivolts	4	NA	No SLC					306	350	333	337
Flow	T	cfs	4	NA	No SLC					1.3	5.1	3.2	3.2
pH	T	SU	4	NA	No SLC					6.4	6.8	6.6	6.6
Specific Conductance	T	uS/cm	4	NA	No SLC					165	203	176	168
Temperature	T	Celsius	4	NA	No SLC					5.1	9.9	8.5	9.5
Turbidity	T	NTU	4	NA	No SLC					0.3	9.9	4.9	4.7
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	4	100	No SLC					35.6	64.6	50	49.9
Biochemical Oxygen Demand	T	mg/L	4	25	No SLC			1.3	1.3	ND	2.8		
Carbonate (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	4	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	4	75	HH DW (HQ=1)	250	0	1	1	ND	1.4	0.94	0.94
Chloride	T	mg/L	4	75	ECO Chronic	230	0	1	1	ND	1.4	0.94	0.94
Cyanide	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	4	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	4	75	HH DW (HQ=1)	2.2	0	0.23	0.23	ND	0.53	0.39	0.45
Hydroxide (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	4	0	HH DW (HQ=1)	10	0	0.2	0.5	ND	ND		
Nitrite	T	mg/L	4	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
Phosphate, Ortho As P	T	mg/L	4	50	No SLC			0.01	0.01	ND	0.021	0.012	0.011
Phosphorus	T	mg/L	4	0	No SLC			0.01	0.061	ND	ND		
Sulfate	T	mg/L	4	100	HH DW (HQ=1)	1500	0			26.1	65.1	40.2	34.8
Total Alkalinity	T	mg/L	4	100	No SLC					35.6	64.6	50	49.9
Total Dissolved Solids	T	mg/L	4	100	No SLC					107	151	121	114
Total Kjeldahl Nitrogen	T	mg/L	4	0	No SLC			0.24	0.24	ND	ND		
Total Organic Carbon	T	mg/L	4	25	No SLC			1	1	ND	1.3		
Total Suspended Solids	T	mg/L	4	25	No SLC			0.89	1.4	ND	17.5		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-5

Surface Water Fall 2002

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Metals													
Aluminum	D	mg/L	4	25	HH DW (HQ=1)	37	0	0.003	0.038	ND	0.089		
Antimony	D	mg/L	4	0	ECO Chronic	0.69	0	0.0002	0.0002	ND	ND		
Antimony	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	4	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.015	0.029	0.021	0.02
Barium	D	mg/L	4	100	ECO Chronic	0.004	100			0.015	0.029	0.021	0.02
Beryllium	D	mg/L	4	0	ECO Chronic	0.0053	0	0.0002	0.0003	ND	ND		
Beryllium	D	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	ND		
Boron	D	mg/L	4	0	HH DW (HQ=1)	3.3	0	0.0048	0.005	ND	ND		
Boron	D	mg/L	4	0	ECO Chronic	0.0016	0	0.0048	0.005	ND	ND		
Cadmium	D	mg/L	4	0	ECO Chronic	0.00025	0	0.0001	0.0001	ND	ND		
Cadmium	D	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	ND		
Calcium	D	mg/L	4	100	No SLC					23.8	28.4	25.2	24.4
Chromium	D	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.00033	0.0046	ND	ND		
Chromium	D	mg/L	4	0	ECO Chronic	0.074	0	0.00033	0.0046	ND	ND		
Chromium, Hexavalent	D	mg/L	2	100	HH DW (HQ=1)	0.11	0			0.0015	0.0015	0.0015	0.0015
Chromium, Hexavalent	D	mg/L	2	100	ECO Chronic	0.011	0			0.0015	0.0015	0.0015	0.0015
Cobalt	D	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.0001	0.0034	ND	ND		
Cobalt	D	mg/L	4	0	ECO Chronic	1.5	0	0.0001	0.0034	ND	ND		
Copper	D	mg/L	4	25	HH DW (HQ=1)	1.4	0	0.0003	0.0012	ND	0.0019		
Copper	D	mg/L	4	25	ECO Chronic	0.009	0	0.0003	0.0012	ND	0.0019		
Hardness	D	mg/L	4	100	No SLC					74.9	95	81.5	78.1
Iron	D	mg/L	4	50	HH DW (HQ=1)	11	0	0.023	0.038	ND	0.04	0.023	0.021
Lead	D	mg/L	4	0	ECO Chronic	0.0025	0	0.0001	0.0001	ND	ND		
Lead	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	ND		
Magnesium	D	mg/L	4	100	No SLC					3.8	5.9	4.5	4.2
Manganese	D	mg/L	4	50	ECO Chronic	1.7	0	0.0025	0.003	ND	0.018	0.0058	0.002

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-5

Surface Water Fall 2002

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	4	50	HH DW (HQ=1)	1.7	0	0.0025	0.003	ND	0.018	0.0058	0.002
Mercury	D	mg/L	4	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	4	50	ECO Chronic	2.2	0	0.0007	0.0007	ND	0.00063	0.00046	0.00043
Molybdenum	D	mg/L	4	50	HH DW (HQ=1)	0.18	0	0.0007	0.0007	ND	0.00063	0.00046	0.00043
Nickel	D	mg/L	4	75	ECO Chronic	0.052	0	0.0002	0.0002	ND	0.0016	0.00077	0.00069
Nickel	D	mg/L	4	75	HH DW (HQ=1)	0.73	0	0.0002	0.0002	ND	0.0016	0.00077	0.00069
Potassium	D	mg/L	4	100	No SLC					0.79	1.3	1	1
Selenium	D	mg/L	4	0	ECO Chronic	0.046	0	0.0002	0.0002	ND	ND		
Selenium	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	4	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	4	100	No SLC					3.6	5.2	4.2	3.9
Thallium	D	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	4	75	ECO Chronic	0.019	0	0.0001	0.0001	ND	0.00024	0.00017	0.0002
Vanadium	D	mg/L	4	75	HH DW (HQ=1)	0.26	0	0.0001	0.0001	ND	0.00024	0.00017	0.0002
Zinc	D	mg/L	4	75	HH DW (HQ=1)	11	0	0.0021	0.0021	ND	0.026	0.011	0.009
Zinc	D	mg/L	4	75	ECO Chronic	0.12	0	0.0021	0.0021	ND	0.026	0.011	0.009
Aluminum	T	mg/L	4	100	HH DW (HQ=1)	37	0			0.041	0.17	0.08	0.054
Aluminum	T	mg/L	4	100	ECO Chronic	0.087	25			0.041	0.17	0.08	0.054
Antimony	T	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0002	0.00022	ND	ND		
Arsenic	T	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	T	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.016	0.03	0.022	0.021
Beryllium	T	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	ND		
Boron	T	mg/L	4	0	HH DW (HQ=1)	3.3	0	0.0048	0.005	ND	ND		
Cadmium	T	mg/L	4	25	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	0.00013		
Calcium	T	mg/L	4	100	No SLC					23.9	28.7	25.6	24.9
Chromium	T	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.00034	0.0046	ND	ND		
Cobalt	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.0001	0.0034	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-5

Surface Water Fall 2002

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	4	75	HH DW (HQ=1)	1.4	0	0.00078	0.00078	ND	0.00077	0.00055	0.00057
Hardness	T	mg/L	4	100	No SLC					75.3	96.1	82.9	80
Iron	T	mg/L	4	25	HH DW (HQ=1)	11	0	0.023	0.082	ND	0.031		
Iron	T	mg/L	4	25	ECO Chronic	1	0	0.023	0.082	ND	0.031		
Lead	T	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0001	0.00018	ND	ND		
Magnesium	T	mg/L	4	100	No SLC					3.8	5.9	4.6	4.3
Manganese	T	mg/L	4	25	HH DW (HQ=1)	1.7	0	0.0025	0.0036	ND	0.028		
Mercury	T	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	4	50	HH DW (HQ=1)	0.18	0	0.00067	0.00081	ND	0.00062	0.00047	0.00047
Nickel	T	mg/L	4	75	HH DW (HQ=1)	0.73	0	0.0002	0.0002	ND	0.0012	0.00058	0.0005
Potassium	T	mg/L	4	100	No SLC					0.82	1.3	1	1
Selenium	T	mg/L	4	75	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.0004	0.00025	0.00026
Silver	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	4	100	No SLC					3.7	5.1	4.1	3.9
Thallium	T	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	4	100	HH DW (HQ=1)	0.037	0			0.00013	0.00026	0.00021	0.00022
Zinc	T	mg/L	4	50	HH DW (HQ=1)	11	0	0.0021	0.031	ND	0.01	0.0089	0.0094

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-6

Surface Water Spring 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	5	NA	No SLC					10.1	11	10.5	10.3
EH	T	millivolts	5	NA	No SLC					109	169	135	127
Flow	T	cfs	5	NA	No SLC					2	4.2	3.1	3.4
pH	T	SU	5	NA	No SLC					7.3	7.9	7.6	7.7
Specific Conductance	T	uS/cm	5	NA	No SLC					156	206	175	171
Temperature	T	Celsius	5	NA	No SLC					1.7	3.5	2.6	2.8
Turbidity	T	NTU	5	NA	No SLC					63.3	64.6	63.8	63.6
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	5	100	No SLC					44.5	58.7	50.9	50.7
Biochemical Oxygen Demand	T	mg/L	5	0	No SLC			1.5	1.5	ND	ND		
Carbonate (as CaCO3)	T	mg/L	5	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	5	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	5	100	ECO Chronic	230	0			0.7	1.2	0.96	0.9
Chloride	T	mg/L	5	100	HH DW (HQ=1)	250	0			0.7	1.2	0.96	0.9
Cyanide	T	mg/L	5	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	5	100	HH DW (HQ=1)	2.2	0			0.21	0.47	0.33	0.32
Hydroxide (as CaCO3)	T	mg/L	5	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	5	0	HH DW (HQ=1)	10	0	0.4	0.4	ND	ND		
Nitrite	T	mg/L	5	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	5	100	No SLC					7.5	7.6	7.6	7.6
Phosphate, Ortho As P	T	mg/L	5	40	No SLC			0.01	0.01	ND	1.7		
Phosphorus	T	mg/L	5	0	No SLC			0.01	0.023	ND	ND		
Specific Conductance	T	umhos/cm	5	100	No SLC					134	183	155	148
Sulfate	T	mg/L	5	100	HH DW (HQ=1)	1500	0			23	55	35.8	32.7
Total Alkalinity	T	mg/L	5	100	No SLC					44.5	58.7	50.9	50.7
Total Dissolved Solids	T	mg/L	5	20	No SLC			88	132	ND	168		
Total Kjeldahl Nitrogen	T	mg/L	5	0	No SLC			0.24	0.24	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-6

Surface Water Spring 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	5	80	No SLC			1	1	ND	2.2	1.6	1.8
Total Suspended Solids	T	mg/L	5	0	No SLC			0.5	2.1	ND	ND		
Metals													
Aluminum	D	mg/L	5	0	HH DW (HQ=1)	37	0	0.05	0.08	ND	ND		
Antimony	D	mg/L	5	0	ECO Chronic	0.69	0	0.0006	0.0006	ND	ND		
Antimony	D	mg/L	5	0	HH DW (HQ=1)	0.015	0	0.0006	0.0006	ND	ND		
Arsenic	D	mg/L	5	0	ECO Chronic	0.15	0	0.00048	0.00059	ND	ND		
Arsenic	D	mg/L	5	0	HH DW (HQ=1)	0.01	0	0.00048	0.00059	ND	ND		
Barium	D	mg/L	5	100	HH DW (HQ=1)	2.6	0			0.015	0.029	0.02	0.016
Barium	D	mg/L	5	100	ECO Chronic	0.004	100			0.015	0.029	0.02	0.016
Beryllium	D	mg/L	5	20	ECO Chronic	0.0053	0	0.0003	0.0014	ND	0.00085		
Beryllium	D	mg/L	5	20	HH DW (HQ=1)	0.073	0	0.0003	0.0014	ND	0.00085		
Boron	D	mg/L	5	0	ECO Chronic	0.0016	0	0.0084	0.0084	ND	ND		
Boron	D	mg/L	5	0	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	ND		
Cadmium	D	mg/L	5	0	HH DW (HQ=1)	0.018	0	0.0005	0.0005	ND	ND		
Cadmium	D	mg/L	5	0	ECO Chronic	0.00025	0	0.0005	0.0005	ND	ND		
Calcium	D	mg/L	5	100	No SLC					23.9	28.3	25.7	25.1
Chromium	D	mg/L	5	0	HH DW (HQ=1)	0.1	0	0.001	0.0011	ND	ND		
Chromium	D	mg/L	5	0	ECO Chronic	0.074	0	0.001	0.0011	ND	ND		
Cobalt	D	mg/L	5	0	ECO Chronic	1.5	0	0.0038	0.0038	ND	ND		
Cobalt	D	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	ND		
Copper	D	mg/L	5	0	ECO Chronic	0.009	0	0.0015	0.0047	ND	ND		
Copper	D	mg/L	5	0	HH DW (HQ=1)	1.4	0	0.0015	0.0047	ND	ND		
Hardness	D	mg/L	5	100	No SLC					75.7	91.4	83	80
Iron	D	mg/L	5	0	HH DW (HQ=1)	11	0	0.31	0.42	ND	ND		
Lead	D	mg/L	5	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Lead	D	mg/L	5	0	ECO Chronic	0.0025	0	0.0002	0.0002	ND	ND		
Magnesium	D	mg/L	5	100	No SLC					3.9	5.5	4.5	4.4
Manganese	D	mg/L	5	0	ECO Chronic	1.7	0	0.01	0.013	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-6

Surface Water Spring 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	5	0	HH DW (HQ=1)	1.7	0	0.01	0.013	ND	ND		
Mercury	D	mg/L	5	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	5	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	5	0	ECO Chronic	2.2	0	0.0022	0.0023	ND	ND		
Molybdenum	D	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.0022	0.0023	ND	ND		
Nickel	D	mg/L	5	0	ECO Chronic	0.052	0	0.003	0.003	ND	ND		
Nickel	D	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.003	0.003	ND	ND		
Potassium	D	mg/L	5	100	No SLC					0.54	1.2	0.86	0.79
Selenium	D	mg/L	5	0	ECO Chronic	0.046	0	0.001	0.0038	ND	ND		
Selenium	D	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.001	0.0038	ND	ND		
Silver	D	mg/L	5	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	5	0	No SLC			3.5	12.5	ND	ND		
Thallium	D	mg/L	5	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	5	20	ECO Chronic	0.019	0	0.0002	0.0002	ND	0.00023		
Vanadium	D	mg/L	5	20	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	0.00023		
Zinc	D	mg/L	5	0	ECO Chronic	0.12	0	0.02	0.039	ND	ND		
Zinc	D	mg/L	5	0	HH DW (HQ=1)	11	0	0.02	0.039	ND	ND		
Aluminum	T	mg/L	5	20	ECO Chronic	0.087	0	0.05	0.17	ND	0.06		
Aluminum	T	mg/L	5	20	HH DW (HQ=1)	37	0	0.05	0.17	ND	0.06		
Antimony	T	mg/L	5	0	HH DW (HQ=1)	0.015	0	0.0006	0.0018	ND	ND		
Arsenic	T	mg/L	5	20	HH DW (HQ=1)	0.01	0	0.00046	0.00053	ND	0.00025		
Barium	T	mg/L	5	100	HH DW (HQ=1)	2.6	0			0.015	0.031	0.02	0.016
Beryllium	T	mg/L	5	20	HH DW (HQ=1)	0.073	0	0.0003	0.0015	ND	0.00069		
Boron	T	mg/L	5	0	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	ND		
Cadmium	T	mg/L	5	0	HH DW (HQ=1)	0.018	0	0.0005	0.0005	ND	ND		
Calcium	T	mg/L	5	100	No SLC					23.9	27.9	25.4	25.1
Chromium	T	mg/L	5	0	HH DW (HQ=1)	0.1	0	0.001	0.0013	ND	ND		
Cobalt	T	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-6

Surface Water Spring 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	5	0	HH DW (HQ=1)	1.4	0	0.0015	0.004	ND	ND		
Hardness	T	mg/L	5	100	No SLC					77.8	92.6	82	79.6
Iron	T	mg/L	5	0	ECO Chronic	1	0	0.31	0.42	ND	ND		
Iron	T	mg/L	5	0	HH DW (HQ=1)	11	0	0.31	0.42	ND	ND		
Lead	T	mg/L	5	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Magnesium	T	mg/L	5	100	No SLC					4	5.6	4.5	4.3
Manganese	T	mg/L	5	0	HH DW (HQ=1)	1.7	0	0.01	0.013	ND	ND		
Mercury	T	mg/L	5	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.0022	0.0023	ND	ND		
Nickel	T	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.003	0.003	ND	ND		
Potassium	T	mg/L	5	100	No SLC					0.55	1.1	0.8	0.8
Selenium	T	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.001	0.0024	ND	ND		
Silver	T	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	5	0	No SLC			3.5	10.7	ND	ND		
Thallium	T	mg/L	5	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	T	mg/L	5	40	HH DW (HQ=1)	0.037	0	0.0002	0.0002	ND	0.00021		
Zinc	T	mg/L	5	0	HH DW (HQ=1)	11	0	0.021	0.04	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-7

Surface Water Summer 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	5	NA	No SLC					8.2	8.6	8.3	8.1
EH	T	millivolts	5	NA	No SLC					264	498	360	345
Flow	T	cfs	5	NA	No SLC					1	7.5	4.4	5.6
pH	T	SU	5	NA	No SLC					7.3	7.9	7.5	7.5
Specific Conductance	T	uS/cm	5	NA	No SLC					131	205	153	145
Temperature	T	Celsius	5	NA	No SLC					13.4	16.1	14.9	14.4
Turbidity	T	NTU	5	NA	No SLC					1.6	3	2	1.7
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	5	100	No SLC					41.1	57.4	47.3	46.2
Biochemical Oxygen Demand	T	mg/L	5	40	No SLC			1.4	1.5	ND	3.1		
Carbonate (as CaCO3)	T	mg/L	5	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	5	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	5	0	ECO Chronic	230	0	0.44	0.99	ND	ND		
Chloride	T	mg/L	5	0	HH DW (HQ=1)	250	0	0.44	0.99	ND	ND		
Cyanide	T	mg/L	5	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	5	0	HH DW (HQ=1)	2.2	0	0.2	0.51	ND	ND		
Hydroxide (as CaCO3)	T	mg/L	5	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	5	0	HH DW (HQ=1)	10	0	0.4	1	ND	ND		
Nitrite	T	mg/L	5	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	5	100	No SLC					7.6	7.9	7.7	7.6
Phosphate, Ortho As P	T	mg/L	5	40	No SLC			0.01	0.01	ND	0.014		
Phosphorus	T	mg/L	5	60	No SLC			0.01	0.01	ND	0.031	0.013	0.01
Specific Conductance	T	umhos/cm	5	100	No SLC					113	183	135	125
Sulfate	T	mg/L	5	100	HH DW (HQ=1)	1500	0			17.2	54.8	28.9	19.8
Total Alkalinity	T	mg/L	5	100	No SLC					41.1	57.4	47.3	46.2
Total Dissolved Solids	T	mg/L	5	40	No SLC			70	90	ND	174		
Total Kjeldahl Nitrogen	T	mg/L	5	0	No SLC			0.24	0.24	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-7

Surface Water Summer 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	5	100	No SLC					1.4	3.9	2.4	2.2
Total Suspended Solids	T	mg/L	5	80	No SLC			1.3	1.3	ND	5.6	2.7	2
Metals													
Aluminum	D	mg/L	5	20	HH DW (HQ=1)	37	0	0.024	0.024	ND	0.072		
Antimony	D	mg/L	5	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Antimony	D	mg/L	5	0	ECO Chronic	0.69	0	0.0005	0.0005	ND	ND		
Arsenic	D	mg/L	5	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	5	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	5	100	ECO Chronic	0.004	100			0.011	0.027	0.017	0.012
Barium	D	mg/L	5	100	HH DW (HQ=1)	2.6	0			0.011	0.027	0.017	0.012
Beryllium	D	mg/L	5	0	ECO Chronic	0.0053	0	0.0002	0.0002	ND	ND		
Beryllium	D	mg/L	5	0	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	ND		
Boron	D	mg/L	5	0	ECO Chronic	0.0016	0	0.0048	0.0048	ND	ND		
Boron	D	mg/L	5	0	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	ND		
Cadmium	D	mg/L	5	0	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	ND		
Cadmium	D	mg/L	5	0	ECO Chronic	0.00025	0	0.0002	0.0002	ND	ND		
Calcium	D	mg/L	5	100	No SLC					18.4	27.3	21.3	19.9
Chromium	D	mg/L	5	0	HH DW (HQ=1)	0.1	0	0.0014	0.0014	ND	ND		
Chromium	D	mg/L	5	0	ECO Chronic	0.074	0	0.0014	0.0014	ND	ND		
Cobalt	D	mg/L	5	0	ECO Chronic	1.5	0	0.002	0.002	ND	ND		
Cobalt	D	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.002	0.002	ND	ND		
Copper	D	mg/L	5	0	ECO Chronic	0.009	0	0.0009	0.0024	ND	ND		
Copper	D	mg/L	5	0	HH DW (HQ=1)	1.4	0	0.0009	0.0024	ND	ND		
Hardness	D	mg/L	5	100	No SLC					56.5	90.6	67.8	61.6
Iron	D	mg/L	5	0	HH DW (HQ=1)	11	0	0.033	0.033	ND	ND		
Lead	D	mg/L	5	0	ECO Chronic	0.0025	0	0.0001	0.0001	ND	ND		
Lead	D	mg/L	5	0	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	ND		
Magnesium	D	mg/L	5	100	No SLC					2.6	5.5	3.5	2.9
Manganese	D	mg/L	5	40	ECO Chronic	1.7	0	0.0007	0.0007	ND	0.0055		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-7

Surface Water Summer 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	5	40	HH DW (HQ=1)	1.7	0	0.0007	0.0007	ND	0.0055		
Mercury	D	mg/L	5	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	5	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	5	60	ECO Chronic	2.2	0	0.0017	0.0017	ND	0.00058	0.00063	0.00058
Molybdenum	D	mg/L	5	60	HH DW (HQ=1)	0.18	0	0.0017	0.0017	ND	0.00058	0.00063	0.00058
Nickel	D	mg/L	5	20	HH DW (HQ=1)	0.73	0	0.0006	0.0021	ND	0.0014		
Nickel	D	mg/L	5	20	ECO Chronic	0.052	0	0.0006	0.0021	ND	0.0014		
Potassium	D	mg/L	5	100	No SLC					0.76	1.6	1	0.96
Selenium	D	mg/L	5	0	ECO Chronic	0.046	0	0.0008	0.0008	ND	ND		
Selenium	D	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	ND		
Silver	D	mg/L	5	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	5	100	No SLC					3.1	5.3	3.8	3.4
Thallium	D	mg/L	5	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	5	80	ECO Chronic	0.019	0	0.0002	0.0002	ND	0.00037	0.00028	0.0003
Vanadium	D	mg/L	5	80	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	0.00037	0.00028	0.0003
Zinc	D	mg/L	5	20	ECO Chronic	0.12	0	0.0031	0.0038	ND	0.016		
Zinc	D	mg/L	5	20	HH DW (HQ=1)	11	0	0.0031	0.0038	ND	0.016		
Aluminum	T	mg/L	5	80	HH DW (HQ=1)	37	0	0.024	0.024	ND	0.1	0.046	0.035
Aluminum	T	mg/L	5	80	ECO Chronic	0.087	25	0.024	0.024	ND	0.1	0.046	0.035
Antimony	T	mg/L	5	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Arsenic	T	mg/L	5	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	T	mg/L	5	100	HH DW (HQ=1)	2.6	0			0.011	0.032	0.021	0.026
Beryllium	T	mg/L	5	0	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	ND		
Boron	T	mg/L	5	0	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	ND		
Cadmium	T	mg/L	5	0	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	ND		
Calcium	T	mg/L	5	100	No SLC					18.7	27.3	21.2	20.1
Chromium	T	mg/L	5	0	HH DW (HQ=1)	0.1	0	0.0014	0.0014	ND	ND		
Cobalt	T	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.002	0.002	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-7

Surface Water Summer 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	5	40	HH DW (HQ=1)	1.4	0	0.0009	0.0024	ND	0.0011		
Hardness	T	mg/L	5	100	No SLC					57.4	90.7	67.2	64.6
Iron	T	mg/L	5	20	HH DW (HQ=1)	11	0	0.033	0.033	ND	0.042		
Iron	T	mg/L	5	20	ECO Chronic	1	0	0.033	0.033	ND	0.042		
Lead	T	mg/L	5	20	HH DW (HQ=1)	0.015	0	0.0001	0.00014	ND	0.00011		
Magnesium	T	mg/L	5	100	No SLC					2.6	5.5	3.5	3.1
Manganese	T	mg/L	5	80	HH DW (HQ=1)	1.7	0	0.0007	0.0007	ND	0.013	0.005	0.00091
Mercury	T	mg/L	5	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	5	80	HH DW (HQ=1)	0.18	0	0.0017	0.0017	ND	0.0022	0.00087	0.0005
Nickel	T	mg/L	5	20	HH DW (HQ=1)	0.73	0	0.0006	0.0021	ND	0.0016		
Potassium	T	mg/L	5	100	No SLC					0.81	1.5	1	0.9
Selenium	T	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	ND		
Silver	T	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	5	100	No SLC					3.2	5.3	3.8	3.3
Thallium	T	mg/L	5	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	5	100	HH DW (HQ=1)	0.037	0			0.00023	0.00044	0.00032	0.00032
Zinc	T	mg/L	5	20	HH DW (HQ=1)	11	0	0.0016	0.0069	ND	0.02		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-8

Surface Water Fall 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	5	NA	No SLC					8.7	10.3	9.4	9.4
Eh	T	millivolts	5	NA	No SLC					195	389	303	329
Flow	T	cfs	5	NA	No SLC					1	5.9	3.7	5.1
pH	T	SU	5	NA	No SLC					7.4	7.9	7.6	7.7
Specific Conductance	T	uS/cm	5	NA	No SLC					153	231	177	168
Temperature	T	Celsius	5	NA	No SLC					8.1	12.2	9.7	9.2
Turbidity	T	NTU	5	NA	No SLC					0.5	5.7	2.8	1.7
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	5	100	No SLC					48.1	64.6	52.4	48.9
Biochemical Oxygen Demand	T	mg/L	5	40	No SLC			1.4	1.4	ND	2.1		
Carbonate (as CaCO3)	T	mg/L	5	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	5	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	5	40	ECO Chronic	230	0	0.47	0.55	ND	1.1		
Chloride	T	mg/L	5	40	HH DW (HQ=1)	250	0	0.47	0.55	ND	1.1		
Cyanide	T	mg/L	5	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	5	100	HH DW (HQ=1)	2.2	0			0.21	0.53	0.33	0.3
Hydroxide (as CaCO3)	T	mg/L	5	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	5	20	HH DW (HQ=1)	10	0	0.2	0.2	ND	0.35		
Nitrite	T	mg/L	5	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	5	100	No SLC					7.6	8.1	7.8	7.8
Phosphate, Ortho As P	T	mg/L	5	0	No SLC			0.01	0.3	ND	ND		
Phosphorus	T	mg/L	5	20	No SLC			0.01	0.01	ND	0.018		
Specific Conductance	T	umhos/cm	5	100	No SLC					120	185	143	135
Sulfate	T	mg/L	5	100	HH DW (HQ=1)	1500	0			19.2	50.8	28.1	23.2
Total Alkalinity	T	mg/L	5	100	No SLC					48.1	64.6	52.4	48.9
Total Dissolved Solids	T	mg/L	5	80	No SLC			48	48	ND	152	97.6	110
Total Kjeldahl Nitrogen	T	mg/L	5	0	No SLC			0.24	0.24	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-8

Surface Water Fall 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	5	60	No SLC			1	1	ND	1.9	1.2	1.5
Total Suspended Solids	T	mg/L	5	100	No SLC					1	3.4	2.1	2.4
Metals													
Aluminum	D	mg/L	4	25	HH DW (HQ=1)	37	0	0.0038	0.016	ND	0.079		
Antimony	D	mg/L	4	0	ECO Chronic	0.69	0	0.00011	0.00054	ND	ND		
Antimony	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.00011	0.00054	ND	ND		
Arsenic	D	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Arsenic	D	mg/L	4	0	ECO Chronic	0.15	0	0.00038	0.00038	ND	ND		
Barium	D	mg/L	4	100	ECO Chronic	0.004	100			0.012	0.03	0.02	0.019
Barium	D	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.012	0.03	0.02	0.019
Beryllium	D	mg/L	4	0	ECO Chronic	0.0053	0	0.00047	0.00047	ND	ND		
Beryllium	D	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Boron	D	mg/L	4	50	ECO Chronic	0.0016	100	0.0048	0.0048	ND	0.0052	0.0037	0.0036
Boron	D	mg/L	4	50	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	0.0052	0.0037	0.0036
Cadmium	D	mg/L	4	0	ECO Chronic	0.00025	0	0.00008	0.00008	ND	ND		
Cadmium	D	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.00008	0.00008	ND	ND		
Calcium	D	mg/L	4	100	No SLC					20.2	27.1	23.4	23.2
Chromium	D	mg/L	4	0	ECO Chronic	0.074	0	0.001	0.001	ND	ND		
Chromium	D	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	D	mg/L	4	25	ECO Chronic	1.5	0	0.0011	0.0011	ND	0.0017		
Cobalt	D	mg/L	4	25	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	0.0017		
Copper	D	mg/L	4	0	ECO Chronic	0.009	0	0.00045	0.00056	ND	ND		
Copper	D	mg/L	4	0	HH DW (HQ=1)	1.4	0	0.00045	0.00056	ND	ND		
Hardness	D	mg/L	3	100	No SLC					69.1	90.4	79.4	78.6
Iron	D	mg/L	4	0	HH DW (HQ=1)	11	0	0.044	0.044	ND	ND		
Lead	D	mg/L	4	0	ECO Chronic	0.0025	0	0.00004	0.00005	ND	ND		
Lead	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.00004	0.00005	ND	ND		
Magnesium	D	mg/L	4	100	No SLC					3	5.5	4.1	3.9
Manganese	D	mg/L	4	0	HH DW (HQ=1)	1.7	0	0.00073	0.007	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-8

Surface Water Fall 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	4	0	ECO Chronic	1.7	0	0.00073	0.007	ND	ND		
Mercury	D	mg/L	4	25	ECO Chronic	0.00077	0	0.00006	0.00006	ND	0.00007		
Mercury	D	mg/L	4	25	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	0.00007		
Molybdenum	D	mg/L	4	0	ECO Chronic	2.2	0	0.00075	0.00094	ND	ND		
Molybdenum	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.00075	0.00094	ND	ND		
Nickel	D	mg/L	4	0	ECO Chronic	0.052	0	0.00084	0.002	ND	ND		
Nickel	D	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.00084	0.002	ND	ND		
Potassium	D	mg/L	4	25	No SLC			0.87	1	ND	1.4		
Selenium	D	mg/L	4	0	ECO Chronic	0.046	0	0.00073	0.00073	ND	ND		
Selenium	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	4	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	4	100	No SLC					3.1	4.8	3.9	3.8
Thallium	D	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	D	mg/L	4	0	ECO Chronic	0.019	0	0.00044	0.00065	ND	ND		
Vanadium	D	mg/L	4	0	HH DW (HQ=1)	0.26	0	0.00044	0.00065	ND	ND		
Zinc	D	mg/L	4	25	ECO Chronic	0.12	0	0.013	0.013	ND	0.022		
Zinc	D	mg/L	4	25	HH DW (HQ=1)	11	0	0.013	0.013	ND	0.022		
Aluminum	T	mg/L	5	80	ECO Chronic	0.087	50	0.031	0.031	ND	0.15	0.083	0.059
Aluminum	T	mg/L	5	80	HH DW (HQ=1)	37	0	0.031	0.031	ND	0.15	0.083	0.059
Antimony	T	mg/L	5	0	HH DW (HQ=1)	0.015	0	0.00011	0.00073	ND	ND		
Arsenic	T	mg/L	5	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Barium	T	mg/L	5	100	HH DW (HQ=1)	2.6	0			0.013	0.03	0.019	0.014
Beryllium	T	mg/L	5	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Boron	T	mg/L	5	0	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	ND		
Cadmium	T	mg/L	5	0	HH DW (HQ=1)	0.018	0	0.00008	0.00008	ND	ND		
Calcium	T	mg/L	5	100	No SLC					20.6	27.1	23.2	23.4
Chromium	T	mg/L	5	20	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	0.0011		
Cobalt	T	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-8

Surface Water Fall 2003

RI/FS Reference Upper Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	5	0	HH DW (HQ=1)	1.4	0	0.00048	0.00065	ND	ND		
Hardness	T	mg/L	5	100	No SLC					63	90.5	73.6	73.2
Iron	T	mg/L	5	40	HH DW (HQ=1)	11	0	0.044	0.076	ND	0.13		
Iron	T	mg/L	5	40	ECO Chronic	1	0	0.044	0.076	ND	0.13		
Lead	T	mg/L	5	0	HH DW (HQ=1)	0.015	0	0.00006	0.00039	ND	ND		
Magnesium	T	mg/L	5	100	No SLC					3.1	5.5	4	3.6
Manganese	T	mg/L	5	60	HH DW (HQ=1)	1.7	0	0.003	0.0041	ND	0.0091	0.0054	0.0068
Mercury	T	mg/L	5	0	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	ND		
Molybdenum	T	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.00073	0.0012	ND	ND		
Nickel	T	mg/L	5	0	HH DW (HQ=1)	0.73	0	0.00092	0.002	ND	ND		
Potassium	T	mg/L	5	20	No SLC			0.92	1	ND	1.5		
Selenium	T	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	T	mg/L	5	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	5	100	No SLC					3.1	4.8	3.8	3.5
Thallium	T	mg/L	5	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	T	mg/L	5	60	HH DW (HQ=1)	0.037	0	0.00052	0.00071	ND	0.00059	0.00045	0.0005
Zinc	T	mg/L	5	20	HH DW (HQ=1)	11	0	0.013	0.013	ND	0.023		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-9

Surface Water Fall 2002

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	4	NA	No SLC					7.8	8.5	8.2	8.3
Eh	T	millivolts	4	NA	No SLC					313	352	334	335
Flow	T	cfs	4	NA	No SLC					0.01	0.01	0.01	0.01
pH	T	SU	4	NA	No SLC					6.5	7	6.7	6.7
Specific Conductance	T	uS/cm	4	NA	No SLC					212	331	245	218
Temperature	T	Celsius	4	NA	No SLC					9.8	14.1	11.8	11.6
Turbidity	T	NTU	4	NA	No SLC					0	0.4	0.1	0
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	4	100	No SLC					54.6	69.9	62.4	62.5
Biochemical Oxygen Demand	T	mg/L	4	0	No SLC			1.3	1.3	ND	ND		
Carbonate (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	4	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	4	25	ECO Chronic	230	0	1	1	ND	1.6		
Chloride	T	mg/L	4	25	HH DW (HQ=1)	250	0	1	1	ND	1.6		
Cyanide	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	4	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	4	25	HH DW (HQ=1)	2.2	0	0.24	0.38	ND	0.48		
Hydroxide (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	4	0	HH DW (HQ=1)	10	0	0.5	0.5	ND	ND		
Nitrite	T	mg/L	4	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
Phosphate, Ortho As P	T	mg/L	4	100	No SLC					0.013	0.031	0.023	0.024
Phosphorus	T	mg/L	4	0	No SLC			0.01	0.02	ND	ND		
Sulfate	T	mg/L	4	100	HH DW (HQ=1)	1500	0			48.1	98.3	63.6	53.9
Total Alkalinity	T	mg/L	4	100	No SLC					54.6	69.9	62.4	62.5
Total Dissolved Solids	T	mg/L	4	100	No SLC					133	225	166	154
Total Kjeldahl Nitrogen	T	mg/L	4	0	No SLC			0.24	0.24	ND	ND		
Total Organic Carbon	T	mg/L	4	50	No SLC			1	1	ND	1.6	0.93	0.8
Total Suspended Solids	T	mg/L	4	0	No SLC			0.56	5.1	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-9

Surface Water Fall 2002

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Metals													
Aluminum	D	mg/L	4	0	HH DW (HQ=1)	37	0	0.003	0.0076	ND	ND		
Antimony	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Antimony	D	mg/L	4	0	ECO Chronic	0.69	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	4	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	4	100	ECO Chronic	0.004	100			0.024	0.056	0.033	0.025
Barium	D	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.024	0.056	0.033	0.025
Beryllium	D	mg/L	4	0	ECO Chronic	0.0053	0	0.0002	0.0003	ND	ND		
Beryllium	D	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	ND		
Boron	D	mg/L	4	0	ECO Chronic	0.0016	0	0.0048	0.005	ND	ND		
Boron	D	mg/L	4	0	HH DW (HQ=1)	3.3	0	0.0048	0.005	ND	ND		
Cadmium	D	mg/L	4	0	ECO Chronic	0.00025	0	0.0001	0.0001	ND	ND		
Cadmium	D	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	ND		
Calcium	D	mg/L	4	100	No SLC					31.7	51.3	37.8	34
Chromium	D	mg/L	4	0	ECO Chronic	0.074	0	0.00032	0.0046	ND	ND		
Chromium	D	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.00032	0.0046	ND	ND		
Cobalt	D	mg/L	4	0	ECO Chronic	1.5	0	0.0001	0.0022	ND	ND		
Cobalt	D	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.0001	0.0022	ND	ND		
Copper	D	mg/L	4	50	ECO Chronic	0.009	0	0.0003	0.00039	ND	0.0017	0.00063	0.00033
Copper	D	mg/L	4	50	HH DW (HQ=1)	1.4	0	0.0003	0.00039	ND	0.0017	0.00063	0.00033
Hardness	D	mg/L	4	100	No SLC					99.6	162	119	108
Iron	D	mg/L	4	25	HH DW (HQ=1)	11	0	0.023	0.038	ND	0.028		
Lead	D	mg/L	4	0	ECO Chronic	0.0025	0	0.0001	0.0006	ND	ND		
Lead	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0001	0.0006	ND	ND		
Magnesium	D	mg/L	4	100	No SLC					5	8.2	6.1	5.6
Manganese	D	mg/L	4	100	ECO Chronic	1.7	0			0.0046	0.015	0.0082	0.0067
Manganese	D	mg/L	4	100	HH DW (HQ=1)	1.7	0			0.0046	0.015	0.0082	0.0067
Mercury	D	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-9

Surface Water Fall 2002

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Mercury	D	mg/L	4	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	4	50	ECO Chronic	2.2	0	0.00067	0.00075	ND	0.00077	0.00053	0.00052
Molybdenum	D	mg/L	4	50	HH DW (HQ=1)	0.18	0	0.00067	0.00075	ND	0.00077	0.00053	0.00052
Nickel	D	mg/L	4	75	ECO Chronic	0.052	0	0.0002	0.0002	ND	0.00032	0.00022	0.00023
Nickel	D	mg/L	4	75	HH DW (HQ=1)	0.73	0	0.0002	0.0002	ND	0.00032	0.00022	0.00023
Potassium	D	mg/L	4	100	No SLC					0.94	2.1	1.5	1.5
Selenium	D	mg/L	4	0	ECO Chronic	0.046	0	0.0002	0.0002	ND	ND		
Selenium	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	4	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	4	100	No SLC					4.4	6.1	5	4.7
Thallium	D	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	4	75	ECO Chronic	0.019	0	0.0001	0.0001	ND	0.0002	0.00012	0.00012
Vanadium	D	mg/L	4	75	HH DW (HQ=1)	0.26	0	0.0001	0.0001	ND	0.0002	0.00012	0.00012
Zinc	D	mg/L	4	25	ECO Chronic	0.12	0	0.0021	0.0069	ND	0.014		
Zinc	D	mg/L	4	25	HH DW (HQ=1)	11	0	0.0021	0.0069	ND	0.014		
Aluminum	T	mg/L	4	25	ECO Chronic	0.087	0	0.013	0.025	ND	0.021		
Aluminum	T	mg/L	4	25	HH DW (HQ=1)	37	0	0.013	0.025	ND	0.021		
Antimony	T	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Arsenic	T	mg/L	4	25	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00023		
Barium	T	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.025	0.055	0.033	0.026
Beryllium	T	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	ND		
Boron	T	mg/L	4	0	HH DW (HQ=1)	3.3	0	0.0048	0.005	ND	ND		
Cadmium	T	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	ND		
Calcium	T	mg/L	4	100	No SLC					32.1	49.9	38	35
Chromium	T	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.00032	0.0046	ND	ND		
Cobalt	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.0001	0.0022	ND	ND		
Copper	T	mg/L	4	50	HH DW (HQ=1)	1.4	0	0.0003	0.0005	ND	0.0025	0.00089	0.00046
Hardness	T	mg/L	4	100	No SLC					101	158	120	111

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-9

Surface Water Fall 2002

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Iron	T	mg/L	4	50	HH DW (HQ=1)	11	0	0.023	0.054	ND	0.5	0.21	0.17
Iron	T	mg/L	4	50	ECO Chronic	1	0	0.023	0.054	ND	0.5	0.21	0.17
Lead	T	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0001	0.00073	ND	ND		
Magnesium	T	mg/L	4	100	No SLC					5	8	6.1	5.8
Manganese	T	mg/L	4	75	HH DW (HQ=1)	1.7	0	0.0045	0.0045	ND	0.027	0.011	0.008
Mercury	T	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	4	50	HH DW (HQ=1)	0.18	0	0.00064	0.00071	ND	0.00082	0.00054	0.00051
Nickel	T	mg/L	4	75	HH DW (HQ=1)	0.73	0	0.0002	0.0002	ND	0.0011	0.00048	0.00036
Potassium	T	mg/L	4	100	No SLC					1	2.1	1.5	1.5
Selenium	T	mg/L	4	50	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.00028	0.00019	0.00019
Silver	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	4	100	No SLC					4.6	5.9	5	4.7
Thallium	T	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	4	100	HH DW (HQ=1)	0.037	0			0.00012	0.00016	0.00014	0.00015
Zinc	T	mg/L	4	50	HH DW (HQ=1)	11	0	0.0048	0.0069	ND	0.012	0.0065	0.0057

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-10

Surface Water Spring 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	4	NA	No SLC					6.8	12.3	9.1	8.7
EH	T	millivolts	4	NA	No SLC					277	300	292	295
Flow	T	cfs	4	NA	No SLC					2.1	5.1	3.5	3.4
pH	T	SU	4	NA	No SLC					6.4	7.1	6.7	6.6
Specific Conductance	T	uS/cm	4	NA	No SLC					379	444	398	385
Temperature	T	Celsius	4	NA	No SLC					2.3	3.4	2.7	2.5
Turbidity	T	NTU	4	NA	No SLC					0	0	0	0
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	4	100	No SLC					50.7	55.7	53.1	53
Biochemical Oxygen Demand	T	mg/L	4	0	No SLC			1.5	1.5	ND	ND		
Carbonate (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	4	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	4	100	HH DW (HQ=1)	250	0			0.71	1.5	1.1	1.1
Chloride	T	mg/L	4	100	ECO Chronic	230	0			0.71	1.5	1.1	1.1
Cyanide	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	4	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	4	100	HH DW (HQ=1)	2.2	0			0.35	0.36	0.36	0.36
Hydroxide (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	4	25	HH DW (HQ=1)	10	0	0.4	0.4	ND	0.44		
Nitrite	T	mg/L	4	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	4	100	No SLC					7.5	7.6	7.5	7.5
Phosphate, Ortho As P	T	mg/L	4	0	No SLC			0.01	0.01	ND	ND		
Phosphorus	T	mg/L	4	25	No SLC			0.01	0.011	ND	0.016		
Specific Conductance	T	umhos/cm	4	100	No SLC					160	201	175	170
Sulfate	T	mg/L	4	100	HH DW (HQ=1)	1500	0			39.9	52.2	43.7	41.4
Total Alkalinity	T	mg/L	4	100	No SLC					50.7	55.7	53.1	53
Total Dissolved Solids	T	mg/L	4	50	No SLC			108	116	ND	170	108	103
Total Kjeldahl Nitrogen	T	mg/L	4	0	No SLC			0.24	0.24	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-10

Surface Water Spring 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	4	75	No SLC			1	1	ND	5.4	2	1.1
Total Suspended Solids	T	mg/L	4	0	No SLC			0.5	1.3	ND	ND		
Metals													
Aluminum	D	mg/L	4	0	HH DW (HQ=1)	37	0	0.05	0.05	ND	ND		
Antimony	D	mg/L	4	0	ECO Chronic	0.69	0	0.0006	0.0006	ND	ND		
Antimony	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0006	0.0006	ND	ND		
Arsenic	D	mg/L	4	0	ECO Chronic	0.15	0	0.00043	0.00059	ND	ND		
Arsenic	D	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.00043	0.00059	ND	ND		
Barium	D	mg/L	4	100	ECO Chronic	0.004	100			0.017	0.023	0.02	0.021
Barium	D	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.017	0.023	0.02	0.021
Beryllium	D	mg/L	4	0	ECO Chronic	0.0053	0	0.0003	0.0017	ND	ND		
Beryllium	D	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.0003	0.0017	ND	ND		
Boron	D	mg/L	4	0	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	ND		
Boron	D	mg/L	4	0	ECO Chronic	0.0016	0	0.0084	0.0084	ND	ND		
Cadmium	D	mg/L	4	0	ECO Chronic	0.00025	0	0.0005	0.0005	ND	ND		
Cadmium	D	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.0005	0.0005	ND	ND		
Calcium	D	mg/L	4	100	No SLC					27.6	32.3	29.4	28.9
Chromium	D	mg/L	4	0	ECO Chronic	0.074	0	0.001	0.0013	ND	ND		
Chromium	D	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.001	0.0013	ND	ND		
Cobalt	D	mg/L	4	0	ECO Chronic	1.5	0	0.0038	0.0038	ND	ND		
Cobalt	D	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	ND		
Copper	D	mg/L	4	0	ECO Chronic	0.009	0	0.0015	0.0045	ND	ND		
Copper	D	mg/L	4	0	HH DW (HQ=1)	1.4	0	0.0015	0.0045	ND	ND		
Hardness	D	mg/L	4	100	No SLC					87.4	102	93.4	92.1
Iron	D	mg/L	4	0	HH DW (HQ=1)	11	0	0.42	0.42	ND	ND		
Lead	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Lead	D	mg/L	4	0	ECO Chronic	0.0025	0	0.0002	0.0002	ND	ND		
Magnesium	D	mg/L	4	100	No SLC					4.5	5.3	4.9	4.8
Manganese	D	mg/L	4	0	HH DW (HQ=1)	1.7	0	0.013	0.013	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-10

Surface Water Spring 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	4	0	ECO Chronic	1.7	0	0.013	0.013	ND	ND		
Mercury	D	mg/L	4	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	4	0	ECO Chronic	2.2	0	0.0022	0.0023	ND	ND		
Molybdenum	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0022	0.0023	ND	ND		
Nickel	D	mg/L	4	0	ECO Chronic	0.052	0	0.003	0.003	ND	ND		
Nickel	D	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.003	0.003	ND	ND		
Potassium	D	mg/L	4	100	No SLC					0.7	0.96	0.82	0.82
Selenium	D	mg/L	4	0	ECO Chronic	0.046	0	0.001	0.0035	ND	ND		
Selenium	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.001	0.0035	ND	ND		
Silver	D	mg/L	4	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	4	0	No SLC			9.2	14.5	ND	ND		
Thallium	D	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	4	25	ECO Chronic	0.019	0	0.0002	0.0002	ND	0.00024		
Vanadium	D	mg/L	4	25	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	0.00024		
Zinc	D	mg/L	4	0	ECO Chronic	0.12	0	0.039	0.039	ND	ND		
Zinc	D	mg/L	4	0	HH DW (HQ=1)	11	0	0.039	0.039	ND	ND		
Aluminum	T	mg/L	4	0	ECO Chronic	0.087	0	0.05	0.05	ND	ND		
Aluminum	T	mg/L	4	0	HH DW (HQ=1)	37	0	0.05	0.05	ND	ND		
Antimony	T	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0006	0.0006	ND	ND		
Arsenic	T	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.00038	0.00052	ND	ND		
Barium	T	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.018	0.024	0.021	0.021
Beryllium	T	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.0003	0.0013	ND	ND		
Boron	T	mg/L	4	0	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	ND		
Cadmium	T	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.0005	0.0005	ND	ND		
Calcium	T	mg/L	4	100	No SLC					28.6	32.1	29.5	28.8
Chromium	T	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-10

Surface Water Spring 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	4	0	HH DW (HQ=1)	1.4	0	0.0015	0.0043	ND	ND		
Hardness	T	mg/L	4	100	No SLC					90.9	102	94.1	91.8
Iron	T	mg/L	4	0	ECO Chronic	1	0	0.42	0.42	ND	ND		
Iron	T	mg/L	4	0	HH DW (HQ=1)	11	0	0.42	0.42	ND	ND		
Lead	T	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Magnesium	T	mg/L	4	100	No SLC					4.7	5.3	4.9	4.8
Manganese	T	mg/L	4	25	HH DW (HQ=1)	1.7	0	0.013	0.013	ND	0.018		
Mercury	T	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0022	0.0023	ND	ND		
Nickel	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.003	0.003	ND	ND		
Potassium	T	mg/L	4	100	No SLC					0.71	1	0.84	0.82
Selenium	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.001	0.0031	ND	ND		
Silver	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	4	0	No SLC			9.2	15	ND	ND		
Thallium	T	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	T	mg/L	4	0	HH DW (HQ=1)	0.037	0	0.0002	0.0002	ND	ND		
Zinc	T	mg/L	4	0	HH DW (HQ=1)	11	0	0.039	0.039	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-11

Surface Water Summer 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	3	NA	No SLC					3.2	10.8	7.4	8.3
EH	T	millivolts	3	NA	No SLC					156	261	215	229
Flow	T	cfs	3	NA	No SLC					0.02	0.2	0.11	0.1
pH	T	SU	3	NA	No SLC					6.4	6.5	6.4	6.3
Specific Conductance	T	uS/cm	3	NA	No SLC					211	263	243	256
Temperature	T	Celsius	3	NA	No SLC					14	14.2	14.1	14
Turbidity	T	NTU	3	NA	No SLC					0.5	5.4	2.2	0.8
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	3	100	No SLC					64.8	69.3	66.9	66.5
Biochemical Oxygen Demand	T	mg/L	3	0	No SLC			1.5	1.5	ND	ND		
Carbonate (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	3	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	3	33.3	ECO Chronic	230	0	1	1.1	ND	3.5		
Chloride	T	mg/L	3	33.3	HH DW (HQ=1)	250	0	1	1.1	ND	3.5		
Cyanide	T	mg/L	3	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	3	0	HH DW (HQ=1)	2.2	0	0.35	0.5	ND	ND		
Hydroxide (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	3	0	HH DW (HQ=1)	10	0	1	1	ND	ND		
Nitrite	T	mg/L	3	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	3	100	No SLC					7.2	7.4	7.3	7.4
Phosphate, Ortho As P	T	mg/L	3	0	No SLC			0.01	0.01	ND	ND		
Phosphorus	T	mg/L	3	33.3	No SLC			0.01	0.01	ND	0.038		
Specific Conductance	T	umhos/cm	3	100	No SLC					169	229	206	220
Sulfate	T	mg/L	3	100	HH DW (HQ=1)	1500	0			38.2	55.7	49.3	54
Total Alkalinity	T	mg/L	3	100	No SLC					64.8	69.3	66.9	66.5
Total Dissolved Solids	T	mg/L	3	100	No SLC					110	150	135	144
Total Kjeldahl Nitrogen	T	mg/L	3	0	No SLC			0.24	0.24	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-11

Surface Water Summer 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	3	100	No SLC					1.6	1.8	1.7	1.7
Total Suspended Solids	T	mg/L	3	33.3	No SLC			1.2	1.4	ND	13.7		
Metals													
Aluminum	D	mg/L	3	0	HH DW (HQ=1)	37	0	0.024	0.031	ND	ND		
Antimony	D	mg/L	3	0	ECO Chronic	0.69	0	0.0005	0.0005	ND	ND		
Antimony	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Arsenic	D	mg/L	3	33.3	ECO Chronic	0.15	0	0.0002	0.0002	ND	0.00036		
Arsenic	D	mg/L	3	33.3	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00036		
Barium	D	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.026	0.035	0.032	0.035
Barium	D	mg/L	3	100	ECO Chronic	0.004	100			0.026	0.035	0.032	0.035
Beryllium	D	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	ND		
Beryllium	D	mg/L	3	0	ECO Chronic	0.0053	0	0.0002	0.0002	ND	ND		
Boron	D	mg/L	3	66.7	ECO Chronic	0.0016	100	0.0048	0.0048	ND	0.0066	0.0046	0.0048
Boron	D	mg/L	3	66.7	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	0.0066	0.0046	0.0048
Cadmium	D	mg/L	3	0	ECO Chronic	0.00025	0	0.0002	0.0002	ND	ND		
Cadmium	D	mg/L	3	0	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	ND		
Calcium	D	mg/L	3	100	No SLC					26.9	35.5	32.5	35
Chromium	D	mg/L	3	0	ECO Chronic	0.074	0	0.0014	0.0014	ND	ND		
Chromium	D	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.0014	0.0014	ND	ND		
Cobalt	D	mg/L	3	0	ECO Chronic	1.5	0	0.002	0.002	ND	ND		
Cobalt	D	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.002	0.002	ND	ND		
Copper	D	mg/L	3	0	HH DW (HQ=1)	1.4	0	0.0024	0.0024	ND	ND		
Copper	D	mg/L	3	0	ECO Chronic	0.009	0	0.0024	0.0024	ND	ND		
Hardness	D	mg/L	3	100	No SLC					84.9	112	103	111
Iron	D	mg/L	3	66.7	HH DW (HQ=1)	11	0	0.039	0.039	ND	0.21	0.1	0.078
Lead	D	mg/L	3	33.3	ECO Chronic	0.0025	0	0.0001	0.0001	ND	0.0003		
Lead	D	mg/L	3	33.3	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	0.0003		
Magnesium	D	mg/L	3	100	No SLC					4.3	5.7	5.2	5.7
Manganese	D	mg/L	3	100	ECO Chronic	1.7	0			0.0096	0.1	0.051	0.039

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-11

Surface Water Summer 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.0096	0.1	0.051	0.039
Mercury	D	mg/L	3	0	ECO Chronic	0.00077	0	0.0001	0.00016	ND	ND		
Mercury	D	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.0001	0.00016	ND	ND		
Molybdenum	D	mg/L	3	33.3	HH DW (HQ=1)	0.18	0	0.0017	0.0017	ND	0.002		
Molybdenum	D	mg/L	3	33.3	ECO Chronic	2.2	0	0.0017	0.0017	ND	0.002		
Nickel	D	mg/L	3	0	ECO Chronic	0.052	0	0.0021	0.0021	ND	ND		
Nickel	D	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.0021	0.0021	ND	ND		
Potassium	D	mg/L	3	100	No SLC					1.3	2.3	1.7	1.6
Selenium	D	mg/L	3	0	ECO Chronic	0.046	0	0.0008	0.0008	ND	ND		
Selenium	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	ND		
Silver	D	mg/L	3	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	3	100	No SLC					4.7	6.2	5.5	5.5
Thallium	D	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	3	33.3	ECO Chronic	0.019	0	0.0002	0.0002	ND	0.0011		
Vanadium	D	mg/L	3	33.3	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	0.0011		
Zinc	D	mg/L	3	0	ECO Chronic	0.12	0	0.0066	0.014	ND	ND		
Zinc	D	mg/L	3	0	HH DW (HQ=1)	11	0	0.0066	0.014	ND	ND		
Aluminum	T	mg/L	3	0	ECO Chronic	0.087	0	0.034	0.081	ND	ND		
Aluminum	T	mg/L	3	0	HH DW (HQ=1)	37	0	0.034	0.081	ND	ND		
Antimony	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Arsenic	T	mg/L	3	66.7	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00044	0.00026	0.00025
Barium	T	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.027	0.037	0.033	0.035
Beryllium	T	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	ND		
Boron	T	mg/L	3	66.7	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	0.0065	0.0047	0.0051
Cadmium	T	mg/L	3	0	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	ND		
Calcium	T	mg/L	3	100	No SLC					27.2	36.2	32.7	34.6
Chromium	T	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.0014	0.0014	ND	ND		
Cobalt	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.002	0.002	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-11

Surface Water Summer 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	3	0	HH DW (HQ=1)	1.4	0	0.0024	0.0024	ND	ND		
Hardness	T	mg/L	3	100	No SLC					86	115	104	110
Iron	T	mg/L	3	66.7	ECO Chronic	1	0	0.067	0.067	ND	0.46	0.22	0.18
Iron	T	mg/L	3	66.7	HH DW (HQ=1)	11	0	0.067	0.067	ND	0.46	0.22	0.18
Lead	T	mg/L	3	66.7	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	0.00038	0.00018	0.00012
Magnesium	T	mg/L	3	100	No SLC					4.4	5.9	5.3	5.6
Manganese	T	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.011	0.12	0.059	0.043
Mercury	T	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.00013	0.00016	ND	ND		
Molybdenum	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0017	0.0017	ND	ND		
Nickel	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.0021	0.0021	ND	ND		
Potassium	T	mg/L	3	100	No SLC					1.3	2.3	1.8	1.7
Selenium	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	ND		
Silver	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	3	100	No SLC					4.2	6.3	5.3	5.5
Thallium	T	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	3	0	HH DW (HQ=1)	0.037	0	0.0002	0.0002	ND	ND		
Zinc	T	mg/L	3	0	HH DW (HQ=1)	11	0	0.0051	0.011	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-12

Surface Water Fall 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	4	NA	No SLC					8.2	10.1	9	8.9
Eh	T	millivolts	4	NA	No SLC					250	502	333	291
Flow	T	cfs	4	NA	No SLC					1	1.6	1.3	1.3
pH	T	SU	4	NA	No SLC					6.6	7.8	7.1	7.1
Specific Conductance	T	uS/cm	4	NA	No SLC					171	193	180	179
Temperature	T	Celsius	4	NA	No SLC					8.6	15.4	12.9	13.8
Turbidity	T	NTU	4	NA	No SLC					1.3	27.3	10.5	6.7
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	4	100	No SLC					54.5	55.8	55.1	55.1
Biochemical Oxygen Demand	T	mg/L	4	50	No SLC			1.4	1.4	ND	1.5	1.1	1
Carbonate (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	4	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	4	25	ECO Chronic	230	0	0.57	0.62	ND	1.6		
Chloride	T	mg/L	4	25	HH DW (HQ=1)	250	0	0.57	0.62	ND	1.6		
Cyanide	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	4	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	4	100	HH DW (HQ=1)	2.2	0			0.32	0.39	0.35	0.34
Hydroxide (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	4	25	HH DW (HQ=1)	10	0	0.2	0.2	ND	0.29		
Nitrite	T	mg/L	4	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	4	100	No SLC					6.4	8.3	7.5	7.6
Phosphate, Ortho As P	T	mg/L	4	25	No SLC			0.01	0.01	ND	0.87		
Phosphorus	T	mg/L	4	0	No SLC			0.01	0.01	ND	ND		
Specific Conductance	T	umhos/cm	4	100	No SLC					146	154	150	150
Sulfate	T	mg/L	4	100	HH DW (HQ=1)	1500	0			26.7	35.9	32.7	34.1
Total Alkalinity	T	mg/L	4	100	No SLC					54.5	55.8	55.1	55.1
Total Dissolved Solids	T	mg/L	4	100	No SLC					84	138	112	113
Total Kjeldahl Nitrogen	T	mg/L	4	0	No SLC			0.24	0.34	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-12

Surface Water Fall 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	4	100	No SLC					1.4	2.4	1.8	1.6
Total Suspended Solids	T	mg/L	4	50	No SLC			0.5	0.5	ND	0.9	0.52	0.47
Metals													
Aluminum	D	mg/L	4	0	HH DW (HQ=1)	37	0	0.0053	0.0088	ND	ND		
Antimony	D	mg/L	4	25	HH DW (HQ=1)	0.015	0	0.0002	0.00087	ND	0.0028		
Antimony	D	mg/L	4	25	ECO Chronic	0.69	0	0.0002	0.00087	ND	0.0028		
Arsenic	D	mg/L	4	0	ECO Chronic	0.15	0	0.00038	0.00038	ND	ND		
Arsenic	D	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Barium	D	mg/L	4	100	ECO Chronic	0.004	100			0.017	0.02	0.018	0.018
Barium	D	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.017	0.02	0.018	0.018
Beryllium	D	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Beryllium	D	mg/L	4	0	ECO Chronic	0.0053	0	0.00047	0.00047	ND	ND		
Boron	D	mg/L	4	25	ECO Chronic	0.0016	100	0.0048	0.0048	ND	0.005		
Boron	D	mg/L	4	25	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	0.005		
Cadmium	D	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.00008	0.00008	ND	ND		
Cadmium	D	mg/L	4	0	ECO Chronic	0.00025	0	0.00008	0.00008	ND	ND		
Calcium	D	mg/L	4	100	No SLC					24.4	26.9	25.6	25.6
Chromium	D	mg/L	4	0	ECO Chronic	0.074	0	0.001	0.001	ND	ND		
Chromium	D	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	D	mg/L	4	0	ECO Chronic	1.5	0	0.0011	0.0011	ND	ND		
Cobalt	D	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	ND		
Copper	D	mg/L	4	0	ECO Chronic	0.009	0	0.00047	0.00075	ND	ND		
Copper	D	mg/L	4	0	HH DW (HQ=1)	1.4	0	0.00047	0.00075	ND	ND		
Hardness	D	mg/L	3	100	No SLC					76.7	84.4	80.9	81.5
Iron	D	mg/L	4	0	HH DW (HQ=1)	11	0	0.044	0.044	ND	ND		
Lead	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.00004	0.00005	ND	ND		
Lead	D	mg/L	4	0	ECO Chronic	0.0025	0	0.00004	0.00005	ND	ND		
Magnesium	D	mg/L	4	100	No SLC					3.8	4.2	4.1	4.1
Manganese	D	mg/L	4	25	ECO Chronic	1.7	0	0.0018	0.0068	ND	0.0099		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-12

Surface Water Fall 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	4	25	HH DW (HQ=1)	1.7	0	0.0018	0.0068	ND	0.0099		
Mercury	D	mg/L	4	0	ECO Chronic	0.00077	0	0.00006	0.00006	ND	ND		
Mercury	D	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	ND		
Molybdenum	D	mg/L	4	25	ECO Chronic	2.2	0	0.00087	0.00097	ND	0.0025		
Molybdenum	D	mg/L	4	25	HH DW (HQ=1)	0.18	0	0.00087	0.00097	ND	0.0025		
Nickel	D	mg/L	4	50	HH DW (HQ=1)	0.73	0	0.001	0.0011	ND	0.0011	0.00078	0.00075
Nickel	D	mg/L	4	50	ECO Chronic	0.052	0	0.001	0.0011	ND	0.0011	0.00078	0.00075
Potassium	D	mg/L	4	50	No SLC			0.94	0.95	ND	1.2	0.8	0.79
Selenium	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Selenium	D	mg/L	4	0	ECO Chronic	0.046	0	0.00073	0.00073	ND	ND		
Silver	D	mg/L	4	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	4	100	No SLC					3.6	4.1	3.9	4
Thallium	D	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	D	mg/L	4	0	ECO Chronic	0.019	0	0.00041	0.00075	ND	ND		
Vanadium	D	mg/L	4	0	HH DW (HQ=1)	0.26	0	0.00041	0.00075	ND	ND		
Zinc	D	mg/L	4	0	ECO Chronic	0.12	0	0.013	0.013	ND	ND		
Zinc	D	mg/L	4	0	HH DW (HQ=1)	11	0	0.013	0.013	ND	ND		
Aluminum	T	mg/L	4	50	ECO Chronic	0.087	0	0.016	0.017	ND	0.03	0.016	0.013
Aluminum	T	mg/L	4	50	HH DW (HQ=1)	37	0	0.016	0.017	ND	0.03	0.016	0.013
Antimony	T	mg/L	4	25	HH DW (HQ=1)	0.015	0	0.00021	0.0006	ND	0.0024		
Arsenic	T	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Barium	T	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.017	0.019	0.018	0.018
Beryllium	T	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Boron	T	mg/L	4	50	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	0.0056	0.0039	0.0038
Cadmium	T	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.00008	0.00008	ND	ND		
Calcium	T	mg/L	4	100	No SLC					24.9	26.5	26	26.3
Chromium	T	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-12

Surface Water Fall 2003

RI/FS Reference Lower Cabresto Creek

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	4	0	HH DW (HQ=1)	1.4	0	0.00041	0.00056	ND	ND		
Hardness	T	mg/L	4	100	No SLC					78.3	83.3	81.4	81.9
Iron	T	mg/L	4	50	ECO Chronic	1	0	0.044	0.044	ND	0.068	0.04	0.034
Iron	T	mg/L	4	50	HH DW (HQ=1)	11	0	0.044	0.044	ND	0.068	0.04	0.034
Lead	T	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.00006	0.0001	ND	ND		
Magnesium	T	mg/L	4	100	No SLC					3.9	4.2	4.1	4.1
Manganese	T	mg/L	4	100	HH DW (HQ=1)	1.7	0			0.0014	0.012	0.0056	0.0044
Mercury	T	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	ND		
Molybdenum	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.00088	0.0023	ND	ND		
Nickel	T	mg/L	4	50	HH DW (HQ=1)	0.73	0	0.00084	0.0011	ND	0.00097	0.00071	0.00073
Potassium	T	mg/L	4	50	No SLC			0.92	0.95	ND	1.2	0.81	0.81
Selenium	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	4	100	No SLC					3.7	4.1	3.9	3.9
Thallium	T	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	T	mg/L	4	50	HH DW (HQ=1)	0.037	0	0.00061	0.00073	ND	0.00038	0.00036	0.00037
Zinc	T	mg/L	4	25	HH DW (HQ=1)	11	0	0.013	0.013	ND	0.017		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-13

Surface Water Fall 2002

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Explosives													
2,4,6-Trinitrotoluene	T	mg/L	9	0	HH DW (HQ=1)	0.0022	0	0.00025	0.00025	ND	ND		
Cyclotetramethylenetetranitramine	T	mg/L	9	0	No SLC			0.00025	0.00025	ND	ND		
Cyclotrimethylenetrinitramine	T	mg/L	9	0	No SLC			0.00025	0.00025	ND	ND		
Pentaerythritol tetranitrate	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
PYX	T	mg/L	9	0	No SLC			0.00025	0.00025	ND	ND		
Field													
DO	T	mg/L	20	NA	No SLC					7.9	11.1	9.7	9.6
Eh	T	millivolts	23	NA	No SLC					214	393	316	328
Flow	T	cfs	23	NA	No SLC					11.4	22.4	16.7	16.4
pH	T	SU	23	NA	No SLC					6.2	7.8	7	6.8
Specific Conductance	T	uS/cm	23	NA	No SLC					284	494	367	357
Temperature	T	Celsius	23	NA	No SLC					5	15.1	11	10.5
Turbidity	T	NTU	23	NA	No SLC					8.8	41.7	20.9	20.4
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	23	100	No SLC					46.4	75.3	59.2	61.7
Biochemical Oxygen Demand	T	mg/L	23	13	No SLC			1.3	1.5	ND	1.8		
Carbonate (as CaCO3)	T	mg/L	23	0	No SLC			1	2	ND	ND		
Chemical Oxygen Demand	T	mg/L	23	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	23	100	ECO Chronic	230	0			2.8	5.1	3.7	3.6
Chloride	T	mg/L	23	100	HH DW (HQ=1)	250	0			2.8	5.1	3.7	3.6
Cyanide	T	mg/L	23	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	23	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	23	69.6	HH DW (HQ=1)	2.2	0	0.25	0.39	ND	1.1	0.55	0.67
Hydroxide (as CaCO3)	T	mg/L	23	0	No SLC			1	2	ND	ND		
Nitrate	T	mg/L	23	69.6	HH DW (HQ=1)	10	0	0.2	0.5	ND	0.47	0.29	0.27
Nitrite	T	mg/L	23	21.7	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.006		
Phosphate, Ortho As P	T	mg/L	23	13	No SLC			0.01	0.01	ND	0.018		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-13
Surface Water Fall 2002
RI/FS Surface Water Along Red River
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Phosphorus	T	mg/L	23	47.8	No SLC			0.043	0.22	ND	0.4		
Sulfate	T	mg/L	23	100	HH DW (HQ=1)	1500	0			73.8	171	126	133
Total Alkalinity	T	mg/L	23	100	No SLC					46.4	75.3	59.2	61.7
Total Dissolved Solids	T	mg/L	23	100	No SLC					182	1650	322	255
Total Kjeldahl Nitrogen	T	mg/L	23	4.3	No SLC			0.24	0.24	ND	0.36		
Total Organic Carbon	T	mg/L	23	52.2	No SLC			1	1	ND	1.8	0.87	1
Total Suspended Solids	T	mg/L	23	100	No SLC					14.8	61.2	32.3	30.3
Metals													
Aluminum	D	mg/L	23	91.3	HH DW (HQ=1)	37	0	0.082	0.085	ND	0.63	0.15	0.13
Antimony	D	mg/L	23	8.7	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	0.00055		
Antimony	D	mg/L	23	8.7	ECO Chronic	0.69	0	0.0002	0.0002	ND	0.00055		
Arsenic	D	mg/L	23	8.7	ECO Chronic	0.15	0	0.0002	0.0002	ND	0.00026		
Arsenic	D	mg/L	23	8.7	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00026		
Barium	D	mg/L	23	100	ECO Chronic	0.004	100			0.026	0.04	0.03	0.03
Barium	D	mg/L	23	100	HH DW (HQ=1)	2.6	0			0.026	0.04	0.03	0.03
Beryllium	D	mg/L	23	0	ECO Chronic	0.0053	0	0.0002	0.0003	ND	ND		
Beryllium	D	mg/L	23	0	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	ND		
Boron	D	mg/L	23	0	ECO Chronic	0.0016	0	0.0048	0.014	ND	ND		
Boron	D	mg/L	23	0	HH DW (HQ=1)	3.3	0	0.0048	0.014	ND	ND		
Cadmium	D	mg/L	23	91.3	ECO Chronic	0.00025	47.6	0.0001	0.0001	ND	0.00047	0.00026	0.00024
Cadmium	D	mg/L	23	91.3	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	0.00047	0.00026	0.00024
Calcium	D	mg/L	23	100	No SLC					40.7	73.5	54.6	54.8
Chromium	D	mg/L	23	8.7	ECO Chronic	0.074	0	0.00034	0.0046	ND	0.0025		
Chromium	D	mg/L	23	8.7	HH DW (HQ=1)	0.1	0	0.00034	0.0046	ND	0.0025		
Chromium, Hexavalent	D	mg/L	13	0	ECO Chronic	0.011	0	0.01	0.01	ND	ND		
Chromium, Hexavalent	D	mg/L	13	0	HH DW (HQ=1)	0.11	0	0.01	0.01	ND	ND		
Cobalt	D	mg/L	23	56.5	ECO Chronic	1.5	0	0.0018	0.0022	ND	0.0041	0.0021	0.0021
Cobalt	D	mg/L	23	56.5	HH DW (HQ=1)	0.73	0	0.0018	0.0022	ND	0.0041	0.0021	0.0021
Copper	D	mg/L	23	87	HH DW (HQ=1)	1.4	0	0.0023	0.0031	ND	0.0055	0.0027	0.0027

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
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"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-13

Surface Water Fall 2002

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	D	mg/L	23	87	ECO Chronic	0.009	0	0.0023	0.0031	ND	0.0055	0.0027	0.0027
Hardness	D	mg/L	23	100	No SLC					135	243	182	184
Iron	D	mg/L	23	8.7	HH DW (HQ=1)	11	0	0.023	0.046	ND	0.56		
Lead	D	mg/L	23	0	ECO Chronic	0.0025	0	0.0001	0.0014	ND	ND		
Lead	D	mg/L	23	0	HH DW (HQ=1)	0.015	0	0.0001	0.0014	ND	ND		
Magnesium	D	mg/L	23	100	No SLC					8.1	14.4	11.2	11.4
Manganese	D	mg/L	23	100	ECO Chronic	1.7	0			0.13	0.47	0.27	0.25
Manganese	D	mg/L	23	100	HH DW (HQ=1)	1.7	0			0.13	0.47	0.27	0.25
Mercury	D	mg/L	23	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	23	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	23	100	HH DW (HQ=1)	0.18	0			0.0011	0.065	0.012	0.0024
Molybdenum	D	mg/L	23	100	ECO Chronic	2.2	0			0.0011	0.065	0.012	0.0024
Nickel	D	mg/L	23	100	ECO Chronic	0.052	0			0.0034	0.015	0.0084	0.008
Nickel	D	mg/L	23	100	HH DW (HQ=1)	0.73	0			0.0034	0.015	0.0084	0.008
Potassium	D	mg/L	23	100	No SLC					1.3	2	1.6	1.6
Selenium	D	mg/L	23	30.4	ECO Chronic	0.046	0	0.0002	0.0002	ND	0.00049		
Selenium	D	mg/L	23	30.4	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.00049		
Silver	D	mg/L	23	0	ECO Chronic	0.00032	0	0.0001	0.0059	ND	ND		
Silver	D	mg/L	23	0	HH DW (HQ=1)	0.18	0	0.0001	0.0059	ND	ND		
Sodium	D	mg/L	23	100	No SLC					4.7	14	6.9	5.9
Thallium	D	mg/L	23	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	23	43.5	ECO Chronic	0.019	0	0.0001	0.0001	ND	0.00049		
Vanadium	D	mg/L	23	43.5	HH DW (HQ=1)	0.26	0	0.0001	0.0001	ND	0.00049		
Zinc	D	mg/L	23	78.3	ECO Chronic	0.12	0	0.0069	0.02	ND	0.074	0.029	0.028
Zinc	D	mg/L	23	78.3	HH DW (HQ=1)	11	0	0.0069	0.02	ND	0.074	0.029	0.028
Aluminum	T	mg/L	23	100	ECO Chronic	0.087	100			0.71	2.8	1.6	1.5
Aluminum	T	mg/L	23	100	HH DW (HQ=1)	37	0			0.71	2.8	1.6	1.5
Antimony	T	mg/L	23	0	HH DW (HQ=1)	0.015	0	0.0002	0.00024	ND	ND		
Arsenic	T	mg/L	23	65.2	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00041	0.0002	0.00021

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"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-13

Surface Water Fall 2002

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Barium	T	mg/L	23	100	HH DW (HQ=1)	2.6	0			0.032	0.06	0.042	0.041
Beryllium	T	mg/L	23	56.5	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	0.00051	0.00023	0.00026
Boron	T	mg/L	23	0	HH DW (HQ=1)	3.3	0	0.0048	0.018	ND	ND		
Cadmium	T	mg/L	23	100	HH DW (HQ=1)	0.018	0			0.00017	0.0006	0.00036	0.00033
Calcium	T	mg/L	23	100	No SLC					41.2	70.4	54.1	55.3
Chromium	T	mg/L	23	21.7	HH DW (HQ=1)	0.1	0	0.00065	0.0046	ND	0.0022		
Cobalt	T	mg/L	23	65.2	HH DW (HQ=1)	0.73	0	0.0022	0.0022	ND	0.0045	0.0026	0.0027
Copper	T	mg/L	23	100	HH DW (HQ=1)	1.4	0			0.0083	0.022	0.014	0.013
Hardness	T	mg/L	23	100	No SLC					137	233	181	185
Iron	T	mg/L	23	100	ECO Chronic	1	30.4			0.45	2.3	0.97	0.74
Iron	T	mg/L	23	100	HH DW (HQ=1)	11	0			0.45	2.3	0.97	0.74
Lead	T	mg/L	23	91.3	HH DW (HQ=1)	0.015	0	0.0013	0.0014	ND	0.0048	0.0014	0.0011
Magnesium	T	mg/L	23	100	No SLC					8.3	13.9	11.1	11.3
Manganese	T	mg/L	23	100	HH DW (HQ=1)	1.7	0			0.15	0.47	0.29	0.29
Mercury	T	mg/L	23	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	23	95.7	HH DW (HQ=1)	0.18	0	0.00094	0.00094	ND	0.058	0.011	0.0017
Nickel	T	mg/L	23	100	HH DW (HQ=1)	0.73	0			0.0047	0.016	0.01	0.0091
Potassium	T	mg/L	23	100	No SLC					1.4	2.5	1.8	1.6
Selenium	T	mg/L	23	78.3	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.00044	0.00027	0.0003
Silver	T	mg/L	23	0	HH DW (HQ=1)	0.18	0	0.0001	0.0059	ND	ND		
Sodium	T	mg/L	23	100	No SLC					4.8	13.7	6.9	5.8
Thallium	T	mg/L	23	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	23	100	HH DW (HQ=1)	0.037	0			0.00027	0.00096	0.00045	0.00038
Zinc	T	mg/L	23	95.7	HH DW (HQ=1)	11	0	0.042	0.042	ND	0.12	0.066	0.058
Semi-Volatile Organics													
1,1`-Biphenyl	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2,4,5-Trichlorophenol	T	mg/L	9	0	No SLC			0.025	0.026	ND	ND		
2,4,6-Trichlorophenol	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2,4-Dichlorophenol	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-13

Surface Water Fall 2002

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
2,4-Dimethylphenol	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2,4-Dinitrophenol	T	mg/L	9	0	No SLC			0.025	0.026	ND	ND		
2,4-Dinitrotoluene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2,6-Dinitrotoluene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2-Chloronaphthalene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2-Chlorophenol	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2-Methylnaphthalene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2-Methylphenol	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2-Nitroaniline	T	mg/L	9	0	No SLC			0.025	0.026	ND	ND		
2-Nitrophenol	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
3,3-Dichlorobenzidine	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
3-Nitroaniline	T	mg/L	9	0	No SLC			0.025	0.026	ND	ND		
4,6-Dinitro-2-methylphenol	T	mg/L	9	0	No SLC			0.025	0.026	ND	ND		
4-Bromophenyl phenyl ether	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
4-Chloro-3-methylphenol	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
4-Chloroaniline	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
4-Chlorophenyl phenyl ether	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
4-Methylphenol	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
4-Nitroaniline	T	mg/L	9	0	No SLC			0.025	0.026	ND	ND		
4-Nitrophenol	T	mg/L	9	0	No SLC			0.025	0.026	ND	ND		
Acenaphthene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Acenaphthylene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Anthracene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Benzo(a)anthracene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Benzo(a)pyrene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Benzo(b)fluoranthene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Benzo(g,h,i)perylene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Benzo(k)fluoranthene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Bis(2-chloroethoxy)methane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-13

Surface Water Fall 2002

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Bis(2-chloroethyl)ether	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Carbazole	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Chrysene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Dibenz(a,h)anthracene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Dibenzofuran	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Dichlorodiisopropyl ether	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Fluoranthene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Fluorene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Hexachlorobenzene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Hexachlorobutadiene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Hexachlorocyclopentadiene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Hexachloroethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Indeno(1,2,3-cd)pyrene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Isophorone	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Naphthalene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Nitrobenzene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
N-Nitrosodi-n-propylamine	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
N-Nitrosodiphenylamine	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Pentachlorophenol	T	mg/L	9	0	No SLC			0.025	0.026	ND	ND		
Phenanthrene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Phenol	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Pyrene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Volatile Organics													
1,1,1-Trichloroethane	T	mg/L	9	0	HH DW (HQ=1)	0.84	0	0.01	0.01	ND	ND		
1,1,2,2-Tetrachloroethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,1,2-Trichloro-1,2,2-trifluoroethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,1,2-Trichloroethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,1-Dichloroethane	T	mg/L	9	0	HH DW (HQ=1)	0.81	0	0.01	0.01	ND	ND		
1,1-Dichloroethene	T	mg/L	9	0	HH DW (HQ=1)	0.34	0	0.01	0.01	ND	ND		

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"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-13

Surface Water Fall 2002

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
1,2,4-Trichlorobenzene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,2-Dibromo-3-chloropropane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichlorobenzene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloroethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloroethene (total)	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloropropane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,3-Dichlorobenzene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
1,4-Dichlorobenzene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
2-Butanone	T	mg/L	9	0	HH DW (HQ=1)	7.1	0	0.01	0.01	ND	ND		
2-Hexanone	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
4-Methyl-2-pentanone	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Benzene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Bromodichloromethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Bromoform	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Bromomethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Carbon tetrachloride	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Chlorobenzene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Chloroethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Chloroform	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Chloromethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
cis-1,2-Dichloroethene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
cis-1,3-Dichloropropene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Dibromochloromethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Dichlorodifluoromethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Ethylbenzene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Styrene	T	mg/L	9	11.1	No SLC			0.01	0.01	ND	0.001		
Tetrachloroethene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Toluene	T	mg/L	9	0	HH DW (HQ=1)	0.72	0	0.01	0.01	ND	ND		
Total Xylene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-13

Surface Water Fall 2002

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
trans-1,2-Dichloroethene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
trans-1,3-Dichloropropene	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Trichloroethene	T	mg/L	9	0	HH DW (HQ=1)	0.000028	0	0.01	0.01	ND	ND		
Trichlorofluoromethane	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		
Vinyl chloride	T	mg/L	9	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-14

Surface Water Spring 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	20	NA	No SLC					7.3	12.9	10.3	10.3
EH	T	millivolts	24	NA	No SLC					-95.2	403	261	272
Flow	T	cfs	24	NA	No SLC					1.1	17.3	11.1	11.6
pH	T	SU	24	NA	No SLC					6.5	8.2	7.1	7
Specific Conductance	T	uS/cm	24	NA	No SLC					141	811	443	439
Temperature	T	Celsius	24	NA	No SLC					1.1	16	5.5	4.8
Turbidity	T	NTU	24	NA	No SLC					1	96.5	47.8	45.1
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	24	100	No SLC					42.7	84.2	54.9	58
Biochemical Oxygen Demand	T	mg/L	24	8.3	No SLC			1.4	1.5	ND	1.8		
Carbonate (as CaCO3)	T	mg/L	24	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	24	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	24	100	HH DW (HQ=1)	250	0			5.1	8.5	6.3	6.2
Chloride	T	mg/L	24	100	ECO Chronic	230	0			5.1	8.5	6.3	6.2
Cyanide	T	mg/L	24	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	24	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	24	100	HH DW (HQ=1)	2.2	0			0.39	1.1	0.83	0.96
Hydroxide (as CaCO3)	T	mg/L	24	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	24	100	HH DW (HQ=1)	10	0			0.51	0.82	0.63	0.62
Nitrite	T	mg/L	24	95.8	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.023	0.01	0.009
pH	T	SU	24	100	No SLC					7	8	7.5	7.5
Phosphate, Ortho As P	T	mg/L	24	50	No SLC			0.01	0.01	ND	0.99	0.13	0.011
Phosphorus	T	mg/L	24	70.8	No SLC			0.022	0.038	ND	0.13	0.053	0.044
Specific Conductance	T	umhos/cm	24	100	No SLC					266	472	352	358
Sulfate	T	mg/L	24	100	HH DW (HQ=1)	1500	0			62.3	192	135	144
Total Alkalinity	T	mg/L	24	100	No SLC					42.7	84.2	54.9	58
Total Dissolved Solids	T	mg/L	24	100	No SLC					188	398	255	260
Total Kjeldahl Nitrogen	T	mg/L	24	16.7	No SLC			0.24	0.24	ND	0.47		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-14

Surface Water Spring 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	24	91.7	No SLC			1	1	ND	3	1.5	1.4
Total Suspended Solids	T	mg/L	24	95.8	No SLC			2	2	ND	27.3	13.7	13.9
Metals													
Aluminum	D	mg/L	24	62.5	HH DW (HQ=1)	37	0	0.063	0.6	ND	0.42	0.13	0.11
Antimony	D	mg/L	24	0	HH DW (HQ=1)	0.015	0	0.0006	0.00066	ND	ND		
Antimony	D	mg/L	24	0	ECO Chronic	0.69	0	0.0006	0.00066	ND	ND		
Arsenic	D	mg/L	24	4.2	HH DW (HQ=1)	0.01	0	0.0002	0.00043	ND	0.0014		
Arsenic	D	mg/L	24	4.2	ECO Chronic	0.15	0	0.0002	0.00043	ND	0.0014		
Barium	D	mg/L	24	100	HH DW (HQ=1)	2.6	0			0.025	0.039	0.035	0.035
Barium	D	mg/L	24	100	ECO Chronic	0.004	100			0.025	0.039	0.035	0.035
Beryllium	D	mg/L	24	4.2	ECO Chronic	0.0053	0	0.0003	0.001	ND	0.0003		
Beryllium	D	mg/L	24	4.2	HH DW (HQ=1)	0.073	0	0.0003	0.001	ND	0.0003		
Boron	D	mg/L	24	41.7	ECO Chronic	0.0016	100	0.0084	0.0084	ND	0.045		
Boron	D	mg/L	24	41.7	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	0.045		
Cadmium	D	mg/L	24	75	HH DW (HQ=1)	0.018	0	0.0002	0.0005	ND	0.00075	0.00041	0.00043
Cadmium	D	mg/L	24	75	ECO Chronic	0.00025	94.4	0.0002	0.0005	ND	0.00075	0.00041	0.00043
Calcium	D	mg/L	24	100	No SLC					30	80.7	57.7	58.9
Chromium	D	mg/L	24	0	ECO Chronic	0.074	0	0.001	0.0025	ND	ND		
Chromium	D	mg/L	24	0	HH DW (HQ=1)	0.1	0	0.001	0.0025	ND	ND		
Cobalt	D	mg/L	24	29.2	ECO Chronic	1.5	0	0.0038	0.0038	ND	0.0052		
Cobalt	D	mg/L	24	29.2	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	0.0052		
Copper	D	mg/L	24	95.8	ECO Chronic	0.009	0	0.0015	0.0015	ND	0.0074	0.0051	0.0052
Copper	D	mg/L	24	95.8	HH DW (HQ=1)	1.4	0	0.0015	0.0015	ND	0.0074	0.0051	0.0052
Hardness	D	mg/L	24	100	No SLC					108	270	198	204
Iron	D	mg/L	24	0	HH DW (HQ=1)	11	0	0.31	0.46	ND	ND		
Lead	D	mg/L	24	4.2	ECO Chronic	0.0025	0	0.0002	0.0002	ND	0.00081		
Lead	D	mg/L	24	4.2	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	0.00081		
Magnesium	D	mg/L	24	100	No SLC					8.1	16.6	13	13.7
Manganese	D	mg/L	24	95.8	HH DW (HQ=1)	1.7	0	0.01	0.01	ND	0.51	0.3	0.29

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-14

Surface Water Spring 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	24	95.8	ECO Chronic	1.7	0	0.01	0.01	ND	0.51	0.3	0.29
Mercury	D	mg/L	24	4.2	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00011		
Mercury	D	mg/L	24	4.2	ECO Chronic	0.00077	0	0.0001	0.0001	ND	0.00011		
Molybdenum	D	mg/L	24	54.2	HH DW (HQ=1)	0.18	0	0.0023	0.0023	ND	0.091	0.015	0.0023
Molybdenum	D	mg/L	24	54.2	ECO Chronic	2.2	0	0.0023	0.0023	ND	0.091	0.015	0.0023
Nickel	D	mg/L	24	95.8	HH DW (HQ=1)	0.73	0	0.003	0.003	ND	0.028	0.017	0.019
Nickel	D	mg/L	24	95.8	ECO Chronic	0.052	0	0.003	0.003	ND	0.028	0.017	0.019
Potassium	D	mg/L	24	100	No SLC					1.4	3.1	1.7	1.6
Selenium	D	mg/L	24	0	ECO Chronic	0.046	0	0.001	0.0045	ND	ND		
Selenium	D	mg/L	24	0	HH DW (HQ=1)	0.18	0	0.001	0.0045	ND	ND		
Silver	D	mg/L	24	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	24	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	24	66.7	No SLC			9.2	18.7	ND	25.4	10.9	8.8
Thallium	D	mg/L	24	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	24	8.3	HH DW (HQ=1)	0.26	0	0.0002	0.0004	ND	0.0068		
Vanadium	D	mg/L	24	8.3	ECO Chronic	0.019	0	0.0002	0.0004	ND	0.0068		
Zinc	D	mg/L	24	62.5	ECO Chronic	0.12	60	0.02	0.049	ND	0.18	0.09	0.11
Zinc	D	mg/L	24	62.5	HH DW (HQ=1)	11	0	0.02	0.049	ND	0.18	0.09	0.11
Aluminum	T	mg/L	24	37.5	ECO Chronic	0.087	100	0.5	3.5	ND	2.4		
Aluminum	T	mg/L	24	37.5	HH DW (HQ=1)	37	0	0.5	3.5	ND	2.4		
Antimony	T	mg/L	24	4.2	HH DW (HQ=1)	0.015	0	0.0006	0.0018	ND	0.00072		
Arsenic	T	mg/L	24	0	HH DW (HQ=1)	0.01	0	0.0004	0.0013	ND	ND		
Barium	T	mg/L	24	100	HH DW (HQ=1)	2.6	0			0.026	0.049	0.04	0.04
Beryllium	T	mg/L	24	25	HH DW (HQ=1)	0.073	0	0.0003	0.0016	ND	0.00086		
Boron	T	mg/L	24	37.5	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	0.045		
Cadmium	T	mg/L	24	16.7	HH DW (HQ=1)	0.018	0	0.0005	0.0005	ND	0.00064		
Calcium	T	mg/L	24	100	No SLC					31.1	77.9	57	58.5
Chromium	T	mg/L	24	4.2	HH DW (HQ=1)	0.1	0	0.001	0.0028	ND	0.001		
Cobalt	T	mg/L	24	37.5	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	0.0054		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-14

Surface Water Spring 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	24	95.8	HH DW (HQ=1)	1.4	0	0.0015	0.0015	ND	0.034	0.019	0.019
Hardness	T	mg/L	24	100	No SLC					112	260	195	202
Iron	T	mg/L	24	29.2	ECO Chronic	1	0	0.31	0.98	ND	0.89		
Iron	T	mg/L	24	29.2	HH DW (HQ=1)	11	0	0.31	0.98	ND	0.89		
Lead	T	mg/L	24	95.8	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	0.0025	0.00075	0.00059
Magnesium	T	mg/L	24	100	No SLC					8.5	16	12.9	13.4
Manganese	T	mg/L	24	95.8	HH DW (HQ=1)	1.7	0	0.01	0.01	ND	0.53	0.31	0.3
Mercury	T	mg/L	24	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	24	41.7	HH DW (HQ=1)	0.18	0	0.0023	0.0023	ND	0.088		
Nickel	T	mg/L	24	95.8	HH DW (HQ=1)	0.73	0	0.003	0.003	ND	0.028	0.018	0.019
Potassium	T	mg/L	24	100	No SLC					1.4	3.1	1.7	1.7
Selenium	T	mg/L	24	0	HH DW (HQ=1)	0.18	0	0.001	0.004	ND	ND		
Silver	T	mg/L	24	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	24	70.8	No SLC			9.2	22.1	ND	26.9	11	9.9
Thallium	T	mg/L	24	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	T	mg/L	24	66.7	HH DW (HQ=1)	0.037	0	0.0002	0.0004	ND	0.007	0.0006	0.00023
Zinc	T	mg/L	24	87.5	HH DW (HQ=1)	11	0	0.017	0.097	ND	0.25	0.14	0.15

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-15

Surface Water Summer 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	23	NA	No SLC					1.2	9.1	7.6	8.6
EH	T	millivolts	23	NA	No SLC					25.3	472	222	217
FLOW	T	cfs	24	NA	No SLC					2.6	35.8	21.8	21.6
pH	T	SU	23	NA	No SLC					6.1	8.8	7.4	7.2
Specific Conductance	T	uS/cm	23	NA	No SLC					228	420	317	327
Temperature	T	Celsius	23	NA	No SLC					10.3	18.3	13.6	12.8
Turbidity	T	NTU	23	NA	No SLC					0	32.5	8.7	2.2
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	23	100	No SLC					53	75.4	62.6	61.3
Biochemical Oxygen Demand	T	mg/L	23	0	No SLC			1.5	1.6	ND	ND		
Carbonate (as CaCO3)	T	mg/L	23	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	23	4.3	No SLC			20	20	ND	46.9		
Chloride	T	mg/L	23	100	ECO Chronic	230	0			2.3	4.9	3.2	2.8
Chloride	T	mg/L	23	100	HH DW (HQ=1)	250	0			2.3	4.9	3.2	2.8
Cyanide	T	mg/L	23	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	23	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	23	0	HH DW (HQ=1)	2.2	0	0.1	0.93	ND	ND		
Hydroxide (as CaCO3)	T	mg/L	23	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	23	0	HH DW (HQ=1)	10	0	0.22	1	ND	ND		
Nitrite	T	mg/L	23	4.3	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.0057		
pH	T	SU	23	100	No SLC					6.8	8.4	7.8	7.8
Phosphate, Ortho As P	T	mg/L	23	21.7	No SLC			0.01	0.01	ND	0.46		
Phosphorus	T	mg/L	23	100	No SLC					0.011	0.036	0.022	0.024
Specific Conductance	T	umhos/cm	23	100	No SLC					220	423	320	312
Sulfate	T	mg/L	23	100	HH DW (HQ=1)	1500	0			51.8	153	100	104
Total Alkalinity	T	mg/L	23	100	No SLC					53	75.4	62.6	61.3
Total Dissolved Solids	T	mg/L	23	100	No SLC					118	304	199	200
Total Kjeldahl Nitrogen	T	mg/L	23	0	No SLC			0.24	0.24	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-15

Surface Water Summer 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	23	91.3	No SLC			1	1	ND	2.4	1.5	1.5
Total Suspended Solids	T	mg/L	23	95.7	No SLC			1.5	1.5	ND	10.1	5.1	4.6
Metals													
Aluminum	D	mg/L	23	82.6	HH DW (HQ=1)	37	0	0.044	0.081	ND	0.36	0.18	0.22
Antimony	D	mg/L	23	0	ECO Chronic	0.69	0	0.0005	0.00061	ND	ND		
Antimony	D	mg/L	23	0	HH DW (HQ=1)	0.015	0	0.0005	0.00061	ND	ND		
Arsenic	D	mg/L	23	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	23	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	23	100	HH DW (HQ=1)	2.6	0			0.031	0.037	0.034	0.034
Barium	D	mg/L	23	100	ECO Chronic	0.004	100			0.031	0.037	0.034	0.034
Beryllium	D	mg/L	23	0	HH DW (HQ=1)	0.073	0	0.0002	0.0004	ND	ND		
Beryllium	D	mg/L	23	0	ECO Chronic	0.0053	0	0.0002	0.0004	ND	ND		
Boron	D	mg/L	23	100	ECO Chronic	0.0016	100			0.0056	0.015	0.0082	0.007
Boron	D	mg/L	23	100	HH DW (HQ=1)	3.3	0			0.0056	0.015	0.0082	0.007
Cadmium	D	mg/L	23	73.9	ECO Chronic	0.00025	94.1	0.0002	0.0002	ND	0.00064	0.00036	0.00035
Cadmium	D	mg/L	23	73.9	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.00064	0.00036	0.00035
Calcium	D	mg/L	23	100	No SLC					34	63.4	46	45.7
Chromium	D	mg/L	23	0	ECO Chronic	0.074	0	0.0006	0.0019	ND	ND		
Chromium	D	mg/L	23	0	HH DW (HQ=1)	0.1	0	0.0006	0.0019	ND	ND		
Cobalt	D	mg/L	23	13	ECO Chronic	1.5	0	0.0018	0.0037	ND	0.0027		
Cobalt	D	mg/L	23	13	HH DW (HQ=1)	0.73	0	0.0018	0.0037	ND	0.0027		
Copper	D	mg/L	23	100	ECO Chronic	0.009	0			0.0018	0.0053	0.0036	0.0036
Copper	D	mg/L	23	100	HH DW (HQ=1)	1.4	0			0.0018	0.0053	0.0036	0.0036
Hardness	D	mg/L	23	100	No SLC					112	209	154	154
Iron	D	mg/L	23	8.7	HH DW (HQ=1)	11	0	0.017	0.067	ND	0.077		
Lead	D	mg/L	23	4.3	ECO Chronic	0.0025	0	0.0001	0.00015	ND	0.00014		
Lead	D	mg/L	23	4.3	HH DW (HQ=1)	0.015	0	0.0001	0.00015	ND	0.00014		
Magnesium	D	mg/L	23	100	No SLC					6.5	12.2	9.4	9.8
Manganese	D	mg/L	23	100	ECO Chronic	1.7	0			0.064	0.27	0.15	0.14

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-15

Surface Water Summer 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	23	100	HH DW (HQ=1)	1.7	0			0.064	0.27	0.15	0.14
Mercury	D	mg/L	23	17.4	ECO Chronic	0.00077	0	0.0001	0.0002	ND	0.00018		
Mercury	D	mg/L	23	17.4	HH DW (HQ=1)	0.011	0	0.0001	0.0002	ND	0.00018		
Molybdenum	D	mg/L	23	95.7	ECO Chronic	2.2	0	0.0017	0.0017	ND	0.061	0.012	0.0022
Molybdenum	D	mg/L	23	95.7	HH DW (HQ=1)	0.18	0	0.0017	0.0017	ND	0.061	0.012	0.0022
Nickel	D	mg/L	23	100	HH DW (HQ=1)	0.73	0			0.0033	0.02	0.012	0.01
Nickel	D	mg/L	23	100	ECO Chronic	0.052	0			0.0033	0.02	0.012	0.01
Potassium	D	mg/L	23	100	No SLC					1	1.8	1.4	1.3
Selenium	D	mg/L	23	0	ECO Chronic	0.046	0	0.0008	0.0016	ND	ND		
Selenium	D	mg/L	23	0	HH DW (HQ=1)	0.18	0	0.0008	0.0016	ND	ND		
Silver	D	mg/L	23	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	23	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	23	100	No SLC					3.9	13.2	6.4	5.2
Thallium	D	mg/L	23	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	23	30.4	HH DW (HQ=1)	0.26	0	0.0002	0.00079	ND	0.0005		
Vanadium	D	mg/L	23	30.4	ECO Chronic	0.019	0	0.0002	0.00079	ND	0.0005		
Zinc	D	mg/L	23	78.3	ECO Chronic	0.12	0	0.0067	0.02	ND	0.11	0.061	0.058
Zinc	D	mg/L	23	78.3	HH DW (HQ=1)	11	0	0.0067	0.02	ND	0.11	0.061	0.058
Aluminum	T	mg/L	23	95.7	ECO Chronic	0.087	100	0.22	0.22	ND	1.3	0.64	0.5
Aluminum	T	mg/L	23	95.7	HH DW (HQ=1)	37	0	0.22	0.22	ND	1.3	0.64	0.5
Antimony	T	mg/L	23	0	HH DW (HQ=1)	0.015	0	0.0005	0.0021	ND	ND		
Arsenic	T	mg/L	23	4.3	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00035		
Barium	T	mg/L	23	100	HH DW (HQ=1)	2.6	0			0.032	0.039	0.036	0.036
Beryllium	T	mg/L	23	21.7	HH DW (HQ=1)	0.073	0	0.0002	0.00046	ND	0.00053		
Boron	T	mg/L	23	100	HH DW (HQ=1)	3.3	0			0.0056	0.014	0.0079	0.0063
Cadmium	T	mg/L	23	73.9	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.00072	0.0004	0.00038
Calcium	T	mg/L	23	100	No SLC					33.7	62.8	45.8	44.6
Chromium	T	mg/L	23	0	HH DW (HQ=1)	0.1	0	0.0006	0.0019	ND	ND		
Cobalt	T	mg/L	23	13	HH DW (HQ=1)	0.73	0	0.0018	0.0037	ND	0.0024		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-15

Surface Water Summer 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	23	95.7	HH DW (HQ=1)	1.4	0	0.0076	0.0076	ND	0.015	0.0079	0.0067
Hardness	T	mg/L	23	100	No SLC					110	206	153	151
Iron	T	mg/L	23	87	ECO Chronic	1	0	0.03	0.11	ND	0.26	0.14	0.12
Iron	T	mg/L	23	87	HH DW (HQ=1)	11	0	0.03	0.11	ND	0.26	0.14	0.12
Lead	T	mg/L	23	87	HH DW (HQ=1)	0.015	0	0.00033	0.00043	ND	0.0017	0.00033	0.00024
Magnesium	T	mg/L	23	100	No SLC					6.4	12	9.4	9.6
Manganese	T	mg/L	23	100	HH DW (HQ=1)	1.7	0			0.066	0.29	0.15	0.14
Mercury	T	mg/L	23	17.4	HH DW (HQ=1)	0.011	0	0.0001	0.00021	ND	0.00019		
Molybdenum	T	mg/L	23	95.7	HH DW (HQ=1)	0.18	0	0.0017	0.0017	ND	0.059	0.012	0.0023
Nickel	T	mg/L	23	100	HH DW (HQ=1)	0.73	0			0.0037	0.021	0.012	0.011
Potassium	T	mg/L	23	100	No SLC					0.94	1.8	1.3	1.3
Selenium	T	mg/L	23	0	HH DW (HQ=1)	0.18	0	0.0008	0.0016	ND	ND		
Silver	T	mg/L	23	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	23	100	No SLC					4	13.2	6.4	5.1
Thallium	T	mg/L	23	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	23	39.1	HH DW (HQ=1)	0.037	0	0.0002	0.0014	ND	0.00052		
Zinc	T	mg/L	23	91.3	HH DW (HQ=1)	11	0	0.019	0.03	ND	0.16	0.086	0.078

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-16

Surface Water Fall 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	23	NA	No SLC					8.2	10.9	9.4	9.4
Eh	T	millivolts	23	NA	No SLC					49.2	471	239	232
Flow	T	cfs	24	NA	No SLC					2.3	38.2	20.7	20.1
pH	T	SU	23	NA	No SLC					5.9	7.9	7.3	7.4
Specific Conductance	T	uS/cm	23	NA	No SLC					281	469	342	328
Temperature	T	Celsius	22	NA	No SLC					6.8	13.6	10.1	9.5
Turbidity	T	NTU	23	NA	No SLC					4.1	101	15.1	10.2
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	23	100	No SLC					55.4	75.5	65.1	65.5
Biochemical Oxygen Demand	T	mg/L	23	0	No SLC			1.4	1.4	ND	ND		
Carbonate (as CaCO3)	T	mg/L	23	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	23	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	23	100	ECO Chronic	230	0			2.4	4.1	3.2	3.1
Chloride	T	mg/L	23	100	HH DW (HQ=1)	250	0			2.4	4.1	3.2	3.1
Cyanide	T	mg/L	23	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	23	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	23	100	HH DW (HQ=1)	2.2	0			0.31	0.81	0.61	0.69
Hydroxide (as CaCO3)	T	mg/L	23	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	23	100	HH DW (HQ=1)	10	0			0.31	0.42	0.36	0.36
Nitrite	T	mg/L	23	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	23	100	No SLC					7.5	8.2	7.8	7.8
Phosphate, Ortho As P	T	mg/L	23	4.3	No SLC			0.01	0.34	ND	26.7		
Phosphorus	T	mg/L	23	100	No SLC					0.021	0.039	0.028	0.028
Specific Conductance	T	umhos/cm	23	100	No SLC					242	399	313	318
Sulfate	T	mg/L	23	100	HH DW (HQ=1)	1500	0			51.5	126	93	95.1
Total Alkalinity	T	mg/L	23	100	No SLC					55.4	75.5	65.1	65.5
Total Dissolved Solids	T	mg/L	23	100	No SLC					166	314	222	224
Total Kjeldahl Nitrogen	T	mg/L	23	0	No SLC			0.24	0.6	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-16

Surface Water Fall 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	23	47.8	No SLC			1	1	ND	2		
Total Suspended Solids	T	mg/L	23	100	No SLC					6.7	16.6	11.1	11
Metals													
Aluminum	D	mg/L	24	95.8	HH DW (HQ=1)	37	0	0.018	0.018	ND	0.34	0.18	0.16
Antimony	D	mg/L	24	0	ECO Chronic	0.69	0	0.00011	0.0024	ND	ND		
Antimony	D	mg/L	24	0	HH DW (HQ=1)	0.015	0	0.00011	0.0024	ND	ND		
Arsenic	D	mg/L	24	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Arsenic	D	mg/L	24	0	ECO Chronic	0.15	0	0.00038	0.00038	ND	ND		
Barium	D	mg/L	24	100	HH DW (HQ=1)	2.6	0			0.013	0.04	0.035	0.036
Barium	D	mg/L	24	100	ECO Chronic	0.004	100			0.013	0.04	0.035	0.036
Beryllium	D	mg/L	24	0	ECO Chronic	0.0053	0	0.00047	0.00047	ND	ND		
Beryllium	D	mg/L	24	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Boron	D	mg/L	24	16.7	ECO Chronic	0.0016	100	0.0048	0.01	ND	0.01		
Boron	D	mg/L	24	16.7	HH DW (HQ=1)	3.3	0	0.0048	0.01	ND	0.01		
Cadmium	D	mg/L	24	91.7	ECO Chronic	0.00025	72.7	0.00008	0.00034	ND	0.00055	0.00033	0.00036
Cadmium	D	mg/L	24	91.7	HH DW (HQ=1)	0.018	0	0.00008	0.00034	ND	0.00055	0.00033	0.00036
Calcium	D	mg/L	24	100	No SLC					21.2	67.7	47.7	48.3
Chromium	D	mg/L	24	8.3	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	0.0039		
Chromium	D	mg/L	24	8.3	ECO Chronic	0.074	0	0.001	0.001	ND	0.0039		
Cobalt	D	mg/L	24	95.8	ECO Chronic	1.5	0	0.0011	0.0011	ND	0.0046	0.0026	0.0027
Cobalt	D	mg/L	24	95.8	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	0.0046	0.0026	0.0027
Copper	D	mg/L	24	41.7	HH DW (HQ=1)	1.4	0	0.00038	0.0048	ND	0.0037		
Copper	D	mg/L	24	41.7	ECO Chronic	0.009	0	0.00038	0.0048	ND	0.0037		
Hardness	D	mg/L	24	100	No SLC					66	223	158	161
Iron	D	mg/L	24	0	HH DW (HQ=1)	11	0	0.044	0.1	ND	ND		
Lead	D	mg/L	24	16.7	ECO Chronic	0.0025	0	0.00004	0.00006	ND	0.00008		
Lead	D	mg/L	24	16.7	HH DW (HQ=1)	0.015	0	0.00004	0.00006	ND	0.00008		
Magnesium	D	mg/L	24	100	No SLC					3.2	13.1	9.4	9.6
Manganese	D	mg/L	24	95.8	ECO Chronic	1.7	0	0.0013	0.0013	ND	0.29	0.18	0.2

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-16

Surface Water Fall 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	24	95.8	HH DW (HQ=1)	1.7	0	0.0013	0.0013	ND	0.29	0.18	0.2
Mercury	D	mg/L	24	4.2	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	0.00008		
Mercury	D	mg/L	24	4.2	ECO Chronic	0.00077	0	0.00006	0.00006	ND	0.00008		
Molybdenum	D	mg/L	24	58.3	ECO Chronic	2.2	0	0.0009	0.002	ND	0.055	0.0085	0.0022
Molybdenum	D	mg/L	24	58.3	HH DW (HQ=1)	0.18	0	0.0009	0.002	ND	0.055	0.0085	0.0022
Nickel	D	mg/L	24	95.8	ECO Chronic	0.052	0	0.00091	0.00091	ND	0.017	0.011	0.012
Nickel	D	mg/L	24	95.8	HH DW (HQ=1)	0.73	0	0.00091	0.00091	ND	0.017	0.011	0.012
Potassium	D	mg/L	24	95.8	No SLC			0.9	0.9	ND	1.7	1.3	1.2
Selenium	D	mg/L	24	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Selenium	D	mg/L	24	0	ECO Chronic	0.046	0	0.00073	0.00073	ND	ND		
Silver	D	mg/L	24	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	24	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	24	100	No SLC					3	11.2	5.5	4.6
Thallium	D	mg/L	24	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	D	mg/L	24	0	ECO Chronic	0.019	0	0.00028	0.00087	ND	ND		
Vanadium	D	mg/L	24	0	HH DW (HQ=1)	0.26	0	0.00028	0.00087	ND	ND		
Zinc	D	mg/L	24	87.5	ECO Chronic	0.12	0	0.013	0.063	ND	0.085	0.048	0.049
Zinc	D	mg/L	24	87.5	HH DW (HQ=1)	11	0	0.013	0.063	ND	0.085	0.048	0.049
Aluminum	T	mg/L	23	100	HH DW (HQ=1)	37	0			0.51	1.4	0.91	0.89
Aluminum	T	mg/L	23	100	ECO Chronic	0.087	100			0.51	1.4	0.91	0.89
Antimony	T	mg/L	23	4.3	HH DW (HQ=1)	0.015	0	0.00011	0.0013	ND	0.0028		
Arsenic	T	mg/L	23	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Barium	T	mg/L	23	100	HH DW (HQ=1)	2.6	0			0.037	0.049	0.042	0.042
Beryllium	T	mg/L	23	0	HH DW (HQ=1)	0.073	0	0.00047	0.00058	ND	ND		
Boron	T	mg/L	23	13	HH DW (HQ=1)	3.3	0	0.0048	0.013	ND	0.0097		
Cadmium	T	mg/L	23	100	HH DW (HQ=1)	0.018	0			0.00021	0.00064	0.00042	0.00043
Calcium	T	mg/L	23	100	No SLC					39.3	63.6	48.5	48.4
Chromium	T	mg/L	23	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	T	mg/L	23	100	HH DW (HQ=1)	0.73	0			0.0016	0.0039	0.0023	0.0023

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-16

Surface Water Fall 2003

RI/FS Surface Water Along Red River

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	23	91.3	HH DW (HQ=1)	1.4	0	0.0062	0.0067	ND	0.015	0.0095	0.009
Hardness	T	mg/L	23	100	No SLC					128	209	161	160
Iron	T	mg/L	23	100	ECO Chronic	1	0			0.3	0.82	0.49	0.44
Iron	T	mg/L	23	100	HH DW (HQ=1)	11	0			0.3	0.82	0.49	0.44
Lead	T	mg/L	23	95.7	HH DW (HQ=1)	0.015	0	0.00047	0.00047	ND	0.0019	0.001	0.00096
Magnesium	T	mg/L	23	100	No SLC					7.3	12.3	9.6	9.8
Manganese	T	mg/L	23	100	HH DW (HQ=1)	1.7	0			0.11	0.3	0.2	0.22
Mercury	T	mg/L	23	4.3	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	0.00007		
Molybdenum	T	mg/L	23	43.5	HH DW (HQ=1)	0.18	0	0.00094	0.0026	ND	0.051		
Nickel	T	mg/L	23	100	HH DW (HQ=1)	0.73	0			0.0061	0.018	0.013	0.013
Potassium	T	mg/L	23	100	No SLC					1.2	1.8	1.4	1.3
Selenium	T	mg/L	23	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	T	mg/L	23	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	23	100	No SLC					3.8	10.5	5.6	4.7
Thallium	T	mg/L	23	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	T	mg/L	23	56.5	HH DW (HQ=1)	0.037	0	0.00043	0.0011	ND	0.00064	0.00045	0.00048
Zinc	T	mg/L	23	95.7	HH DW (HQ=1)	11	0	0.044	0.044	ND	0.13	0.083	0.087

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-17
Surface Water Fall 2002
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Explosives													
2,4,6-Trinitrotoluene	T	mg/L	1	0	HH DW (HQ=1)	0.0022	0	0.00025	0.00025	ND	ND		
Cyclotetramethylenetetranitramine	T	mg/L	1	0	No SLC			0.00025	0.00025	ND	ND		
Cyclotrimethylenetrinitramine	T	mg/L	1	0	No SLC			0.00025	0.00025	ND	ND		
Pentaerythritol tetranitrate	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
PYX	T	mg/L	1	0	No SLC			0.00025	0.00025	ND	ND		
Field													
DO	T	mg/L	3	NA	No SLC					11.2	12.2	11.6	11.6
Eh	T	millivolts	3	NA	No SLC					144	195	166	160
pH	T	SU	3	NA	No SLC					7.9	8.8	8.5	8.7
Specific Conductance	T	uS/cm	3	NA	No SLC					303	375	327	304
Temperature	T	Celsius	3	NA	No SLC					9.1	9.5	9.3	9.4
Turbidity	T	NTU	3	NA	No SLC					22.7	24.9	24	24.3
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	3	100	No SLC					67.2	75.2	71.2	71.2
Biochemical Oxygen Demand	T	mg/L	3	100	No SLC					2.9	5.4	4	3.7
Carbonate (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	3	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	3	100	HH DW (HQ=1)	250	0			3.4	3.5	3.4	3.4
Chloride	T	mg/L	3	100	ECO Chronic	230	0			3.4	3.5	3.4	3.4
Cyanide	T	mg/L	3	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	3	0	HH DW (HQ=1)	2.2	0	0.32	0.33	ND	ND		
Hydroxide (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	3	0	HH DW (HQ=1)	10	0	0.2	0.2	ND	ND		
Nitrite	T	mg/L	3	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
Phosphate, Ortho As P	T	mg/L	3	0	No SLC			0.01	0.01	ND	ND		
Phosphorus	T	mg/L	3	33.3	No SLC			0.088	0.11	ND	0.15		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-17
Surface Water Fall 2002
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Sulfate	T	mg/L	3	100	HH DW (HQ=1)	1500	0			70.7	80.5	75	73.8
Total Alkalinity	T	mg/L	3	100	No SLC					67.2	75.2	71.2	71.2
Total Dissolved Solids	T	mg/L	3	100	No SLC					181	189	185	184
Total Kjeldahl Nitrogen	T	mg/L	3	33.3	No SLC			0.4	0.51	ND	0.74		
Total Organic Carbon	T	mg/L	3	100	No SLC					1.5	1.9	1.7	1.7
Total Suspended Solids	T	mg/L	3	0	No SLC			12.3	13.2	ND	ND		
Metals													
Aluminum	D	mg/L	3	33.3	HH DW (HQ=1)	37	0	0.069	0.073	ND	0.095		
Antimony	D	mg/L	3	0	ECO Chronic	0.69	0	0.0002	0.0002	ND	ND		
Antimony	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	3	33.3	ECO Chronic	0.15	0	0.0002	0.0002	ND	0.0003		
Arsenic	D	mg/L	3	33.3	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.0003		
Barium	D	mg/L	3	100	ECO Chronic	0.004	100			0.025	0.027	0.026	0.026
Barium	D	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.025	0.027	0.026	0.026
Beryllium	D	mg/L	3	0	ECO Chronic	0.0053	0	0.0002	0.0003	ND	ND		
Beryllium	D	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	ND		
Boron	D	mg/L	3	0	ECO Chronic	0.0016	0	0.005	0.011	ND	ND		
Boron	D	mg/L	3	0	HH DW (HQ=1)	3.3	0	0.005	0.011	ND	ND		
Cadmium	D	mg/L	3	0	ECO Chronic	0.00025	0	0.0001	0.0001	ND	ND		
Cadmium	D	mg/L	3	0	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	ND		
Calcium	D	mg/L	3	100	No SLC					38.8	41.3	40.1	40.1
Chromium	D	mg/L	3	0	ECO Chronic	0.074	0	0.0019	0.0046	ND	ND		
Chromium	D	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.0019	0.0046	ND	ND		
Chromium, Hexavalent	D	mg/L	3	0	HH DW (HQ=1)	0.11	0	0.01	0.01	ND	ND		
Chromium, Hexavalent	D	mg/L	3	0	ECO Chronic	0.011	0	0.01	0.01	ND	ND		
Cobalt	D	mg/L	3	0	ECO Chronic	1.5	0	0.0022	0.0034	ND	ND		
Cobalt	D	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.0022	0.0034	ND	ND		
Copper	D	mg/L	3	100	ECO Chronic	0.009	0			0.0025	0.0025	0.0025	0.0025
Copper	D	mg/L	3	100	HH DW (HQ=1)	1.4	0			0.0025	0.0025	0.0025	0.0025

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-17
Surface Water Fall 2002
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Hardness	D	mg/L	3	100	No SLC					131	138	135	135
Iron	D	mg/L	3	33.3	HH DW (HQ=1)	11	0	0.038	0.038	ND	0.044		
Lead	D	mg/L	3	0	ECO Chronic	0.0025	0	0.0001	0.0001	ND	ND		
Lead	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	ND		
Magnesium	D	mg/L	3	100	No SLC					8.3	8.6	8.5	8.5
Manganese	D	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.1	0.11	0.1	0.1
Manganese	D	mg/L	3	100	ECO Chronic	1.7	0			0.1	0.11	0.1	0.1
Mercury	D	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	3	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	3	100	ECO Chronic	2.2	0			0.0014	0.0015	0.0015	0.0015
Molybdenum	D	mg/L	3	100	HH DW (HQ=1)	0.18	0			0.0014	0.0015	0.0015	0.0015
Nickel	D	mg/L	3	100	ECO Chronic	0.052	0			0.0026	0.0027	0.0026	0.0026
Nickel	D	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0026	0.0027	0.0026	0.0026
Potassium	D	mg/L	3	100	No SLC					1.5	1.7	1.5	1.5
Selenium	D	mg/L	3	33.3	ECO Chronic	0.046	0	0.0002	0.0002	ND	0.0006		
Selenium	D	mg/L	3	33.3	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.0006		
Silver	D	mg/L	3	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	3	100	No SLC					5.1	5.7	5.4	5.4
Thallium	D	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	3	100	ECO Chronic	0.019	0			0.0001	0.00015	0.00012	0.00012
Vanadium	D	mg/L	3	100	HH DW (HQ=1)	0.26	0			0.0001	0.00015	0.00012	0.00012
Zinc	D	mg/L	3	0	ECO Chronic	0.12	0	0.0021	0.0069	ND	ND		
Zinc	D	mg/L	3	0	HH DW (HQ=1)	11	0	0.0021	0.0069	ND	ND		
Aluminum	T	mg/L	3	100	ECO Chronic	0.087	100			0.17	0.43	0.26	0.18
Aluminum	T	mg/L	3	100	HH DW (HQ=1)	37	0			0.17	0.43	0.26	0.18
Antimony	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0002	0.00025	ND	ND		
Arsenic	T	mg/L	3	33.3	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00035		
Barium	T	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.03	0.038	0.033	0.03

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-17
Surface Water Fall 2002
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Beryllium	T	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.0002	0.0003	ND	ND		
Boron	T	mg/L	3	0	HH DW (HQ=1)	3.3	0	0.005	0.0099	ND	ND		
Cadmium	T	mg/L	3	0	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	ND		
Calcium	T	mg/L	3	100	No SLC					38.8	42.6	40.4	39.7
Chromium	T	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.0019	0.0046	ND	ND		
Cobalt	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.0022	0.0034	ND	ND		
Copper	T	mg/L	3	100	HH DW (HQ=1)	1.4	0			0.005	0.0071	0.0058	0.0052
Hardness	T	mg/L	3	100	No SLC					131	143	136	134
Iron	T	mg/L	3	100	ECO Chronic	1	0			0.25	0.82	0.45	0.27
Iron	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.25	0.82	0.45	0.27
Lead	T	mg/L	3	100	HH DW (HQ=1)	0.015	0			0.00063	0.0039	0.0017	0.00066
Magnesium	T	mg/L	3	100	No SLC					8.3	8.9	8.5	8.5
Manganese	T	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.12	0.14	0.13	0.13
Mercury	T	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	3	100	HH DW (HQ=1)	0.18	0			0.0013	0.0018	0.0015	0.0013
Nickel	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0032	0.0049	0.0038	0.0033
Potassium	T	mg/L	3	100	No SLC					1.5	2	1.7	1.5
Selenium	T	mg/L	3	33.3	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.00033		
Silver	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	3	100	No SLC					5.4	5.6	5.5	5.5
Thallium	T	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	3	100	HH DW (HQ=1)	0.037	0			0.00022	0.00043	0.0003	0.00025
Zinc	T	mg/L	3	66.7	HH DW (HQ=1)	11	0	0.0057	0.0057	ND	0.011	0.0059	0.0038
Semi-Volatile Organics													
1,1`-Biphenyl	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2,4,5-Trichlorophenol	T	mg/L	1	0	No SLC			0.025	0.025	ND	ND		
2,4,6-Trichlorophenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2,4-Dichlorophenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2,4-Dimethylphenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-17
Surface Water Fall 2002
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
2,4-Dinitrophenol	T	mg/L	1	0	No SLC			0.025	0.025	ND	ND		
2,4-Dinitrotoluene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2,6-Dinitrotoluene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Chloronaphthalene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Chlorophenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Methylnaphthalene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Methylphenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Nitroaniline	T	mg/L	1	0	No SLC			0.025	0.025	ND	ND		
2-Nitrophenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
3,3-Dichlorobenzidine	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
3-Nitroaniline	T	mg/L	1	0	No SLC			0.025	0.025	ND	ND		
4,6-Dinitro-2-methylphenol	T	mg/L	1	0	No SLC			0.025	0.025	ND	ND		
4-Bromophenyl phenyl ether	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Chloro-3-methylphenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Chloroaniline	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Chlorophenyl phenyl ether	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Methylphenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Nitroaniline	T	mg/L	1	0	No SLC			0.025	0.025	ND	ND		
4-Nitrophenol	T	mg/L	1	0	No SLC			0.025	0.025	ND	ND		
Acenaphthene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Acenaphthylene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Anthracene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(a)anthracene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(a)pyrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(b)fluoranthene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(g,h,i)perylene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(k)fluoranthene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bis(2-chloroethoxy)methane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bis(2-chloroethyl)ether	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-17
Surface Water Fall 2002
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Carbazole	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chrysene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dibenz(a,h)anthracene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dibenzofuran	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dichlorodiisopropyl ether	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Fluoranthene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Fluorene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Hexachlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Hexachlorobutadiene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Hexachlorocyclopentadiene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Hexachloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Indeno(1,2,3-cd)pyrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Isophorone	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Naphthalene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Nitrobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
N-Nitrosodi-n-propylamine	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
N-Nitrosodiphenylamine	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Pentachlorophenol	T	mg/L	1	0	No SLC			0.025	0.025	ND	ND		
Phenanthrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Phenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Pyrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Volatile Organics													
1,1,1-Trichloroethane	T	mg/L	1	0	HH DW (HQ=1)	0.84	0	0.01	0.01	ND	ND		
1,1,2,2-Tetrachloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,1,2-Trichloro-1,2,2-trifluoroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,1,2-Trichloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,1-Dichloroethane	T	mg/L	1	0	HH DW (HQ=1)	0.81	0	0.01	0.01	ND	ND		
1,1-Dichloroethene	T	mg/L	1	0	HH DW (HQ=1)	0.34	0	0.01	0.01	ND	ND		
1,2,4-Trichlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-17
Surface Water Fall 2002
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
1,2-Dibromo-3-chloropropane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloroethene (total)	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloropropane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,3-Dichlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,4-Dichlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Butanone	T	mg/L	1	0	HH DW (HQ=1)	7.1	0	0.01	0.01	ND	ND		
2-Hexanone	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Methyl-2-pentanone	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bromodichloromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bromoform	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bromomethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Carbon tetrachloride	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chloroform	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chloromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
cis-1,2-Dichloroethene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
cis-1,3-Dichloropropene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dibromochloromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dichlorodifluoromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Ethylbenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Styrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Tetrachloroethene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Toluene	T	mg/L	1	0	HH DW (HQ=1)	0.72	0	0.01	0.01	ND	ND		
Total Xylene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
trans-1,2-Dichloroethene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-17
Surface Water Fall 2002
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
trans-1,3-Dichloropropene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Trichloroethene	T	mg/L	1	0	HH DW (HQ=1)	0.000028	0	0.01	0.01	ND	ND		
Trichlorofluoromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Vinyl chloride	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-18
Surface Water Spring 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	3	NA	No SLC					9.5	12.2	11.2	11.8
EH	T	millivolts	3	NA	No SLC					205	217	211	211
pH	T	SU	3	NA	No SLC					7.7	8.5	8.2	8.3
Specific Conductance	T	uS/cm	3	NA	No SLC					280	286	283	282
Temperature	T	Celsius	3	NA	No SLC					5.8	11.1	7.8	6.5
Turbidity	T	NTU	3	NA	No SLC					4.6	8.4	6.9	7.7
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	3	100	No SLC					71.5	73	72.1	71.9
Biochemical Oxygen Demand	T	mg/L	3	0	No SLC			1.5	1.5	ND	ND		
Carbonate (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	3	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	3	100	ECO Chronic	230	0			6	6.5	6.2	6
Chloride	T	mg/L	3	100	HH DW (HQ=1)	250	0			6	6.5	6.2	6
Cyanide	T	mg/L	3	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	3	100	HH DW (HQ=1)	2.2	0			0.33	0.34	0.33	0.33
Hydroxide (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	3	100	HH DW (HQ=1)	10	0			0.45	0.52	0.49	0.49
Nitrite	T	mg/L	3	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	3	100	No SLC					5.9	7.4	6.7	6.9
Phosphate, Ortho As P	T	mg/L	3	33.3	No SLC			0.01	0.01	ND	0.013		
Phosphorus	T	mg/L	3	100	No SLC					0.037	0.038	0.038	0.038
Specific Conductance	T	umhos/cm	3	100	No SLC					264	267	265	264
Sulfate	T	mg/L	3	100	HH DW (HQ=1)	1500	0			54.9	55.3	55.1	55
Total Alkalinity	T	mg/L	3	100	No SLC					71.5	73	72.1	71.9
Total Dissolved Solids	T	mg/L	3	100	No SLC					176	184	180	180
Total Kjeldahl Nitrogen	T	mg/L	3	0	No SLC			0.24	0.24	ND	ND		
Total Organic Carbon	T	mg/L	3	66.7	No SLC			1	1	ND	2.2	1.5	1.9

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-18
Surface Water Spring 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Suspended Solids	T	mg/L	3	100	No SLC					7.7	11.3	9.8	10.5
Metals													
Aluminum	D	mg/L	3	0	HH DW (HQ=1)	37	0	0.028	0.028	ND	ND		
Antimony	D	mg/L	3	0	ECO Chronic	0.69	0	0.0006	0.0006	ND	ND		
Antimony	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0006	0.0006	ND	ND		
Arsenic	D	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	3	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.032	0.04	0.035	0.032
Barium	D	mg/L	3	100	ECO Chronic	0.004	100			0.032	0.04	0.035	0.032
Beryllium	D	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.00041	0.00048	ND	ND		
Beryllium	D	mg/L	3	0	ECO Chronic	0.0053	0	0.00041	0.00048	ND	ND		
Boron	D	mg/L	3	0	HH DW (HQ=1)	3.3	0	0.0075	0.0075	ND	ND		
Boron	D	mg/L	3	0	ECO Chronic	0.0016	0	0.0075	0.0075	ND	ND		
Cadmium	D	mg/L	3	0	HH DW (HQ=1)	0.018	0	0.0004	0.0004	ND	ND		
Cadmium	D	mg/L	3	0	ECO Chronic	0.00025	0	0.0004	0.0004	ND	ND		
Calcium	D	mg/L	3	100	No SLC					36.6	38.6	37.5	37.4
Chromium	D	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.0009	0.0009	ND	ND		
Chromium	D	mg/L	3	0	ECO Chronic	0.074	0	0.0009	0.0009	ND	ND		
Cobalt	D	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.0029	0.0029	ND	ND		
Cobalt	D	mg/L	3	0	ECO Chronic	1.5	0	0.0029	0.0029	ND	ND		
Copper	D	mg/L	3	0	HH DW (HQ=1)	1.4	0	0.0024	0.0024	ND	ND		
Copper	D	mg/L	3	0	ECO Chronic	0.009	0	0.0024	0.0024	ND	ND		
Hardness	D	mg/L	3	100	No SLC					131	132	132	132
Iron	D	mg/L	3	0	HH DW (HQ=1)	11	0	0.42	0.42	ND	ND		
Lead	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Lead	D	mg/L	3	0	ECO Chronic	0.0025	0	0.0002	0.0002	ND	ND		
Magnesium	D	mg/L	3	100	No SLC					8.4	8.8	8.5	8.5
Manganese	D	mg/L	3	100	ECO Chronic	1.7	0			0.076	0.12	0.092	0.077
Manganese	D	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.076	0.12	0.092	0.077

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-18
Surface Water Spring 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Mercury	D	mg/L	3	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	3	33.3	ECO Chronic	2.2	0	0.0016	0.0016	ND	0.0019		
Molybdenum	D	mg/L	3	33.3	HH DW (HQ=1)	0.18	0	0.0016	0.0016	ND	0.0019		
Nickel	D	mg/L	3	100	ECO Chronic	0.052	0			0.003	0.0052	0.0038	0.0033
Nickel	D	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.003	0.0052	0.0038	0.0033
Potassium	D	mg/L	3	0	No SLC			2.8	3	ND	ND		
Selenium	D	mg/L	3	0	ECO Chronic	0.046	0	0.001	0.001	ND	ND		
Selenium	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.001	0.001	ND	ND		
Silver	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	3	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	3	0	No SLC			9.2	9.2	ND	ND		
Thallium	D	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	3	0	ECO Chronic	0.019	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	3	0	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	ND		
Zinc	D	mg/L	3	0	HH DW (HQ=1)	11	0	0.039	0.039	ND	ND		
Zinc	D	mg/L	3	0	ECO Chronic	0.12	0	0.039	0.039	ND	ND		
Aluminum	T	mg/L	3	100	HH DW (HQ=1)	37	0			0.23	0.32	0.27	0.26
Aluminum	T	mg/L	3	100	ECO Chronic	0.087	100			0.23	0.32	0.27	0.26
Antimony	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0006	0.0006	ND	ND		
Arsenic	T	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	T	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.038	0.046	0.04	0.038
Beryllium	T	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.00041	0.00054	ND	ND		
Boron	T	mg/L	3	0	HH DW (HQ=1)	3.3	0	0.0075	0.0075	ND	ND		
Cadmium	T	mg/L	3	0	HH DW (HQ=1)	0.018	0	0.0004	0.0004	ND	ND		
Calcium	T	mg/L	3	100	No SLC					37.3	38.4	37.9	38
Chromium	T	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.0009	0.0009	ND	ND		
Cobalt	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.0029	0.0029	ND	ND		
Copper	T	mg/L	3	100	HH DW (HQ=1)	1.4	0			0.0073	0.013	0.0093	0.0081

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-18
Surface Water Spring 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Hardness	T	mg/L	3	100	No SLC					131	136	133	132
Iron	T	mg/L	3	0	HH DW (HQ=1)	11	0	0.42	0.6	ND	ND		
Iron	T	mg/L	3	0	ECO Chronic	1	0	0.42	0.6	ND	ND		
Lead	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Magnesium	T	mg/L	3	100	No SLC					8.5	8.9	8.7	8.6
Manganese	T	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.1	0.14	0.12	0.11
Mercury	T	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	3	66.7	HH DW (HQ=1)	0.18	0	0.0016	0.0016	ND	0.0022	0.0017	0.0022
Nickel	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0045	0.0054	0.0049	0.0047
Potassium	T	mg/L	3	0	No SLC			2.8	3	ND	ND		
Selenium	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.001	0.001	ND	ND		
Silver	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	3	0	No SLC			9.2	9.2	ND	ND		
Thallium	T	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	T	mg/L	3	100	HH DW (HQ=1)	0.037	0			0.00026	0.00032	0.00029	0.00028
Zinc	T	mg/L	3	0	HH DW (HQ=1)	11	0	0.039	0.039	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-19
Surface Water Summer 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	3	NA	No SLC					4.7	7	5.5	4.8
EH	T	millivolts	3	NA	No SLC					194	368	273	257
pH	T	SU	3	NA	No SLC					7.5	8	7.8	7.8
Specific Conductance	T	uS/cm	3	NA	No SLC					222	224	223	223
Temperature	T	Celsius	3	NA	No SLC					16.6	18.1	17.1	16.7
Turbidity	T	NTU	3	NA	No SLC					37.8	38.1	37.9	37.9
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	3	100	No SLC					68.4	68.9	68.7	68.9
Biochemical Oxygen Demand	T	mg/L	3	33.3	No SLC			1.6	1.6	ND	1.5		
Carbonate (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	3	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	3	100	HH DW (HQ=1)	250	0			2.5	2.6	2.5	2.5
Chloride	T	mg/L	3	100	ECO Chronic	230	0			2.5	2.6	2.5	2.5
Cyanide	T	mg/L	3	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	3	0	HH DW (HQ=1)	2.2	0	0.24	0.25	ND	ND		
Hydroxide (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	3	0	HH DW (HQ=1)	10	0	0.43	0.57	ND	ND		
Nitrite	T	mg/L	3	100	HH DW (HQ=1)	1	0			0.0064	0.0074	0.0069	0.0069
pH	T	SU	3	100	No SLC					8.1	8.2	8.2	8.2
Phosphate, Ortho As P	T	mg/L	3	100	No SLC					0.035	0.3	0.12	0.036
Phosphorus	T	mg/L	3	100	No SLC					0.056	0.061	0.058	0.057
Specific Conductance	T	umhos/cm	3	100	No SLC					213	306	245	215
Sulfate	T	mg/L	3	100	HH DW (HQ=1)	1500	0			50.1	50.6	50.3	50.3
Total Alkalinity	T	mg/L	3	100	No SLC					68.4	68.9	68.7	68.9
Total Dissolved Solids	T	mg/L	3	100	No SLC					162	178	170	170
Total Kjeldahl Nitrogen	T	mg/L	3	0	No SLC			0.24	0.24	ND	ND		
Total Organic Carbon	T	mg/L	3	66.7	No SLC			1	1	ND	1.9	1.4	1.7

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-19
Surface Water Summer 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Suspended Solids	T	mg/L	3	100	No SLC					4.3	6.1	5.2	5.1
Metals													
Aluminum	D	mg/L	3	100	HH DW (HQ=1)	37	0			0.17	0.22	0.2	0.21
Antimony	D	mg/L	3	0	ECO Chronic	0.69	0	0.0005	0.00073	ND	ND		
Antimony	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0005	0.00073	ND	ND		
Arsenic	D	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	3	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	3	100	ECO Chronic	0.004	100			0.034	0.038	0.036	0.037
Barium	D	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.034	0.038	0.036	0.037
Beryllium	D	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.0002	0.00023	ND	ND		
Beryllium	D	mg/L	3	0	ECO Chronic	0.0053	0	0.0002	0.00023	ND	ND		
Boron	D	mg/L	3	100	HH DW (HQ=1)	3.3	0			0.0062	0.0071	0.0068	0.007
Boron	D	mg/L	3	100	ECO Chronic	0.0016	100			0.0062	0.0071	0.0068	0.007
Cadmium	D	mg/L	3	0	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	ND		
Cadmium	D	mg/L	3	0	ECO Chronic	0.00025	0	0.0002	0.0002	ND	ND		
Calcium	D	mg/L	3	100	No SLC					32.8	33.9	33.3	33.3
Chromium	D	mg/L	3	33.3	HH DW (HQ=1)	0.1	0	0.0006	0.0006	ND	0.0014		
Chromium	D	mg/L	3	33.3	ECO Chronic	0.074	0	0.0006	0.0006	ND	0.0014		
Cobalt	D	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.0018	0.0018	ND	ND		
Cobalt	D	mg/L	3	0	ECO Chronic	1.5	0	0.0018	0.0018	ND	ND		
Copper	D	mg/L	3	0	ECO Chronic	0.009	0	0.005	0.0073	ND	ND		
Copper	D	mg/L	3	0	HH DW (HQ=1)	1.4	0	0.005	0.0073	ND	ND		
Hardness	D	mg/L	3	100	No SLC					109	113	111	110
Iron	D	mg/L	3	100	HH DW (HQ=1)	11	0			0.049	0.071	0.059	0.057
Lead	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	ND		
Lead	D	mg/L	3	0	ECO Chronic	0.0025	0	0.0001	0.0001	ND	ND		
Magnesium	D	mg/L	3	100	No SLC					6.6	6.8	6.7	6.7
Manganese	D	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.074	0.077	0.075	0.075
Manganese	D	mg/L	3	100	ECO Chronic	1.7	0			0.074	0.077	0.075	0.075

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-19
Surface Water Summer 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Mercury	D	mg/L	3	33.3	ECO Chronic	0.00077	0	0.0001	0.0001	ND	0.00022		
Mercury	D	mg/L	3	33.3	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00022		
Molybdenum	D	mg/L	3	33.3	ECO Chronic	2.2	0	0.0016	0.0016	ND	0.0016		
Molybdenum	D	mg/L	3	33.3	HH DW (HQ=1)	0.18	0	0.0016	0.0016	ND	0.0016		
Nickel	D	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0021	0.0058	0.0034	0.0024
Nickel	D	mg/L	3	100	ECO Chronic	0.052	0			0.0021	0.0058	0.0034	0.0024
Potassium	D	mg/L	3	100	No SLC					1.3	1.5	1.4	1.4
Selenium	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	ND		
Selenium	D	mg/L	3	0	ECO Chronic	0.046	0	0.0008	0.0008	ND	ND		
Silver	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	3	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	3	100	No SLC					4.1	4.6	4.3	4.3
Thallium	D	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	3	0	ECO Chronic	0.019	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	3	0	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	ND		
Zinc	D	mg/L	3	0	ECO Chronic	0.12	0	0.01	0.036	ND	ND		
Zinc	D	mg/L	3	0	HH DW (HQ=1)	11	0	0.01	0.036	ND	ND		
Aluminum	T	mg/L	3	100	ECO Chronic	0.087	100			0.31	0.38	0.34	0.34
Aluminum	T	mg/L	3	100	HH DW (HQ=1)	37	0			0.31	0.38	0.34	0.34
Antimony	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0005	0.00055	ND	ND		
Arsenic	T	mg/L	3	33.3	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.0002		
Barium	T	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.038	0.039	0.039	0.039
Beryllium	T	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	ND		
Boron	T	mg/L	3	100	HH DW (HQ=1)	3.3	0			0.0056	0.0077	0.0064	0.006
Cadmium	T	mg/L	3	0	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	ND		
Calcium	T	mg/L	3	100	No SLC					32.8	33.4	33.1	33.2
Chromium	T	mg/L	3	66.7	HH DW (HQ=1)	0.1	0	0.0006	0.0006	ND	0.00069	0.00055	0.00065
Cobalt	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.0018	0.0018	ND	ND		
Copper	T	mg/L	3	33.3	HH DW (HQ=1)	1.4	0	0.0099	0.01	ND	0.011		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-19

Surface Water Summer 2003

RI/FS Upper Fawn Lake

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Hardness	T	mg/L	3	100	No SLC					109	111	110	110
Iron	T	mg/L	3	100	ECO Chronic	1	0			0.31	0.38	0.34	0.32
Iron	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.31	0.38	0.34	0.32
Lead	T	mg/L	3	100	HH DW (HQ=1)	0.015	0			0.00072	0.0012	0.00088	0.00073
Magnesium	T	mg/L	3	100	No SLC					6.6	6.7	6.6	6.6
Manganese	T	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.086	0.1	0.092	0.086
Mercury	T	mg/L	3	33.3	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00022		
Molybdenum	T	mg/L	3	33.3	HH DW (HQ=1)	0.18	0	0.0016	0.0016	ND	0.0029		
Nickel	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.003	0.0032	0.0031	0.0031
Potassium	T	mg/L	3	100	No SLC					1.4	1.4	1.4	1.4
Selenium	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	ND		
Silver	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	3	100	No SLC					4	4.4	4.2	4.2
Thallium	T	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	3	100	HH DW (HQ=1)	0.037	0			0.00029	0.00043	0.00035	0.00032
Zinc	T	mg/L	3	0	HH DW (HQ=1)	11	0	0.022	0.022	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-20
Surface Water Fall 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	3	NA	No SLC					10.1	13	11.1	10.3
Eh	T	millivolts	3	NA	No SLC					68.1	159	103	82.5
pH	T	SU	3	NA	No SLC					7.6	7.9	7.8	7.8
Specific Conductance	T	uS/cm	3	NA	No SLC					228	228	228	228
Temperature	T	Celsius	3	NA	No SLC					9.3	10.8	9.9	9.5
Turbidity	T	NTU	3	NA	No SLC					19.5	27.8	23.1	22.1
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	3	100	No SLC					72.8	73.5	73.2	73.3
Biochemical Oxygen Demand	T	mg/L	3	33.3	No SLC			1.4	1.4	ND	1.5		
Carbonate (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	3	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	3	100	ECO Chronic	230	0			2.4	2.5	2.4	2.4
Chloride	T	mg/L	3	100	HH DW (HQ=1)	250	0			2.4	2.5	2.4	2.4
Cyanide	T	mg/L	3	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	3	100	HH DW (HQ=1)	2.2	0			0.23	0.23	0.23	0.23
Hydroxide (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	3	100	HH DW (HQ=1)	10	0			0.4	0.41	0.41	0.41
Nitrite	T	mg/L	3	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	3	100	No SLC					7.2	8.1	7.8	8
Phosphate, Ortho As P	T	mg/L	3	0	No SLC			0.01	0.012	ND	ND		
Phosphorus	T	mg/L	3	100	No SLC					0.036	0.043	0.039	0.037
Specific Conductance	T	umhos/cm	3	100	No SLC					222	236	229	230
Sulfate	T	mg/L	3	100	HH DW (HQ=1)	1500	0			46.7	49.9	48.1	47.7
Total Alkalinity	T	mg/L	3	100	No SLC					72.8	73.5	73.2	73.3
Total Dissolved Solids	T	mg/L	3	100	No SLC					128	180	151	144
Total Kjeldahl Nitrogen	T	mg/L	3	0	No SLC			0.24	0.34	ND	ND		
Total Organic Carbon	T	mg/L	3	66.7	No SLC			1	1	ND	1.3	0.97	1.1

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-20
Surface Water Fall 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Suspended Solids	T	mg/L	3	100	No SLC					12.2	18.3	15.1	14.8
Metals													
Aluminum	D	mg/L	3	100	HH DW (HQ=1)	37	0			0.076	0.2	0.12	0.087
Antimony	D	mg/L	3	0	ECO Chronic	0.69	0	0.00014	0.00055	ND	ND		
Antimony	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.00014	0.00055	ND	ND		
Arsenic	D	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Arsenic	D	mg/L	3	0	ECO Chronic	0.15	0	0.00038	0.00038	ND	ND		
Barium	D	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.036	0.04	0.038	0.037
Barium	D	mg/L	3	100	ECO Chronic	0.004	100			0.036	0.04	0.038	0.037
Beryllium	D	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Beryllium	D	mg/L	3	0	ECO Chronic	0.0053	0	0.00047	0.00047	ND	ND		
Boron	D	mg/L	3	0	ECO Chronic	0.0016	0	0.0048	0.0066	ND	ND		
Boron	D	mg/L	3	0	HH DW (HQ=1)	3.3	0	0.0048	0.0066	ND	ND		
Cadmium	D	mg/L	3	100	ECO Chronic	0.00025	0			0.00011	0.00018	0.00014	0.00014
Cadmium	D	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.00011	0.00018	0.00014	0.00014
Calcium	D	mg/L	3	100	No SLC					36.6	39.6	38.1	38
Chromium	D	mg/L	3	0	ECO Chronic	0.074	0	0.001	0.001	ND	ND		
Chromium	D	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	D	mg/L	3	66.7	ECO Chronic	1.5	0	0.0011	0.0011	ND	0.0018	0.0011	0.0011
Cobalt	D	mg/L	3	66.7	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	0.0018	0.0011	0.0011
Copper	D	mg/L	3	0	ECO Chronic	0.009	0	0.0027	0.0067	ND	ND		
Copper	D	mg/L	3	0	HH DW (HQ=1)	1.4	0	0.0027	0.0067	ND	ND		
Hardness	D	mg/L	3	100	No SLC					120	130	125	125
Iron	D	mg/L	3	0	HH DW (HQ=1)	11	0	0.044	0.13	ND	ND		
Lead	D	mg/L	3	0	ECO Chronic	0.0025	0	0.00004	0.00023	ND	ND		
Lead	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.00004	0.00023	ND	ND		
Magnesium	D	mg/L	3	100	No SLC					7	7.5	7.3	7.3
Manganese	D	mg/L	3	100	ECO Chronic	1.7	0			0.094	0.11	0.1	0.1
Manganese	D	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.094	0.11	0.1	0.1

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-20
Surface Water Fall 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Mercury	D	mg/L	3	0	ECO Chronic	0.00077	0	0.00006	0.00006	ND	ND		
Mercury	D	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	ND		
Molybdenum	D	mg/L	3	0	ECO Chronic	2.2	0	0.0011	0.0013	ND	ND		
Molybdenum	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0011	0.0013	ND	ND		
Nickel	D	mg/L	3	66.7	ECO Chronic	0.052	0	0.0042	0.0042	ND	0.0045	0.0035	0.0038
Nickel	D	mg/L	3	66.7	HH DW (HQ=1)	0.73	0	0.0042	0.0042	ND	0.0045	0.0035	0.0038
Potassium	D	mg/L	3	66.7	No SLC			1.3	1.3	ND	1.4	1.1	1.3
Selenium	D	mg/L	3	0	ECO Chronic	0.046	0	0.00073	0.00073	ND	ND		
Selenium	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	D	mg/L	3	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	3	100	No SLC					4.2	4.4	4.3	4.3
Thallium	D	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	D	mg/L	3	0	ECO Chronic	0.019	0	0.00044	0.00054	ND	ND		
Vanadium	D	mg/L	3	0	HH DW (HQ=1)	0.26	0	0.00044	0.00054	ND	ND		
Zinc	D	mg/L	3	66.7	HH DW (HQ=1)	11	0	0.013	0.013	ND	0.026	0.017	0.02
Zinc	D	mg/L	3	66.7	ECO Chronic	0.12	0	0.013	0.013	ND	0.026	0.017	0.02
Aluminum	T	mg/L	3	100	ECO Chronic	0.087	100			0.51	0.58	0.54	0.54
Aluminum	T	mg/L	3	100	HH DW (HQ=1)	37	0			0.51	0.58	0.54	0.54
Antimony	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.00011	0.00023	ND	ND		
Arsenic	T	mg/L	3	33.3	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	0.00046		
Barium	T	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.052	0.055	0.053	0.053
Beryllium	T	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Boron	T	mg/L	3	33.3	HH DW (HQ=1)	3.3	0	0.0048	0.0085	ND	0.006		
Cadmium	T	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.00015	0.00017	0.00016	0.00016
Calcium	T	mg/L	3	100	No SLC					34.2	38.2	36.4	36.8
Chromium	T	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	T	mg/L	3	66.7	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	0.0012	0.00095	0.0011
Copper	T	mg/L	3	33.3	HH DW (HQ=1)	1.4	0	0.0074	0.0078	ND	0.0077		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-20
Surface Water Fall 2003
RI/FS Upper Fawn Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Hardness	T	mg/L	3	100	No SLC					113	126	120	121
Iron	T	mg/L	3	100	ECO Chronic	1	100			1.1	1.5	1.3	1.2
Iron	T	mg/L	3	100	HH DW (HQ=1)	11	0			1.1	1.5	1.3	1.2
Lead	T	mg/L	3	100	HH DW (HQ=1)	0.015	0			0.004	0.0058	0.0047	0.0042
Magnesium	T	mg/L	3	100	No SLC					6.6	7.4	7.1	7.2
Manganese	T	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.1	0.11	0.11	0.1
Mercury	T	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	ND		
Molybdenum	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0014	0.0015	ND	ND		
Nickel	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0043	0.0047	0.0045	0.0046
Potassium	T	mg/L	3	100	No SLC					1.6	1.7	1.6	1.6
Selenium	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	3	100	No SLC					3.8	4.4	4.2	4.4
Thallium	T	mg/L	3	33.3	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	0.00001		
Vanadium	T	mg/L	3	66.7	HH DW (HQ=1)	0.037	0	0.0011	0.0011	ND	0.001	0.00082	0.00092
Zinc	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.021	0.026	0.023	0.023

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-21
Surface Water Fall 2002
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Explosives													
2,4,6-Trinitrotoluene	T	mg/L	1	0	HH DW (HQ=1)	0.0022	0	0.00025	0.00025	ND	ND		
Cyclotetramethylenetetranitramine	T	mg/L	1	0	No SLC			0.00025	0.00025	ND	ND		
Cyclotrimethylenetrinitramine	T	mg/L	1	0	No SLC			0.00025	0.00025	ND	ND		
Pentaerythritol tetranitrate	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
PYX	T	mg/L	1	0	No SLC			0.00025	0.00025	ND	ND		
Field													
DO	T	mg/L	3	NA	No SLC					8.2	8.7	8.5	8.6
Eh	T	millivolts	3	NA	No SLC					128	156	146	154
pH	T	SU	3	NA	No SLC					6.6	7.3	6.9	6.7
Specific Conductance	T	uS/cm	3	NA	No SLC					418	421	420	421
Temperature	T	Celsius	3	NA	No SLC					9.2	10	9.5	9.4
Turbidity	T	NTU	3	NA	No SLC					20.5	24.5	22.2	21.5
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	3	100	No SLC					47.8	55	51.2	50.9
Biochemical Oxygen Demand	T	mg/L	3	0	No SLC			1.3	1.4	ND	ND		
Carbonate (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	3	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	3	100	ECO Chronic	230	0			3.9	3.9	3.9	3.9
Chloride	T	mg/L	3	100	HH DW (HQ=1)	250	0			3.9	3.9	3.9	3.9
Cyanide	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	3	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	3	100	HH DW (HQ=1)	2.2	0			0.69	0.88	0.77	0.73
Hydroxide (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	3	100	HH DW (HQ=1)	10	0			0.34	0.38	0.36	0.36
Nitrite	T	mg/L	3	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
Phosphate, Ortho As P	T	mg/L	3	33.3	No SLC			0.01	0.01	ND	18.3		
Phosphorus	T	mg/L	3	33.3	No SLC			0.051	0.054	ND	0.075		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-21
Surface Water Fall 2002
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Sulfate	T	mg/L	3	100	HH DW (HQ=1)	1500	0			148	154	151	151
Total Alkalinity	T	mg/L	3	100	No SLC					47.8	55	51.2	50.9
Total Dissolved Solids	T	mg/L	3	100	No SLC					260	268	263	261
Total Kjeldahl Nitrogen	T	mg/L	3	0	No SLC			0.24	0.24	ND	ND		
Total Organic Carbon	T	mg/L	3	0	No SLC			1	1	ND	ND		
Total Suspended Solids	T	mg/L	3	0	No SLC			8.9	10	ND	ND		
Metals													
Aluminum	D	mg/L	3	33.3	HH DW (HQ=1)	37	0	0.075	0.078	ND	0.13		
Antimony	D	mg/L	3	0	ECO Chronic	0.69	0	0.0002	0.0002	ND	ND		
Antimony	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	3	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.029	0.031	0.03	0.029
Barium	D	mg/L	3	100	ECO Chronic	0.004	100			0.029	0.031	0.03	0.029
Beryllium	D	mg/L	3	0	ECO Chronic	0.0053	0	0.0003	0.0003	ND	ND		
Beryllium	D	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.0003	0.0003	ND	ND		
Boron	D	mg/L	3	0	ECO Chronic	0.0016	0	0.005	0.005	ND	ND		
Boron	D	mg/L	3	0	HH DW (HQ=1)	3.3	0	0.005	0.005	ND	ND		
Cadmium	D	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.00047	0.00058	0.00053	0.00053
Cadmium	D	mg/L	3	100	ECO Chronic	0.00025	100			0.00047	0.00058	0.00053	0.00053
Calcium	D	mg/L	3	100	No SLC					54.3	57.4	56.1	56.5
Chromium	D	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.0003	0.0019	ND	ND		
Chromium	D	mg/L	3	0	ECO Chronic	0.074	0	0.0003	0.0019	ND	ND		
Chromium, Hexavalent	D	mg/L	3	100	HH DW (HQ=1)	0.11	0			0.0015	0.0042	0.0033	0.0042
Chromium, Hexavalent	D	mg/L	3	100	ECO Chronic	0.011	0			0.0015	0.0042	0.0033	0.0042
Cobalt	D	mg/L	3	66.7	HH DW (HQ=1)	0.73	0	0.0034	0.0034	ND	0.0044	0.0034	0.0042
Cobalt	D	mg/L	3	66.7	ECO Chronic	1.5	0	0.0034	0.0034	ND	0.0044	0.0034	0.0042
Copper	D	mg/L	3	66.7	ECO Chronic	0.009	0	0.0035	0.0035	ND	0.0043	0.0034	0.0042
Copper	D	mg/L	3	66.7	HH DW (HQ=1)	1.4	0	0.0035	0.0035	ND	0.0043	0.0034	0.0042

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-21
Surface Water Fall 2002
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Hardness	D	mg/L	3	100	No SLC					185	196	191	192
Iron	D	mg/L	3	66.7	HH DW (HQ=1)	11	0	0.038	0.038	ND	0.1	0.055	0.047
Lead	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	ND		
Lead	D	mg/L	3	0	ECO Chronic	0.0025	0	0.0001	0.0001	ND	ND		
Magnesium	D	mg/L	3	100	No SLC					11.9	12.7	12.3	12.4
Manganese	D	mg/L	3	100	ECO Chronic	1.7	0			0.42	0.46	0.44	0.44
Manganese	D	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.42	0.46	0.44	0.44
Mercury	D	mg/L	3	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	3	100	ECO Chronic	2.2	0			0.0025	0.0025	0.0025	0.0025
Molybdenum	D	mg/L	3	100	HH DW (HQ=1)	0.18	0			0.0025	0.0025	0.0025	0.0025
Nickel	D	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.016	0.017	0.016	0.016
Nickel	D	mg/L	3	100	ECO Chronic	0.052	0			0.016	0.017	0.016	0.016
Potassium	D	mg/L	3	100	No SLC					1.4	1.4	1.4	1.4
Selenium	D	mg/L	3	66.7	ECO Chronic	0.046	0	0.0002	0.0002	ND	0.00031	0.00023	0.00028
Selenium	D	mg/L	3	66.7	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.00031	0.00023	0.00028
Silver	D	mg/L	3	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	3	100	No SLC					5.9	6.2	6.1	6.2
Thallium	D	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	3	0	ECO Chronic	0.019	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	3	0	HH DW (HQ=1)	0.26	0	0.0001	0.0001	ND	ND		
Zinc	D	mg/L	3	100	ECO Chronic	0.12	0			0.057	0.074	0.063	0.059
Zinc	D	mg/L	3	100	HH DW (HQ=1)	11	0			0.057	0.074	0.063	0.059
Aluminum	T	mg/L	3	100	ECO Chronic	0.087	100			0.74	0.86	0.78	0.76
Aluminum	T	mg/L	3	100	HH DW (HQ=1)	37	0			0.74	0.86	0.78	0.76
Antimony	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Arsenic	T	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	T	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.031	0.035	0.033	0.033

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"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-21
Surface Water Fall 2002
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Beryllium	T	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.0003	0.0003	ND	ND		
Boron	T	mg/L	3	0	HH DW (HQ=1)	3.3	0	0.005	0.005	ND	ND		
Cadmium	T	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.00051	0.0006	0.00057	0.00059
Calcium	T	mg/L	3	100	No SLC					55.9	60.1	57.5	56.5
Chromium	T	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.00049	0.0019	ND	ND		
Cobalt	T	mg/L	3	66.7	HH DW (HQ=1)	0.73	0	0.0034	0.0034	ND	0.0044	0.0035	0.0044
Copper	T	mg/L	3	100	HH DW (HQ=1)	1.4	0			0.0091	0.0099	0.0094	0.0092
Hardness	T	mg/L	3	100	No SLC					190	205	196	192
Iron	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.24	0.33	0.27	0.25
Iron	T	mg/L	3	100	ECO Chronic	1	0			0.24	0.33	0.27	0.25
Lead	T	mg/L	3	66.7	HH DW (HQ=1)	0.015	0	0.0003	0.0003	ND	0.00096	0.00053	0.00047
Magnesium	T	mg/L	3	100	No SLC					12.3	13.2	12.6	12.4
Manganese	T	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.45	0.48	0.46	0.45
Mercury	T	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	3	100	HH DW (HQ=1)	0.18	0			0.0022	0.0024	0.0023	0.0023
Nickel	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.016	0.017	0.016	0.016
Potassium	T	mg/L	3	100	No SLC					1.4	1.6	1.5	1.5
Selenium	T	mg/L	3	66.7	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.00052	0.00032	0.00033
Silver	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	3	100	No SLC					5.9	6.3	6	6
Thallium	T	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	3	100	HH DW (HQ=1)	0.037	0			0.00014	0.00022	0.00018	0.00019
Zinc	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.083	0.088	0.085	0.085
Semi-Volatile Organics													
1,1`-Biphenyl	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2,4,5-Trichlorophenol	T	mg/L	1	0	No SLC			0.026	0.026	ND	ND		
2,4,6-Trichlorophenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2,4-Dichlorophenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2,4-Dimethylphenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

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"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-21
Surface Water Fall 2002
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
2,4-Dinitrophenol	T	mg/L	1	0	No SLC			0.026	0.026	ND	ND		
2,4-Dinitrotoluene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2,6-Dinitrotoluene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Chloronaphthalene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Chlorophenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Methylnaphthalene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Methylphenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Nitroaniline	T	mg/L	1	0	No SLC			0.026	0.026	ND	ND		
2-Nitrophenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
3,3-Dichlorobenzidine	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
3-Nitroaniline	T	mg/L	1	0	No SLC			0.026	0.026	ND	ND		
4,6-Dinitro-2-methylphenol	T	mg/L	1	0	No SLC			0.026	0.026	ND	ND		
4-Bromophenyl phenyl ether	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Chloro-3-methylphenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Chloroaniline	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Chlorophenyl phenyl ether	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Methylphenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Nitroaniline	T	mg/L	1	0	No SLC			0.026	0.026	ND	ND		
4-Nitrophenol	T	mg/L	1	0	No SLC			0.026	0.026	ND	ND		
Acenaphthene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Acenaphthylene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Anthracene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(a)anthracene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(a)pyrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(b)fluoranthene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(g,h,i)perylene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzo(k)fluoranthene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bis(2-chloroethoxy)methane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bis(2-chloroethyl)ether	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

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"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-21
Surface Water Fall 2002
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Carbazole	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chrysene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dibenz(a,h)anthracene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dibenzofuran	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dichlorodiisopropyl ether	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Fluoranthene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Fluorene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Hexachlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Hexachlorobutadiene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Hexachlorocyclopentadiene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Hexachloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Indeno(1,2,3-cd)pyrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Isophorone	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Naphthalene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Nitrobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
N-Nitrosodi-n-propylamine	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
N-Nitrosodiphenylamine	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Pentachlorophenol	T	mg/L	1	0	No SLC			0.026	0.026	ND	ND		
Phenanthrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Phenol	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Pyrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Volatile Organics													
1,1,1-Trichloroethane	T	mg/L	1	0	HH DW (HQ=1)	0.84	0	0.01	0.01	ND	ND		
1,1,2,2-Tetrachloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,1,2-Trichloro-1,2,2-trifluoroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,1,2-Trichloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,1-Dichloroethane	T	mg/L	1	0	HH DW (HQ=1)	0.81	0	0.01	0.01	ND	ND		
1,1-Dichloroethene	T	mg/L	1	0	HH DW (HQ=1)	0.34	0	0.01	0.01	ND	ND		
1,2,4-Trichlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

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"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
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Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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Table 2-21
Surface Water Fall 2002
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
1,2-Dibromo-3-chloropropane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloroethene (total)	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,2-Dichloropropane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,3-Dichlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
1,4-Dichlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
2-Butanone	T	mg/L	1	0	HH DW (HQ=1)	7.1	0	0.01	0.01	ND	ND		
2-Hexanone	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
4-Methyl-2-pentanone	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Benzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bromodichloromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bromoform	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Bromomethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Carbon tetrachloride	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chlorobenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chloroethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chloroform	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Chloromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
cis-1,2-Dichloroethene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
cis-1,3-Dichloropropene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dibromochloromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Dichlorodifluoromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Ethylbenzene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Styrene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Tetrachloroethene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Toluene	T	mg/L	1	0	HH DW (HQ=1)	0.72	0	0.01	0.01	ND	ND		
Total Xylene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
trans-1,2-Dichloroethene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

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"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-21
Surface Water Fall 2002
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
trans-1,3-Dichloropropene	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Trichloroethene	T	mg/L	1	0	HH DW (HQ=1)	0.000028	0	0.01	0.01	ND	ND		
Trichlorofluoromethane	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		
Vinyl chloride	T	mg/L	1	0	No SLC			0.01	0.01	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-22

Surface Water Spring 2003

RI/FS Eagle Rock Lake

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	3	NA	No SLC					10.7	11	10.9	11
EH	T	millivolts	3	NA	No SLC					167	190	176	171
pH	T	SU	3	NA	No SLC					6.6	7	6.8	6.9
Specific Conductance	T	uS/cm	3	NA	No SLC					427	432	430	432
Temperature	T	Celsius	3	NA	No SLC					2.6	4.2	3.4	3.5
Turbidity	T	NTU	3	NA	No SLC					62.5	90.5	73.5	67.6
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	3	100	No SLC					42.4	43.3	42.9	43
Biochemical Oxygen Demand	T	mg/L	3	0	No SLC			1.4	1.5	ND	ND		
Carbonate (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	3	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	3	100	HH DW (HQ=1)	250	0			5.9	6.1	6	6
Chloride	T	mg/L	3	100	ECO Chronic	230	0			5.9	6.1	6	6
Cyanide	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	3	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	3	100	HH DW (HQ=1)	2.2	0			1.1	1.1	1.1	1.1
Hydroxide (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	3	100	HH DW (HQ=1)	10	0			0.64	0.73	0.68	0.67
Nitrite	T	mg/L	3	100	HH DW (HQ=1)	1	0			0.0093	0.011	0.01	0.01
pH	T	SU	3	100	No SLC					7.2	7.5	7.4	7.5
Phosphate, Ortho As P	T	mg/L	3	33.3	No SLC			0.01	0.01	ND	0.071		
Phosphorus	T	mg/L	3	0	No SLC			0.019	0.028	ND	ND		
Specific Conductance	T	umhos/cm	3	100	No SLC					348	360	355	358
Sulfate	T	mg/L	3	100	HH DW (HQ=1)	1500	0			146	160	151	148
Total Alkalinity	T	mg/L	3	100	No SLC					42.4	43.3	42.9	43
Total Dissolved Solids	T	mg/L	3	100	No SLC					276	308	290	286
Total Kjeldahl Nitrogen	T	mg/L	3	0	No SLC			0.24	0.24	ND	ND		
Total Organic Carbon	T	mg/L	3	100	No SLC					1.1	1.4	1.3	1.4

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-22
Surface Water Spring 2003
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Suspended Solids	T	mg/L	3	100	No SLC					7.3	11.4	9.1	8.6
Metals													
Aluminum	D	mg/L	3	66.7	HH DW (HQ=1)	37	0	0.43	0.43	ND	0.066	0.11	0.066
Antimony	D	mg/L	3	33.3	ECO Chronic	0.69	0	0.0006	0.0006	ND	0.0017		
Antimony	D	mg/L	3	33.3	HH DW (HQ=1)	0.015	0	0.0006	0.0006	ND	0.0017		
Arsenic	D	mg/L	3	0	ECO Chronic	0.15	0	0.0002	0.0004	ND	ND		
Arsenic	D	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.0002	0.0004	ND	ND		
Barium	D	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.032	0.034	0.033	0.033
Barium	D	mg/L	3	100	ECO Chronic	0.004	100			0.032	0.034	0.033	0.033
Beryllium	D	mg/L	3	33.3	HH DW (HQ=1)	0.073	0	0.0003	0.0003	ND	0.00048		
Beryllium	D	mg/L	3	33.3	ECO Chronic	0.0053	0	0.0003	0.0003	ND	0.00048		
Boron	D	mg/L	3	0	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	ND		
Boron	D	mg/L	3	0	ECO Chronic	0.0016	0	0.0084	0.0084	ND	ND		
Cadmium	D	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.00066	0.00068	0.00067	0.00067
Cadmium	D	mg/L	3	100	ECO Chronic	0.00025	100			0.00066	0.00068	0.00067	0.00067
Calcium	D	mg/L	3	100	No SLC					57.2	61.3	59	58.6
Chromium	D	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Chromium	D	mg/L	3	0	ECO Chronic	0.074	0	0.001	0.001	ND	ND		
Cobalt	D	mg/L	3	100	ECO Chronic	1.5	0			0.0045	0.0056	0.0051	0.0051
Cobalt	D	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0045	0.0056	0.0051	0.0051
Copper	D	mg/L	3	100	HH DW (HQ=1)	1.4	0			0.0051	0.0061	0.0056	0.0056
Copper	D	mg/L	3	100	ECO Chronic	0.009	0			0.0051	0.0061	0.0056	0.0056
Hardness	D	mg/L	3	100	No SLC					198	211	204	202
Iron	D	mg/L	3	0	HH DW (HQ=1)	11	0	0.31	0.42	ND	ND		
Lead	D	mg/L	3	0	ECO Chronic	0.0025	0	0.0002	0.0002	ND	ND		
Lead	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Magnesium	D	mg/L	3	100	No SLC					13.3	14.2	13.7	13.6
Manganese	D	mg/L	3	100	ECO Chronic	1.7	0			0.46	0.49	0.48	0.49
Manganese	D	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.46	0.49	0.48	0.49

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-22
Surface Water Spring 2003
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Mercury	D	mg/L	3	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	3	33.3	ECO Chronic	2.2	0	0.0023	0.0023	ND	0.003		
Molybdenum	D	mg/L	3	33.3	HH DW (HQ=1)	0.18	0	0.0023	0.0023	ND	0.003		
Nickel	D	mg/L	3	100	ECO Chronic	0.052	0			0.026	0.028	0.027	0.027
Nickel	D	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.026	0.028	0.027	0.027
Potassium	D	mg/L	3	100	No SLC					1.5	1.7	1.6	1.6
Selenium	D	mg/L	3	0	ECO Chronic	0.046	0	0.001	0.0014	ND	ND		
Selenium	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.001	0.0014	ND	ND		
Silver	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	3	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	3	100	No SLC					7.4	13.2	10	9.4
Thallium	D	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	3	0	ECO Chronic	0.019	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	3	0	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	ND		
Zinc	D	mg/L	3	100	ECO Chronic	0.12	100			0.14	0.16	0.15	0.15
Zinc	D	mg/L	3	100	HH DW (HQ=1)	11	0			0.14	0.16	0.15	0.15
Aluminum	T	mg/L	3	33.3	ECO Chronic	0.087	0	1.4	1.5	ND	0.065		
Aluminum	T	mg/L	3	33.3	HH DW (HQ=1)	37	0	1.4	1.5	ND	0.065		
Antimony	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0006	0.0013	ND	ND		
Arsenic	T	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.0002	0.0004	ND	ND		
Barium	T	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.034	0.037	0.035	0.034
Beryllium	T	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.0003	0.0003	ND	ND		
Boron	T	mg/L	3	33.3	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	0.01		
Cadmium	T	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.00054	0.00069	0.00063	0.00065
Calcium	T	mg/L	3	100	No SLC					56	63.1	60	60.8
Chromium	T	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0041	0.0055	0.005	0.0053
Copper	T	mg/L	3	100	HH DW (HQ=1)	1.4	0			0.015	0.018	0.017	0.017

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-22

Surface Water Spring 2003

RI/FS Eagle Rock Lake

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Hardness	T	mg/L	3	100	No SLC					194	218	207	210
Iron	T	mg/L	3	0	HH DW (HQ=1)	11	0	0.31	0.42	ND	ND		
Iron	T	mg/L	3	0	ECO Chronic	1	0	0.31	0.42	ND	ND		
Lead	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	ND		
Magnesium	T	mg/L	3	100	No SLC					13.1	14.6	13.9	14.1
Manganese	T	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.45	0.53	0.49	0.5
Mercury	T	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	3	100	HH DW (HQ=1)	0.18	0			0.0024	0.0038	0.0033	0.0036
Nickel	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.027	0.028	0.027	0.026
Potassium	T	mg/L	3	100	No SLC					1.5	1.8	1.6	1.6
Selenium	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.001	0.001	ND	ND		
Silver	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	3	66.7	No SLC			9.2	9.2	ND	10.9	7.1	5.9
Thallium	T	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0002	0.0002	ND	ND		
Vanadium	T	mg/L	3	0	HH DW (HQ=1)	0.037	0	0.0002	0.0002	ND	ND		
Zinc	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.19	0.21	0.19	0.19

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-23

Surface Water Summer 2003

RI/FS Eagle Rock Lake

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	3	NA	No SLC					3.8	4.1	3.9	3.9
EH	T	millivolts	3	NA	No SLC					297	313	305	305
pH	T	SU	3	NA	No SLC					7.3	7.4	7.4	7.4
Specific Conductance	T	uS/cm	3	NA	No SLC					277	288	283	285
Temperature	T	Celsius	3	NA	No SLC					14.8	16.4	15.6	15.6
Turbidity	T	NTU	3	NA	No SLC					36	41.1	39.1	40.3
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	3	100	No SLC					50	51.9	51	51.2
Biochemical Oxygen Demand	T	mg/L	3	0	No SLC			1.6	1.6	ND	ND		
Carbonate (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	3	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	3	100	HH DW (HQ=1)	250	0			2.9	3	3	3
Chloride	T	mg/L	3	100	ECO Chronic	230	0			2.9	3	3	3
Cyanide	T	mg/L	3	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	3	0	HH DW (HQ=1)	2.2	0	0.95	0.96	ND	ND		
Hydroxide (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	3	0	HH DW (HQ=1)	10	0	0.31	0.4	ND	ND		
Nitrite	T	mg/L	3	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	3	100	No SLC					6.7	7.8	7.4	7.6
Phosphate, Ortho As P	T	mg/L	3	33.3	No SLC			0.01	0.01	ND	0.52		
Phosphorus	T	mg/L	3	100	No SLC					0.012	0.016	0.014	0.013
Specific Conductance	T	umhos/cm	3	100	No SLC					211	2570	1030	305
Sulfate	T	mg/L	3	100	HH DW (HQ=1)	1500	0			111	144	123	114
Total Alkalinity	T	mg/L	3	100	No SLC					50	51.9	51	51.2
Total Dissolved Solids	T	mg/L	3	100	No SLC					284	414	333	302
Total Kjeldahl Nitrogen	T	mg/L	3	0	No SLC			0.24	0.24	ND	ND		
Total Organic Carbon	T	mg/L	3	33.3	No SLC			1	1	ND	1.3		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-23
Surface Water Summer 2003
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Suspended Solids	T	mg/L	3	100	No SLC					5.1	7	5.8	5.2
Metals													
Aluminum	D	mg/L	3	100	HH DW (HQ=1)	37	0			0.19	0.21	0.2	0.21
Antimony	D	mg/L	3	0	ECO Chronic	0.69	0	0.0005	0.0005	ND	ND		
Antimony	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Arsenic	D	mg/L	3	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	3	100	ECO Chronic	0.004	100			0.033	0.034	0.033	0.033
Barium	D	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.033	0.034	0.033	0.033
Beryllium	D	mg/L	3	33.3	ECO Chronic	0.0053	0	0.0002	0.00027	ND	0.00021		
Beryllium	D	mg/L	3	33.3	HH DW (HQ=1)	0.073	0	0.0002	0.00027	ND	0.00021		
Boron	D	mg/L	3	66.7	ECO Chronic	0.0016	100	0.0046	0.0046	ND	0.0058	0.0043	0.0049
Boron	D	mg/L	3	66.7	HH DW (HQ=1)	3.3	0	0.0046	0.0046	ND	0.0058	0.0043	0.0049
Cadmium	D	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.00045	0.00052	0.00048	0.00048
Cadmium	D	mg/L	3	100	ECO Chronic	0.00025	100			0.00045	0.00052	0.00048	0.00048
Calcium	D	mg/L	3	100	No SLC					45	45.6	45.3	45.2
Chromium	D	mg/L	3	33.3	HH DW (HQ=1)	0.1	0	0.0006	0.0006	ND	0.00083		
Chromium	D	mg/L	3	33.3	ECO Chronic	0.074	0	0.0006	0.0006	ND	0.00083		
Cobalt	D	mg/L	3	66.7	ECO Chronic	1.5	0	0.0018	0.0018	ND	0.002	0.0016	0.0018
Cobalt	D	mg/L	3	66.7	HH DW (HQ=1)	0.73	0	0.0018	0.0018	ND	0.002	0.0016	0.0018
Copper	D	mg/L	3	0	ECO Chronic	0.009	0	0.004	0.0045	ND	ND		
Copper	D	mg/L	3	0	HH DW (HQ=1)	1.4	0	0.004	0.0045	ND	ND		
Hardness	D	mg/L	3	100	No SLC					153	155	154	154
Iron	D	mg/L	3	33.3	HH DW (HQ=1)	11	0	0.017	0.017	ND	0.017		
Lead	D	mg/L	3	0	ECO Chronic	0.0025	0	0.0001	0.0001	ND	ND		
Lead	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	ND		
Magnesium	D	mg/L	3	100	No SLC					9.9	10	10	9.9
Manganese	D	mg/L	3	100	ECO Chronic	1.7	0			0.22	0.23	0.23	0.23
Manganese	D	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.22	0.23	0.23	0.23

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-23

Surface Water Summer 2003

RI/FS Eagle Rock Lake

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Mercury	D	mg/L	3	66.7	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00038	0.00018	0.00011
Mercury	D	mg/L	3	66.7	ECO Chronic	0.00077	0	0.0001	0.0001	ND	0.00038	0.00018	0.00011
Molybdenum	D	mg/L	3	66.7	ECO Chronic	2.2	0	0.0016	0.0016	ND	0.0025	0.0017	0.0018
Molybdenum	D	mg/L	3	66.7	HH DW (HQ=1)	0.18	0	0.0016	0.0016	ND	0.0025	0.0017	0.0018
Nickel	D	mg/L	3	100	ECO Chronic	0.052	0			0.016	0.017	0.017	0.017
Nickel	D	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.016	0.017	0.017	0.017
Potassium	D	mg/L	3	100	No SLC					1.4	1.5	1.4	1.4
Selenium	D	mg/L	3	0	ECO Chronic	0.046	0	0.0008	0.0008	ND	ND		
Selenium	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	ND		
Silver	D	mg/L	3	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	3	100	No SLC					4.8	4.9	4.8	4.9
Thallium	D	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	3	0	ECO Chronic	0.019	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	3	0	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	ND		
Zinc	D	mg/L	3	100	HH DW (HQ=1)	11	0			0.066	0.07	0.068	0.068
Zinc	D	mg/L	3	100	ECO Chronic	0.12	0			0.066	0.07	0.068	0.068
Aluminum	T	mg/L	3	100	HH DW (HQ=1)	37	0			0.75	7.3	3	0.91
Aluminum	T	mg/L	3	100	ECO Chronic	0.087	100			0.75	7.3	3	0.91
Antimony	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Arsenic	T	mg/L	3	33.3	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.0017		
Barium	T	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.036	0.1	0.058	0.038
Beryllium	T	mg/L	3	66.7	HH DW (HQ=1)	0.073	0	0.00028	0.00028	ND	0.0024	0.00093	0.00025
Boron	T	mg/L	3	100	HH DW (HQ=1)	3.3	0			0.005	0.0058	0.0055	0.0057
Cadmium	T	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.0005	0.0023	0.0011	0.00055
Calcium	T	mg/L	3	100	No SLC					46.4	50.7	48.2	47.6
Chromium	T	mg/L	3	33.3	HH DW (HQ=1)	0.1	0	0.0006	0.0006	ND	0.0081		
Cobalt	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0018	0.018	0.0074	0.0023
Copper	T	mg/L	3	33.3	HH DW (HQ=1)	1.4	0	0.009	0.0095	ND	0.076		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-23

Surface Water Summer 2003

RI/FS Eagle Rock Lake

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Hardness	T	mg/L	3	100	No SLC					158	176	165	162
Iron	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.2	9.8	3.4	0.22
Iron	T	mg/L	3	100	ECO Chronic	1	33.3			0.2	9.8	3.4	0.22
Lead	T	mg/L	3	100	HH DW (HQ=1)	0.015	0			0.00031	0.0069	0.0025	0.00031
Magnesium	T	mg/L	3	100	No SLC					10.2	12	10.9	10.5
Manganese	T	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.24	1.4	0.62	0.26
Mercury	T	mg/L	3	100	HH DW (HQ=1)	0.011	0			0.00014	0.00024	0.0002	0.00021
Molybdenum	T	mg/L	3	100	HH DW (HQ=1)	0.18	0			0.0019	0.0029	0.0025	0.0028
Nickel	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.018	0.13	0.054	0.02
Potassium	T	mg/L	3	100	No SLC					1.5	1.9	1.7	1.6
Selenium	T	mg/L	3	33.3	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	0.0009		
Silver	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	3	100	No SLC					4.8	5.2	5	4.9
Thallium	T	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	3	33.3	HH DW (HQ=1)	0.037	0	0.0002	0.0002	ND	0.0064		
Zinc	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.11	0.75	0.34	0.17

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-24
Surface Water Fall 2003
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	3	NA	No SLC					1.4	10.5	7.2	9.8
Eh	T	millivolts	3	NA	No SLC					10.6	92.4	41.5	21.6
pH	T	SU	3	NA	No SLC					6.5	7.7	7.1	7.1
Specific Conductance	T	uS/cm	3	NA	No SLC					311	313	312	311
Temperature	T	Celsius	3	NA	No SLC					10	10.7	10.3	10.1
Turbidity	T	NTU	3	NA	No SLC					8.3	61.7	43.9	61.6
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	3	100	No SLC					56.2	58.1	56.9	56.4
Biochemical Oxygen Demand	T	mg/L	3	33.3	No SLC			1.4	1.4	ND	1.5		
Carbonate (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	3	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	3	100	ECO Chronic	230	0			3.1	3.3	3.2	3.1
Chloride	T	mg/L	3	100	HH DW (HQ=1)	250	0			3.1	3.3	3.2	3.1
Cyanide	T	mg/L	3	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	3	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	3	100	HH DW (HQ=1)	2.2	0			0.74	0.78	0.76	0.76
Hydroxide (as CaCO3)	T	mg/L	3	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	3	100	HH DW (HQ=1)	10	0			0.32	0.33	0.32	0.32
Nitrite	T	mg/L	3	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	3	100	No SLC					7.2	7.9	7.6	7.8
Phosphate, Ortho As P	T	mg/L	3	0	No SLC			0.01	0.01	ND	ND		
Phosphorus	T	mg/L	3	100	No SLC					0.014	0.019	0.016	0.016
Specific Conductance	T	umhos/cm	3	100	No SLC					305	315	311	314
Sulfate	T	mg/L	3	100	HH DW (HQ=1)	1500	0			100	103	102	102
Total Alkalinity	T	mg/L	3	100	No SLC					56.2	58.1	56.9	56.4
Total Dissolved Solids	T	mg/L	3	100	No SLC					244	252	249	250
Total Kjeldahl Nitrogen	T	mg/L	3	0	No SLC			0.24	0.29	ND	ND		
Total Organic Carbon	T	mg/L	3	66.7	No SLC			1	1	ND	2	1.2	1

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-24
Surface Water Fall 2003
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Suspended Solids	T	mg/L	3	100	No SLC					8.6	10	9.4	9.7
Metals													
Aluminum	D	mg/L	3	100	HH DW (HQ=1)	37	0			0.16	0.17	0.17	0.17
Antimony	D	mg/L	3	0	ECO Chronic	0.69	0	0.00011	0.00016	ND	ND		
Antimony	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.00011	0.00016	ND	ND		
Arsenic	D	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Arsenic	D	mg/L	3	0	ECO Chronic	0.15	0	0.00038	0.00038	ND	ND		
Barium	D	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.029	0.032	0.03	0.031
Barium	D	mg/L	3	100	ECO Chronic	0.004	100			0.029	0.032	0.03	0.031
Beryllium	D	mg/L	3	0	ECO Chronic	0.0053	0	0.00047	0.00047	ND	ND		
Beryllium	D	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Boron	D	mg/L	3	0	ECO Chronic	0.0016	0	0.0048	0.0048	ND	ND		
Boron	D	mg/L	3	0	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	ND		
Cadmium	D	mg/L	3	100	ECO Chronic	0.00025	100			0.0003	0.00036	0.00032	0.00031
Cadmium	D	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.0003	0.00036	0.00032	0.00031
Calcium	D	mg/L	3	100	No SLC					49.3	51.7	50.1	49.3
Chromium	D	mg/L	3	0	ECO Chronic	0.074	0	0.001	0.001	ND	ND		
Chromium	D	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	D	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0014	0.0032	0.0024	0.0025
Cobalt	D	mg/L	3	100	ECO Chronic	1.5	0			0.0014	0.0032	0.0024	0.0025
Copper	D	mg/L	3	0	ECO Chronic	0.009	0	0.0022	0.0025	ND	ND		
Copper	D	mg/L	3	0	HH DW (HQ=1)	1.4	0	0.0022	0.0025	ND	ND		
Hardness	D	mg/L	3	100	No SLC					165	173	168	165
Iron	D	mg/L	3	0	HH DW (HQ=1)	11	0	0.044	0.044	ND	ND		
Lead	D	mg/L	3	0	ECO Chronic	0.0025	0	0.00004	0.00004	ND	ND		
Lead	D	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.00004	0.00004	ND	ND		
Magnesium	D	mg/L	3	100	No SLC					10.1	10.6	10.3	10.2
Manganese	D	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.21	0.22	0.22	0.22
Manganese	D	mg/L	3	100	ECO Chronic	1.7	0			0.21	0.22	0.22	0.22

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-24
Surface Water Fall 2003
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Mercury	D	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	ND		
Mercury	D	mg/L	3	0	ECO Chronic	0.00077	0	0.00006	0.00006	ND	ND		
Molybdenum	D	mg/L	3	100	HH DW (HQ=1)	0.18	0			0.0022	0.0058	0.0037	0.0031
Molybdenum	D	mg/L	3	100	ECO Chronic	2.2	0			0.0022	0.0058	0.0037	0.0031
Nickel	D	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.012	0.012	0.012	0.012
Nickel	D	mg/L	3	100	ECO Chronic	0.052	0			0.012	0.012	0.012	0.012
Potassium	D	mg/L	3	100	No SLC					1.4	1.5	1.4	1.4
Selenium	D	mg/L	3	0	ECO Chronic	0.046	0	0.00073	0.00073	ND	ND		
Selenium	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	D	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	3	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	3	100	No SLC					5	5.3	5.1	5
Thallium	D	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	D	mg/L	3	0	HH DW (HQ=1)	0.26	0	0.00044	0.00049	ND	ND		
Vanadium	D	mg/L	3	0	ECO Chronic	0.019	0	0.00044	0.00049	ND	ND		
Zinc	D	mg/L	3	100	ECO Chronic	0.12	0			0.024	0.033	0.027	0.024
Zinc	D	mg/L	3	100	HH DW (HQ=1)	11	0			0.024	0.033	0.027	0.024
Aluminum	T	mg/L	3	100	HH DW (HQ=1)	37	0			0.72	0.82	0.76	0.73
Aluminum	T	mg/L	3	100	ECO Chronic	0.087	100			0.72	0.82	0.76	0.73
Antimony	T	mg/L	3	0	HH DW (HQ=1)	0.015	0	0.00011	0.00013	ND	ND		
Arsenic	T	mg/L	3	0	HH DW (HQ=1)	0.01	0	0.00038	0.00038	ND	ND		
Barium	T	mg/L	3	100	HH DW (HQ=1)	2.6	0			0.033	0.036	0.034	0.034
Beryllium	T	mg/L	3	0	HH DW (HQ=1)	0.073	0	0.00047	0.00047	ND	ND		
Boron	T	mg/L	3	33.3	HH DW (HQ=1)	3.3	0	0.0048	0.0048	ND	0.0048		
Cadmium	T	mg/L	3	100	HH DW (HQ=1)	0.018	0			0.00037	0.00039	0.00038	0.00039
Calcium	T	mg/L	3	100	No SLC					45.5	49.6	47.2	46.6
Chromium	T	mg/L	3	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.0018	0.0023	0.0021	0.0022
Copper	T	mg/L	3	33.3	HH DW (HQ=1)	1.4	0	0.0065	0.0067	ND	0.0074		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-24
Surface Water Fall 2003
RI/FS Eagle Rock Lake
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Hardness	T	mg/L	3	100	No SLC					153	166	158	156
Iron	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.37	0.59	0.47	0.44
Iron	T	mg/L	3	100	ECO Chronic	1	0			0.37	0.59	0.47	0.44
Lead	T	mg/L	3	33.3	HH DW (HQ=1)	0.015	0	0.00084	0.0012	ND	0.0015		
Magnesium	T	mg/L	3	100	No SLC					9.5	10.3	9.8	9.6
Manganese	T	mg/L	3	100	HH DW (HQ=1)	1.7	0			0.23	0.23	0.23	0.23
Mercury	T	mg/L	3	0	HH DW (HQ=1)	0.011	0	0.00006	0.00006	ND	ND		
Molybdenum	T	mg/L	3	66.7	HH DW (HQ=1)	0.18	0	0.0021	0.0021	ND	0.019	0.0081	0.0037
Nickel	T	mg/L	3	100	HH DW (HQ=1)	0.73	0			0.012	0.013	0.013	0.013
Potassium	T	mg/L	3	100	No SLC					1.4	1.5	1.5	1.5
Selenium	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.00073	0.00073	ND	ND		
Silver	T	mg/L	3	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	3	100	No SLC					4.5	5	4.7	4.7
Thallium	T	mg/L	3	0	HH DW (HQ=1)	0.0026	0	0.00001	0.00001	ND	ND		
Vanadium	T	mg/L	3	0	HH DW (HQ=1)	0.037	0	0.00064	0.0008	ND	ND		
Zinc	T	mg/L	3	100	HH DW (HQ=1)	11	0			0.058	0.064	0.061	0.062

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-25
Surface Water Spring 2004
RI/FS Hunts Pond
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	3	NA	No SLC					4.4	12.6	9.3	10.9
Eh	T	millivolts	3	NA	No SLC					224	456	350	371
pH	T	SU	3	NA	No SLC					6.1	6.6	6.4	6.4
Specific Conductance	T	uS/cm	3	NA	No SLC					450	548	483	451
Temperature	T	Celsius	3	NA	No SLC					14.5	15.7	14.9	14.6
Turbidity	T	NTU	3	NA	No SLC					0	0.3	0.1	0
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	2	100	No SLC					52.2	52.9	52.6	52.6
Biochemical Oxygen Demand	T	mg/L	2	100	No SLC					1.4	1.8	1.6	1.6
Carbonate (as CaCO3)	T	mg/L	2	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	2	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	2	100	ECO Chronic	230	0			4.6	4.7	4.6	4.6
Chloride	T	mg/L	2	100	HH DW (HQ=1)	250	0			4.6	4.7	4.6	4.6
Cyanide	T	mg/L	2	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	2	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	2	100	HH DW (HQ=1)	2.2	0			1.1	1.1	1.1	1.1
Hydroxide (as CaCO3)	T	mg/L	2	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	2	0	HH DW (HQ=1)	10	0	0.2	0.2	ND	ND		
Nitrite	T	mg/L	2	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	2	100	No SLC					7.1	7.2	7.1	7.1
Phosphate, Ortho As P	T	mg/L	2	0	No SLC			0.01	0.01	ND	ND		
Phosphorus	T	mg/L	2	0	No SLC			0.01	0.01	ND	ND		
Specific Conductance	T	umhos/cm	2	100	No SLC					366	372	369	369
Sulfate	T	mg/L	2	100	HH DW (HQ=1)	1500	0			163	168	166	166
Total Alkalinity	T	mg/L	2	100	No SLC					52.2	52.9	52.6	52.6
Total Dissolved Solids	T	mg/L	2	100	No SLC					268	288	278	278
Total Kjeldahl Nitrogen	T	mg/L	2	0	No SLC			0.24	0.24	ND	ND		
Total Organic Carbon	T	mg/L	2	100	No SLC					1.8	2.2	2	2

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-25
Surface Water Spring 2004
RI/FS Hunts Pond
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Suspended Solids	T	mg/L	2	50	No SLC			1.6	1.6	ND	9.1	5	5
Metals													
Aluminum	D	mg/L	2	0	HH DW (HQ=1)	37	0	0.029	0.034	ND	ND		
Antimony	D	mg/L	2	0	HH DW (HQ=1)	0.015	0	0.00044	0.00052	ND	ND		
Antimony	D	mg/L	2	0	ECO Chronic	0.69	0	0.00044	0.00052	ND	ND		
Arsenic	D	mg/L	2	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	2	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	2	100	HH DW (HQ=1)	2.6	0			0.016	0.017	0.017	0.017
Barium	D	mg/L	2	100	ECO Chronic	0.004	100			0.016	0.017	0.017	0.017
Beryllium	D	mg/L	2	0	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	ND		
Beryllium	D	mg/L	2	0	ECO Chronic	0.0053	0	0.0002	0.0002	ND	ND		
Boron	D	mg/L	2	0	HH DW (HQ=1)	3.3	0	0.0069	0.0073	ND	ND		
Boron	D	mg/L	2	0	ECO Chronic	0.0016	0	0.0069	0.0073	ND	ND		
Cadmium	D	mg/L	2	0	ECO Chronic	0.00025	0	0.0002	0.0002	ND	ND		
Cadmium	D	mg/L	2	0	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	ND		
Calcium	D	mg/L	2	100	No SLC					60.5	61.5	61	61
Chromium	D	mg/L	2	0	ECO Chronic	0.074	0	0.0008	0.0008	ND	ND		
Chromium	D	mg/L	2	0	HH DW (HQ=1)	0.1	0	0.0008	0.0008	ND	ND		
Cobalt	D	mg/L	2	0	ECO Chronic	1.5	0	0.0011	0.0011	ND	ND		
Cobalt	D	mg/L	2	0	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	ND		
Copper	D	mg/L	2	0	ECO Chronic	0.009	0	0.0008	0.0008	ND	ND		
Copper	D	mg/L	2	0	HH DW (HQ=1)	1.4	0	0.0008	0.0008	ND	ND		
Hardness	D	mg/L	2	100	No SLC					197	200	199	199
Iron	D	mg/L	2	0	HH DW (HQ=1)	11	0	0.019	0.022	ND	ND		
Lead	D	mg/L	2	0	ECO Chronic	0.0025	0	0.0004	0.0004	ND	ND		
Lead	D	mg/L	2	0	HH DW (HQ=1)	0.015	0	0.0004	0.0004	ND	ND		
Magnesium	D	mg/L	2	100	No SLC					11.1	11.3	11.2	11.2
Manganese	D	mg/L	2	0	HH DW (HQ=1)	1.7	0	0.0076	0.013	ND	ND		
Manganese	D	mg/L	2	0	ECO Chronic	1.7	0	0.0076	0.013	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-25
Surface Water Spring 2004
RI/FS Hunts Pond
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Mercury	D	mg/L	2	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	2	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	2	100	ECO Chronic	2.2	0			0.021	0.022	0.021	0.021
Molybdenum	D	mg/L	2	100	HH DW (HQ=1)	0.18	0			0.021	0.022	0.021	0.021
Nickel	D	mg/L	2	100	ECO Chronic	0.052	0			0.0026	0.0031	0.0029	0.0029
Nickel	D	mg/L	2	100	HH DW (HQ=1)	0.73	0			0.0026	0.0031	0.0029	0.0029
Potassium	D	mg/L	2	100	No SLC					1.3	1.3	1.3	1.3
Selenium	D	mg/L	2	0	ECO Chronic	0.046	0	0.0007	0.0007	ND	ND		
Selenium	D	mg/L	2	0	HH DW (HQ=1)	0.18	0	0.0007	0.0007	ND	ND		
Silver	D	mg/L	2	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	2	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	2	100	No SLC					6.9	7	7	7
Thallium	D	mg/L	2	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	2	50	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	0.00021	0.00015	0.00015
Vanadium	D	mg/L	2	50	ECO Chronic	0.019	0	0.0002	0.0002	ND	0.00021	0.00015	0.00015
Zinc	D	mg/L	2	100	ECO Chronic	0.12	0			0.078	0.083	0.08	0.08
Zinc	D	mg/L	2	100	HH DW (HQ=1)	11	0			0.078	0.083	0.08	0.08
Aluminum	T	mg/L	2	0	ECO Chronic	0.087	0	0.045	0.061	ND	ND		
Aluminum	T	mg/L	2	0	HH DW (HQ=1)	37	0	0.045	0.061	ND	ND		
Antimony	T	mg/L	2	0	HH DW (HQ=1)	0.015	0	0.0004	0.00046	ND	ND		
Arsenic	T	mg/L	2	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	T	mg/L	2	100	HH DW (HQ=1)	2.6	0			0.017	0.019	0.018	0.018
Beryllium	T	mg/L	2	0	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	ND		
Boron	T	mg/L	2	50	HH DW (HQ=1)	3.3	0	0.0073	0.0073	ND	0.0067	0.0052	0.0052
Cadmium	T	mg/L	2	0	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	ND		
Calcium	T	mg/L	2	100	No SLC					60.8	61.7	61.3	61.3
Chromium	T	mg/L	2	0	HH DW (HQ=1)	0.1	0	0.0008	0.0008	ND	ND		
Cobalt	T	mg/L	2	0	HH DW (HQ=1)	0.73	0	0.0011	0.0011	ND	ND		
Copper	T	mg/L	2	0	HH DW (HQ=1)	1.4	0	0.0008	0.0008	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-25

Surface Water Spring 2004

RI/FS Hunts Pond

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Hardness	T	mg/L	2	100	No SLC					198	201	200	200
Iron	T	mg/L	2	0	HH DW (HQ=1)	11	0	0.051	0.052	ND	ND		
Iron	T	mg/L	2	0	ECO Chronic	1	0	0.051	0.052	ND	ND		
Lead	T	mg/L	2	0	HH DW (HQ=1)	0.015	0	0.0004	0.0004	ND	ND		
Magnesium	T	mg/L	2	100	No SLC					11.2	11.3	11.3	11.3
Manganese	T	mg/L	2	50	HH DW (HQ=1)	1.7	0	0.011	0.011	ND	0.0088	0.0071	0.0071
Mercury	T	mg/L	2	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	2	100	HH DW (HQ=1)	0.18	0			0.02	0.021	0.021	0.021
Nickel	T	mg/L	2	100	HH DW (HQ=1)	0.73	0			0.0025	0.0027	0.0026	0.0026
Potassium	T	mg/L	2	100	No SLC					1.3	1.3	1.3	1.3
Selenium	T	mg/L	2	0	HH DW (HQ=1)	0.18	0	0.0007	0.0007	ND	ND		
Silver	T	mg/L	2	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	2	100	No SLC					6.8	7	6.9	6.9
Thallium	T	mg/L	2	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	2	50	HH DW (HQ=1)	0.037	0	0.0002	0.0002	ND	0.00026	0.00018	0.00018
Zinc	T	mg/L	2	100	HH DW (HQ=1)	11	0			0.078	0.089	0.084	0.084

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-26

Surface Water Spring and Fall 2003

RI/FS Unique Habitats

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	7	NA	No SLC					6.9	10.6	9.5	10.1
EH	T	millivolts	7	NA	No SLC					180	254	215	207
Flow	T	cfs	1	NA	No SLC					2.9	2.9	2.9	2.9
pH	T	SU	7	NA	No SLC					5.6	7	6.5	6.6
Specific Conductance	T	uS/cm	7	NA	No SLC					290	780	423	378
Temperature	T	Celsius	7	NA	No SLC					2.8	9.9	6	6.2
Turbidity	T	NTU	7	NA	No SLC					0	95.1	37.7	19.2
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	7	100	No SLC					40.9	123	65.8	60.9
Biochemical Oxygen Demand	T	mg/L	7	28.6	No SLC			1.4	1.5	ND	1.8		
Carbonate (as CaCO3)	T	mg/L	7	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	7	14.3	No SLC			20	20	ND	23.8		
Chloride	T	mg/L	7	100	ECO Chronic	230	0			2.6	6.5	4.6	4.9
Chloride	T	mg/L	7	100	HH DW (HQ=1)	250	0			2.6	6.5	4.6	4.9
Cyanide	T	mg/L	7	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	7	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	7	100	HH DW (HQ=1)	2.2	0			0.53	1	0.78	0.78
Hydroxide (as CaCO3)	T	mg/L	7	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	7	100	HH DW (HQ=1)	10	0			0.2	0.89	0.52	0.44
Nitrite	T	mg/L	7	14.3	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.011		
pH	T	SU	7	100	No SLC					7.3	7.6	7.5	7.5
Phosphate, Ortho As P	T	mg/L	7	28.6	No SLC			0.01	0.21	ND	0.69		
Phosphorus	T	mg/L	7	85.7	No SLC			0.014	0.014	ND	0.064	0.04	0.052
Specific Conductance	T	umhos/cm	7	100	No SLC					259	809	389	331
Sulfate	T	mg/L	7	100	HH DW (HQ=1)	1500	0			73.1	376	150	112
Total Alkalinity	T	mg/L	7	100	No SLC					40.9	123	65.8	60.9
Total Dissolved Solids	T	mg/L	7	100	No SLC					162	682	299	244
Total Kjeldahl Nitrogen	T	mg/L	7	0	No SLC			0.24	0.24	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-26

Surface Water Spring and Fall 2003

RI/FS Unique Habitats

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	7	100	No SLC					1.1	3.6	2.2	1.7
Total Suspended Solids	T	mg/L	7	100	No SLC					6.1	22.3	13.8	11.7
Metals													
Aluminum	D	mg/L	7	42.9	HH DW (HQ=1)	37	0	0.007	0.51	ND	0.14		
Antimony	D	mg/L	7	0	ECO Chronic	0.69	0	0.0002	0.0006	ND	ND		
Antimony	D	mg/L	7	0	HH DW (HQ=1)	0.015	0	0.0002	0.0006	ND	ND		
Arsenic	D	mg/L	7	14.3	ECO Chronic	0.15	0	0.00038	0.00051	ND	0.00039		
Arsenic	D	mg/L	7	14.3	HH DW (HQ=1)	0.01	0	0.00038	0.00051	ND	0.00039		
Barium	D	mg/L	7	100	ECO Chronic	0.004	100			0.032	0.042	0.037	0.038
Barium	D	mg/L	7	100	HH DW (HQ=1)	2.6	0			0.032	0.042	0.037	0.038
Beryllium	D	mg/L	7	0	HH DW (HQ=1)	0.073	0	0.0003	0.001	ND	ND		
Beryllium	D	mg/L	7	0	ECO Chronic	0.0053	0	0.0003	0.001	ND	ND		
Boron	D	mg/L	7	57.1	ECO Chronic	0.0016	100	0.0084	0.0084	ND	0.023	0.0079	0.0056
Boron	D	mg/L	7	57.1	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	0.023	0.0079	0.0056
Cadmium	D	mg/L	7	85.7	ECO Chronic	0.00025	83.3	0.0005	0.0005	ND	0.00094	0.00046	0.00032
Cadmium	D	mg/L	7	85.7	HH DW (HQ=1)	0.018	0	0.0005	0.0005	ND	0.00094	0.00046	0.00032
Calcium	D	mg/L	7	100	No SLC					41.3	140	64.4	56.3
Chromium	D	mg/L	7	0	ECO Chronic	0.074	0	0.001	0.001	ND	ND		
Chromium	D	mg/L	7	0	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	ND		
Cobalt	D	mg/L	7	57.1	ECO Chronic	1.5	0	0.0038	0.0038	ND	0.0034	0.0021	0.0019
Cobalt	D	mg/L	7	57.1	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	0.0034	0.0021	0.0019
Copper	D	mg/L	7	42.9	ECO Chronic	0.009	0	0.0014	0.0033	ND	0.0065		
Copper	D	mg/L	7	42.9	HH DW (HQ=1)	1.4	0	0.0014	0.0033	ND	0.0065		
Hardness	D	mg/L	7	100	No SLC					138	448	214	188
Iron	D	mg/L	7	0	HH DW (HQ=1)	11	0	0.044	0.42	ND	ND		
Lead	D	mg/L	7	0	HH DW (HQ=1)	0.015	0	0.00004	0.0002	ND	ND		
Lead	D	mg/L	7	0	ECO Chronic	0.0025	0	0.00004	0.0002	ND	ND		
Magnesium	D	mg/L	7	100	No SLC					8.4	23.9	13	11.6
Manganese	D	mg/L	7	100	HH DW (HQ=1)	1.7	0			0.11	0.44	0.25	0.23

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-26

Surface Water Spring and Fall 2003

RI/FS Unique Habitats

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	7	100	ECO Chronic	1.7	0			0.11	0.44	0.25	0.23
Mercury	D	mg/L	7	0	HH DW (HQ=1)	0.011	0	0.00006	0.0001	ND	ND		
Mercury	D	mg/L	7	0	ECO Chronic	0.00077	0	0.00006	0.0001	ND	ND		
Molybdenum	D	mg/L	7	85.7	ECO Chronic	2.2	0	0.002	0.002	ND	0.39	0.059	0.0035
Molybdenum	D	mg/L	7	85.7	HH DW (HQ=1)	0.18	16.7	0.002	0.002	ND	0.39	0.059	0.0035
Nickel	D	mg/L	7	85.7	ECO Chronic	0.052	0	0.0045	0.0045	ND	0.025	0.016	0.016
Nickel	D	mg/L	7	85.7	HH DW (HQ=1)	0.73	0	0.0045	0.0045	ND	0.025	0.016	0.016
Potassium	D	mg/L	7	85.7	No SLC			1.3	1.3	ND	2.8	1.7	1.6
Selenium	D	mg/L	7	14.3	ECO Chronic	0.046	0	0.00073	0.0028	ND	0.00078		
Selenium	D	mg/L	7	14.3	HH DW (HQ=1)	0.18	0	0.00073	0.0028	ND	0.00078		
Silver	D	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Silver	D	mg/L	7	0	ECO Chronic	0.00032	0	0.0002	0.0002	ND	ND		
Sodium	D	mg/L	7	71.4	No SLC			15.7	16.2	ND	37.2	10.7	6.5
Thallium	D	mg/L	7	0	HH DW (HQ=1)	0.0026	0	0.00001	0.0002	ND	ND		
Vanadium	D	mg/L	7	0	ECO Chronic	0.019	0	0.0002	0.00083	ND	ND		
Vanadium	D	mg/L	7	0	HH DW (HQ=1)	0.26	0	0.0002	0.00083	ND	ND		
Zinc	D	mg/L	7	85.7	HH DW (HQ=1)	11	0	0.013	0.013	ND	0.15	0.094	0.095
Zinc	D	mg/L	7	85.7	ECO Chronic	0.12	33.3	0.013	0.013	ND	0.15	0.094	0.095
Aluminum	T	mg/L	7	85.7	HH DW (HQ=1)	37	0	1.3	1.3	ND	2.4	1.2	0.97
Aluminum	T	mg/L	7	85.7	ECO Chronic	0.087	100	1.3	1.3	ND	2.4	1.2	0.97
Antimony	T	mg/L	7	0	HH DW (HQ=1)	0.015	0	0.00014	0.0006	ND	ND		
Arsenic	T	mg/L	7	0	HH DW (HQ=1)	0.01	0	0.00038	0.0006	ND	ND		
Barium	T	mg/L	7	100	HH DW (HQ=1)	2.6	0			0.039	0.062	0.044	0.041
Beryllium	T	mg/L	7	14.3	HH DW (HQ=1)	0.073	0	0.0003	0.0015	ND	0.0018		
Boron	T	mg/L	7	57.1	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	0.023	0.0076	0.0052
Cadmium	T	mg/L	7	85.7	HH DW (HQ=1)	0.018	0	0.0005	0.0005	ND	0.00086	0.00047	0.00043
Calcium	T	mg/L	7	100	No SLC					42.7	136	63.8	53.4
Chromium	T	mg/L	7	0	HH DW (HQ=1)	0.1	0	0.001	0.0015	ND	ND		
Cobalt	T	mg/L	7	57.1	HH DW (HQ=1)	0.73	0	0.0011	0.0038	ND	0.004	0.002	0.0019

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-26

Surface Water Spring and Fall 2003

RI/FS Unique Habitats

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	7	57.1	HH DW (HQ=1)	1.4	0	0.0024	0.0094	ND	0.024	0.011	0.012
Hardness	T	mg/L	7	100	No SLC					142	436	213	179
Iron	T	mg/L	7	71.4	ECO Chronic	1	20	0.31	0.81	ND	1.3	0.57	0.4
Iron	T	mg/L	7	71.4	HH DW (HQ=1)	11	0	0.31	0.81	ND	1.3	0.57	0.4
Lead	T	mg/L	7	57.1	HH DW (HQ=1)	0.015	0	0.00061	0.0015	ND	0.0036	0.0011	0.00075
Magnesium	T	mg/L	7	100	No SLC					8.6	23.3	12.9	11.3
Manganese	T	mg/L	7	100	HH DW (HQ=1)	1.7	0			0.11	0.46	0.26	0.24
Mercury	T	mg/L	7	0	HH DW (HQ=1)	0.011	0	0.00006	0.0001	ND	ND		
Molybdenum	T	mg/L	7	57.1	HH DW (HQ=1)	0.18	25	0.0022	0.0026	ND	0.39	0.057	0.0037
Nickel	T	mg/L	7	85.7	HH DW (HQ=1)	0.73	0	0.0049	0.0049	ND	0.026	0.017	0.016
Potassium	T	mg/L	7	100	No SLC					1.4	2.8	1.8	1.7
Selenium	T	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.00073	0.0029	ND	ND		
Silver	T	mg/L	7	0	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	ND		
Sodium	T	mg/L	7	71.4	No SLC			15	16.4	ND	36.2	10.5	6.1
Thallium	T	mg/L	7	0	HH DW (HQ=1)	0.0026	0	0.00001	0.0002	ND	ND		
Vanadium	T	mg/L	7	85.7	HH DW (HQ=1)	0.037	0	0.0011	0.0011	ND	0.001	0.00057	0.00055
Zinc	T	mg/L	7	85.7	HH DW (HQ=1)	11	0	0.013	0.013	ND	0.22	0.13	0.13

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-27

Surface Water Spring 2003

RI/FS Snowmelt Sampling Event

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
pH	T	SU	60	NA	No SLC					6.4	8.1	7.6	7.7
Specific Conductance	T	uS/cm	60	NA	No SLC					247	361	290	291
Inorganics													
Chloride	T	mg/L	60	100	ECO Chronic	230	0			0.57	4.9	4.4	4.5
Chloride	T	mg/L	60	100	HH DW (HQ=1)	250	0			0.57	4.9	4.4	4.5
Fluoride	T	mg/L	60	100	HH DW (HQ=1)	2.2	0			0.28	0.73	0.49	0.54
Nitrate	T	mg/L	60	36.7	HH DW (HQ=1)	10	0	0.4	0.4	ND	0.51		
Nitrite	T	mg/L	60	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	60	100	No SLC					6.9	8.1	7.6	7.7
Specific Conductance	T	umhos/cm	60	100	No SLC					2	337	257	264
Sulfate	T	mg/L	60	100	HH DW (HQ=1)	1500	0			55	110	75.8	74.5
Total Dissolved Solids	T	mg/L	60	100	No SLC					132	254	190	188
Total Suspended Solids	T	mg/L	59	100	No SLC					10.5	34.3	18	17.8
Metals													
Aluminum	D	mg/L	60	56.7	HH DW (HQ=1)	37	0	0.05	0.4	ND	0.21	0.13	0.14
Antimony	D	mg/L	60	0	ECO Chronic	0.69	0	0.0003	0.00072	ND	ND		
Antimony	D	mg/L	60	0	HH DW (HQ=1)	0.015	0	0.0003	0.00072	ND	ND		
Arsenic	D	mg/L	60	6.7	ECO Chronic	0.15	0	0.0002	0.0002	ND	0.00033		
Arsenic	D	mg/L	60	6.7	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00033		
Barium	D	mg/L	60	100	ECO Chronic	0.004	100			0.027	0.041	0.032	0.032
Barium	D	mg/L	60	100	HH DW (HQ=1)	2.6	0			0.027	0.041	0.032	0.032
Beryllium	D	mg/L	60	0	ECO Chronic	0.0053	0	0.0003	0.0003	ND	ND		
Beryllium	D	mg/L	60	0	HH DW (HQ=1)	0.073	0	0.0003	0.0003	ND	ND		
Boron	D	mg/L	60	11.7	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	0.011		
Boron	D	mg/L	60	11.7	ECO Chronic	0.0016	100	0.0084	0.0084	ND	0.011		
Cadmium	D	mg/L	60	56.7	ECO Chronic	0.00025	47.1	0.0001	0.0005	ND	0.00039	0.00024	0.00025
Cadmium	D	mg/L	60	56.7	HH DW (HQ=1)	0.018	0	0.0001	0.0005	ND	0.00039	0.00024	0.00025

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-27

Surface Water Spring 2003

RI/FS Snowmelt Sampling Event

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Calcium	D	mg/L	60	100	No SLC					31.7	53.2	38.6	38.4
Chromium	D	mg/L	60	11.7	ECO Chronic	0.074	0	0.001	0.001	ND	0.0028		
Chromium	D	mg/L	60	11.7	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	0.0028		
Cobalt	D	mg/L	60	0	ECO Chronic	1.5	0	0.0038	0.0038	ND	ND		
Cobalt	D	mg/L	60	0	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	ND		
Copper	D	mg/L	60	95	ECO Chronic	0.009	3.5	0.0045	0.0046	ND	0.021	0.0053	0.0049
Copper	D	mg/L	60	95	HH DW (HQ=1)	1.4	0	0.0045	0.0046	ND	0.021	0.0053	0.0049
Hardness	D	mg/L	60	100	No SLC					108	178	131	131
Iron	D	mg/L	60	13.3	HH DW (HQ=1)	11	0	0.031	0.64	ND	0.068		
Lead	D	mg/L	60	3.3	ECO Chronic	0.0025	0	0.0001	0.0011	ND	0.00017		
Lead	D	mg/L	60	3.3	HH DW (HQ=1)	0.015	0	0.0001	0.0011	ND	0.00017		
Magnesium	D	mg/L	60	100	No SLC					7	10.9	8.3	8.4
Manganese	D	mg/L	60	98.3	ECO Chronic	1.7	0	0.084	0.084	ND	0.2	0.13	0.12
Manganese	D	mg/L	60	98.3	HH DW (HQ=1)	1.7	0	0.084	0.084	ND	0.2	0.13	0.12
Mercury	D	mg/L	60	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	60	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	60	23.3	ECO Chronic	2.2	0	0.0023	0.0023	ND	0.037		
Molybdenum	D	mg/L	60	23.3	HH DW (HQ=1)	0.18	0	0.0023	0.0023	ND	0.037		
Nickel	D	mg/L	60	60	ECO Chronic	0.052	2.8	0.0042	0.013	ND	0.12	0.0084	0.0053
Nickel	D	mg/L	60	60	HH DW (HQ=1)	0.73	0	0.0042	0.013	ND	0.12	0.0084	0.0053
Potassium	D	mg/L	60	65	No SLC			1	1.8	ND	2	1.1	1.2
Selenium	D	mg/L	60	8.3	ECO Chronic	0.046	0	0.0005	0.001	ND	0.0011		
Selenium	D	mg/L	60	8.3	HH DW (HQ=1)	0.18	0	0.0005	0.001	ND	0.0011		
Silver	D	mg/L	60	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	60	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	60	86.7	No SLC			4.8	9.6	ND	12.1	5.5	5
Thallium	D	mg/L	60	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0002	ND	ND		
Vanadium	D	mg/L	60	63.3	ECO Chronic	0.019	0	0.0001	0.0002	ND	0.0004	0.00016	0.00013
Vanadium	D	mg/L	60	63.3	HH DW (HQ=1)	0.26	0	0.0001	0.0002	ND	0.0004	0.00016	0.00013

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-27
Surface Water Spring 2003
RI/FS Snowmelt Sampling Event
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Zinc	D	mg/L	60	56.7	ECO Chronic	0.12	0	0.014	0.072	ND	0.073	0.031	0.027
Zinc	D	mg/L	60	56.7	HH DW (HQ=1)	11	0	0.014	0.072	ND	0.073	0.031	0.027
Aluminum	T	mg/L	60	100	ECO Chronic	0.087	100			0.37	1.5	0.82	0.7
Aluminum	T	mg/L	60	100	HH DW (HQ=1)	37	0			0.37	1.5	0.82	0.7
Antimony	T	mg/L	60	1.7	HH DW (HQ=1)	0.015	0	0.0003	0.0013	ND	0.00051		
Arsenic	T	mg/L	60	40	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00041		
Barium	T	mg/L	60	100	HH DW (HQ=1)	2.6	0			0.033	0.051	0.039	0.039
Beryllium	T	mg/L	60	16.7	HH DW (HQ=1)	0.073	0	0.0003	0.00038	ND	0.0004		
Boron	T	mg/L	60	6.7	HH DW (HQ=1)	3.3	0	0.0084	0.0084	ND	0.011		
Cadmium	T	mg/L	60	63.3	HH DW (HQ=1)	0.018	0	0.0001	0.0005	ND	0.00051	0.00027	0.00025
Calcium	T	mg/L	60	100	No SLC					31.4	49.9	38.7	38.3
Chromium	T	mg/L	60	28.3	HH DW (HQ=1)	0.1	0	0.001	0.001	ND	0.0016		
Cobalt	T	mg/L	60	0	HH DW (HQ=1)	0.73	0	0.0038	0.0038	ND	ND		
Copper	T	mg/L	60	95	HH DW (HQ=1)	1.4	0	0.01	0.011	ND	0.02	0.012	0.012
Hardness	T	mg/L	60	100	No SLC					107	167	131	130
Iron	T	mg/L	60	65	ECO Chronic	1	0	0.13	0.69	ND	0.9	0.41	0.41
Iron	T	mg/L	60	65	HH DW (HQ=1)	11	0	0.13	0.69	ND	0.9	0.41	0.41
Lead	T	mg/L	60	85	HH DW (HQ=1)	0.015	0	0.0001	0.001	ND	0.0073	0.0011	0.00094
Magnesium	T	mg/L	60	100	No SLC					7	10.3	8.4	8.4
Manganese	T	mg/L	60	98.3	HH DW (HQ=1)	1.7	0	0.11	0.11	ND	0.24	0.15	0.14
Mercury	T	mg/L	60	1.7	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00015		
Molybdenum	T	mg/L	60	23.3	HH DW (HQ=1)	0.18	0	0.0023	0.0023	ND	0.035		
Nickel	T	mg/L	60	60	HH DW (HQ=1)	0.73	0	0.0055	0.014	ND	0.064	0.0085	0.0063
Potassium	T	mg/L	60	68.3	No SLC			1.1	1.6	ND	2.3	1.1	1.3
Selenium	T	mg/L	60	6.7	HH DW (HQ=1)	0.18	0	0.0005	0.001	ND	0.0011		
Silver	T	mg/L	60	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	T	mg/L	60	85	No SLC			3.5	10.4	ND	12.7	5.5	5.1
Thallium	T	mg/L	60	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0002	ND	ND		
Vanadium	T	mg/L	60	100	HH DW (HQ=1)	0.037	0			0.0003	0.0011	0.00047	0.00043

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-27

Surface Water Spring 2003

RI/FS Snowmelt Sampling Event

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Zinc	T	mg/L	60	68.3	HH DW (HQ=1)	11	0	0.04	0.12	ND	0.11	0.053	0.046

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-28

Surface Water Summer 2003

RI/FS Storm Event 1

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
pH	T	SU	12	NA	No SLC					3.7	7.1	6.1	6.7
Specific Conductance	T	uS/cm	12	NA	No SLC					261	965	453	342
Inorganics													
Chloride	T	mg/L	12	100	ECO Chronic	230	0			2.8	4.7	3.8	4
Chloride	T	mg/L	12	100	HH DW (HQ=1)	250	0			2.8	4.7	3.8	4
Fluoride	T	mg/L	12	100	HH DW (HQ=1)	2.2	0			0.32	1.2	0.69	0.68
Nitrate	T	mg/L	12	91.7	HH DW (HQ=1)	10	0	0.4	0.4	ND	0.57	0.45	0.47
Nitrite	T	mg/L	12	41.7	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.0096		
Sulfate	T	mg/L	12	100	HH DW (HQ=1)	1500	0			63.7	646	191	101
Total Dissolved Solids	T	mg/L	12	33.3	No SLC			192	752	ND	952		
Total Suspended Solids	T	mg/L	12	100	No SLC					127	19000	3580	587
Metals													
Aluminum	D	mg/L	12	66.7	HH DW (HQ=1)	37	0	0.058	0.13	ND	7.7	1.3	0.074
Antimony	D	mg/L	12	0	ECO Chronic	0.69	0	0.0005	0.0011	ND	ND		
Antimony	D	mg/L	12	0	HH DW (HQ=1)	0.015	0	0.0005	0.0011	ND	ND		
Arsenic	D	mg/L	12	8.3	ECO Chronic	0.15	0	0.0002	0.0002	ND	0.00021		
Arsenic	D	mg/L	12	8.3	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00021		
Barium	D	mg/L	12	100	ECO Chronic	0.004	100			0.022	0.034	0.027	0.025
Barium	D	mg/L	12	100	HH DW (HQ=1)	2.6	0			0.022	0.034	0.027	0.025
Beryllium	D	mg/L	12	16.7	ECO Chronic	0.0053	0	0.0002	0.0012	ND	0.0026		
Beryllium	D	mg/L	12	16.7	HH DW (HQ=1)	0.073	0	0.0002	0.0012	ND	0.0026		
Boron	D	mg/L	12	100	HH DW (HQ=1)	3.3	0			0.0059	0.015	0.0094	0.0095
Boron	D	mg/L	12	100	ECO Chronic	0.0016	100			0.0059	0.015	0.0094	0.0095
Cadmium	D	mg/L	12	41.7	ECO Chronic	0.00025	100	0.0002	0.0002	ND	0.0047		
Cadmium	D	mg/L	12	41.7	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.0047		
Calcium	D	mg/L	12	100	No SLC					36.3	197	76.4	48.4
Chromium	D	mg/L	12	0	ECO Chronic	0.074	0	0.0006	0.0019	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-28

Surface Water Summer 2003

RI/FS Storm Event 1

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Chromium	D	mg/L	12	0	HH DW (HQ=1)	0.1	0	0.0006	0.0019	ND	ND		
Cobalt	D	mg/L	12	100	HH DW (HQ=1)	0.73	0			0.0023	0.044	0.013	0.0028
Cobalt	D	mg/L	12	100	ECO Chronic	1.5	0			0.0023	0.044	0.013	0.0028
Copper	D	mg/L	12	66.7	ECO Chronic	0.009	37.5	0.0027	0.0039	ND	0.29	0.048	0.0029
Copper	D	mg/L	12	66.7	HH DW (HQ=1)	1.4	0	0.0027	0.0039	ND	0.29	0.048	0.0029
Hardness	D	mg/L	12	100	No SLC					121	548	234	158
Iron	D	mg/L	12	8.3	HH DW (HQ=1)	11	0	0.019	0.065	ND	0.21		
Lead	D	mg/L	12	33.3	ECO Chronic	0.0025	0	0.0001	0.0001	ND	0.00036		
Lead	D	mg/L	12	33.3	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	0.00036		
Magnesium	D	mg/L	12	100	No SLC					7.4	19.7	10.5	9.2
Manganese	D	mg/L	12	100	ECO Chronic	1.7	25			0.053	2.7	0.61	0.13
Manganese	D	mg/L	12	100	HH DW (HQ=1)	1.7	25			0.053	2.7	0.61	0.13
Mercury	D	mg/L	12	0	HH DW (HQ=1)	0.011	0	0.0001	0.00013	ND	ND		
Mercury	D	mg/L	12	0	ECO Chronic	0.00077	0	0.0001	0.00013	ND	ND		
Molybdenum	D	mg/L	12	75	ECO Chronic	2.2	0	0.0003	0.0003	ND	0.033	0.01	0.0032
Molybdenum	D	mg/L	12	75	HH DW (HQ=1)	0.18	0	0.0003	0.0003	ND	0.033	0.01	0.0032
Nickel	D	mg/L	12	100	ECO Chronic	0.052	25			0.0028	0.097	0.027	0.0051
Nickel	D	mg/L	12	100	HH DW (HQ=1)	0.73	0			0.0028	0.097	0.027	0.0051
Potassium	D	mg/L	12	100	No SLC					1.4	3.8	2.1	1.9
Selenium	D	mg/L	12	25	ECO Chronic	0.046	0	0.0008	0.0008	ND	0.0018		
Selenium	D	mg/L	12	25	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	0.0018		
Silver	D	mg/L	12	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	12	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	12	100	No SLC					4.3	9.8	6.4	5.2
Thallium	D	mg/L	12	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	12	0	HH DW (HQ=1)	0.26	0	0.0002	0.0002	ND	ND		
Vanadium	D	mg/L	12	0	ECO Chronic	0.019	0	0.0002	0.0002	ND	ND		
Zinc	D	mg/L	12	83.3	ECO Chronic	0.12	30	0.0056	0.0061	ND	0.7	0.16	0.017
Zinc	D	mg/L	12	83.3	HH DW (HQ=1)	11	0	0.0056	0.0061	ND	0.7	0.16	0.017

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-28

Surface Water Summer 2003

RI/FS Storm Event 1

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Aluminum	T	mg/L	12	100	ECO Chronic	0.087	100			3.1	53	15.3	7.2
Aluminum	T	mg/L	12	100	HH DW (HQ=1)	37	16.7			3.1	53	15.3	7.2
Antimony	T	mg/L	12	0	HH DW (HQ=1)	0.015	0	0.0005	0.0021	ND	ND		
Arsenic	T	mg/L	12	100	HH DW (HQ=1)	0.01	0			0.00072	0.0042	0.0018	0.0014
Barium	T	mg/L	12	100	HH DW (HQ=1)	2.6	0			0.039	0.12	0.085	0.085
Beryllium	T	mg/L	12	66.7	HH DW (HQ=1)	0.073	0	0.0013	0.0015	ND	0.012	0.0038	0.0027
Boron	T	mg/L	12	100	HH DW (HQ=1)	3.3	0			0.0062	0.013	0.0097	0.0096
Cadmium	T	mg/L	12	100	HH DW (HQ=1)	0.018	0			0.00099	0.0063	0.0027	0.0018
Calcium	T	mg/L	12	100	No SLC					40.2	226	86	51.5
Chromium	T	mg/L	12	91.7	HH DW (HQ=1)	0.1	0	0.0026	0.0026	ND	0.037	0.012	0.0056
Cobalt	T	mg/L	12	100	HH DW (HQ=1)	0.73	0			0.008	0.22	0.047	0.015
Copper	T	mg/L	12	100	HH DW (HQ=1)	1.4	0			0.041	1.4	0.27	0.089
Hardness	T	mg/L	12	100	No SLC					136	688	267	170
Iron	T	mg/L	12	100	HH DW (HQ=1)	11	41.7			3.1	70.6	21.5	9.2
Iron	T	mg/L	12	100	ECO Chronic	1	100			3.1	70.6	21.5	9.2
Lead	T	mg/L	12	100	HH DW (HQ=1)	0.015	0			0.0016	0.012	0.0078	0.0083
Magnesium	T	mg/L	12	100	No SLC					8.5	29.9	12.7	10
Manganese	T	mg/L	12	100	HH DW (HQ=1)	1.7	33.3			0.48	11.5	2.4	0.93
Mercury	T	mg/L	12	33.3	HH DW (HQ=1)	0.011	0	0.0001	0.0004	ND	0.0015		
Molybdenum	T	mg/L	12	100	HH DW (HQ=1)	0.18	0			0.00033	0.013	0.0044	0.0018
Nickel	T	mg/L	12	100	HH DW (HQ=1)	0.73	0			0.024	0.26	0.079	0.049
Potassium	T	mg/L	12	100	No SLC					1.5	6.7	2.7	2.2
Selenium	T	mg/L	12	75	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	0.0041	0.0016	0.0011
Silver	T	mg/L	12	8.3	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	0.00011		
Sodium	T	mg/L	12	100	No SLC					4.3	9.9	6.3	5.1
Thallium	T	mg/L	12	25	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	0.00018		
Vanadium	T	mg/L	12	100	HH DW (HQ=1)	0.037	0			0.0013	0.031	0.0094	0.0043
Zinc	T	mg/L	12	100	HH DW (HQ=1)	11	0			0.28	1.1	0.62	0.57

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-29

Surface Water Summer 2003

RI/FS Storm Event 2

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
pH	T	SU	20	NA	No SLC					6.7	8.5	7.8	8
Specific Conductance	T	uS/cm	20	NA	No SLC					279	647	446	430
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	20	100	No SLC					26.6	76.2	57.8	61
Carbonate (as CaCO3)	T	mg/L	20	0	No SLC			1	1	ND	ND		
Chloride	T	mg/L	20	100	ECO Chronic	230	0			3	5.1	3.5	3.2
Chloride	T	mg/L	20	100	HH DW (HQ=1)	250	0			3	5.1	3.5	3.2
Fluoride	T	mg/L	20	100	HH DW (HQ=1)	2.2	0			0.32	0.79	0.59	0.61
Hydroxide (as CaCO3)	T	mg/L	20	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	20	100	HH DW (HQ=1)	10	0			0.24	0.44	0.35	0.36
Nitrite	T	mg/L	20	20	HH DW (HQ=1)	1	0	0.005	0.0052	ND	0.0063		
pH	T	SU	20	100	No SLC					7.5	8.1	7.8	7.9
Specific Conductance	T	umhos/cm	20	100	No SLC					247	415	305	292
Sulfate	T	mg/L	20	100	HH DW (HQ=1)	1500	0			63.8	130	96.3	95
Total Alkalinity	T	mg/L	20	100	No SLC					26.6	76.2	57.8	61
Total Dissolved Solids	T	mg/L	20	65	No SLC			238	264	ND	332	207	204
Total Suspended Solids	T	mg/L	18	100	No SLC					7.9	580	110	42.7
Metals													
Aluminum	D	mg/L	20	80	HH DW (HQ=1)	37	0	0.058	0.11	ND	2.8	0.28	0.14
Antimony	D	mg/L	20	0	ECO Chronic	0.69	0	0.0005	0.001	ND	ND		
Antimony	D	mg/L	20	0	HH DW (HQ=1)	0.015	0	0.0005	0.001	ND	ND		
Arsenic	D	mg/L	20	10	ECO Chronic	0.15	0	0.0002	0.0002	ND	0.00052		
Arsenic	D	mg/L	20	10	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00052		
Barium	D	mg/L	20	100	ECO Chronic	0.004	100			0.011	0.039	0.028	0.03
Barium	D	mg/L	20	100	HH DW (HQ=1)	2.6	0			0.011	0.039	0.028	0.03
Beryllium	D	mg/L	20	5	ECO Chronic	0.0053	0	0.0002	0.0004	ND	0.00037		
Beryllium	D	mg/L	20	5	HH DW (HQ=1)	0.073	0	0.0002	0.0004	ND	0.00037		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-29

Surface Water Summer 2003

RI/FS Storm Event 2

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Boron	D	mg/L	20	100	ECO Chronic	0.0016	100			0.0058	0.016	0.011	0.011
Boron	D	mg/L	20	100	HH DW (HQ=1)	3.3	0			0.0058	0.016	0.011	0.011
Cadmium	D	mg/L	20	35	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.00047		
Cadmium	D	mg/L	20	35	ECO Chronic	0.00025	71.4	0.0002	0.0002	ND	0.00047		
Calcium	D	mg/L	20	100	No SLC					36.9	59.2	46.4	44.6
Chromium	D	mg/L	20	15	ECO Chronic	0.074	0	0.0006	0.0019	ND	0.0033		
Chromium	D	mg/L	20	15	HH DW (HQ=1)	0.1	0	0.0006	0.0019	ND	0.0033		
Cobalt	D	mg/L	20	20	ECO Chronic	1.5	0	0.0018	0.0037	ND	0.0066		
Cobalt	D	mg/L	20	20	HH DW (HQ=1)	0.73	0	0.0018	0.0037	ND	0.0066		
Copper	D	mg/L	20	100	ECO Chronic	0.009	5			0.0016	0.031	0.0043	0.0027
Copper	D	mg/L	20	100	HH DW (HQ=1)	1.4	0			0.0016	0.031	0.0043	0.0027
Hardness	D	mg/L	20	100	No SLC					125	196	156	151
Iron	D	mg/L	20	15	HH DW (HQ=1)	11	0	0.017	0.067	ND	1.8		
Lead	D	mg/L	20	10	ECO Chronic	0.0025	0	0.0001	0.0001	ND	0.0024		
Lead	D	mg/L	20	10	HH DW (HQ=1)	0.015	0	0.0001	0.0001	ND	0.0024		
Magnesium	D	mg/L	20	100	No SLC					7.9	11.6	9.9	9.7
Manganese	D	mg/L	20	100	ECO Chronic	1.7	0			0.08	0.54	0.19	0.17
Manganese	D	mg/L	20	100	HH DW (HQ=1)	1.7	0			0.08	0.54	0.19	0.17
Mercury	D	mg/L	20	5	ECO Chronic	0.00077	0	0.0001	0.0001	ND	0.00014		
Mercury	D	mg/L	20	5	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00014		
Molybdenum	D	mg/L	20	95	HH DW (HQ=1)	0.18	0	0.0024	0.0024	ND	0.053	0.012	0.0021
Molybdenum	D	mg/L	20	95	ECO Chronic	2.2	0	0.0024	0.0024	ND	0.053	0.012	0.0021
Nickel	D	mg/L	20	95	ECO Chronic	0.052	0	0.0006	0.0006	ND	0.012	0.0061	0.0052
Nickel	D	mg/L	20	95	HH DW (HQ=1)	0.73	0	0.0006	0.0006	ND	0.012	0.0061	0.0052
Potassium	D	mg/L	20	100	No SLC					1.2	2	1.5	1.4
Selenium	D	mg/L	20	0	ECO Chronic	0.046	0	0.0008	0.0016	ND	ND		
Selenium	D	mg/L	20	0	HH DW (HQ=1)	0.18	0	0.0008	0.0016	ND	ND		
Silver	D	mg/L	20	0	ECO Chronic	0.00032	0	0.0001	0.0002	ND	ND		
Silver	D	mg/L	20	0	HH DW (HQ=1)	0.18	0	0.0001	0.0002	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-29

Surface Water Summer 2003

RI/FS Storm Event 2

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Sodium	D	mg/L	20	100	No SLC					5	13.1	6.9	5.4
Thallium	D	mg/L	20	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	20	25	ECO Chronic	0.019	0	0.0002	0.0004	ND	0.00067		
Vanadium	D	mg/L	20	25	HH DW (HQ=1)	0.26	0	0.0002	0.0004	ND	0.00067		
Zinc	D	mg/L	20	80	ECO Chronic	0.12	0	0.0057	0.0057	ND	0.099	0.021	0.016
Zinc	D	mg/L	20	80	HH DW (HQ=1)	11	0	0.0057	0.0057	ND	0.099	0.021	0.016
Aluminum	T	mg/L	20	100	HH DW (HQ=1)	37	0			0.89	18	4.4	2.4
Aluminum	T	mg/L	20	100	ECO Chronic	0.087	100			0.89	18	4.4	2.4
Antimony	T	mg/L	20	0	HH DW (HQ=1)	0.015	0	0.0005	0.0013	ND	ND		
Arsenic	T	mg/L	20	100	HH DW (HQ=1)	0.01	5			0.00033	0.01	0.0017	0.0011
Barium	T	mg/L	20	100	HH DW (HQ=1)	2.6	0			0.047	0.44	0.11	0.074
Beryllium	T	mg/L	20	70	HH DW (HQ=1)	0.073	0	0.0002	0.0004	ND	0.003	0.00072	0.00033
Boron	T	mg/L	20	100	HH DW (HQ=1)	3.3	0			0.0063	0.017	0.011	0.01
Cadmium	T	mg/L	20	95	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.0018	0.00072	0.00056
Calcium	T	mg/L	20	100	No SLC					37.4	59.4	47.6	47.4
Chromium	T	mg/L	20	60	HH DW (HQ=1)	0.1	0	0.0006	0.0019	ND	0.021	0.004	0.0023
Cobalt	T	mg/L	20	85	HH DW (HQ=1)	0.73	0	0.0018	0.0037	ND	0.022	0.0063	0.0047
Copper	T	mg/L	20	100	HH DW (HQ=1)	1.4	0			0.01	0.11	0.031	0.017
Hardness	T	mg/L	20	100	No SLC					127	198	163	162
Iron	T	mg/L	20	100	HH DW (HQ=1)	11	15			1	45	8.6	4.6
Iron	T	mg/L	20	100	ECO Chronic	1	90			1	45	8.6	4.6
Lead	T	mg/L	20	100	HH DW (HQ=1)	0.015	20			0.002	0.1	0.018	0.0052
Magnesium	T	mg/L	20	100	No SLC					8.1	14.6	10.7	10.4
Manganese	T	mg/L	20	100	HH DW (HQ=1)	1.7	0			0.15	1	0.38	0.3
Mercury	T	mg/L	20	20	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00022		
Molybdenum	T	mg/L	20	90	HH DW (HQ=1)	0.18	0	0.0019	0.0022	ND	0.051	0.01	0.0016
Nickel	T	mg/L	20	100	HH DW (HQ=1)	0.73	0			0.0064	0.056	0.022	0.017
Potassium	T	mg/L	20	100	No SLC					1.2	7.9	2.5	1.8
Selenium	T	mg/L	20	20	HH DW (HQ=1)	0.18	0	0.0008	0.0008	ND	0.0022		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-29

Surface Water Summer 2003

RI/FS Storm Event 2

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Silver	T	mg/L	20	20	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	0.00068		
Sodium	T	mg/L	20	100	No SLC					4.8	13.1	7	5.6
Thallium	T	mg/L	20	15	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	0.00037		
Vanadium	T	mg/L	20	100	HH DW (HQ=1)	0.037	0			0.00061	0.022	0.0039	0.002
Zinc	T	mg/L	20	100	HH DW (HQ=1)	11	0			0.033	0.63	0.18	0.11

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-30

Surface Water Summer 2003

RI/FS Storm Event 3

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
pH	T	SU	12	NA	No SLC					5.2	7.9	7.1	7.2
Specific Conductance	T	uS/cm	11	NA	No SLC					ND	418		
Specific Conductance	T	uS/cm	11	NA	No SLC					272	438	336	321
Specific Conductance	T	mS/cm	1	NA	No SLC					ND	438	418	321
Specific Conductance	T	mS/cm	1	NA	No SLC					418	418	418	321
Inorganics													
Chloride	T	mg/L	11	100	ECO Chronic	230	0			2.6	3.5	3	2.9
Chloride	T	mg/L	11	100	HH DW (HQ=1)	250	0			2.6	3.5	3	2.9
Fluoride	T	mg/L	11	100	HH DW (HQ=1)	2.2	0			0.31	1.1	0.53	0.51
Nitrate	T	mg/L	11	100	HH DW (HQ=1)	10	0			0.33	0.44	0.37	0.37
Nitrite	T	mg/L	11	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
Sulfate	T	mg/L	11	100	HH DW (HQ=1)	1500	0			67.5	204	124	130
Total Dissolved Solids	T	mg/L	11	100	No SLC					178	344	249	254
Total Suspended Solids	T	mg/L	11	100	No SLC					87.7	1240	582	600
Metals													
Aluminum	D	mg/L	12	83.3	HH DW (HQ=1)	37	0	0.022	0.022	ND	3.4	0.35	0.048
Antimony	D	mg/L	12	0	ECO Chronic	0.69	0	0.0005	0.0005	ND	ND		
Antimony	D	mg/L	12	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Arsenic	D	mg/L	12	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	12	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	12	100	ECO Chronic	0.004	100			0.015	0.056	0.03	0.027
Barium	D	mg/L	12	100	HH DW (HQ=1)	2.6	0			0.015	0.056	0.03	0.027
Beryllium	D	mg/L	12	8.3	HH DW (HQ=1)	0.073	0	0.0004	0.0004	ND	0.0012		
Beryllium	D	mg/L	12	8.3	ECO Chronic	0.0053	0	0.0004	0.0004	ND	0.0012		
Boron	D	mg/L	12	83.3	ECO Chronic	0.0016	100	0.0063	0.0063	ND	0.0087	0.0065	0.007
Boron	D	mg/L	12	83.3	HH DW (HQ=1)	3.3	0	0.0063	0.0063	ND	0.0087	0.0065	0.007
Cadmium	D	mg/L	12	50	ECO Chronic	0.00025	83.3	0.0002	0.0002	ND	0.0021	0.00046	0.00015

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-30
Surface Water Summer 2003
RI/FS Storm Event 3
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Cadmium	D	mg/L	12	50	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.0021	0.00046	0.00015
Calcium	D	mg/L	12	100	No SLC					40.6	61.3	50.1	47.1
Chromium	D	mg/L	12	8.3	ECO Chronic	0.074	0	0.0011	0.0011	ND	0.0012		
Chromium	D	mg/L	12	8.3	HH DW (HQ=1)	0.1	0	0.0011	0.0011	ND	0.0012		
Cobalt	D	mg/L	12	100	ECO Chronic	1.5	0			0.00096	0.034	0.0075	0.0029
Cobalt	D	mg/L	12	100	HH DW (HQ=1)	0.73	0			0.00096	0.034	0.0075	0.0029
Copper	D	mg/L	12	33.3	HH DW (HQ=1)	1.4	0	0.0017	0.0017	ND	0.044		
Copper	D	mg/L	12	33.3	ECO Chronic	0.009	25	0.0017	0.0017	ND	0.044		
Hardness	D	mg/L	12	100	No SLC					134	213	168	159
Iron	D	mg/L	12	33.3	HH DW (HQ=1)	11	0	0.028	0.028	ND	0.64		
Lead	D	mg/L	12	8.3	ECO Chronic	0.0025	0	0.0002	0.0002	ND	0.0014		
Lead	D	mg/L	12	8.3	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	0.0014		
Magnesium	D	mg/L	12	100	No SLC					8	14.9	10.5	9.8
Manganese	D	mg/L	12	100	ECO Chronic	1.7	0			0.064	1.2	0.38	0.25
Manganese	D	mg/L	12	100	HH DW (HQ=1)	1.7	0			0.064	1.2	0.38	0.25
Mercury	D	mg/L	12	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	12	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	12	91.7	ECO Chronic	2.2	0	0.0002	0.0002	ND	0.0026	0.0013	0.0014
Molybdenum	D	mg/L	12	91.7	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.0026	0.0013	0.0014
Nickel	D	mg/L	12	83.3	ECO Chronic	0.052	20	0.0016	0.0016	ND	0.085	0.019	0.0069
Nickel	D	mg/L	12	83.3	HH DW (HQ=1)	0.73	0	0.0016	0.0016	ND	0.085	0.019	0.0069
Potassium	D	mg/L	12	100	No SLC					1.5	1.9	1.6	1.6
Selenium	D	mg/L	12	66.7	ECO Chronic	0.046	0	0.0003	0.0003	ND	0.00058	0.00031	0.00034
Selenium	D	mg/L	12	66.7	HH DW (HQ=1)	0.18	0	0.0003	0.0003	ND	0.00058	0.00031	0.00034
Silver	D	mg/L	12	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	12	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	12	100	No SLC					5	5.8	5.4	5.5
Thallium	D	mg/L	12	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	12	25	ECO Chronic	0.019	0	0.0001	0.0001	ND	0.00039		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-30
Surface Water Summer 2003
RI/FS Storm Event 3
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Vanadium	D	mg/L	12	25	HH DW (HQ=1)	0.26	0	0.0001	0.0001	ND	0.00039		
Zinc	D	mg/L	12	100	ECO Chronic	0.12	16.7			0.0036	0.41	0.061	0.015
Zinc	D	mg/L	12	100	HH DW (HQ=1)	11	0			0.0036	0.41	0.061	0.015
Aluminum	T	mg/L	12	100	ECO Chronic	0.087	100			11.4	41.9	21.2	19.2
Aluminum	T	mg/L	12	100	HH DW (HQ=1)	37	8.3			11.4	41.9	21.2	19.2
Antimony	T	mg/L	12	8.3	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	0.00056		
Arsenic	T	mg/L	12	100	HH DW (HQ=1)	0.01	25			0.0038	0.02	0.0087	0.0078
Barium	T	mg/L	12	100	HH DW (HQ=1)	2.6	0			0.3	1.1	0.51	0.41
Beryllium	T	mg/L	12	100	HH DW (HQ=1)	0.073	0			0.0012	0.0034	0.0021	0.0021
Boron	T	mg/L	12	100	HH DW (HQ=1)	3.3	0			0.014	0.054	0.026	0.021
Cadmium	T	mg/L	12	100	HH DW (HQ=1)	0.018	0			0.00081	0.0022	0.0015	0.0015
Calcium	T	mg/L	12	100	No SLC					41.3	62.3	50.9	48.8
Chromium	T	mg/L	12	100	HH DW (HQ=1)	0.1	0			0.0099	0.048	0.022	0.018
Cobalt	T	mg/L	12	100	HH DW (HQ=1)	0.73	0			0.012	0.04	0.02	0.016
Copper	T	mg/L	12	100	HH DW (HQ=1)	1.4	0			0.062	0.15	0.1	0.1
Hardness	T	mg/L	12	100	No SLC					148	264	192	183
Iron	T	mg/L	12	100	HH DW (HQ=1)	11	100			17.5	122	46.8	33.4
Iron	T	mg/L	12	100	ECO Chronic	1	100			17.5	122	46.8	33.4
Lead	T	mg/L	12	100	HH DW (HQ=1)	0.015	100			0.056	0.31	0.13	0.11
Magnesium	T	mg/L	12	100	No SLC					10.8	26.4	15.7	14.6
Manganese	T	mg/L	12	100	HH DW (HQ=1)	1.7	8.3			0.64	1.9	1	0.92
Mercury	T	mg/L	12	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	12	100	HH DW (HQ=1)	0.18	0			0.0054	0.019	0.011	0.0095
Nickel	T	mg/L	12	100	HH DW (HQ=1)	0.73	0			0.03	0.11	0.058	0.053
Potassium	T	mg/L	12	100	No SLC					4.9	17.2	9.1	7.9
Selenium	T	mg/L	12	100	HH DW (HQ=1)	0.18	0			0.0011	0.0029	0.0018	0.0016
Silver	T	mg/L	12	0	HH DW (HQ=1)	0.18	0	0.00052	0.0016	ND	ND		
Sodium	T	mg/L	12	100	No SLC					5.1	7.6	6.1	6
Thallium	T	mg/L	12	100	HH DW (HQ=1)	0.0026	0			0.0002	0.0007	0.00037	0.00034

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-30

Surface Water Summer 2003

RI/FS Storm Event 3

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Vanadium	T	mg/L	12	100	HH DW (HQ=1)	0.037	8.3			0.012	0.039	0.021	0.018
Zinc	T	mg/L	12	100	HH DW (HQ=1)	11	0			0.22	0.61	0.4	0.43

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-31

Surface Water Summer 2003

RI/FS Storm Event 4

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
pH	T	SU	20	NA	No SLC					3.4	7.3	5.9	6.2
Specific Conductance	T	uS/cm	20	NA	No SLC					170	1140	426	423
Inorganics													
Chloride	T	mg/L	20	100	ECO Chronic	230	0			2	4.9	3.2	2.9
Chloride	T	mg/L	20	100	HH DW (HQ=1)	250	0			2	4.9	3.2	2.9
Fluoride	T	mg/L	20	100	HH DW (HQ=1)	2.2	5			0.4	2.3	0.79	0.7
Nitrate	T	mg/L	20	100	HH DW (HQ=1)	10	0			0.25	0.43	0.3	0.3
Nitrite	T	mg/L	20	10	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.0094		
Sulfate	T	mg/L	20	100	HH DW (HQ=1)	1500	0			74	564	192	182
Total Dissolved Solids	T	mg/L	20	95	No SLC			138	138	ND	1060	359	344
Total Suspended Solids	T	mg/L	20	100	No SLC					88.5	8370	2450	1890
Metals													
Aluminum	D	mg/L	20	75	HH DW (HQ=1)	37	0	0.031	0.086	ND	31.6	2.4	0.35
Antimony	D	mg/L	20	0	ECO Chronic	0.69	0	0.0005	0.001	ND	ND		
Antimony	D	mg/L	20	0	HH DW (HQ=1)	0.015	0	0.0005	0.001	ND	ND		
Arsenic	D	mg/L	20	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	20	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	20	100	HH DW (HQ=1)	2.6	0			0.021	0.074	0.035	0.03
Barium	D	mg/L	20	100	ECO Chronic	0.004	100			0.021	0.074	0.035	0.03
Beryllium	D	mg/L	20	55	ECO Chronic	0.0053	9.1	0.0003	0.0003	ND	0.0072	0.00085	0.0004
Beryllium	D	mg/L	20	55	HH DW (HQ=1)	0.073	0	0.0003	0.0003	ND	0.0072	0.00085	0.0004
Boron	D	mg/L	20	85	ECO Chronic	0.0016	100	0.0064	0.0064	ND	0.014	0.0086	0.0085
Boron	D	mg/L	20	85	HH DW (HQ=1)	3.3	0	0.0064	0.0064	ND	0.014	0.0086	0.0085
Cadmium	D	mg/L	20	55	ECO Chronic	0.00025	90.9	0.0002	0.0002	ND	0.0054	0.0014	0.00059
Cadmium	D	mg/L	20	55	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.0054	0.0014	0.00059
Calcium	D	mg/L	20	100	No SLC					38.8	157	64.5	61.9
Chromium	D	mg/L	20	10	HH DW (HQ=1)	0.1	0	0.0013	0.0013	ND	0.013		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-31
Surface Water Summer 2003
RI/FS Storm Event 4
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Chromium	D	mg/L	20	10	ECO Chronic	0.074	0	0.0013	0.0013	ND	0.013		
Cobalt	D	mg/L	20	60	ECO Chronic	1.5	0	0.0031	0.0031	ND	0.11	0.019	0.012
Cobalt	D	mg/L	20	60	HH DW (HQ=1)	0.73	0	0.0031	0.0031	ND	0.11	0.019	0.012
Copper	D	mg/L	20	75	ECO Chronic	0.009	60	0.002	0.0054	ND	0.24	0.029	0.0061
Copper	D	mg/L	20	75	HH DW (HQ=1)	1.4	0	0.002	0.0054	ND	0.24	0.029	0.0061
Hardness	D	mg/L	20	100	No SLC					128	518	212	205
Iron	D	mg/L	20	50	HH DW (HQ=1)	11	0	0.03	0.1	ND	2.8	0.2	0.051
Lead	D	mg/L	20	40	ECO Chronic	0.0025	0	0.0002	0.0002	ND	0.00065		
Lead	D	mg/L	20	40	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	0.00065		
Magnesium	D	mg/L	20	100	No SLC					7.6	30.9	12.3	11.8
Manganese	D	mg/L	20	100	HH DW (HQ=1)	1.7	10			0.076	3.8	0.93	0.63
Manganese	D	mg/L	20	100	ECO Chronic	1.7	10			0.076	3.8	0.93	0.63
Mercury	D	mg/L	20	5	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00011		
Mercury	D	mg/L	20	5	ECO Chronic	0.00077	0	0.0001	0.0001	ND	0.00011		
Molybdenum	D	mg/L	20	50	ECO Chronic	2.2	0	0.0002	0.0002	ND	0.053	0.012	0.0014
Molybdenum	D	mg/L	20	50	HH DW (HQ=1)	0.18	0	0.0002	0.0002	ND	0.053	0.012	0.0014
Nickel	D	mg/L	20	95	ECO Chronic	0.052	52.6	0.0016	0.0016	ND	0.27	0.049	0.032
Nickel	D	mg/L	20	95	HH DW (HQ=1)	0.73	0	0.0016	0.0016	ND	0.27	0.049	0.032
Potassium	D	mg/L	20	100	No SLC					1.4	2.4	1.9	1.9
Selenium	D	mg/L	20	25	ECO Chronic	0.046	0	0.0006	0.0006	ND	0.0025		
Selenium	D	mg/L	20	25	HH DW (HQ=1)	0.18	0	0.0006	0.0006	ND	0.0025		
Silver	D	mg/L	20	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	20	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	20	100	No SLC					3.4	12.6	5.8	4.3
Thallium	D	mg/L	20	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	20	20	ECO Chronic	0.019	0	0.0001	0.0001	ND	0.00017		
Vanadium	D	mg/L	20	20	HH DW (HQ=1)	0.26	0	0.0001	0.0001	ND	0.00017		
Zinc	D	mg/L	20	75	ECO Chronic	0.12	66.7	0.002	0.0098	ND	1.3	0.25	0.11
Zinc	D	mg/L	20	75	HH DW (HQ=1)	11	0	0.002	0.0098	ND	1.3	0.25	0.11

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-31

Surface Water Summer 2003

RI/FS Storm Event 4

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Aluminum	T	mg/L	20	100	ECO Chronic	0.087	100			3.2	192	64.8	30.5
Aluminum	T	mg/L	20	100	HH DW (HQ=1)	37	45			3.2	192	64.8	30.5
Antimony	T	mg/L	19	0	HH DW (HQ=1)	0.015	0	0.0005	0.0025	ND	ND		
Arsenic	T	mg/L	20	100	HH DW (HQ=1)	0.01	50			0.00063	0.2	0.054	0.01
Barium	T	mg/L	20	100	HH DW (HQ=1)	2.6	30			0.085	8.3	2.2	0.76
Beryllium	T	mg/L	20	100	HH DW (HQ=1)	0.073	0			0.00035	0.015	0.0056	0.0052
Boron	T	mg/L	20	100	HH DW (HQ=1)	3.3	0			0.0073	0.11	0.027	0.017
Cadmium	T	mg/L	20	100	HH DW (HQ=1)	0.018	0			0.0004	0.0053	0.0026	0.0025
Calcium	T	mg/L	20	100	No SLC					39.5	161	70.7	66.7
Chromium	T	mg/L	20	100	HH DW (HQ=1)	0.1	30			0.0032	0.31	0.091	0.028
Cobalt	T	mg/L	20	100	HH DW (HQ=1)	0.73	0			0.0032	0.29	0.079	0.045
Copper	T	mg/L	20	100	HH DW (HQ=1)	1.4	0			0.028	1.2	0.35	0.21
Hardness	T	mg/L	20	100	No SLC					136	863	325	243
Iron	T	mg/L	20	100	HH DW (HQ=1)	11	90			4.5	874	216	57.8
Iron	T	mg/L	20	100	ECO Chronic	1	100			4.5	874	216	57.8
Lead	T	mg/L	20	100	HH DW (HQ=1)	0.015	95			0.014	3	0.75	0.19
Magnesium	T	mg/L	20	100	No SLC					9	112	36	17.3
Manganese	T	mg/L	20	100	HH DW (HQ=1)	1.7	60			0.22	10.1	3.2	2
Mercury	T	mg/L	20	70	HH DW (HQ=1)	0.011	0	0.0001	0.00024	ND	0.00069	0.00023	0.00017
Molybdenum	T	mg/L	20	100	HH DW (HQ=1)	0.18	0			0.0064	0.085	0.04	0.039
Nickel	T	mg/L	20	100	HH DW (HQ=1)	0.73	0			0.018	0.37	0.14	0.11
Potassium	T	mg/L	20	100	No SLC					2.8	72.6	21.1	9.7
Selenium	T	mg/L	20	95	HH DW (HQ=1)	0.18	0	0.0006	0.0006	ND	0.027	0.008	0.0032
Silver	T	mg/L	20	35	HH DW (HQ=1)	0.18	0	0.0001	0.0017	ND	0.022		
Sodium	T	mg/L	20	100	No SLC					4.1	20.4	8	6.9
Thallium	T	mg/L	20	90	HH DW (HQ=1)	0.0026	22.2	0.0001	0.0001	ND	0.0036	0.0012	0.00056
Vanadium	T	mg/L	20	100	HH DW (HQ=1)	0.037	45			0.0033	0.3	0.085	0.031
Zinc	T	mg/L	20	100	HH DW (HQ=1)	11	0			0.1	2	0.88	0.77

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-32
Surface Water Summer 2003
RI/FS Post Storm Sampling
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
pH	T	SU	4	NA	No SLC					6.3	7.1	6.8	6.8
Specific Conductance	T	uS/cm	4	NA	No SLC					203	218	212	213
Inorganics													
Chloride	T	mg/L	4	100	ECO Chronic	230	0			1.7	2.1	1.8	1.8
Chloride	T	mg/L	4	100	HH DW (HQ=1)	250	0			1.7	2.1	1.8	1.8
Fluoride	T	mg/L	4	100	HH DW (HQ=1)	2.2	0			0.32	1.1	0.54	0.36
Nitrate	T	mg/L	4	100	HH DW (HQ=1)	10	0			0.29	0.3	0.3	0.3
Nitrite	T	mg/L	4	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
Sulfate	T	mg/L	4	100	HH DW (HQ=1)	1500	0			49.6	75.3	62.4	62.4
Total Dissolved Solids	T	mg/L	4	25	No SLC			150	174	ND	204		
Metals													
Aluminum	D	mg/L	4	75	HH DW (HQ=1)	37	0	0.12	0.12	ND	0.17	0.13	0.14
Antimony	D	mg/L	4	0	ECO Chronic	0.69	0	0.0005	0.0005	ND	ND		
Antimony	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Arsenic	D	mg/L	4	0	ECO Chronic	0.15	0	0.0002	0.0002	ND	ND		
Arsenic	D	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	ND		
Barium	D	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.023	0.024	0.024	0.024
Barium	D	mg/L	4	100	ECO Chronic	0.004	100			0.023	0.024	0.024	0.024
Beryllium	D	mg/L	4	0	ECO Chronic	0.0053	0	0.00038	0.0004	ND	ND		
Beryllium	D	mg/L	4	0	HH DW (HQ=1)	0.073	0	0.00038	0.0004	ND	ND		
Boron	D	mg/L	4	25	ECO Chronic	0.0016	100	0.0063	0.0064	ND	0.0068		
Boron	D	mg/L	4	25	HH DW (HQ=1)	3.3	0	0.0063	0.0064	ND	0.0068		
Cadmium	D	mg/L	4	25	ECO Chronic	0.00025	100	0.0002	0.0002	ND	0.00031		
Cadmium	D	mg/L	4	25	HH DW (HQ=1)	0.018	0	0.0002	0.0002	ND	0.00031		
Calcium	D	mg/L	4	100	No SLC					31.4	34.1	33.3	33.8
Chromium	D	mg/L	4	0	ECO Chronic	0.074	0	0.0011	0.0013	ND	ND		
Chromium	D	mg/L	4	0	HH DW (HQ=1)	0.1	0	0.0011	0.0013	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-32
Surface Water Summer 2003
RI/FS Post Storm Sampling
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Cobalt	D	mg/L	4	0	ECO Chronic	1.5	0	0.0029	0.0031	ND	ND		
Cobalt	D	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.0029	0.0031	ND	ND		
Copper	D	mg/L	4	100	HH DW (HQ=1)	1.4	0			0.0037	0.0043	0.004	0.004
Copper	D	mg/L	4	100	ECO Chronic	0.009	0			0.0037	0.0043	0.004	0.004
Hardness	D	mg/L	4	100	No SLC					99	107	105	106
Iron	D	mg/L	4	50	HH DW (HQ=1)	11	0	0.16	0.16	ND	0.19	0.13	0.13
Lead	D	mg/L	4	50	ECO Chronic	0.0025	0	0.0002	0.0002	ND	0.00029	0.00019	0.00019
Lead	D	mg/L	4	50	HH DW (HQ=1)	0.015	0	0.0002	0.0002	ND	0.00029	0.00019	0.00019
Magnesium	D	mg/L	4	100	No SLC					5	5.4	5.2	5.2
Manganese	D	mg/L	4	100	ECO Chronic	1.7	0			0.09	0.12	0.11	0.11
Manganese	D	mg/L	4	100	HH DW (HQ=1)	1.7	0			0.09	0.12	0.11	0.11
Mercury	D	mg/L	4	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	4	100	ECO Chronic	2.2	0			0.0009	0.0012	0.001	0.001
Molybdenum	D	mg/L	4	100	HH DW (HQ=1)	0.18	0			0.0009	0.0012	0.001	0.001
Nickel	D	mg/L	4	100	ECO Chronic	0.052	0			0.0039	0.0057	0.0046	0.0045
Nickel	D	mg/L	4	100	HH DW (HQ=1)	0.73	0			0.0039	0.0057	0.0046	0.0045
Potassium	D	mg/L	4	100	No SLC					1.3	1.6	1.5	1.5
Selenium	D	mg/L	4	0	ECO Chronic	0.046	0	0.0003	0.0003	ND	ND		
Selenium	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0003	0.0003	ND	ND		
Silver	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.0001	0.0001	ND	ND		
Silver	D	mg/L	4	0	ECO Chronic	0.00032	0	0.0001	0.0001	ND	ND		
Sodium	D	mg/L	4	100	No SLC					3	3.4	3.2	3.3
Thallium	D	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	4	100	ECO Chronic	0.019	0			0.00014	0.00025	0.0002	0.00021
Vanadium	D	mg/L	4	100	HH DW (HQ=1)	0.26	0			0.00014	0.00025	0.0002	0.00021
Zinc	D	mg/L	4	75	ECO Chronic	0.12	0	0.0095	0.0095	ND	0.0076	0.0064	0.0067
Zinc	D	mg/L	4	75	HH DW (HQ=1)	11	0	0.0095	0.0095	ND	0.0076	0.0064	0.0067
Aluminum	T	mg/L	4	100	ECO Chronic	0.087	100			8.6	19	15.4	16.9

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-32
Surface Water Summer 2003
RI/FS Post Storm Sampling
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Aluminum	T	mg/L	4	100	HH DW (HQ=1)	37	0			8.6	19	15.4	16.9
Antimony	T	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.0005	0.0005	ND	ND		
Arsenic	T	mg/L	4	100	HH DW (HQ=1)	0.01	0			0.0034	0.007	0.0058	0.0064
Barium	T	mg/L	4	100	HH DW (HQ=1)	2.6	0			0.29	1.2	0.78	0.81
Beryllium	T	mg/L	4	75	HH DW (HQ=1)	0.073	0	0.0021	0.0021	ND	0.0027	0.0018	0.0019
Boron	T	mg/L	4	0	HH DW (HQ=1)	3.3	0	0.0063	0.0064	ND	ND		
Cadmium	T	mg/L	4	100	HH DW (HQ=1)	0.018	0			0.00037	0.0014	0.00098	0.0011
Calcium	T	mg/L	4	100	No SLC					40.5	62.6	52.5	53.5
Chromium	T	mg/L	4	100	HH DW (HQ=1)	0.1	0			0.0093	0.018	0.015	0.016
Cobalt	T	mg/L	4	100	HH DW (HQ=1)	0.73	0			0.0094	0.026	0.02	0.023
Copper	T	mg/L	4	100	HH DW (HQ=1)	1.4	0			0.044	0.11	0.087	0.097
Hardness	T	mg/L	4	100	No SLC					133	202	174	181
Iron	T	mg/L	4	100	ECO Chronic	1	100			15	32.4	26.7	29.7
Iron	T	mg/L	4	100	HH DW (HQ=1)	11	100			15	32.4	26.7	29.7
Lead	T	mg/L	4	100	HH DW (HQ=1)	0.015	100			0.04	0.082	0.066	0.072
Magnesium	T	mg/L	4	100	No SLC					7.8	12.5	10.5	10.8
Manganese	T	mg/L	4	100	HH DW (HQ=1)	1.7	0			0.52	1.4	1.1	1.2
Mercury	T	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	4	100	HH DW (HQ=1)	0.18	0			0.0048	0.0074	0.0063	0.0066
Nickel	T	mg/L	4	100	HH DW (HQ=1)	0.73	0			0.019	0.054	0.041	0.046
Potassium	T	mg/L	4	100	No SLC					4.5	8	6.6	7
Selenium	T	mg/L	4	100	HH DW (HQ=1)	0.18	0			0.00065	0.0014	0.0012	0.0013
Silver	T	mg/L	4	50	HH DW (HQ=1)	0.18	0	0.00034	0.00049	ND	0.00053	0.00037	0.00038
Sodium	T	mg/L	4	100	No SLC					3.7	3.9	3.8	3.7
Thallium	T	mg/L	4	100	HH DW (HQ=1)	0.0026	0			0.00017	0.0003	0.00024	0.00025
Vanadium	T	mg/L	4	100	HH DW (HQ=1)	0.037	0			0.011	0.021	0.018	0.02
Zinc	T	mg/L	4	100	HH DW (HQ=1)	11	0			0.12	0.31	0.23	0.25

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-33
Surface Water 2002 - 2004
RI/FS Tailings Impoundments
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	10	NA	No SLC					7.7	9.7	8.7	8.5
Eh	T	millivolts	11	NA	No SLC					86	169	130	137
pH	T	SU	11	NA	No SLC					7.3	8.7	8	8
Specific Conductance	T	uS/cm	11	NA	No SLC					2320	2820	2510	2460
Temperature	T	Celsius	11	NA	No SLC					6.7	17.5	14.2	15.3
Turbidity	T	NTU	11	NA	No SLC					2.4	49.3	13.9	10.8
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	10	100	No SLC					26.5	50.2	37.2	35.6
Biochemical Oxygen Demand	T	mg/L	4	25	No SLC			1.3	1.4	ND	1.9		
Carbonate (as CaCO3)	T	mg/L	10	40	No SLC			1	1	ND	5.2		
Chemical Oxygen Demand	T	mg/L	9	0	No SLC			20	40	ND	ND		
Chloride	T	mg/L	10	100	ECO Chronic	230	0			12.2	18.1	16	16.6
Chloride	T	mg/L	10	100	HH DW (HQ=1)	250	0			12.2	18.1	16	16.6
Cyanide	T	mg/L	10	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	10	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	10	100	HH DW (HQ=1)	2.2	100			5.3	10	8.5	9.5
Hydroxide (as CaCO3)	T	mg/L	10	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	10	20	HH DW (HQ=1)	10	0	0.2	0.5	ND	0.81		
Nitrite	T	mg/L	10	20	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.035		
Phosphate, Ortho As P	T	mg/L	10	20	No SLC			0.01	0.01	ND	0.039		
Phosphorus	T	mg/L	10	10	No SLC			0.01	0.064	ND	0.031		
Sulfate	T	mg/L	10	100	HH DW (HQ=1)	1500	80			1360	1890	1610	1580
Total Alkalinity	T	mg/L	10	100	No SLC					30	52.3	38.3	35.6
Total Dissolved Solids	T	mg/L	10	100	No SLC					1240	2690	2190	2220
Total Kjeldahl Nitrogen	T	mg/L	10	40	No SLC			0.24	0.24	ND	0.41		
Total Organic Carbon	T	mg/L	10	100	No SLC					2.5	5.7	3.4	3.1
Total Suspended Solids	T	mg/L	10	10	No SLC			2.1	10	ND	4.7		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-33
Surface Water 2002 - 2004
RI/FS Tailings Impoundments
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Metals													
Aluminum	D	mg/L	10	30	HH DW (HQ=1)	37	0	0.003	0.063	ND	0.21		
Antimony	D	mg/L	10	40	ECO Chronic	0.69	0	0.0002	0.00064	ND	0.00034		
Antimony	D	mg/L	10	40	HH DW (HQ=1)	0.015	0	0.0002	0.00064	ND	0.00034		
Arsenic	D	mg/L	10	50	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00043	0.0002	0.00015
Arsenic	D	mg/L	10	50	ECO Chronic	0.15	0	0.0002	0.0002	ND	0.00043	0.0002	0.00015
Barium	D	mg/L	10	50	ECO Chronic	0.004	100	0.0092	0.0092	ND	0.05	0.016	0.0088
Barium	D	mg/L	10	50	HH DW (HQ=1)	2.6	0	0.0092	0.0092	ND	0.05	0.016	0.0088
Beryllium	D	mg/L	10	70	ECO Chronic	0.0053	0	0.0002	0.0002	ND	0.00079	0.00037	0.00034
Beryllium	D	mg/L	10	70	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	0.00079	0.00037	0.00034
Boron	D	mg/L	10	20	ECO Chronic	0.0016	100	0.0048	0.016	ND	0.014		
Boron	D	mg/L	10	20	HH DW (HQ=1)	3.3	0	0.0048	0.016	ND	0.014		
Cadmium	D	mg/L	10	90	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	0.0015	0.00055	0.00025
Cadmium	D	mg/L	10	90	ECO Chronic	0.00025	55.6	0.0001	0.0001	ND	0.0015	0.00055	0.00025
Calcium	D	mg/L	10	100	No SLC					389	597	460	433
Chromium	D	mg/L	10	10	HH DW (HQ=1)	0.1	0	0.0046	0.0046	ND	0.0024		
Chromium	D	mg/L	10	10	ECO Chronic	0.074	0	0.0046	0.0046	ND	0.0024		
Chromium, Hexavalent	D	mg/L	9	55.6	ECO Chronic	0.011	0	0.01	0.01	ND	0.0061	0.0043	0.005
Chromium, Hexavalent	D	mg/L	9	55.6	HH DW (HQ=1)	0.11	0	0.01	0.01	ND	0.0061	0.0043	0.005
Cobalt	D	mg/L	10	30	ECO Chronic	1.5	0	0.0022	0.0022	ND	0.011		
Cobalt	D	mg/L	10	30	HH DW (HQ=1)	0.73	0	0.0022	0.0022	ND	0.011		
Copper	D	mg/L	10	60	ECO Chronic	0.009	0	0.00098	0.0042	ND	0.0079	0.0028	0.0024
Copper	D	mg/L	10	60	HH DW (HQ=1)	1.4	0	0.00098	0.0042	ND	0.0079	0.0028	0.0024
Hardness	D	mg/L	10	100	No SLC					1440	1820	1600	1580
Iron	D	mg/L	10	40	HH DW (HQ=1)	11	0	0.023	0.023	ND	0.23		
Lead	D	mg/L	10	0	ECO Chronic	0.0025	0	0.0001	0.0003	ND	ND		
Lead	D	mg/L	10	0	HH DW (HQ=1)	0.015	0	0.0001	0.0003	ND	ND		
Magnesium	D	mg/L	10	100	No SLC					50.2	135	109	120
Manganese	D	mg/L	10	100	ECO Chronic	1.7	30			0.012	3.9	1.2	0.23

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-33
Surface Water 2002 - 2004
RI/FS Tailings Impoundments
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	10	100	HH DW (HQ=1)	1.7	30			0.012	3.9	1.2	0.23
Mercury	D	mg/L	10	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	10	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	10	100	ECO Chronic	2.2	40			1.8	2.9	2.3	2.2
Molybdenum	D	mg/L	10	100	HH DW (HQ=1)	0.18	100			1.8	2.9	2.3	2.2
Nickel	D	mg/L	10	100	ECO Chronic	0.052	20			0.0025	0.053	0.018	0.0091
Nickel	D	mg/L	10	100	HH DW (HQ=1)	0.73	0			0.0025	0.053	0.018	0.0091
Potassium	D	mg/L	10	100	No SLC					9.9	38.4	16.2	10.7
Selenium	D	mg/L	10	70	ECO Chronic	0.046	0	0.00089	0.0027	ND	0.00078	0.00072	0.00063
Selenium	D	mg/L	10	70	HH DW (HQ=1)	0.18	0	0.00089	0.0027	ND	0.00078	0.00072	0.00063
Silver	D	mg/L	10	0	ECO Chronic	0.00032	0	0.0001	0.0019	ND	ND		
Silver	D	mg/L	10	0	HH DW (HQ=1)	0.18	0	0.0001	0.0019	ND	ND		
Sodium	D	mg/L	10	100	No SLC					31.3	48	40.4	41.1
Thallium	D	mg/L	10	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	D	mg/L	10	100	ECO Chronic	0.019	0			0.00011	0.00083	0.00026	0.00015
Vanadium	D	mg/L	10	100	HH DW (HQ=1)	0.26	0			0.00011	0.00083	0.00026	0.00015
Zinc	D	mg/L	10	30	ECO Chronic	0.12	100	0.0069	0.024	ND	0.21		
Zinc	D	mg/L	10	30	HH DW (HQ=1)	11	0	0.0069	0.024	ND	0.21		
Aluminum	T	mg/L	10	100	HH DW (HQ=1)	37	0			0.03	0.34	0.13	0.073
Aluminum	T	mg/L	10	100	ECO Chronic	0.087	50			0.03	0.34	0.13	0.073
Antimony	T	mg/L	10	0	HH DW (HQ=1)	0.015	0	0.0002	0.00078	ND	ND		
Arsenic	T	mg/L	10	40	HH DW (HQ=1)	0.01	0	0.0002	0.0002	ND	0.00047		
Barium	T	mg/L	10	50	HH DW (HQ=1)	2.6	0	0.0092	0.0092	ND	0.05	0.016	0.0088
Beryllium	T	mg/L	10	70	HH DW (HQ=1)	0.073	0	0.0002	0.0002	ND	0.0011	0.00047	0.00043
Boron	T	mg/L	10	10	HH DW (HQ=1)	3.3	0	0.0048	0.017	ND	0.0067		
Cadmium	T	mg/L	10	80	HH DW (HQ=1)	0.018	0	0.0001	0.0001	ND	0.0016	0.00057	0.00029
Calcium	T	mg/L	10	100	No SLC					393	589	461	426
Chromium	T	mg/L	10	0	HH DW (HQ=1)	0.1	0	0.0019	0.0046	ND	ND		
Cobalt	T	mg/L	10	30	HH DW (HQ=1)	0.73	0	0.0022	0.0022	ND	0.01		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-33
Surface Water 2002 - 2004
RI/FS Tailings Impoundments
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	10	70	HH DW (HQ=1)	1.4	0	0.0012	0.0034	ND	0.0076	0.0032	0.0029
Hardness	T	mg/L	10	100	No SLC					1450	1810	1600	1580
Iron	T	mg/L	10	30	ECO Chronic	1	0	0.023	0.1	ND	0.29		
Iron	T	mg/L	10	30	HH DW (HQ=1)	11	0	0.023	0.1	ND	0.29		
Lead	T	mg/L	10	20	HH DW (HQ=1)	0.015	0	0.0001	0.00073	ND	0.00043		
Magnesium	T	mg/L	10	100	No SLC					48.6	135	108	121
Manganese	T	mg/L	10	100	HH DW (HQ=1)	1.7	30			0.047	3.8	1.2	0.26
Mercury	T	mg/L	10	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	T	mg/L	10	100	HH DW (HQ=1)	0.18	100			1.8	2.8	2.2	2.1
Nickel	T	mg/L	10	100	HH DW (HQ=1)	0.73	0			0.0028	0.054	0.019	0.0095
Potassium	T	mg/L	10	100	No SLC					10	37.5	16	10.6
Selenium	T	mg/L	10	70	HH DW (HQ=1)	0.18	0	0.0013	0.0027	ND	0.00085	0.00073	0.00066
Silver	T	mg/L	10	0	HH DW (HQ=1)	0.18	0	0.0001	0.0019	ND	ND		
Sodium	T	mg/L	10	100	No SLC					30.2	47.8	40	40.9
Thallium	T	mg/L	10	0	HH DW (HQ=1)	0.0026	0	0.0001	0.0001	ND	ND		
Vanadium	T	mg/L	10	100	HH DW (HQ=1)	0.037	0			0.00011	0.00084	0.00031	0.0002
Zinc	T	mg/L	10	50	HH DW (HQ=1)	11	0	0.0069	0.022	ND	0.22	0.07	0.0097

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-34

Surface Water 2002 - 2004

RI/FS Mine Site Storm Water Runoff Catchment Ponds

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	26	NA	No SLC					2.2	12.9	8.9	8.9
Eh	T	millivolts	27	NA	No SLC					49.4	598	376	352
Flow	T	gpm	12	NA	No SLC					0.69	33	17.7	18.8
pH	T	SU	27	NA	No SLC					2.4	9.8	4.9	3.9
Specific Conductance	T	uS/cm	27	NA	No SLC					272	11800	3990	1110
Temperature	T	Celsius	27	NA	No SLC					3.1	19.7	11.8	11.4
Turbidity	T	NTU	27	NA	No SLC					0.2	1210	113	65
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	24	41.7	No SLC			1	2.1	ND	62.4		
Biochemical Oxygen Demand	T	mg/L	14	50	No SLC			1.3	1.4	ND	9.4	2.2	1.2
Carbonate (as CaCO3)	T	mg/L	24	4.2	No SLC			1	1	ND	24		
Chemical Oxygen Demand	T	mg/L	14	57.1	No SLC			20	53.1	ND	76.5	28.2	27.3
Chloride	T	mg/L	24	100	ECO Chronic	230	0			0.95	200	35.7	22.4
Chloride	T	mg/L	24	100	HH DW (HQ=1)	250	0			0.95	200	35.7	22.4
Cyanide	T	mg/L	24	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	24	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	24	100	HH DW (HQ=1)	2.2	70.8			1.1	135	37.4	4.6
Hydroxide (as CaCO3)	T	mg/L	24	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	24	58.3	HH DW (HQ=1)	10	0	0.2	2	ND	5.3	1.3	0.66
Nitrite	T	mg/L	24	66.7	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.26	0.036	0.012
pH	T	SU	21	100	No SLC					2.9	9.6	5.5	5.2
Phosphate, Ortho As P	T	mg/L	24	58.3	No SLC			0.01	0.49	ND	18.2	3.9	0.025
Phosphorus	T	mg/L	23	95.7	No SLC			0.01	0.01	ND	19.6	1.9	0.1
Specific Conductance	T	umhos/cm	21	100	No SLC					225	12300	3180	847
Sulfate	T	mg/L	24	100	HH DW (HQ=1)	1500	41.7			52.6	13700	4220	770
Total Alkalinity	T	mg/L	24	41.7	No SLC			1	2.1	ND	62.4		
Total Dissolved Solids	T	mg/L	24	100	No SLC					240	21600	6420	1200
Total Kjeldahl Nitrogen	T	mg/L	24	70.8	No SLC			0.24	0.67	ND	1	0.5	0.46

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-34

Surface Water 2002 - 2004

RI/FS Mine Site Storm Water Runoff Catchment Ponds

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	24	91.7	No SLC			4.5	4.7	ND	13.7	7.1	6.9
Total Suspended Solids	T	mg/L	24	95.8	No SLC			12.4	12.4	ND	458	63.9	18.9
Metals													
Aluminum	D	mg/L	24	70.8	HH DW (HQ=1)	37	64.7	0.024	0.18	ND	1150	330	23.2
Antimony	D	mg/L	24	4.2	HH DW (HQ=1)	0.015	0	0.0004	0.082	ND	0.00092		
Antimony	D	mg/L	24	4.2	ECO Chronic	0.69	0	0.0004	0.082	ND	0.00092		
Arsenic	D	mg/L	24	50	ECO Chronic	0.15	8.3	0.0002	0.11	ND	0.17	0.036	0.0069
Arsenic	D	mg/L	24	50	HH DW (HQ=1)	0.01	50	0.0002	0.11	ND	0.17	0.036	0.0069
Barium	D	mg/L	24	41.7	HH DW (HQ=1)	2.6	0	0.012	0.12	ND	0.03		
Barium	D	mg/L	24	41.7	ECO Chronic	0.004	100	0.012	0.12	ND	0.03		
Beryllium	D	mg/L	24	62.5	ECO Chronic	0.0053	86.7	0.0002	0.00041	ND	0.3	0.093	0.015
Beryllium	D	mg/L	24	62.5	HH DW (HQ=1)	0.073	60	0.0002	0.00041	ND	0.3	0.093	0.015
Boron	D	mg/L	24	37.5	ECO Chronic	0.0016	100	0.0064	0.12	ND	0.051		
Boron	D	mg/L	24	37.5	HH DW (HQ=1)	3.3	0	0.0064	0.12	ND	0.051		
Cadmium	D	mg/L	24	70.8	ECO Chronic	0.00025	88.2	0.0002	0.13	ND	0.6	0.15	0.012
Cadmium	D	mg/L	24	70.8	HH DW (HQ=1)	0.018	52.9	0.0002	0.13	ND	0.6	0.15	0.012
Calcium	D	mg/L	24	100	No SLC					32	458	235	173
Chromium	D	mg/L	24	50	ECO Chronic	0.074	66.7	0.001	0.16	ND	0.56	0.12	0.022
Chromium	D	mg/L	24	50	HH DW (HQ=1)	0.1	66.7	0.001	0.16	ND	0.56	0.12	0.022
Chromium, Hexavalent	D	mg/L	1	100	HH DW (HQ=1)	0.11	0			0.016	0.016	0.016	0.016
Chromium, Hexavalent	D	mg/L	1	100	ECO Chronic	0.011	100			0.016	0.016	0.016	0.016
Cobalt	D	mg/L	24	75	ECO Chronic	1.5	38.9	0.0029	0.15	ND	3.8	1.1	0.08
Cobalt	D	mg/L	24	75	HH DW (HQ=1)	0.73	50	0.0029	0.15	ND	3.8	1.1	0.08
Copper	D	mg/L	24	79.2	ECO Chronic	0.009	68.4	0.0037	1.3	ND	9.6	2.5	0.098
Copper	D	mg/L	24	79.2	HH DW (HQ=1)	1.4	36.8	0.0037	1.3	ND	9.6	2.5	0.098
Hardness	D	mg/L	24	100	No SLC					84.1	5310	1820	612
Iron	D	mg/L	24	62.5	HH DW (HQ=1)	11	60	0.019	22.6	ND	468	108	1.6
Lead	D	mg/L	24	25	ECO Chronic	0.0025	16.7	0.0001	0.004	ND	0.0034		
Lead	D	mg/L	24	25	HH DW (HQ=1)	0.015	0	0.0001	0.004	ND	0.0034		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-34

Surface Water 2002 - 2004

RI/FS Mine Site Storm Water Runoff Catchment Ponds

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Magnesium	D	mg/L	24	100	No SLC					1	1010	300	42.2
Manganese	D	mg/L	24	100	ECO Chronic	1.7	62.5			0.007	548	159	13.5
Manganese	D	mg/L	24	100	HH DW (HQ=1)	1.7	62.5			0.007	548	159	13.5
Mercury	D	mg/L	24	4.2	ECO Chronic	0.00077	0	0.0001	0.00028	ND	0.0004		
Mercury	D	mg/L	24	4.2	HH DW (HQ=1)	0.011	0	0.0001	0.00028	ND	0.0004		
Molybdenum	D	mg/L	24	45.8	ECO Chronic	2.2	9.1	0.01	0.024	ND	2.8		
Molybdenum	D	mg/L	24	45.8	HH DW (HQ=1)	0.18	100	0.01	0.024	ND	2.8		
Nickel	D	mg/L	24	79.2	ECO Chronic	0.052	68.4	0.0009	0.0024	ND	8.8	2.5	0.29
Nickel	D	mg/L	24	79.2	HH DW (HQ=1)	0.73	52.6	0.0009	0.0024	ND	8.8	2.5	0.29
Potassium	D	mg/L	24	45.8	No SLC			3.3	63.8	ND	6.6		
Selenium	D	mg/L	24	66.7	ECO Chronic	0.046	56.3	0.0003	0.007	ND	0.26	0.052	0.0035
Selenium	D	mg/L	24	66.7	HH DW (HQ=1)	0.18	12.5	0.0003	0.007	ND	0.26	0.052	0.0035
Silver	D	mg/L	24	0	ECO Chronic	0.00032	0	0.0001	0.005	ND	ND		
Silver	D	mg/L	24	0	HH DW (HQ=1)	0.18	0	0.0001	0.005	ND	ND		
Sodium	D	mg/L	24	54.2	No SLC			3.5	99.1	ND	114	31.5	23.3
Thallium	D	mg/L	24	0	HH DW (HQ=1)	0.0026	0	0.0001	0.001	ND	ND		
Vanadium	D	mg/L	24	75	HH DW (HQ=1)	0.26	0	0.0002	0.002	ND	0.013	0.0031	0.00051
Vanadium	D	mg/L	24	75	ECO Chronic	0.019	0	0.0002	0.002	ND	0.013	0.0031	0.00051
Zinc	D	mg/L	24	70.8	ECO Chronic	0.12	82.4	0.0026	2.3	ND	127	33.9	1.9
Zinc	D	mg/L	24	70.8	HH DW (HQ=1)	11	58.8	0.0026	2.3	ND	127	33.9	1.9
Aluminum	T	mg/L	22	95.5	ECO Chronic	0.087	100	0.26	0.26	ND	1140	316	23.9
Aluminum	T	mg/L	22	95.5	HH DW (HQ=1)	37	42.9	0.26	0.26	ND	1140	316	23.9
Antimony	T	mg/L	22	4.5	HH DW (HQ=1)	0.015	0	0.0004	0.082	ND	0.00082		
Arsenic	T	mg/L	22	81.8	HH DW (HQ=1)	0.01	44.4	0.0002	0.041	ND	0.16	0.04	0.0023
Barium	T	mg/L	22	50	HH DW (HQ=1)	2.6	0	0.012	0.12	ND	0.14	0.049	0.047
Beryllium	T	mg/L	22	68.2	HH DW (HQ=1)	0.073	46.7	0.0002	0.00061	ND	0.31	0.087	0.0087
Boron	T	mg/L	22	54.5	HH DW (HQ=1)	3.3	0	0.01	0.12	ND	0.055	0.025	0.022
Cadmium	T	mg/L	22	68.2	HH DW (HQ=1)	0.018	46.7	0.0002	0.13	ND	0.6	0.15	0.0049
Calcium	T	mg/L	22	100	No SLC					34	492	225	153

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-34

Surface Water 2002 - 2004

RI/FS Mine Site Storm Water Runoff Catchment Ponds

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Chromium	T	mg/L	22	72.7	HH DW (HQ=1)	0.1	43.8	0.001	0.11	ND	0.65	0.13	0.024
Cobalt	T	mg/L	22	68.2	HH DW (HQ=1)	0.73	46.7	0.0011	0.17	ND	3.7	1	0.046
Copper	T	mg/L	22	86.4	HH DW (HQ=1)	1.4	31.6	0.0049	0.3	ND	9.6	2.4	0.11
Hardness	T	mg/L	24	100	No SLC					90.4	5680	1660	610
Iron	T	mg/L	22	77.3	ECO Chronic	1	88.2	0.36	26.6	ND	479	108	3.7
Iron	T	mg/L	22	77.3	HH DW (HQ=1)	11	47.1	0.36	26.6	ND	479	108	3.7
Lead	T	mg/L	22	68.2	HH DW (HQ=1)	0.015	40	0.001	0.004	ND	0.16	0.014	0.0025
Magnesium	T	mg/L	22	100	No SLC					1.4	1080	287	20.7
Manganese	T	mg/L	22	100	HH DW (HQ=1)	1.7	59.1			0.079	544	148	7.8
Mercury	T	mg/L	24	4.2	HH DW (HQ=1)	0.011	0	0.0001	0.00011	ND	0.002		
Molybdenum	T	mg/L	22	50	HH DW (HQ=1)	0.18	100	0.01	0.029	ND	2.7	0.56	0.12
Nickel	T	mg/L	22	95.5	HH DW (HQ=1)	0.73	38.1	0.0024	0.0024	ND	8.7	2.3	0.1
Potassium	T	mg/L	22	50	No SLC			3.3	63.8	ND	9.4	9.9	6
Selenium	T	mg/L	22	77.3	HH DW (HQ=1)	0.18	11.8	0.0007	0.007	ND	0.24	0.046	0.0018
Silver	T	mg/L	22	18.2	HH DW (HQ=1)	0.18	0	0.0001	0.0049	ND	0.0015		
Sodium	T	mg/L	22	54.5	No SLC			3.5	99.1	ND	119	31.4	22.7
Thallium	T	mg/L	22	9.1	HH DW (HQ=1)	0.0026	0	0.0001	0.001	ND	0.00045		
Vanadium	T	mg/L	22	86.4	HH DW (HQ=1)	0.037	5.3	0.001	0.002	ND	0.045	0.0057	0.0027
Zinc	T	mg/L	22	77.3	HH DW (HQ=1)	11	47.1	0.011	2.2	ND	125	32.2	0.79

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-35

Surface Water 2003 - 2004

RI/FS Drainages Upstream of the Mine Site

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	3	NA	No SLC					6	10.4	7.9	7.3
EH	T	millivolts	3	NA	No SLC					468	524	502	513
Flow	T	cfs	1	NA	No SLC					0.0045	0.0045	0.0045	0.0045
pH	T	SU	3	NA	No SLC					2.8	7	4.4	3.5
Specific Conductance	T	uS/cm	3	NA	No SLC					2650	4280	3230	2780
Temperature	T	Celsius	3	NA	No SLC					6.9	26.8	16.4	15.4
Turbidity	T	NTU	3	NA	No SLC					0	150	51.4	4
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Biochemical Oxygen Demand	T	mg/L	4	0	No SLC			1.3	1.6	ND	ND		
Carbonate (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	4	25	No SLC			20	57.3	ND	42.6		
Chloride	T	mg/L	4	75	HH DW (HQ=1)	250	0	1.3	1.3	ND	11	4.9	3.9
Chloride	T	mg/L	4	75	ECO Chronic	230	0	1.3	1.3	ND	11	4.9	3.9
Cyanide	T	mg/L	4	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	4	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	4	75	HH DW (HQ=1)	2.2	33.3	6	6	ND	4.4	2.2	2
Hydroxide (as CaCO3)	T	mg/L	4	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	4	25	HH DW (HQ=1)	10	0	0.2	0.4	ND	0.37		
Nitrite	T	mg/L	4	50	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.065	0.026	0.019
pH	T	SU	4	100	No SLC					2.8	4	3.3	3.3
Phosphate, Ortho As P	T	mg/L	4	25	No SLC			0.01	1.3	ND	0.021		
Phosphorus	T	mg/L	4	100	No SLC					0.014	0.25	0.083	0.034
Specific Conductance	T	umhos/cm	4	100	No SLC					301	3850	2000	1930
Sulfate	T	mg/L	4	100	HH DW (HQ=1)	1500	75			1010	3220	2090	2070
Total Alkalinity	T	mg/L	4	0	No SLC			1	1	ND	ND		
Total Dissolved Solids	T	mg/L	4	100	No SLC					1650	6530	3610	3130
Total Kjeldahl Nitrogen	T	mg/L	4	50	No SLC			0.24	0.24	ND	0.52	0.29	0.25

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-35

Surface Water 2003 - 2004

RI/FS Drainages Upstream of the Mine Site

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	4	75	No SLC			1	1	ND	3.6	2	2
Total Suspended Solids	T	mg/L	4	100	No SLC					1.3	76.3	23.4	8
Metals													
Aluminum	D	mg/L	4	100	HH DW (HQ=1)	37	100			65.6	232	131	112
Antimony	D	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.027	0.052	ND	ND		
Antimony	D	mg/L	4	0	ECO Chronic	0.69	0	0.027	0.052	ND	ND		
Arsenic	D	mg/L	4	0	ECO Chronic	0.15	0	0.024	0.041	ND	ND		
Arsenic	D	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.024	0.041	ND	ND		
Barium	D	mg/L	4	0	HH DW (HQ=1)	2.6	0	0.012	0.12	ND	ND		
Barium	D	mg/L	4	0	ECO Chronic	0.004	0	0.012	0.12	ND	ND		
Beryllium	D	mg/L	4	100	HH DW (HQ=1)	0.073	0			0.0097	0.042	0.025	0.024
Beryllium	D	mg/L	4	100	ECO Chronic	0.0053	100			0.0097	0.042	0.025	0.024
Boron	D	mg/L	4	0	ECO Chronic	0.0016	0	0.018	0.063	ND	ND		
Boron	D	mg/L	4	0	HH DW (HQ=1)	3.3	0	0.018	0.063	ND	ND		
Cadmium	D	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.03	0.1	ND	ND		
Cadmium	D	mg/L	4	0	ECO Chronic	0.00025	0	0.03	0.1	ND	ND		
Calcium	D	mg/L	4	100	No SLC					180	540	415	470
Chromium	D	mg/L	4	25	HH DW (HQ=1)	0.1	100	0.06	0.13	ND	0.15		
Chromium	D	mg/L	4	25	ECO Chronic	0.074	100	0.06	0.13	ND	0.15		
Cobalt	D	mg/L	4	75	HH DW (HQ=1)	0.73	0	0.29	0.29	ND	0.72	0.33	0.22
Cobalt	D	mg/L	4	75	ECO Chronic	1.5	0	0.29	0.29	ND	0.72	0.33	0.22
Copper	D	mg/L	4	75	ECO Chronic	0.009	100	0.27	0.27	ND	1.1	0.53	0.47
Copper	D	mg/L	4	75	HH DW (HQ=1)	1.4	0	0.27	0.27	ND	1.1	0.53	0.47
Hardness	D	mg/L	4	100	No SLC					583	1930	1390	1530
Iron	D	mg/L	4	75	HH DW (HQ=1)	11	66.7	1.7	1.7	ND	115	47.1	36.2
Lead	D	mg/L	4	25	HH DW (HQ=1)	0.015	0	0.002	0.004	ND	0.0014		
Lead	D	mg/L	4	25	ECO Chronic	0.0025	0	0.002	0.004	ND	0.0014		
Magnesium	D	mg/L	4	100	No SLC					32.4	156	86.6	79.1
Manganese	D	mg/L	4	100	HH DW (HQ=1)	1.7	100			5.4	21.4	13.1	12.8

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-35

Surface Water 2003 - 2004

RI/FS Drainages Upstream of the Mine Site

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	4	100	ECO Chronic	1.7	100			5.4	21.4	13.1	12.8
Mercury	D	mg/L	4	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	4	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	4	0	ECO Chronic	2.2	0	0.01	0.016	ND	ND		
Molybdenum	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.01	0.016	ND	ND		
Nickel	D	mg/L	4	100	ECO Chronic	0.052	100			0.39	1.8	0.81	0.56
Nickel	D	mg/L	4	100	HH DW (HQ=1)	0.73	25			0.39	1.8	0.81	0.56
Potassium	D	mg/L	4	0	No SLC			15.5	52.8	ND	ND		
Selenium	D	mg/L	4	50	ECO Chronic	0.046	0	0.007	0.008	ND	0.011	0.0059	0.0042
Selenium	D	mg/L	4	50	HH DW (HQ=1)	0.18	0	0.007	0.008	ND	0.011	0.0059	0.0042
Silver	D	mg/L	4	0	ECO Chronic	0.00032	0	0.001	0.001	ND	ND		
Silver	D	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.001	0.001	ND	ND		
Sodium	D	mg/L	4	0	No SLC			21.9	45.4	ND	ND		
Thallium	D	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.001	0.001	ND	ND		
Vanadium	D	mg/L	4	0	ECO Chronic	0.019	0	0.001	0.002	ND	ND		
Vanadium	D	mg/L	4	0	HH DW (HQ=1)	0.26	0	0.001	0.002	ND	ND		
Zinc	D	mg/L	4	100	ECO Chronic	0.12	100			2.1	3.8	2.9	3
Zinc	D	mg/L	4	100	HH DW (HQ=1)	11	0			2.1	3.8	2.9	3
Aluminum	T	mg/L	4	100	HH DW (HQ=1)	37	100			63.2	251	134	110
Aluminum	T	mg/L	4	100	ECO Chronic	0.087	100			63.2	251	134	110
Antimony	T	mg/L	4	0	HH DW (HQ=1)	0.015	0	0.027	0.052	ND	ND		
Arsenic	T	mg/L	4	0	HH DW (HQ=1)	0.01	0	0.024	0.041	ND	ND		
Barium	T	mg/L	4	0	HH DW (HQ=1)	2.6	0	0.012	0.12	ND	ND		
Beryllium	T	mg/L	4	100	HH DW (HQ=1)	0.073	0			0.0092	0.043	0.025	0.024
Boron	T	mg/L	4	0	HH DW (HQ=1)	3.3	0	0.018	0.063	ND	ND		
Cadmium	T	mg/L	4	0	HH DW (HQ=1)	0.018	0	0.03	0.1	ND	ND		
Calcium	T	mg/L	4	100	No SLC					174	552	421	478
Chromium	T	mg/L	4	25	HH DW (HQ=1)	0.1	100	0.06	0.13	ND	0.17		
Cobalt	T	mg/L	4	75	HH DW (HQ=1)	0.73	33.3	0.29	0.29	ND	0.79	0.34	0.22

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-35

Surface Water 2003 - 2004

RI/FS Drainages Upstream of the Mine Site

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	4	75	HH DW (HQ=1)	1.4	0	0.27	0.27	ND	1.2	0.54	0.41
Hardness	T	mg/L	4	100	No SLC					562	2070	1420	1520
Iron	T	mg/L	4	75	ECO Chronic	1	100	2.9	2.9	ND	128	49.3	33.9
Iron	T	mg/L	4	75	HH DW (HQ=1)	11	66.7	2.9	2.9	ND	128	49.3	33.9
Lead	T	mg/L	4	50	HH DW (HQ=1)	0.015	0	0.002	0.004	ND	0.011	0.0038	0.0018
Magnesium	T	mg/L	4	100	No SLC					31	168	89.1	78.7
Manganese	T	mg/L	4	100	HH DW (HQ=1)	1.7	100			5.2	22.9	13.3	12.6
Mercury	T	mg/L	4	25	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00017		
Molybdenum	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.01	0.016	ND	ND		
Nickel	T	mg/L	4	100	HH DW (HQ=1)	0.73	25			0.4	1.9	0.85	0.55
Potassium	T	mg/L	4	0	No SLC			15.5	45.7	ND	ND		
Selenium	T	mg/L	4	50	HH DW (HQ=1)	0.18	0	0.007	0.008	ND	0.01	0.0055	0.0042
Silver	T	mg/L	4	0	HH DW (HQ=1)	0.18	0	0.001	0.001	ND	ND		
Sodium	T	mg/L	4	0	No SLC			21.9	45.4	ND	ND		
Thallium	T	mg/L	4	0	HH DW (HQ=1)	0.0026	0	0.001	0.001	ND	ND		
Vanadium	T	mg/L	4	0	HH DW (HQ=1)	0.037	0	0.001	0.002	ND	ND		
Zinc	T	mg/L	4	100	HH DW (HQ=1)	11	0			2	4.1	3	3

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-36

Surface Water 2003 - 2004

RI/FS Upstream Downstream of Springs 13 and 39

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	52	NA	No SLC					4.2	14.4	9.3	9.5
EH	T	millivolts	54	NA	No SLC					70.1	408	251	250
Flow	T	cfs	34	NA	No SLC			15.4	26.9	ND	30.3	13.7	11.3
pH	T	SU	53	NA	No SLC					5.6	8	7	7.1
Specific Conductance	T	uS/cm	54	NA	No SLC					181	514	358	356
Temperature	T	Celsius	53	NA	No SLC					0.61	16.8	6.7	6.3
Turbidity	T	NTU	54	NA	No SLC					0	236	20.7	12.3
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	53	100	No SLC					37.5	69.8	55.7	56
Biochemical Oxygen Demand	T	mg/L	49	2	No SLC			1.3	1.6	ND	1.5		
Carbonate (as CaCO3)	T	mg/L	53	3.8	No SLC			1	1	ND	54.7		
Chemical Oxygen Demand	T	mg/L	53	13.2	No SLC			2	35.6	ND	84.6		
Chloride	T	mg/L	53	98.1	ECO Chronic	230	0	1.7	1.7	ND	10.6	4.3	4.1
Chloride	T	mg/L	53	98.1	HH DW (HQ=1)	250	0	1.7	1.7	ND	10.6	4.3	4.1
Cyanide	T	mg/L	53	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	53	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	53	84.9	HH DW (HQ=1)	2.2	0	0.31	1.3	ND	1.2	0.7	0.71
Hydroxide (as CaCO3)	T	mg/L	53	1.9	No SLC			1	1	ND	54.7		
Nitrate	T	mg/L	53	75.5	HH DW (HQ=1)	10	0	0.4	1.1	ND	1.1	0.5	0.39
Nitrite	T	mg/L	53	7.5	HH DW (HQ=1)	1	0	0.005	0.005	ND	0.01		
pH	T	SU	40	100	No SLC					6.3	8	7.4	7.4
Phosphate, Ortho As P	T	mg/L	53	18.9	No SLC			0.01	0.05	ND	0.45		
Phosphorus	T	mg/L	53	84.9	No SLC			0.01	0.057	ND	0.37	0.042	0.025
Specific Conductance	T	umhos/cm	40	100	No SLC					180	570	315	312
Sulfate	T	mg/L	53	100	HH DW (HQ=1)	1500	0			34.1	228	116	111
Total Alkalinity	T	mg/L	53	100	No SLC					37.5	74.9	56.1	56.4
Total Dissolved Solids	T	mg/L	53	90.6	No SLC			100	200	ND	420	247	262
Total Kjeldahl Nitrogen	T	mg/L	49	18.4	No SLC			0.24	0.26	ND	0.58		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-36

Surface Water 2003 - 2004

RI/FS Upstream Downstream of Springs 13 and 39

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	54	48.1	No SLC			1	3.7	ND	3.8		
Total Suspended Solids	T	mg/L	53	100	No SLC					3.2	76	12.7	8.8
Metals													
Aluminum	D	mg/L	53	47.2	HH DW (HQ=1)	37	0	0.018	0.32	ND	3.5		
Antimony	D	mg/L	53	3.8	ECO Chronic	0.69	0	0.0003	0.072	ND	0.00072		
Antimony	D	mg/L	53	3.8	HH DW (HQ=1)	0.015	0	0.0003	0.072	ND	0.00072		
Arsenic	D	mg/L	53	0	ECO Chronic	0.15	0	0.0002	0.0004	ND	ND		
Arsenic	D	mg/L	53	0	HH DW (HQ=1)	0.01	0	0.0002	0.0004	ND	ND		
Barium	D	mg/L	53	96.2	ECO Chronic	0.004	100	0.12	0.12	ND	0.04	0.035	0.035
Barium	D	mg/L	53	96.2	HH DW (HQ=1)	2.6	0	0.12	0.12	ND	0.04	0.035	0.035
Beryllium	D	mg/L	53	11.3	ECO Chronic	0.0053	0	0.0002	0.003	ND	0.00072		
Beryllium	D	mg/L	53	11.3	HH DW (HQ=1)	0.073	0	0.0002	0.003	ND	0.00072		
Boron	D	mg/L	53	24.5	ECO Chronic	0.0016	100	0.0036	0.084	ND	0.012		
Boron	D	mg/L	53	24.5	HH DW (HQ=1)	3.3	0	0.0036	0.084	ND	0.012		
Cadmium	D	mg/L	53	86.8	ECO Chronic	0.00025	76.1	0.0002	0.05	ND	0.00092	0.0013	0.00038
Cadmium	D	mg/L	53	86.8	HH DW (HQ=1)	0.018	0	0.0002	0.05	ND	0.00092	0.0013	0.00038
Calcium	D	mg/L	53	100	No SLC					25.4	79.8	50.7	48.9
Chromium	D	mg/L	53	7.5	ECO Chronic	0.074	0	0.0006	0.1	ND	0.0052		
Chromium	D	mg/L	53	7.5	HH DW (HQ=1)	0.1	0	0.0006	0.1	ND	0.0052		
Cobalt	D	mg/L	53	49.1	ECO Chronic	1.5	0	0.0016	0.38	ND	0.0079		
Cobalt	D	mg/L	53	49.1	HH DW (HQ=1)	0.73	0	0.0016	0.38	ND	0.0079		
Copper	D	mg/L	53	77.4	HH DW (HQ=1)	1.4	0	0.0015	0.15	ND	0.0085	0.0065	0.0033
Copper	D	mg/L	53	77.4	ECO Chronic	0.009	0	0.0015	0.15	ND	0.0085	0.0065	0.0033
Hardness	D	mg/L	53	98.1	No SLC			130	130	ND	273	170	162
Iron	D	mg/L	53	18.9	HH DW (HQ=1)	11	0	0.017	0.49	ND	1.1		
Lead	D	mg/L	53	9.4	HH DW (HQ=1)	0.015	0	0.0001	0.0021	ND	0.0014		
Lead	D	mg/L	53	9.4	ECO Chronic	0.0025	0	0.0001	0.0021	ND	0.0014		
Magnesium	D	mg/L	53	100	No SLC					4.3	18	11.2	10.5
Manganese	D	mg/L	53	100	ECO Chronic	1.7	0			0.052	0.54	0.16	0.13

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-36

Surface Water 2003 - 2004

RI/FS Upstream Downstream of Springs 13 and 39

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Manganese	D	mg/L	53	100	HH DW (HQ=1)	1.7	0			0.052	0.54	0.16	0.13
Mercury	D	mg/L	53	0	ECO Chronic	0.00077	0	0.0001	0.0001	ND	ND		
Mercury	D	mg/L	53	0	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	ND		
Molybdenum	D	mg/L	53	39.6	HH DW (HQ=1)	0.18	0	0.0015	0.023	ND	0.0043		
Molybdenum	D	mg/L	53	39.6	ECO Chronic	2.2	0	0.0015	0.023	ND	0.0043		
Nickel	D	mg/L	53	92.5	ECO Chronic	0.052	0	0.006	0.3	ND	0.036	0.023	0.016
Nickel	D	mg/L	53	92.5	HH DW (HQ=1)	0.73	0	0.006	0.3	ND	0.036	0.023	0.016
Potassium	D	mg/L	53	96.2	No SLC			1.1	1.1	ND	4.3	1.5	1.4
Selenium	D	mg/L	53	18.9	ECO Chronic	0.046	0	0.0003	0.005	ND	0.0034		
Selenium	D	mg/L	53	18.9	HH DW (HQ=1)	0.18	0	0.0003	0.005	ND	0.0034		
Silver	D	mg/L	53	0	ECO Chronic	0.00032	0	0.0001	0.001	ND	ND		
Silver	D	mg/L	53	0	HH DW (HQ=1)	0.18	0	0.0001	0.001	ND	ND		
Sodium	D	mg/L	53	90.6	No SLC			5.1	9.2	ND	10.2	5.4	5.4
Thallium	D	mg/L	53	0	HH DW (HQ=1)	0.0026	0	0.0001	0.001	ND	ND		
Vanadium	D	mg/L	53	22.6	ECO Chronic	0.019	0	0.0001	0.0029	ND	0.00022		
Vanadium	D	mg/L	53	22.6	HH DW (HQ=1)	0.26	0	0.0001	0.0029	ND	0.00022		
Zinc	D	mg/L	53	90.6	ECO Chronic	0.12	27.1	0.14	0.19	ND	0.23	0.093	0.078
Zinc	D	mg/L	53	90.6	HH DW (HQ=1)	11	0	0.14	0.19	ND	0.23	0.093	0.078
Aluminum	T	mg/L	53	92.5	HH DW (HQ=1)	37	0	0.17	0.9	ND	3.7	1	0.88
Aluminum	T	mg/L	53	92.5	ECO Chronic	0.087	100	0.17	0.9	ND	3.7	1	0.88
Antimony	T	mg/L	53	1.9	HH DW (HQ=1)	0.015	0	0.0003	0.072	ND	0.00055		
Arsenic	T	mg/L	53	30.2	HH DW (HQ=1)	0.01	0	0.0002	0.0004	ND	0.00042		
Barium	T	mg/L	53	96.2	HH DW (HQ=1)	2.6	0	0.12	0.12	ND	0.051	0.04	0.039
Beryllium	T	mg/L	53	52.8	HH DW (HQ=1)	0.073	0	0.0002	0.003	ND	0.0007	0.00038	0.00037
Boron	T	mg/L	53	22.6	HH DW (HQ=1)	3.3	0	0.0042	0.084	ND	0.012		
Cadmium	T	mg/L	53	83	HH DW (HQ=1)	0.018	0	0.0002	0.05	ND	0.0012	0.0014	0.00041
Calcium	T	mg/L	53	100	No SLC					26.3	81.7	50.8	49
Chromium	T	mg/L	53	9.4	HH DW (HQ=1)	0.1	0	0.0006	0.1	ND	0.0021		
Cobalt	T	mg/L	53	35.8	HH DW (HQ=1)	0.73	0	0.0011	0.38	ND	0.0072		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-36

Surface Water 2003 - 2004

RI/FS Upstream Downstream of Springs 13 and 39

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Copper	T	mg/L	53	94.3	HH DW (HQ=1)	1.4	0	0.01	0.15	ND	0.041	0.014	0.0095
Hardness	T	mg/L	53	98.1	No SLC			130	130	ND	280	170	162
Iron	T	mg/L	53	64.2	ECO Chronic	1	0	0.046	3.1	ND	0.88	0.38	0.29
Iron	T	mg/L	53	64.2	HH DW (HQ=1)	11	0	0.046	3.1	ND	0.88	0.38	0.29
Lead	T	mg/L	53	83	HH DW (HQ=1)	0.015	0	0.0002	0.0025	ND	0.0047	0.00092	0.00046
Magnesium	T	mg/L	53	96.2	No SLC			29	29	ND	18.3	11.3	10.4
Manganese	T	mg/L	53	100	HH DW (HQ=1)	1.7	0			0.057	0.55	0.18	0.14
Mercury	T	mg/L	53	3.8	HH DW (HQ=1)	0.011	0	0.0001	0.0001	ND	0.00012		
Molybdenum	T	mg/L	53	39.6	HH DW (HQ=1)	0.18	0	0.0011	0.023	ND	0.0042		
Nickel	T	mg/L	53	92.5	HH DW (HQ=1)	0.73	0	0.0068	0.3	ND	0.035	0.023	0.017
Potassium	T	mg/L	53	92.5	No SLC			1.1	32.6	ND	2	2	1.4
Selenium	T	mg/L	53	26.4	HH DW (HQ=1)	0.18	0	0.0003	0.005	ND	0.0018		
Silver	T	mg/L	53	0	HH DW (HQ=1)	0.18	0	0.0001	0.001	ND	ND		
Sodium	T	mg/L	53	90.6	No SLC			5.7	35.2	ND	10.9	5.8	5.2
Thallium	T	mg/L	53	0	HH DW (HQ=1)	0.0026	0	0.0001	0.001	ND	ND		
Vanadium	T	mg/L	53	49.1	HH DW (HQ=1)	0.037	0	0.0002	0.0029	ND	0.0017		
Zinc	T	mg/L	53	90.6	HH DW (HQ=1)	11	0	0.19	0.24	ND	0.3	0.11	0.097

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-37
Surface Water 2002 - 2004
RI/FS Irrigation Ditches
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	10	NA	No SLC					1.6	10.9	8.1	9.1
EH	T	millivolts	11	NA	No SLC					109	335	222	187
Flow	T	cfs	10	NA	No SLC					0.1	11.2	2.4	0.8
pH	T	SU	11	NA	No SLC					6.3	7.8	7.2	7.1
Specific Conductance	T	uS/cm	11	NA	No SLC					174	408	323	328
Temperature	T	Celsius	11	NA	No SLC					6.7	18.5	10.5	9.8
Turbidity	T	NTU	11	NA	No SLC					0.5	75.4	15.6	14.9
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	11	100	No SLC					43.2	128	62	55.9
Biochemical Oxygen Demand	T	mg/L	11	0	No SLC			1.3	1.5	ND	ND		
Carbonate (as CaCO3)	T	mg/L	11	0	No SLC			1	1	ND	ND		
Chemical Oxygen Demand	T	mg/L	11	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	11	81.8	HH DW (HQ=1)	250	0	0.53	0.8	ND	5.6	2.8	2.9
Chloride	T	mg/L	11	81.8	ECO Chronic	230	0	0.53	0.8	ND	5.6	2.8	2.9
Cyanide	T	mg/L	11	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	11	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	11	63.6	HH DW (HQ=1)	2.2	0	0.3	0.91	ND	1	0.54	0.68
Hydroxide (as CaCO3)	T	mg/L	11	0	No SLC			1	1	ND	ND		
Nitrate	T	mg/L	11	54.5	HH DW (HQ=1)	10	0	0.2	1	ND	0.62	0.35	0.36
Nitrite	T	mg/L	11	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	9	100	No SLC					7.6	8.3	7.8	7.7
Phosphate, Ortho As P	T	mg/L	11	9.1	No SLC			0.01	0.01	ND	0.77		
Phosphorus	T	mg/L	11	63.6	No SLC			0.01	0.038	ND	0.059	0.023	0.022
Specific Conductance	T	umhos/cm	9	100	No SLC					151	350	281	300
Sulfate	T	mg/L	11	100	HH DW (HQ=1)	1500	0			29.1	171	102	96.4
Total Alkalinity	T	mg/L	11	100	No SLC					43.2	128	62	55.9
Total Dissolved Solids	T	mg/L	11	100	No SLC					122	281	207	202
Total Kjeldahl Nitrogen	T	mg/L	11	0	No SLC			0.24	0.33	ND	ND		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-37
Surface Water 2002 - 2004
RI/FS Irrigation Ditches
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Organic Carbon	T	mg/L	11	63.6	No SLC			1	1	ND	1.7	1	1.1
Total Suspended Solids	T	mg/L	11	100	No SLC					1.5	31.4	16.7	17.6
Metals													
Aluminum	D	mg/L	11	72.7	HH DW (HQ=1)	37	0	0.012	0.05	ND	0.27	0.16	0.2
Antimony	D	mg/L	11	0	HH DW (HQ=1)	0.015	0	0.00014	0.0017	ND	ND		
Antimony	D	mg/L	11	0	ECO Chronic	0.69	0	0.00014	0.0017	ND	ND		
Arsenic	D	mg/L	11	27.3	HH DW (HQ=1)	0.01	0	0.0002	0.00047	ND	0.00022		
Arsenic	D	mg/L	11	27.3	ECO Chronic	0.15	0	0.0002	0.00047	ND	0.00022		
Barium	D	mg/L	11	100	HH DW (HQ=1)	2.6	0			0.016	0.037	0.031	0.034
Barium	D	mg/L	11	100	ECO Chronic	0.004	100			0.016	0.037	0.031	0.034
Beryllium	D	mg/L	11	9.1	HH DW (HQ=1)	0.073	0	0.0002	0.00047	ND	0.00022		
Beryllium	D	mg/L	11	9.1	ECO Chronic	0.0053	0	0.0002	0.00047	ND	0.00022		
Boron	D	mg/L	11	27.3	HH DW (HQ=1)	3.3	0	0.0048	0.0084	ND	0.0062		
Boron	D	mg/L	11	27.3	ECO Chronic	0.0016	100	0.0048	0.0084	ND	0.0062		
Cadmium	D	mg/L	11	72.7	HH DW (HQ=1)	0.018	0	0.00008	0.00085	ND	0.00056	0.00041	0.00047
Cadmium	D	mg/L	11	72.7	ECO Chronic	0.00025	100	0.00008	0.00085	ND	0.00056	0.00041	0.00047
Calcium	D	mg/L	11	100	No SLC					24.4	60.1	47.1	48.4
Chromium	D	mg/L	11	0	ECO Chronic	0.074	0	0.001	0.0046	ND	ND		
Chromium	D	mg/L	11	0	HH DW (HQ=1)	0.1	0	0.001	0.0046	ND	ND		
Chromium, Hexavalent	D	mg/L	2	0	ECO Chronic	0.011	0	0.01	0.01	ND	ND		
Chromium, Hexavalent	D	mg/L	2	0	HH DW (HQ=1)	0.11	0	0.01	0.01	ND	ND		
Cobalt	D	mg/L	11	63.6	HH DW (HQ=1)	0.73	0	0.0011	0.002	ND	0.006	0.0032	0.004
Cobalt	D	mg/L	11	63.6	ECO Chronic	1.5	0	0.0011	0.002	ND	0.006	0.0032	0.004
Copper	D	mg/L	11	72.7	HH DW (HQ=1)	1.4	0	0.00043	0.0096	ND	0.0059	0.0037	0.0042
Copper	D	mg/L	11	72.7	ECO Chronic	0.009	0	0.00043	0.0096	ND	0.0059	0.0037	0.0042
Hardness	D	mg/L	11	100	No SLC					76.2	203	158	161
Iron	D	mg/L	11	18.2	HH DW (HQ=1)	11	0	0.023	0.42	ND	0.037		
Lead	D	mg/L	11	18.2	ECO Chronic	0.0025	0	0.00004	0.0002	ND	0.00007		
Lead	D	mg/L	11	18.2	HH DW (HQ=1)	0.015	0	0.00004	0.0002	ND	0.00007		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-37
Surface Water 2002 - 2004
RI/FS Irrigation Ditches
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Magnesium	D	mg/L	11	100	No SLC					3.7	13.4	9.7	9.9
Manganese	D	mg/L	11	90.9	ECO Chronic	1.7	0	0.0079	0.0079	ND	0.46	0.26	0.25
Manganese	D	mg/L	11	90.9	HH DW (HQ=1)	1.7	0	0.0079	0.0079	ND	0.46	0.26	0.25
Mercury	D	mg/L	11	9.1	ECO Chronic	0.00077	0	0.00006	0.00012	ND	0.00011		
Mercury	D	mg/L	11	9.1	HH DW (HQ=1)	0.011	0	0.00006	0.00012	ND	0.00011		
Molybdenum	D	mg/L	11	81.8	ECO Chronic	2.2	0	0.0017	0.002	ND	0.0028	0.0021	0.0023
Molybdenum	D	mg/L	11	81.8	HH DW (HQ=1)	0.18	0	0.0017	0.002	ND	0.0028	0.0021	0.0023
Nickel	D	mg/L	11	90.9	ECO Chronic	0.052	0	0.0021	0.0021	ND	0.028	0.015	0.016
Nickel	D	mg/L	11	90.9	HH DW (HQ=1)	0.73	0	0.0021	0.0021	ND	0.028	0.015	0.016
Potassium	D	mg/L	11	90.9	No SLC			0.97	0.97	ND	1.8	1.3	1.3
Selenium	D	mg/L	11	0	HH DW (HQ=1)	0.18	0	0.0006	0.0016	ND	ND		
Selenium	D	mg/L	11	0	ECO Chronic	0.046	0	0.0006	0.0016	ND	ND		
Silver	D	mg/L	11	0	HH DW (HQ=1)	0.18	0	0.0001	0.0002	ND	ND		
Silver	D	mg/L	11	0	ECO Chronic	0.00032	0	0.0001	0.0002	ND	ND		
Sodium	D	mg/L	11	90.9	No SLC			9.2	9.2	ND	6.9	5.1	5.2
Thallium	D	mg/L	11	0	HH DW (HQ=1)	0.0026	0	0.00001	0.0002	ND	ND		
Vanadium	D	mg/L	11	0	HH DW (HQ=1)	0.26	0	0.0001	0.00085	ND	ND		
Vanadium	D	mg/L	11	0	ECO Chronic	0.019	0	0.0001	0.00085	ND	ND		
Zinc	D	mg/L	11	81.8	ECO Chronic	0.12	11.1	0.0063	0.013	ND	0.14	0.072	0.079
Zinc	D	mg/L	11	81.8	HH DW (HQ=1)	11	0	0.0063	0.013	ND	0.14	0.072	0.079
Aluminum	T	mg/L	11	90.9	ECO Chronic	0.087	90	0.041	0.041	ND	2.4	1.4	1.4
Aluminum	T	mg/L	11	90.9	HH DW (HQ=1)	37	0	0.041	0.041	ND	2.4	1.4	1.4
Antimony	T	mg/L	11	0	HH DW (HQ=1)	0.015	0	0.00011	0.0011	ND	ND		
Arsenic	T	mg/L	11	18.2	HH DW (HQ=1)	0.01	0	0.0002	0.00058	ND	0.00029		
Barium	T	mg/L	11	100	HH DW (HQ=1)	2.6	0			0.015	0.045	0.036	0.037
Beryllium	T	mg/L	11	27.3	HH DW (HQ=1)	0.073	0	0.0002	0.00071	ND	0.00059		
Boron	T	mg/L	11	27.3	HH DW (HQ=1)	3.3	0	0.0048	0.0084	ND	0.0065		
Cadmium	T	mg/L	11	72.7	HH DW (HQ=1)	0.018	0	0.00008	0.0014	ND	0.0007	0.00051	0.00058
Calcium	T	mg/L	11	100	No SLC					24.4	60.8	47.1	47.6

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-37
Surface Water 2002 - 2004
RI/FS Irrigation Ditches
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Chromium	T	mg/L	11	0	HH DW (HQ=1)	0.1	0	0.001	0.0046	ND	ND		
Cobalt	T	mg/L	11	63.6	HH DW (HQ=1)	0.73	0	0.0011	0.002	ND	0.0055	0.0028	0.0032
Copper	T	mg/L	11	81.8	HH DW (HQ=1)	1.4	0	0.00043	0.0024	ND	0.028	0.015	0.014
Hardness	T	mg/L	11	100	No SLC					75.9	206	158	159
Iron	T	mg/L	11	90.9	ECO Chronic	1	0	0.57	0.57	ND	0.67	0.39	0.37
Iron	T	mg/L	11	90.9	HH DW (HQ=1)	11	0	0.57	0.57	ND	0.67	0.39	0.37
Lead	T	mg/L	11	81.8	HH DW (HQ=1)	0.015	0	0.0001	0.00013	ND	0.0016	0.00079	0.00059
Magnesium	T	mg/L	11	100	No SLC					3.7	13.4	9.7	9.8
Manganese	T	mg/L	11	100	HH DW (HQ=1)	1.7	0			0.0084	0.48	0.27	0.27
Mercury	T	mg/L	11	9.1	HH DW (HQ=1)	0.011	0	0.00006	0.00012	ND	0.0002		
Molybdenum	T	mg/L	11	72.7	HH DW (HQ=1)	0.18	0	0.0015	0.0024	ND	0.0041	0.0022	0.0026
Nickel	T	mg/L	11	90.9	HH DW (HQ=1)	0.73	0	0.0021	0.0021	ND	0.03	0.017	0.019
Potassium	T	mg/L	11	90.9	No SLC			0.99	0.99	ND	1.9	1.3	1.4
Selenium	T	mg/L	11	9.1	HH DW (HQ=1)	0.18	0	0.00054	0.0016	ND	0.00073		
Silver	T	mg/L	11	0	HH DW (HQ=1)	0.18	0	0.0001	0.0002	ND	ND		
Sodium	T	mg/L	11	90.9	No SLC			9.2	9.2	ND	6.7	5.1	5.1
Thallium	T	mg/L	11	0	HH DW (HQ=1)	0.0026	0	0.00001	0.0002	ND	ND		
Vanadium	T	mg/L	11	36.4	HH DW (HQ=1)	0.037	0	0.0002	0.00086	ND	0.00042		
Zinc	T	mg/L	11	81.8	HH DW (HQ=1)	11	0	0.0052	0.013	ND	0.22	0.12	0.14

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-38

Surface Water 2002 - 2004

RI/FS Irrigation Ditch Return Flows

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Field													
DO	T	mg/L	9	NA	No SLC					7.4	10.9	9.2	9.6
Eh	T	millivolts	9	NA	No SLC					17.5	321	125	107
Flow	T	gpm	3	NA	No SLC					ND	0.4	203	0.4
Flow	T	cfs	6	NA	No SLC					0.1	0.4	0.21	0.4
Flow	T	gpm	3	NA	No SLC					63	345	203	0.4
Flow	T	cfs	6	NA	No SLC					ND	345	0.21	0.4
pH	T	SU	9	NA	No SLC					6.8	8	7.4	7.5
Specific Conductance	T	uS/cm	9	NA	No SLC					377	1040	585	527
Temperature	T	Celsius	9	NA	No SLC					7.1	19.3	12.9	12.9
Turbidity	T	NTU	9	NA	No SLC					0	74.7	11.1	2.6
Inorganics													
Bicarbonate (as CaCO3)	T	mg/L	9	100	No SLC					80.5	164	125	134
Biochemical Oxygen Demand	T	mg/L	9	0	No SLC			1.4	1.5	ND	ND		
Carbonate (as CaCO3)	T	mg/L	9	0	No SLC			1	4	ND	ND		
Chemical Oxygen Demand	T	mg/L	9	0	No SLC			20	20	ND	ND		
Chloride	T	mg/L	9	100	HH DW (HQ=1)	250	0			3.3	8.6	5.6	5.2
Chloride	T	mg/L	9	100	ECO Chronic	230	0			3.3	8.6	5.6	5.2
Cyanide	T	mg/L	9	0	ECO Chronic	0.0052	0	0.01	0.01	ND	ND		
Cyanide	T	mg/L	9	0	HH DW (HQ=1)	0.73	0	0.01	0.01	ND	ND		
Fluoride	T	mg/L	9	88.9	HH DW (HQ=1)	2.2	0	0.81	0.81	ND	0.84	0.69	0.72
Hydroxide (as CaCO3)	T	mg/L	9	0	No SLC			1	4	ND	ND		
Nitrate	T	mg/L	9	11.1	HH DW (HQ=1)	10	0	0.2	0.4	ND	0.21		
Nitrite	T	mg/L	9	0	HH DW (HQ=1)	1	0	0.005	0.005	ND	ND		
pH	T	SU	8	100	No SLC					7.2	8.1	7.6	7.7
Phosphate, Ortho As P	T	mg/L	9	33.3	No SLC			0.01	0.026	ND	0.035		
Phosphorus	T	mg/L	9	77.8	No SLC			0.029	0.031	ND	0.05	0.028	0.028
Specific Conductance	T	umhos/cm	8	100	No SLC					367	949	557	463
Sulfate	T	mg/L	9	100	HH DW (HQ=1)	1500	0			109	433	179	124

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-38
Surface Water 2002 - 2004
RI/FS Irrigation Ditch Return Flows
Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Total Alkalinity	T	mg/L	9	100	No SLC					80.5	164	125	134
Total Dissolved Solids	T	mg/L	9	100	No SLC					250	790	422	334
Total Kjeldahl Nitrogen	T	mg/L	9	33.3	No SLC			0.24	0.24	ND	0.33		
Total Organic Carbon	T	mg/L	9	77.8	No SLC			1	1	ND	3.6	2	1.7
Total Suspended Solids	T	mg/L	9	66.7	No SLC			2.2	5.5	ND	13	4.4	2.8
Metals													
Aluminum	D	mg/L	9	0	HH DW (HQ=1)	37	0	0.0029	0.12	ND	ND		
Antimony	D	mg/L	9	11.1	ECO Chronic	0.69	0	0.00045	0.00065	ND	0.00039		
Antimony	D	mg/L	9	11.1	HH DW (HQ=1)	0.015	0	0.00045	0.00065	ND	0.00039		
Arsenic	D	mg/L	9	0	ECO Chronic	0.15	0	0.0002	0.00067	ND	ND		
Arsenic	D	mg/L	9	0	HH DW (HQ=1)	0.01	0	0.0002	0.00067	ND	ND		
Barium	D	mg/L	9	100	ECO Chronic	0.004	100			0.036	0.06	0.045	0.043
Barium	D	mg/L	9	100	HH DW (HQ=1)	2.6	0			0.036	0.06	0.045	0.043
Beryllium	D	mg/L	9	0	ECO Chronic	0.0053	0	0.0002	0.00095	ND	ND		
Beryllium	D	mg/L	9	0	HH DW (HQ=1)	0.073	0	0.0002	0.00095	ND	ND		
Boron	D	mg/L	9	100	HH DW (HQ=1)	3.3	0			0.02	0.054	0.034	0.029
Boron	D	mg/L	9	100	ECO Chronic	0.0016	100			0.02	0.054	0.034	0.029
Cadmium	D	mg/L	9	0	ECO Chronic	0.00025	0	0.00008	0.0005	ND	ND		
Cadmium	D	mg/L	9	0	HH DW (HQ=1)	0.018	0	0.00008	0.0005	ND	ND		
Calcium	D	mg/L	9	100	No SLC					53.8	145	81.5	73
Chromium	D	mg/L	9	0	ECO Chronic	0.074	0	0.0008	0.0016	ND	ND		
Chromium	D	mg/L	9	0	HH DW (HQ=1)	0.1	0	0.0008	0.0016	ND	ND		
Cobalt	D	mg/L	9	0	ECO Chronic	1.5	0	0.0011	0.0038	ND	ND		
Cobalt	D	mg/L	9	0	HH DW (HQ=1)	0.73	0	0.0011	0.0038	ND	ND		
Copper	D	mg/L	9	44.4	ECO Chronic	0.009	25	0.0008	0.0017	ND	0.015		
Copper	D	mg/L	9	44.4	HH DW (HQ=1)	1.4	0	0.0008	0.0017	ND	0.015		
Hardness	D	mg/L	9	100	No SLC					172	468	262	233
Iron	D	mg/L	9	33.3	HH DW (HQ=1)	11	0	0.044	0.42	ND	0.22		
Lead	D	mg/L	9	22.2	ECO Chronic	0.0025	0	0.0001	0.0004	ND	0.00062		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-38

Surface Water 2002 - 2004

RI/FS Irrigation Ditch Return Flows

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Lead	D	mg/L	9	22.2	HH DW (HQ=1)	0.015	0	0.0001	0.0004	ND	0.00062		
Magnesium	D	mg/L	9	100	No SLC					9.2	25.5	14.2	12.4
Manganese	D	mg/L	9	88.9	ECO Chronic	1.7	0	0.008	0.008	ND	0.077	0.028	0.025
Manganese	D	mg/L	9	88.9	HH DW (HQ=1)	1.7	0	0.008	0.008	ND	0.077	0.028	0.025
Mercury	D	mg/L	9	0	ECO Chronic	0.00077	0	0.00006	0.0001	ND	ND		
Mercury	D	mg/L	9	0	HH DW (HQ=1)	0.011	0	0.00006	0.0001	ND	ND		
Molybdenum	D	mg/L	9	100	ECO Chronic	2.2	0			0.0055	0.2	0.058	0.011
Molybdenum	D	mg/L	9	100	HH DW (HQ=1)	0.18	11.1			0.0055	0.2	0.058	0.011
Nickel	D	mg/L	9	44.4	ECO Chronic	0.052	0	0.0009	0.003	ND	0.0031		
Nickel	D	mg/L	9	44.4	HH DW (HQ=1)	0.73	0	0.0009	0.003	ND	0.0031		
Potassium	D	mg/L	9	100	No SLC					1.3	2.8	1.9	1.8
Selenium	D	mg/L	9	11.1	ECO Chronic	0.046	0	0.0003	0.0016	ND	0.00052		
Selenium	D	mg/L	9	11.1	HH DW (HQ=1)	0.18	0	0.0003	0.0016	ND	0.00052		
Silver	D	mg/L	9	11.1	ECO Chronic	0.00032	100	0.0001	0.0059	ND	0.00047		
Silver	D	mg/L	9	11.1	HH DW (HQ=1)	0.18	0	0.0001	0.0059	ND	0.00047		
Sodium	D	mg/L	9	88.9	No SLC			43.7	43.7	ND	47	27.5	22.4
Thallium	D	mg/L	9	0	HH DW (HQ=1)	0.0026	0	0.00001	0.0002	ND	ND		
Vanadium	D	mg/L	9	66.7	ECO Chronic	0.019	0	0.0002	0.00081	ND	0.00033	0.00025	0.00026
Vanadium	D	mg/L	9	66.7	HH DW (HQ=1)	0.26	0	0.0002	0.00081	ND	0.00033	0.00025	0.00026
Zinc	D	mg/L	9	44.4	ECO Chronic	0.12	0	0.0044	0.039	ND	0.013		
Zinc	D	mg/L	9	44.4	HH DW (HQ=1)	11	0	0.0044	0.039	ND	0.013		
Aluminum	T	mg/L	9	55.6	HH DW (HQ=1)	37	0	0.022	0.25	ND	0.37	0.13	0.12
Aluminum	T	mg/L	9	55.6	ECO Chronic	0.087	80	0.022	0.25	ND	0.37	0.13	0.12
Antimony	T	mg/L	9	11.1	HH DW (HQ=1)	0.015	0	0.0002	0.0006	ND	0.0023		
Arsenic	T	mg/L	9	11.1	HH DW (HQ=1)	0.01	0	0.0002	0.00062	ND	0.0002		
Barium	T	mg/L	9	100	HH DW (HQ=1)	2.6	0			0.038	0.061	0.047	0.047
Beryllium	T	mg/L	9	0	HH DW (HQ=1)	0.073	0	0.0002	0.00047	ND	ND		
Boron	T	mg/L	9	100	HH DW (HQ=1)	3.3	0			0.02	0.056	0.034	0.029
Cadmium	T	mg/L	9	11.1	HH DW (HQ=1)	0.018	0	0.0001	0.0005	ND	0.00009		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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

Table 2-38

Surface Water 2002 - 2004

RI/FS Irrigation Ditch Return Flows

Summary of Results

Analyte	Sample Fraction	Units	Total Number of Samples	Percent Detects (%)	SLC	SLC Value	Percent Above SLC	Min RL for ND	Max RL for ND	Min Value	Max Value	Mean Value	Median Value
Calcium	T	mg/L	9	100	No SLC					52.9	146	80.3	69.7
Chromium	T	mg/L	9	22.2	HH DW (HQ=1)	0.1	0	0.0008	0.0014	ND	0.0011		
Cobalt	T	mg/L	9	0	HH DW (HQ=1)	0.73	0	0.0011	0.0038	ND	ND		
Copper	T	mg/L	9	66.7	HH DW (HQ=1)	1.4	0	0.0008	0.0017	ND	0.0041	0.0016	0.001
Hardness	T	mg/L	9	100	No SLC					169	471	258	223
Iron	T	mg/L	9	55.6	ECO Chronic	1	0	0.064	0.42	ND	0.42	0.21	0.2
Iron	T	mg/L	9	55.6	HH DW (HQ=1)	11	0	0.064	0.42	ND	0.42	0.21	0.2
Lead	T	mg/L	9	77.8	HH DW (HQ=1)	0.015	0	0.0002	0.0004	ND	0.0013	0.00052	0.00045
Magnesium	T	mg/L	9	100	No SLC					9.1	25.7	14	11.9
Manganese	T	mg/L	9	100	HH DW (HQ=1)	1.7	0			0.0094	0.078	0.032	0.033
Mercury	T	mg/L	9	0	HH DW (HQ=1)	0.011	0	0.00006	0.0001	ND	ND		
Molybdenum	T	mg/L	9	100	HH DW (HQ=1)	0.18	11.1			0.0051	0.2	0.059	0.012
Nickel	T	mg/L	9	66.7	HH DW (HQ=1)	0.73	0	0.0009	0.003	ND	0.0043	0.0016	0.0011
Potassium	T	mg/L	9	100	No SLC					1.3	2.8	2	1.9
Selenium	T	mg/L	9	11.1	HH DW (HQ=1)	0.18	0	0.0003	0.0016	ND	0.0003		
Silver	T	mg/L	9	0	HH DW (HQ=1)	0.18	0	0.0001	0.0059	ND	ND		
Sodium	T	mg/L	9	88.9	No SLC			46.2	46.2	ND	47.5	27.5	23.1
Thallium	T	mg/L	9	0	HH DW (HQ=1)	0.0026	0	0.00001	0.0002	ND	ND		
Vanadium	T	mg/L	9	77.8	HH DW (HQ=1)	0.037	0	0.00081	0.00096	ND	0.00056	0.00036	0.00032
Zinc	T	mg/L	9	22.2	HH DW (HQ=1)	11	0	0.0028	0.039	ND	0.022		

"No SLC" indicates that there is not a Screening Level Criterion for this medium specified for the RI/FS.
"Eco Cronic" EPA Region 6 Tier 1-3 RBSLs Aqueous Ecological Chronic
"HH DW (HQ=1)" EPA Region 6 RBSLs Human Health Tap Water (HQ=1)
Median Value determined using 1/2 the Reporting Limit value for Non-Detects if 50% or greater than the values were detected.
Mean Value calculated using 1/2 the Reporting Limit for Non-Detects if 50% or greater than the values were detected.

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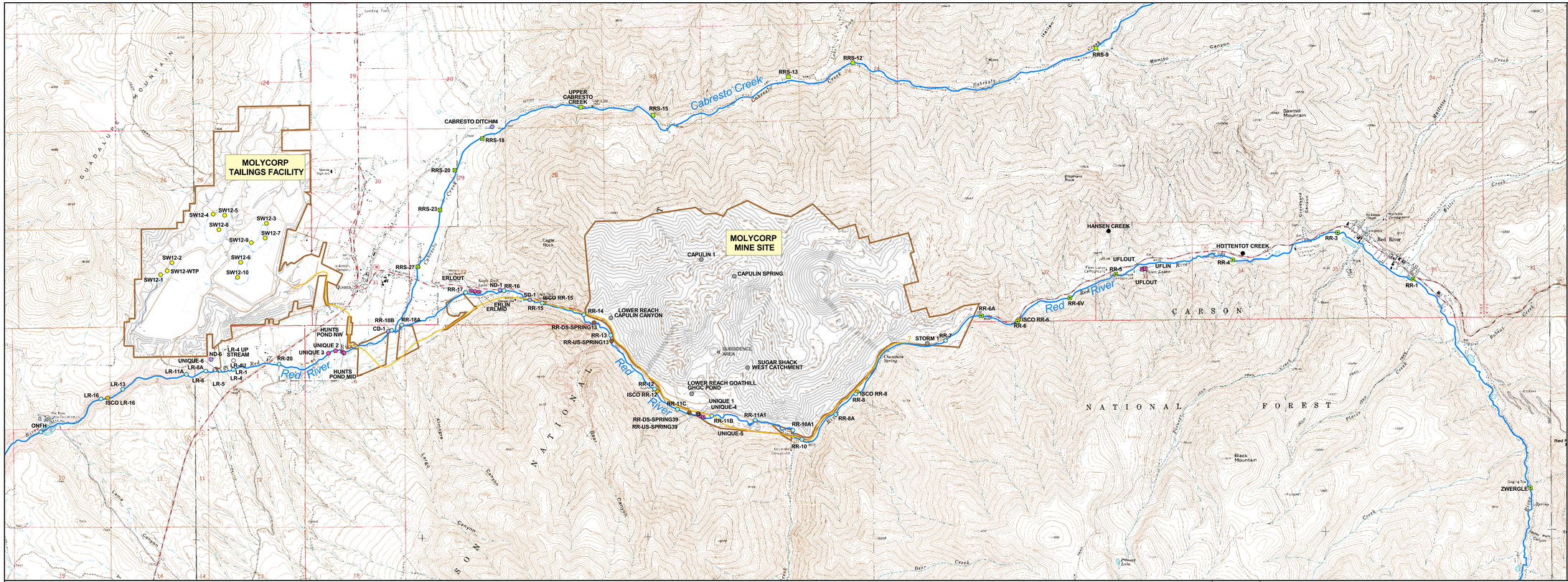
ND = Non Detected Value

SECTION 2

SURFACE WATER

FIGURES



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

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

MOLYCORP - QUESTA MINE RI/FS

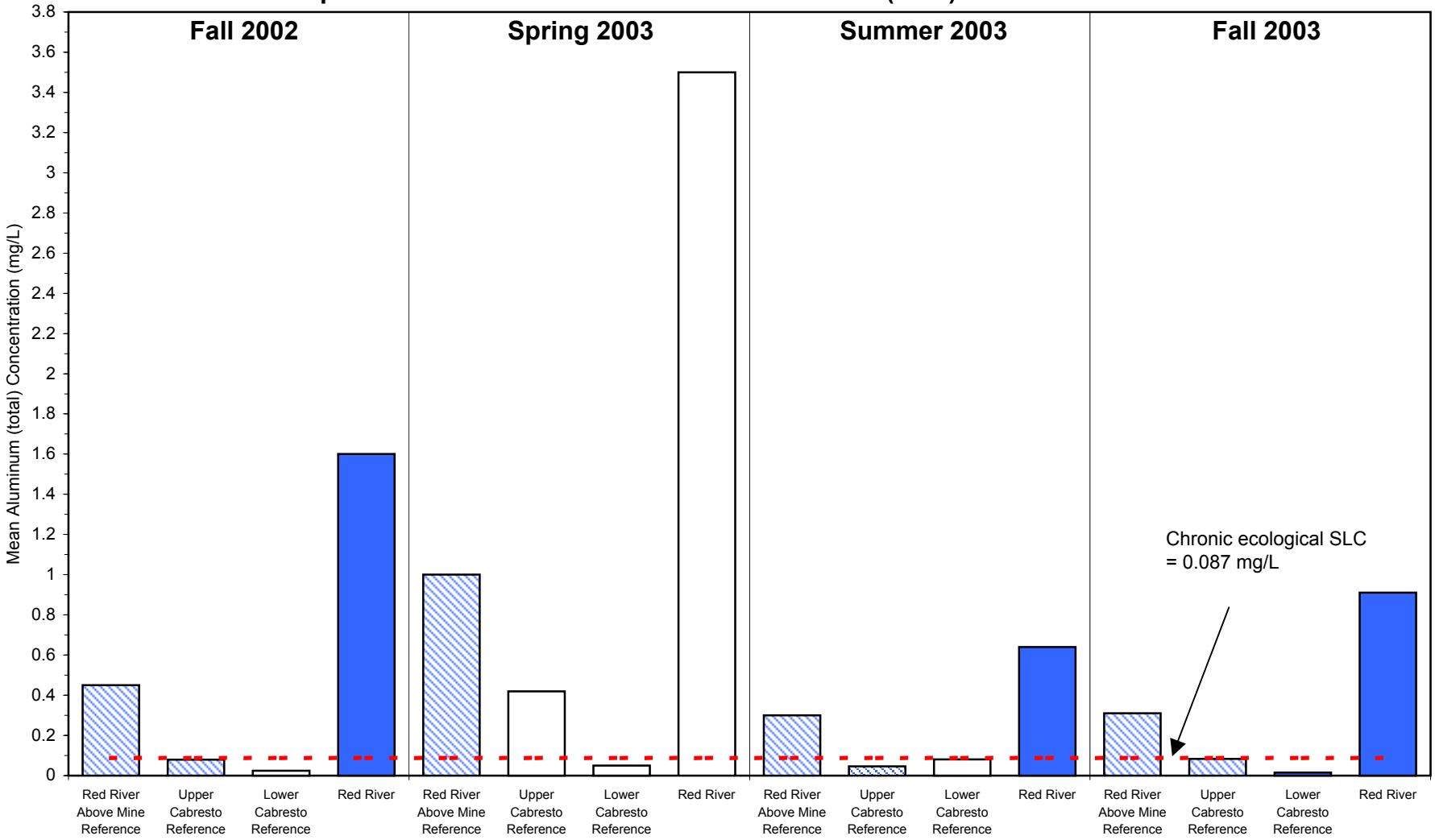
SURFACE WATER SAMPLING LOCATIONS

PROJECT 22236244

FIGURE 2-1

Preliminary Site Characterization Report

Figure 2-2
Red River and Reference Areas
Comparison of Mean Concentrations of Aluminum (total) in Surface Water



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.

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Rev_0_SW-comparison graphs 32905.xls

Figure 2-3
Red River and Reference Areas
Comparison of Mean Concentrations of Barium (dissolved) in Surface Water

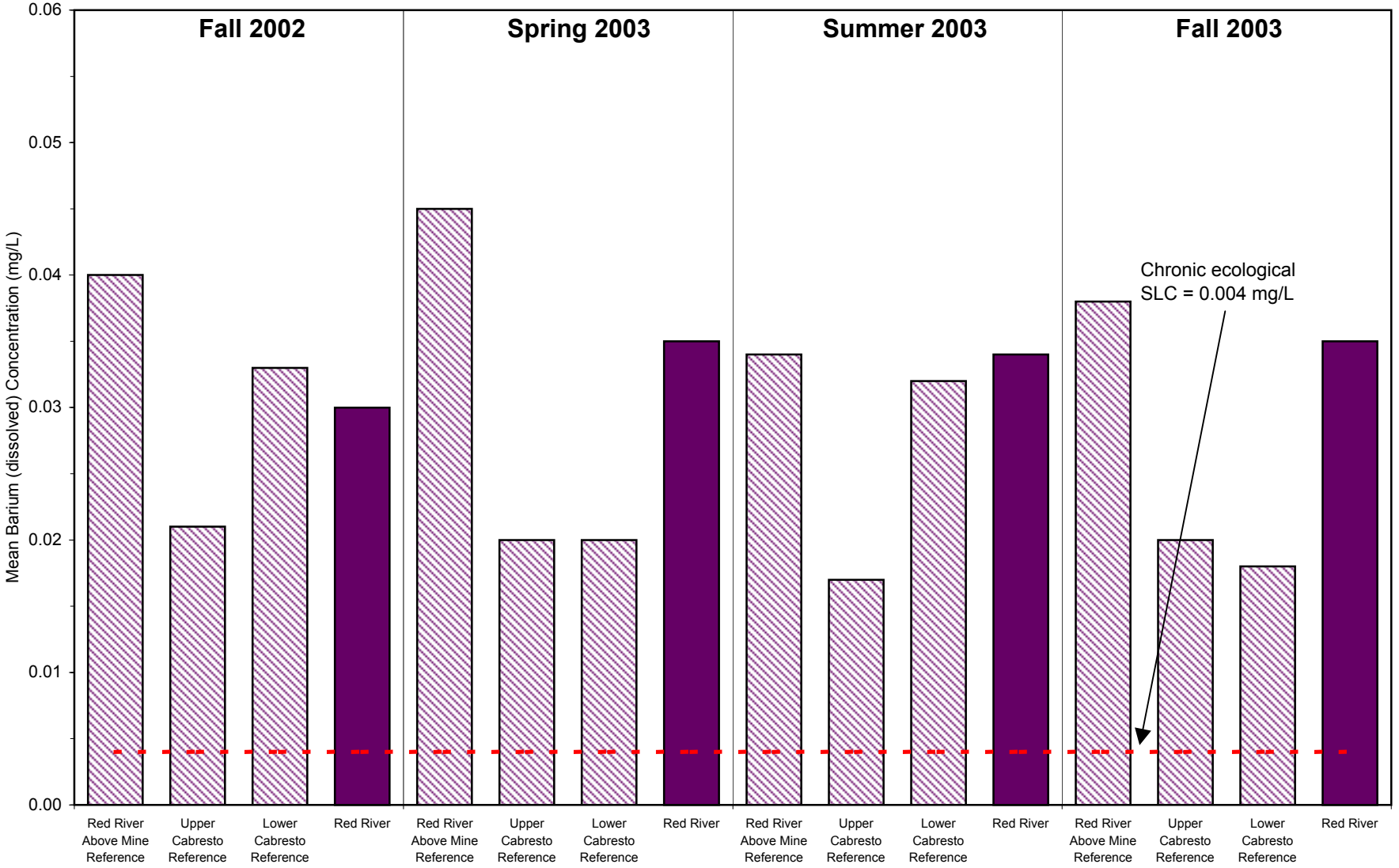

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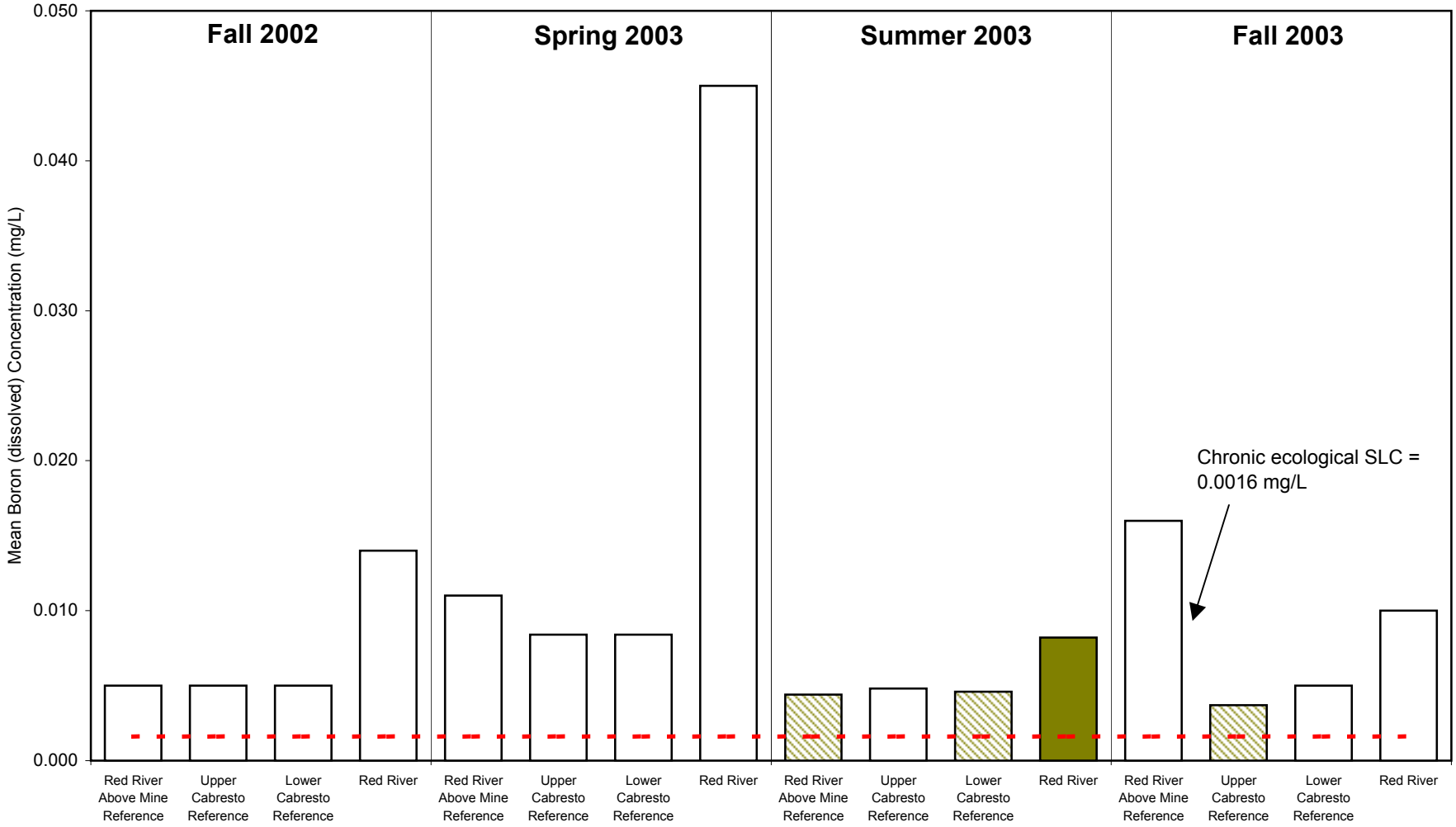
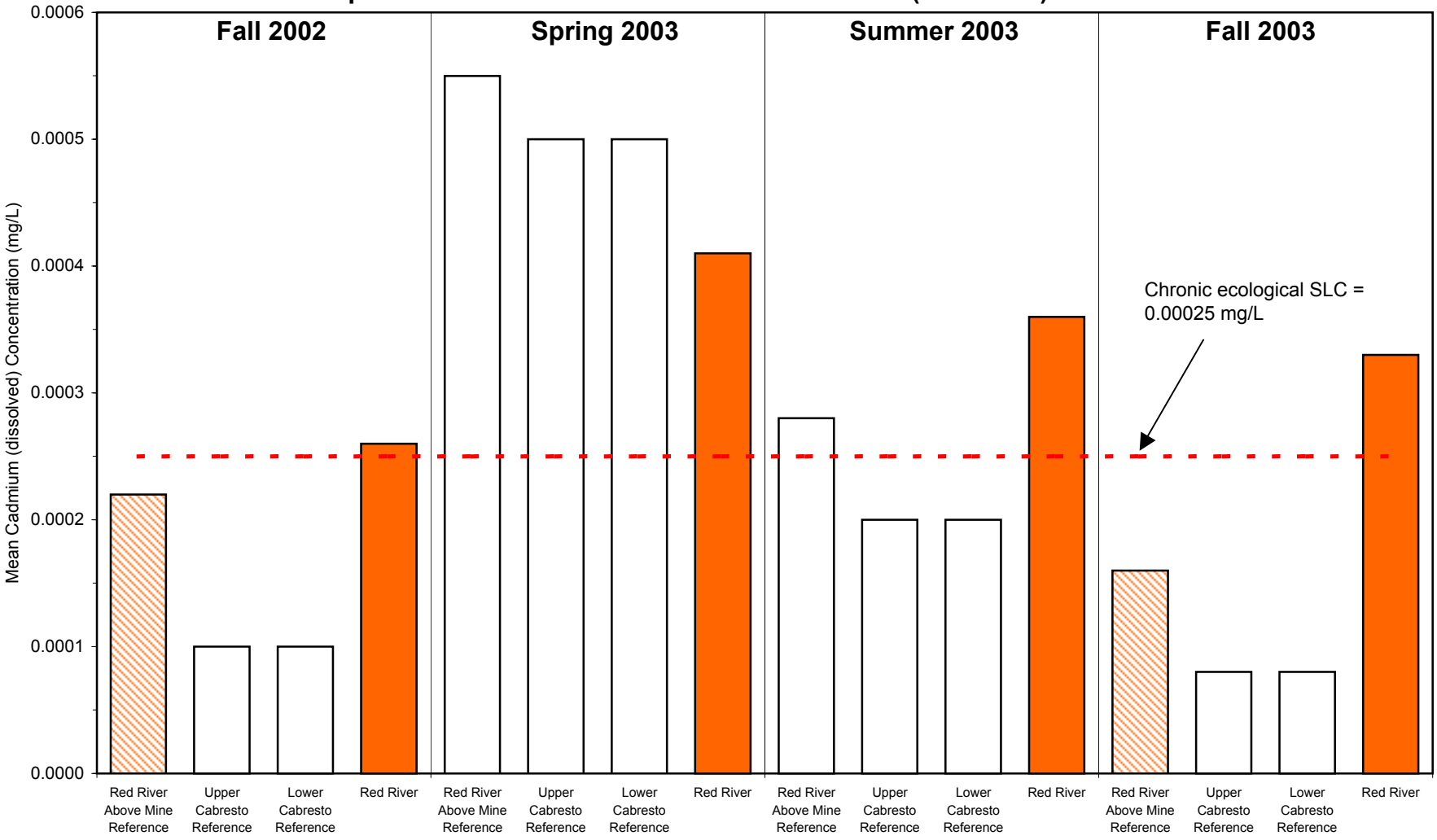
Figure 2-4
Red River and Reference Areas
Comparison of Mean Concentrations of Boron (dissolved) in Surface Water



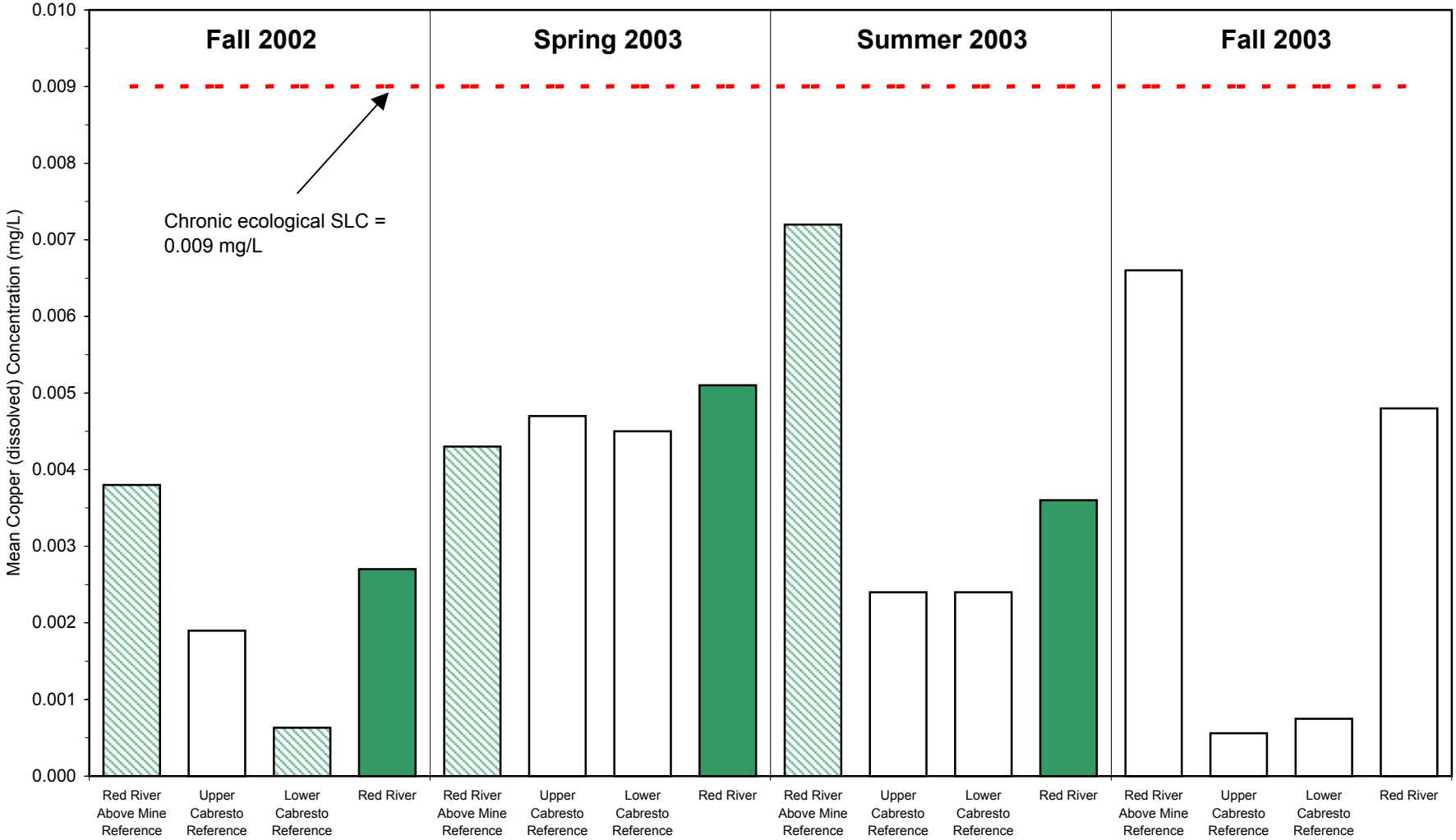
Note: A white bar indicates that 50% or more of the values were not detected, and a mean was not calculated. In these cases, the maximum detected value or the maximum reporting limit, whichever was greater, was plotted.

Figure 2-5
Red River and Reference Areas
Comparison of Mean Concentrations of Cadmium (dissolved) in Surface Water



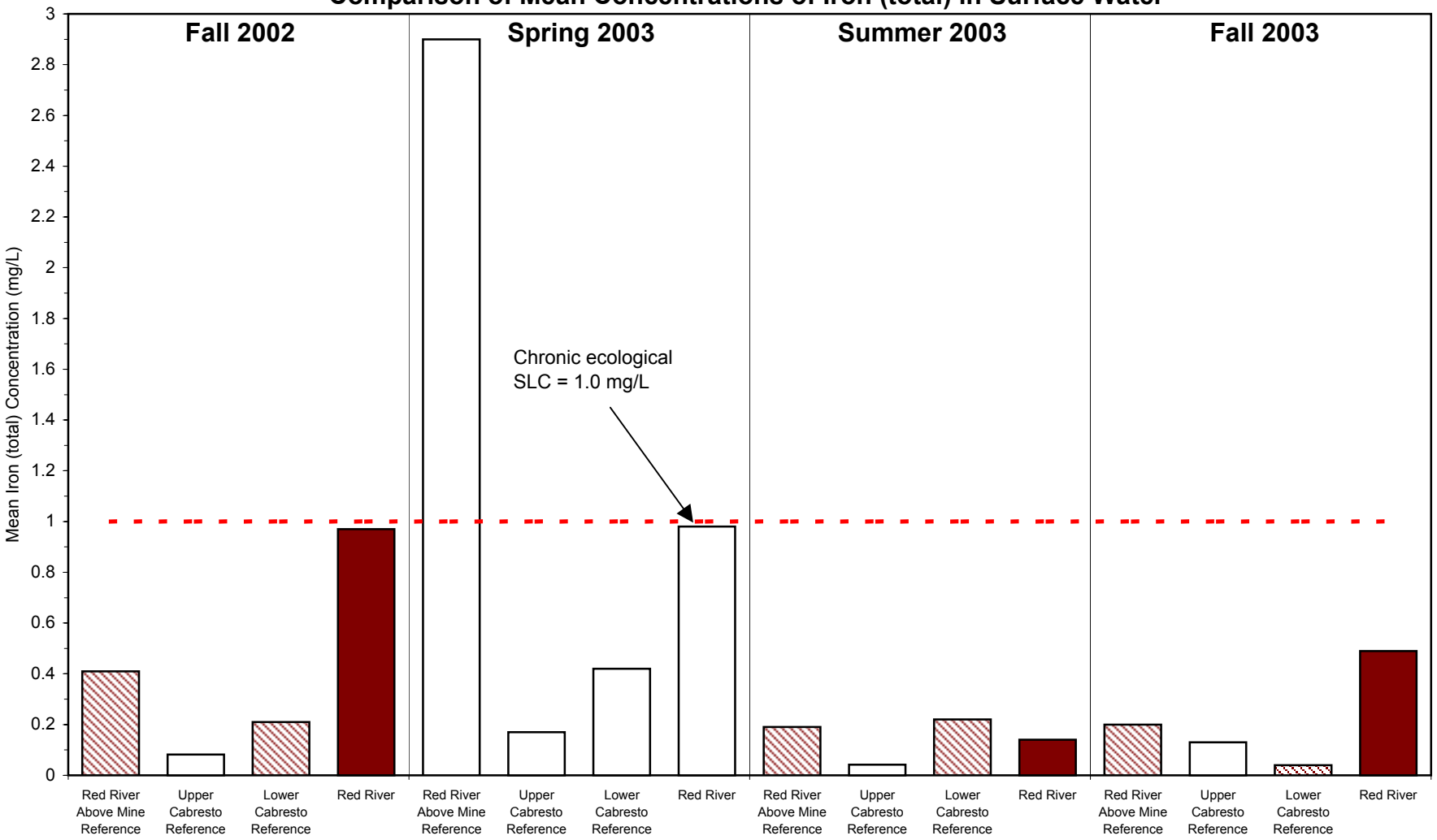
Note: A white bar indicates that 50% or more of the values were not detected, and a mean was not calculated. In these cases, the maximum detected value or the maximum reporting limit, whichever was greater, was plotted.

Figure 2-6
Red River and Reference Areas
Comparison of Mean Concentrations of Copper (dissolved) in Surface Water



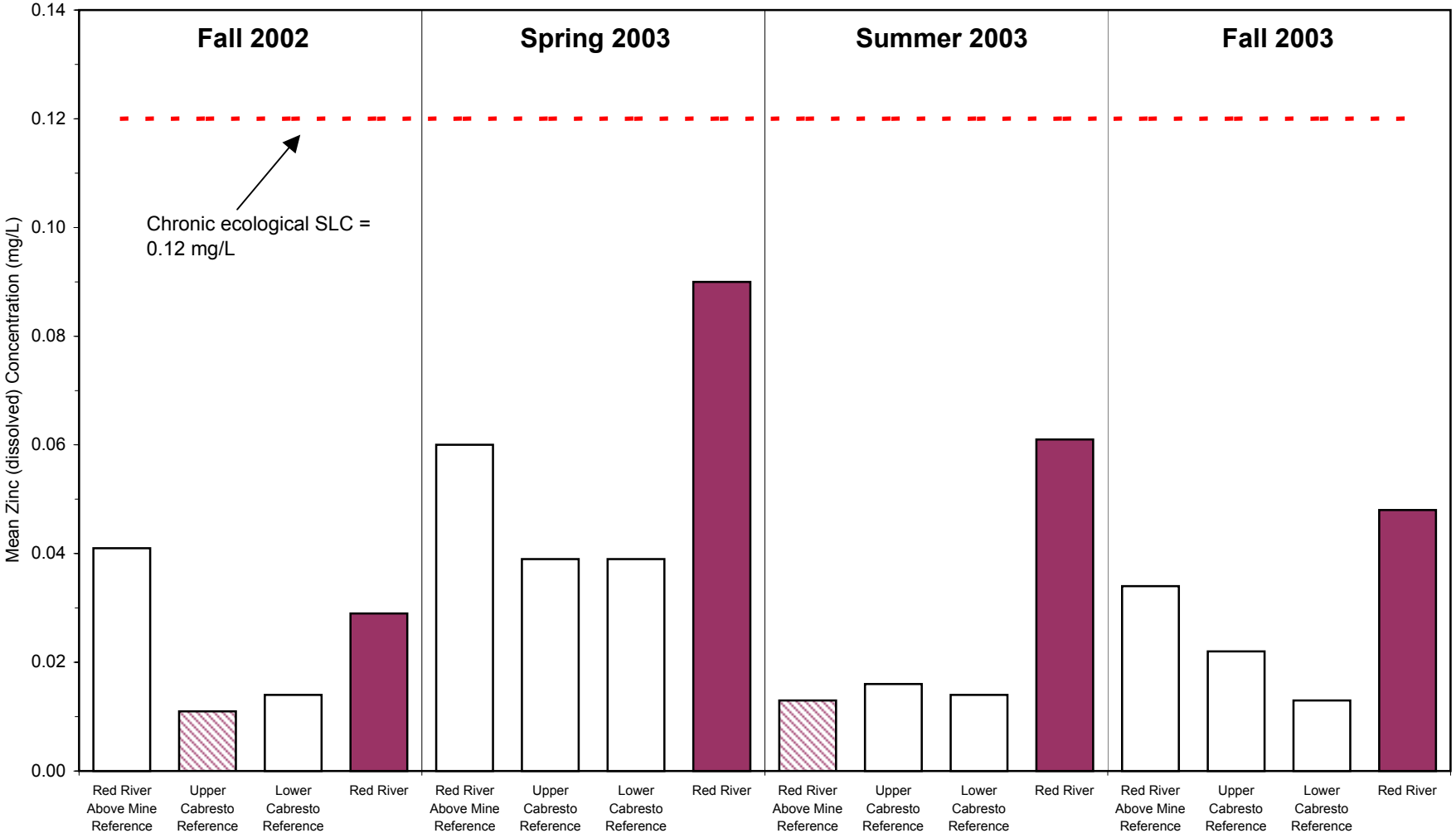
Note: A white bar indicates that 50% or more of the values were not detected, and a mean was not calculated. In these cases, the maximum detected value or the maximum reporting limit, whichever was greater, was plotted.

Figure 2-7
Red River and Reference Areas
Comparison of Mean Concentrations of Iron (total) in Surface Water



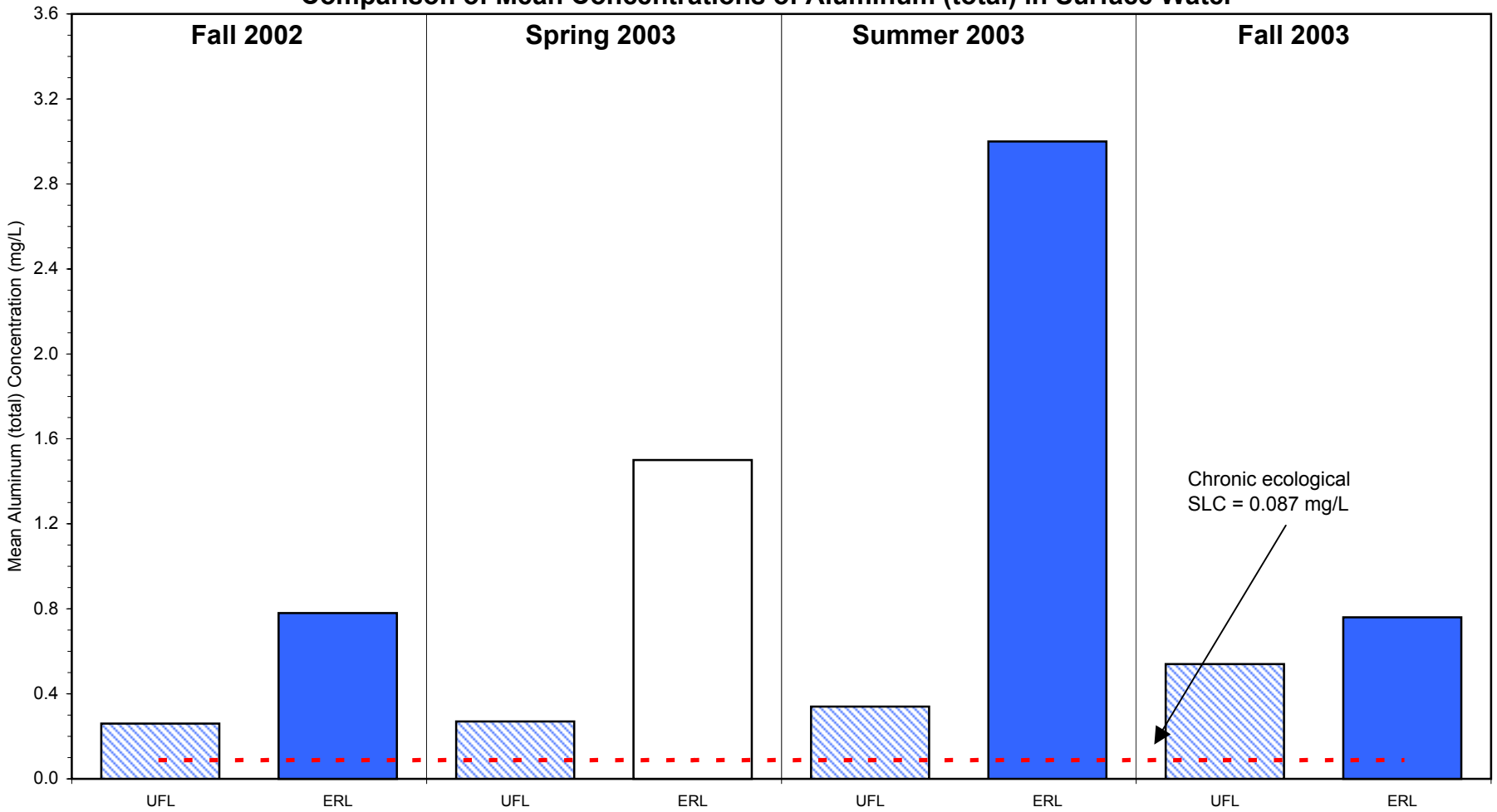
Note: A white bar indicates that 50% or more of the values were not detected, and a mean was not calculated. In these cases, the maximum detected value or the maximum reporting limit, whichever was greater, was plotted.

Figure 2-8
Red River and Reference Areas
Comparison of Mean Concentrations of Zinc (dissolved) in Surface Water



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 2-9
Eagle Rock and Upper Fawn Lakes
Comparison of Mean Concentrations of Aluminum (total) in Surface Water



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.
UFL = Upper Fawn Lake
ERL = Eagle Rock Lake

Figure 2-10
Eagle Rock and Upper Fawn Lakes
Comparison of Mean Concentrations of Barium (dissolved) in Surface Water

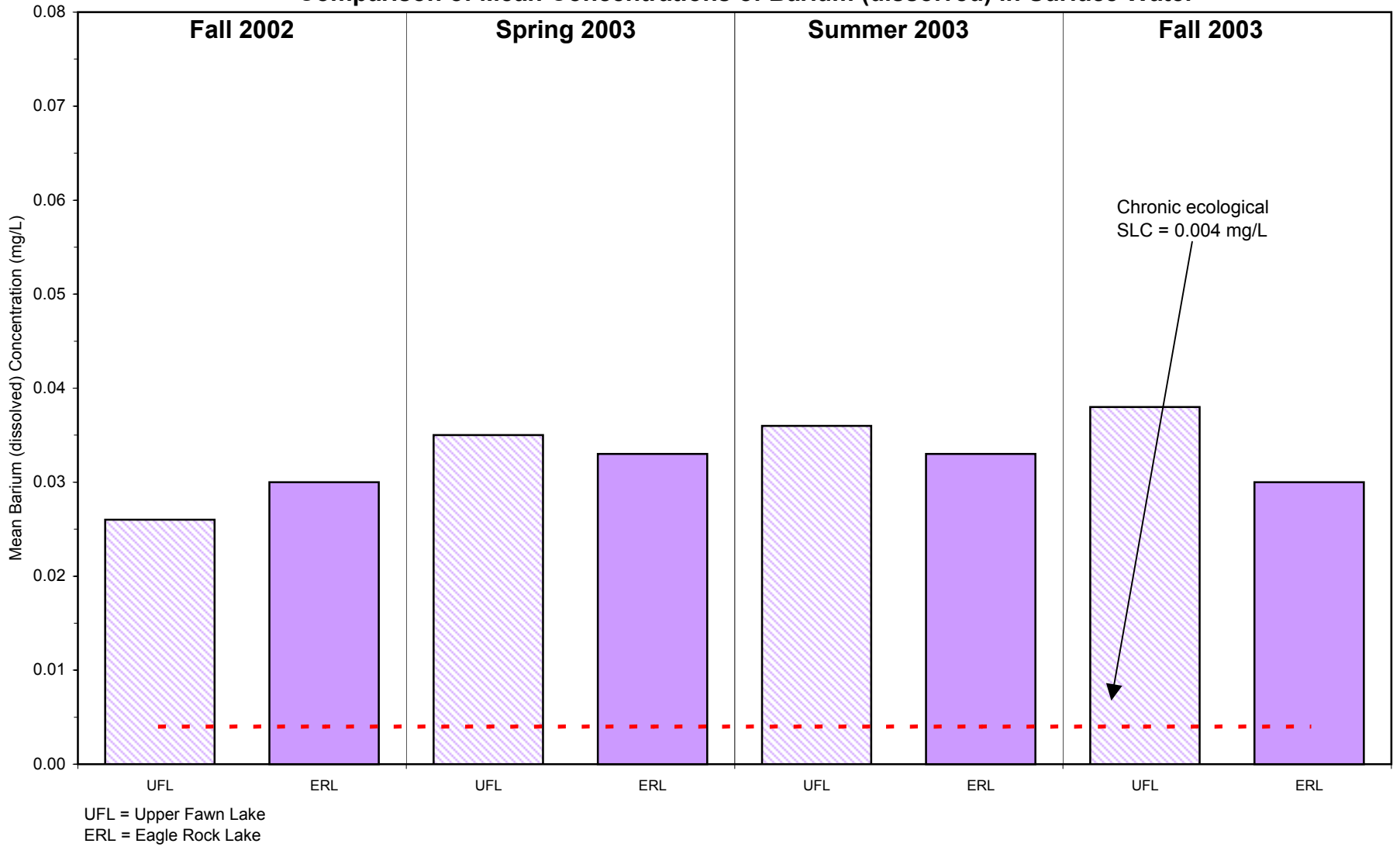


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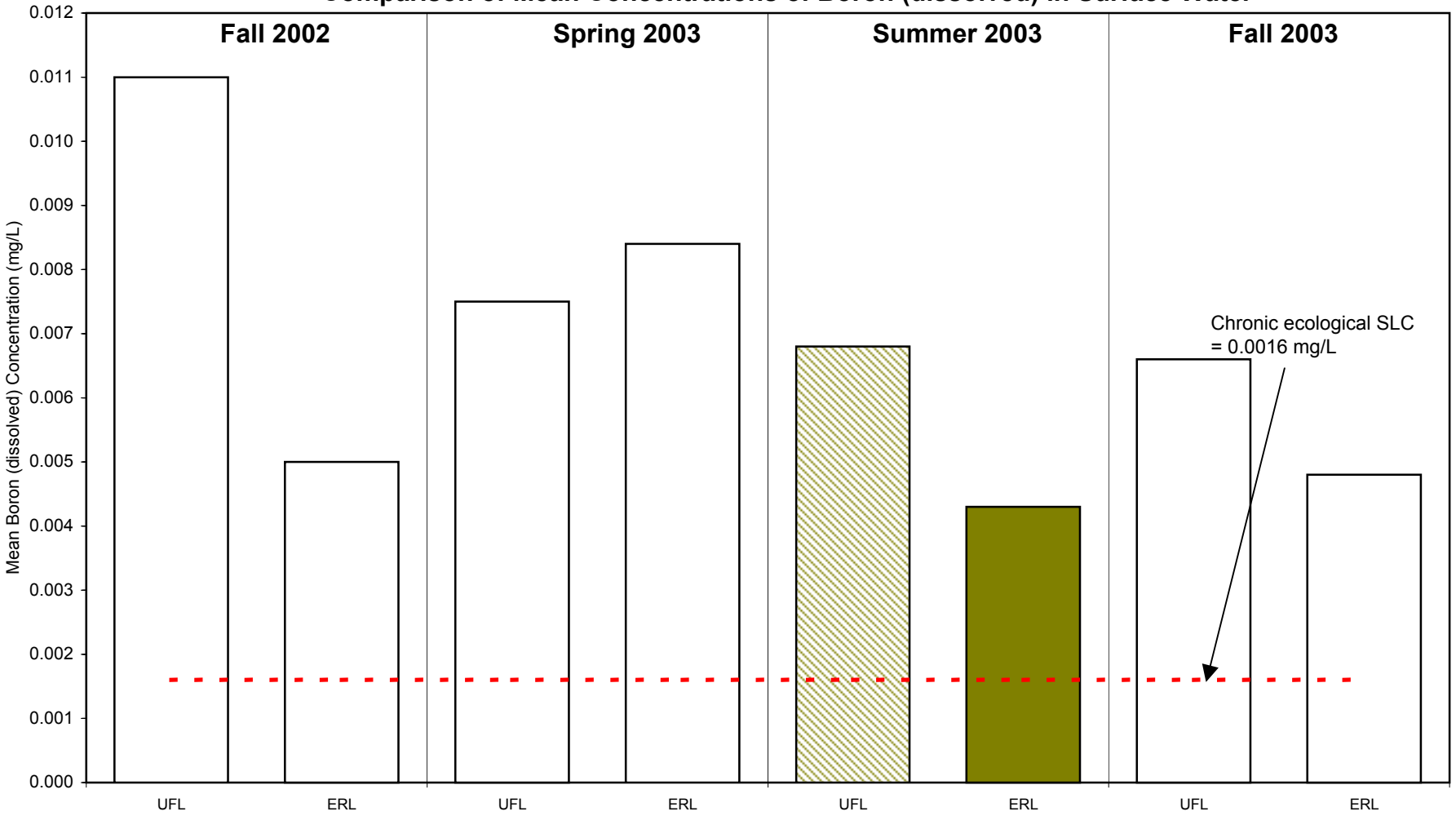
Figure 2-11
Eagle Rock and Upper Fawn Lakes
Comparison of Mean Concentrations of Boron (dissolved) in Surface Water



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.
UFL = Upper Fawn Lake
ERL = Eagle Rock Lake

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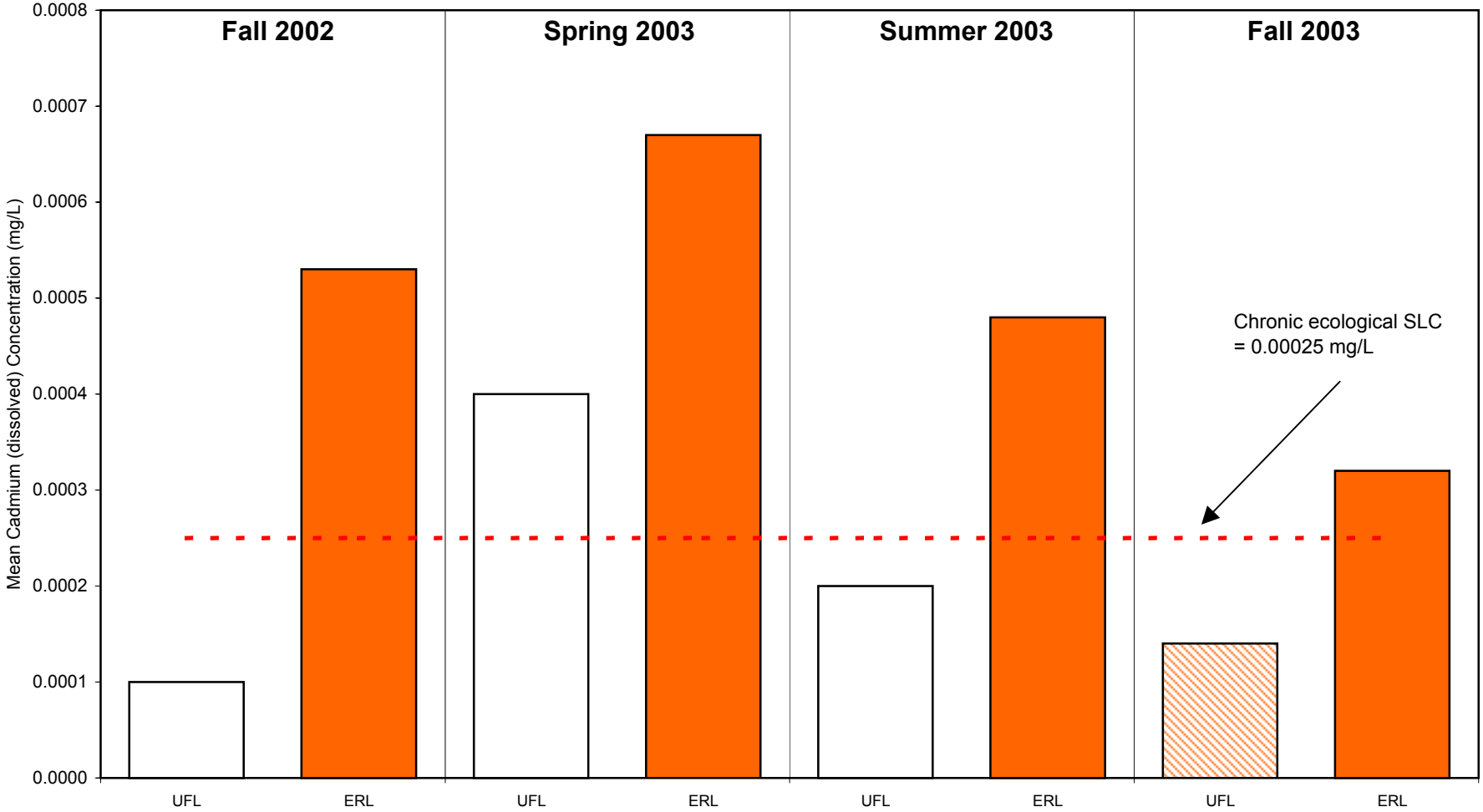
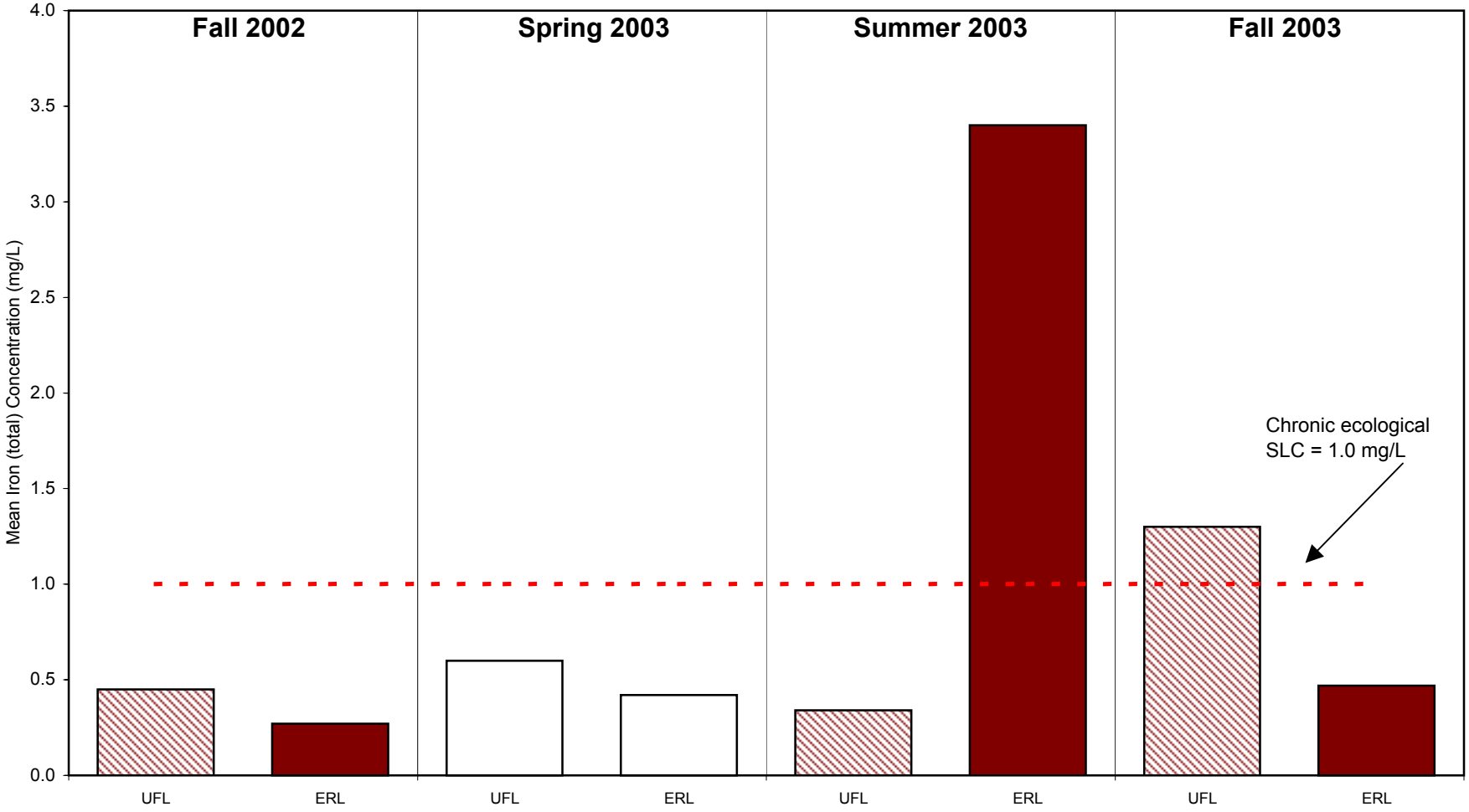
Figure 2-12
Eagle Rock and Upper Fawn Lakes
Comparison of Mean Concentrations of Cadmium (dissolved) in Surface Water



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.
UFL = Upper Fawn Lake
ERL = Eagle Rock Lake

Figure 2-13
Eagle Rock and Upper Fawn Lakes
Comparison of Mean Concentrations of Iron (total) in Surface Water



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.
UFL = Upper Fawn Lake
ERL = Eagle Rock Lake

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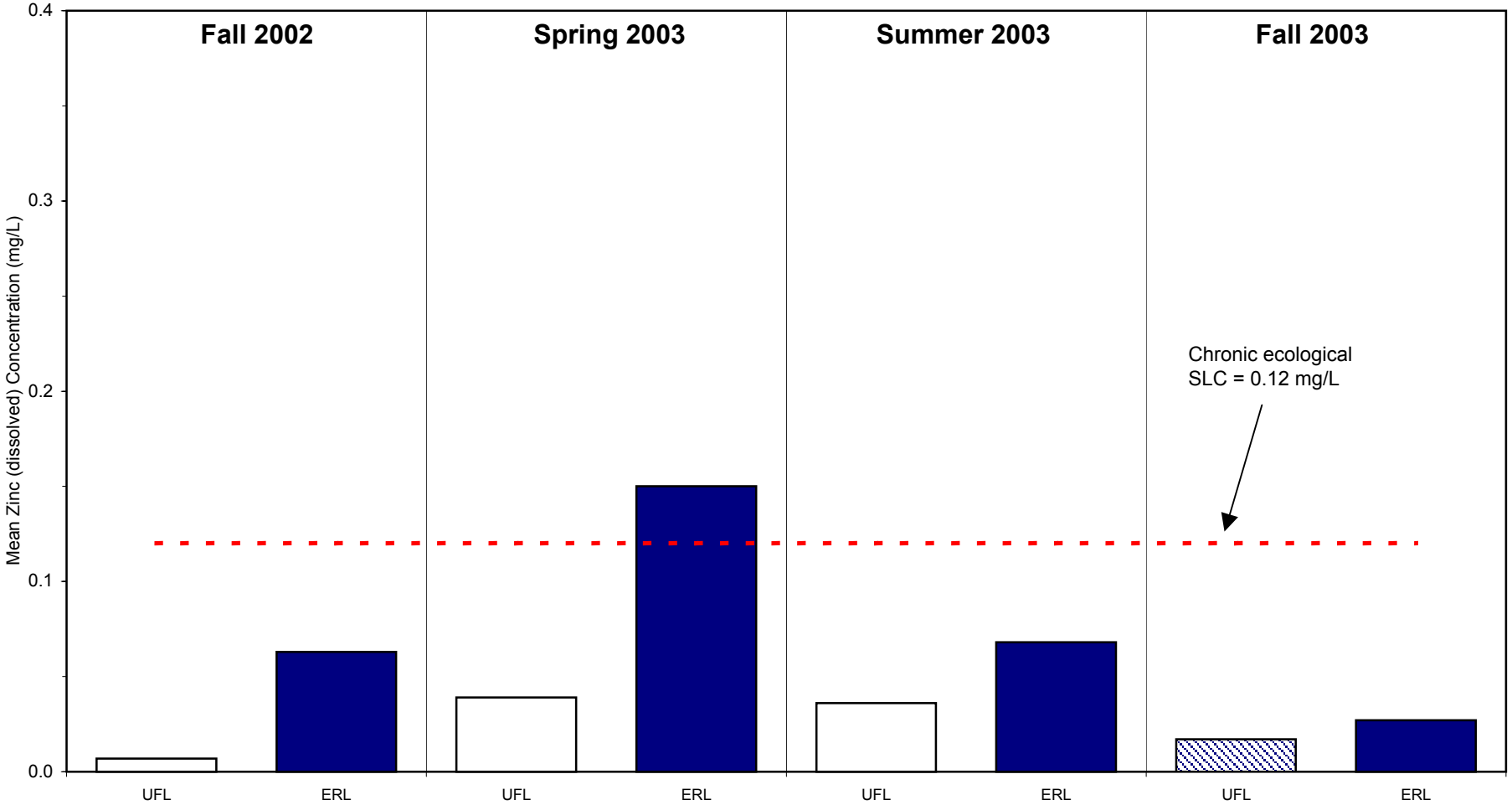
Rev_0_SW-comparison graphs 32905.xls

Figure 2-14
Eagle Rock and Upper Fawn Lakes
Comparison of Mean Concentrations of Zinc (dissolved) in Surface Water



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.
UFL = Upper Fawn Lake
ERL = Eagle Rock Lake

APPENDIX A-2

SURFACE WATER

VALIDATED ANALYTICAL RESULTS

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Cabresto Ditch #4	Cabresto Ditch #4	Cabresto Ditch #4	Cabresto Ditch #4	Cabresto Ditch #4	Capulin Spring
			Sample Date	7/16/2003	7/16/2003	7/16/2003	9/22/2003	9/22/2003	10/4/2002
			Sample ID	CABRESTODITCH#4-T01N-SFW	CABD4-T01N-SFW	CABD4-D01N-SFW	CABD4-T01N-SFW	CABD4-D01N-SFW	CAPULINSPRING-T01N-GRWRESW3
			ID	ID	ID	ID	ID	ID	
Field Measurements									
DO	mg/L	T		-	-	-	9.79 :	-	-
Eh	millivolts	T		313. :	-	-	334.6 :	-	-
Flow	cfs	T		0.3 :	-	-	0.1 :	-	-
pH	SU	T		6.28 :	7.8 J	-	7. :	-	-
Specific Conductance	uS/cm	T		174. :	-	-	196. :	-	-
Temperature	Celsius	T		11.97 :	-	-	6.74 :	-	-
Turbidity	NTU	T		0.5 :	-	-	0.8 :	-	-
General Chemistry									
Ammonia	mg/L	T		-	<0.04 :	-	0.063 :	-	-
Bicarbonate (as CaCO3)	mg/L	T		-	55.7 :	-	128. :	-	-
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.3 J	-	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	-
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	-
Chloride	mg/L	T		-	<0.8 J	-	<0.53 :	-	-
Fluoride	mg/L	T		-	<0.32 J	-	0.32 :	-	92.4 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	-
Nitrate	mg/L	T		-	<1. J	-	<0.2 J	-	-
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	-
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 J	-	-
Phosphorus	mg/L	T		-	<0.01 :	-	<0.01 :	-	-
Sulfate	mg/L	T		-	35.6 :	-	29.1 J	-	11600. J
Total Alkalinity	mg/L	T		-	55.7 :	-	128. :	-	-
Total Dissolved Solids	mg/L	T		-	122. :	-	146. :	-	-
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	-
Total Organic Carbon	mg/L	T		-	<1. :	-	1.3 :	-	-
Total Suspended Solids	mg/L	T		-	2.8 :	-	1.5 :	-	-
Laboratory Parameters									
pH	SU	T		6.28 :	7.8 J	-	7. :	-	-
Specific Conductance	umhos/cm	T		-	151. J	-	167. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	-
Physical Properties									
Hardness	mg/L	T		-	75.9 :	-	92. :	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID	Cabresto Ditch #4 7/16/2003 CABRESTODITCH#4-T01N-SFW ID	Cabresto Ditch #4 7/16/2003 CABD4-T01N-SFW ID	Cabresto Ditch #4 7/16/2003 CABD4-D01N-SFW ID	Cabresto Ditch #4 9/22/2003 CABD4-T01N-SFW ID	Cabresto Ditch #4 9/22/2003 CABD4-D01N-SFW ID	Capulin Spring 10/4/2002 CAPULINSPRING-T01N-GRWRESW3
Hardness	mg/L	D		-	-	76.2 :	-	90.7 :	-
Metals									
Aluminum	mg/L	T		-	<0.0405 :	-	0.0594 :	-	-
Aluminum	mg/L	D		-	-	<0.0236 :	-	<0.0117 :	-
Antimony	mg/L	T		-	<0.0005 :	-	<0.0011 :	-	-
Antimony	mg/L	D		-	-	<0.0005 :	-	<0.0017 :	-
Arsenic	mg/L	T		-	<0.0002 :	-	<0.00038 :	-	-
Arsenic	mg/L	D		-	-	<0.0002 :	-	<0.00038 :	-
Barium	mg/L	T		-	0.0154 :	-	0.0183 :	-	-
Barium	mg/L	D		-	-	0.0155 :	-	0.0176 :	-
Beryllium	mg/L	T		-	<0.0002 :	-	<0.00047 :	-	-
Beryllium	mg/L	D		-	-	<0.0002 :	-	<0.00047 :	-
Boron	mg/L	T		-	<0.0048 :	-	<0.0048 :	-	-
Boron	mg/L	D		-	-	<0.0048 :	-	<0.0048 :	-
Cadmium	mg/L	T		-	<0.0002 :	-	<0.00008 :	-	-
Cadmium	mg/L	D		-	-	<0.0002 :	-	<0.00008 :	-
Calcium	mg/L	T		-	24.4 :	-	29.1 :	-	-
Calcium	mg/L	D		-	-	24.4 :	-	28.7 :	-
Chromium	mg/L	T		-	<0.0014 :	-	<0.001 :	-	-
Chromium	mg/L	D		-	-	<0.0014 :	-	<0.001 :	-
Cobalt	mg/L	T		-	<0.002 :	-	<0.0011 :	-	-
Cobalt	mg/L	D		-	-	<0.002 :	-	<0.0011 :	-
Copper	mg/L	T		-	<0.0024 :	-	<0.00043 :	-	-
Copper	mg/L	D		-	-	<0.0024 :	-	<0.00043 :	-
Iron	mg/L	T		-	0.0609 :	-	0.062 :	-	-
Iron	mg/L	D		-	-	0.0365 :	-	<0.044 :	-
Lead	mg/L	T		-	<0.0001 :	-	<0.00013 :	-	-
Lead	mg/L	D		-	-	<0.0001 :	-	<0.00004 :	-
Magnesium	mg/L	T		-	3.66 :	-	4.7 :	-	-
Magnesium	mg/L	D		-	-	3.68 :	-	4.63 :	-
Manganese	mg/L	T		-	0.0095 :	-	0.0084 :	-	-
Manganese	mg/L	D		-	-	0.0085 :	-	<0.0079 :	-
Mercury	mg/L	T		-	<0.00012 :	-	<0.00006 :	-	-
Mercury	mg/L	D		-	-	<0.00012 :	-	<0.00006 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / ID											
			Cabresto Ditch #4	7/16/2003	CABRESTODITCH#4-T01N-SFW	-	Cabresto Ditch #4	7/16/2003	CABD4-T01N-SFW	-	Cabresto Ditch #4	7/16/2003	CABD4-D01N-SFW	-
Molybdenum	mg/L	T				-			<0.0017	:			<0.0015	:
Molybdenum	mg/L	D				-			-				<0.0017	:
Nickel	mg/L	T				-			<0.0021	:			-	
Nickel	mg/L	D				-			-				<0.0021	:
Potassium	mg/L	T				-			0.853	:			-	
Potassium	mg/L	D				-			-				0.817	:
Selenium	mg/L	T				-			<0.0008	:			-	
Selenium	mg/L	D				-			-				<0.0008	:
Silver	mg/L	T				-			<0.0001	J			-	
Silver	mg/L	D				-			-				<0.0001	J
Sodium	mg/L	T				-			3.7	:			-	
Sodium	mg/L	D				-			-				3.69	:
Thallium	mg/L	T				-			<0.0001	:			-	
Thallium	mg/L	D				-			-				<0.0001	:
Vanadium	mg/L	T				-			<0.0002	:			-	
Vanadium	mg/L	D				-			-				<0.0002	:
Zinc	mg/L	T				-			<0.0052	:			-	
Zinc	mg/L	D				-			-				<0.0063	:

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / ID											
			Cabresto Ditch #4	9/22/2003	CABD4-T01N-SFW	-	Cabresto Ditch #4	9/22/2003	CABD4-D01N-SFW	-	Capulin Spring	10/4/2002	CAPULINSPRING-T01N-GRWRESW3	-
Molybdenum	mg/L	T				-			-					-
Molybdenum	mg/L	D				<0.002	:		-					-
Nickel	mg/L	T				0.0012	:		-					-
Nickel	mg/L	D				-			0.0011	:				-
Potassium	mg/L	T				<0.993	:		-					-
Potassium	mg/L	D				-			<0.973	:				-
Selenium	mg/L	T				<0.00073	:		-					-
Selenium	mg/L	D				-			<0.00073	:				-
Silver	mg/L	T				<0.0002	:		-					-
Silver	mg/L	D				-			<0.0002	:				-
Sodium	mg/L	T				3.73	:		-					-
Sodium	mg/L	D				-			3.71	:				-
Thallium	mg/L	T				<0.00001	:		-					-
Thallium	mg/L	D				-			<0.00001	:				-
Vanadium	mg/L	T				0.00039	:		-					-
Vanadium	mg/L	D				-			<0.00028	:				-
Zinc	mg/L	T				<0.013	:		-					-
Zinc	mg/L	D				-			<0.013	:				-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			Capulin Spring 10/4/2002 CAPULINSPRING-T0 1N-GRW SW3	Capulin Spring 10/4/2002 CAPULINSPRING-D0 1N-GRWRE SW3	Capulin Spring 10/4/2002 CAPULINSPRING-D0 1N-GRW SW3	Capulin Spring 1/7/2003 CAPULINSPRING-T0 1N-GRW SW3	CAPULIN SPRING 1/7/2003 CAPULINSPRING-D0 1N-GRW SW3	Capulin Spring 1/20/2003 CAPULINSPRINGR-T 01N-GRW SW3
Field Measurements								
DO	mg/L	T	10.77 :	-	-	10.54 :	-	9.47 :
Eh	millivolts	T	537. :	-	-	588.7 :	-	565.5 :
Flow	gpm	T	10. :	-	-	14.3 :	-	-
pH	SU	T	2.89 :	-	-	2.6 :	-	2.75 :
Specific Conductance	uS/cm	T	8915. :	-	-	11808. :	-	10632. :
Temperature	Celsius	T	9.47 :	-	-	4.15 :	-	4.34 :
Turbidity	NTU	T	11.5 :	-	-	0.9 :	-	0.2 :
General Chemistry								
Ammonia	mg/L	T	<0.36 :	-	-	<0.35 :	-	-
Bicarbonate (as CaCO3)	mg/L	T	<1. :	-	-	<1. :	-	-
Carbonate (as CaCO3)	mg/L	T	<1. :	-	-	<1. :	-	-
Chloride	mg/L	T	31.5 :	-	-	13.5 :	-	-
Fluoride	mg/L	T	-	-	-	114. J	-	-
Hydroxide (as CaCO3)	mg/L	T	<1. :	-	-	<1. :	-	-
Nitrate	mg/L	T	<2. J	-	-	3.3 J	-	-
Nitrite	mg/L	T	0.26 J	-	-	0.061 J	-	-
Phosphate, Ortho As P	mg/L	T	9.6 J	-	-	8.6 J	-	-
Phosphorus	mg/L	T	8.2 :	-	-	-	-	-
Sulfate	mg/L	T	-	-	-	12900. J	-	-
Total Alkalinity	mg/L	T	<1. :	-	-	<1. :	-	-
Total Dissolved Solids	mg/L	T	13500. :	-	-	17200. :	-	-
Total Kjeldahl Nitrogen	mg/L	T	0.62 :	-	-	0.96 :	-	-
Total Organic Carbon	mg/L	T	10.3 :	-	-	10. :	-	-
Total Suspended Solids	mg/L	T	26.5 :	-	-	11. :	-	-
Laboratory Parameters								
pH	SU	T	2.89 :	-	-	2.6 :	-	2.75 :
Inorganics								
Cyanide	mg/L	T	<0.01 J	-	-	-	-	<0.01 J
Physical Properties								
Hardness	mg/L	T	714. J	-	-	5680. :	-	-
Hardness	mg/L	D	-	3980. J	-	-	5250. :	-
Metals								

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Capulin Spring 10/4/2002 CAPULINSPRING-T0 1N-GRW SW3	Capulin Spring 10/4/2002 CAPULINSPRING-D0 1N-GRWRE SW3	Capulin Spring 10/4/2002 CAPULINSPRING-D0 1N-GRW SW3	CAPULIN SPRING 1/7/2003 CAPULINSPRING-T0 1N-GRW SW3	CAPULIN SPRING 1/7/2003 CAPULINSPRING-D0 1N-GRW SW3	Capulin Spring 1/20/2003 CAPULINSPRINGR-T 01N-GRW SW3
Aluminum	mg/L	T	-	-	-	1130. :	-	-
Aluminum	mg/L	D	-	839. :	-	-	1060. :	-
Antimony	mg/L	T	-	-	-	<0.028 J	-	-
Antimony	mg/L	D	-	<0.028 :	-	-	<0.028 J	-
Arsenic	mg/L	T	-	-	-	0.115 :	-	-
Arsenic	mg/L	D	-	<0.106 :	-	-	<0.1 J	-
Barium	mg/L	T	-	-	-	<0.048 J	-	-
Barium	mg/L	D	-	<0.048 :	-	-	<0.048 J	-
Beryllium	mg/L	T	-	-	-	0.25 J	-	-
Beryllium	mg/L	D	-	0.23 :	-	-	0.23 J	-
Boron	mg/L	T	-	-	-	<0.027 J	-	-
Boron	mg/L	D	-	<0.027 :	-	-	<0.027 J	-
Cadmium	mg/L	T	-	-	-	0.529 :	-	-
Cadmium	mg/L	D	-	0.395 :	-	-	0.51 :	-
Calcium	mg/L	T	-	-	-	492. :	-	-
Calcium	mg/L	D	-	398. :	-	-	453. :	-
Chromium	mg/L	T	-	-	-	0.395 :	-	-
Chromium	mg/L	D	-	0.256 J	-	-	0.376 :	-
Cobalt	mg/L	T	-	-	-	3.48 :	-	-
Cobalt	mg/L	D	-	2.74 :	-	-	3.43 :	-
Copper	mg/L	T	-	-	-	7.78 :	-	-
Copper	mg/L	D	-	6.42 :	-	-	7.38 :	-
Iron	mg/L	T	-	-	-	265. :	-	-
Iron	mg/L	D	-	276. :	-	-	243. :	-
Lead	mg/L	T	-	-	-	0.0013 :	-	-
Lead	mg/L	D	-	0.0034 :	-	-	0.0011 :	-
Magnesium	mg/L	T	-	-	-	1080. :	-	-
Magnesium	mg/L	D	-	726. :	-	-	1000. :	-
Manganese	mg/L	T	-	-	-	533. J	-	-
Manganese	mg/L	D	-	402. :	-	-	524. :	-
Mercury	mg/L	T	<0.0001 :	-	-	<0.0001 :	-	-
Mercury	mg/L	D	-	-	<0.0001 :	-	<0.0001 :	-
Molybdenum	mg/L	T	-	-	-	<0.011 J	-	-
Molybdenum	mg/L	D	-	<0.011 :	-	-	<0.011 J	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Capulin Spring 10/4/2002 CAPULINSPRING-T0 1N-GRW SW3	Capulin Spring 10/4/2002 CAPULINSPRING-D0 1N-GRWRE SW3	Capulin Spring 10/4/2002 CAPULINSPRING-D0 1N-GRW SW3	CAPULIN SPRING 1/7/2003 CAPULINSPRING-T0 1N-GRW SW3	CAPULIN SPRING 1/7/2003 CAPULINSPRING-D0 1N-GRW SW3	Capulin Spring 1/20/2003 CAPULINSPRINGR-T01N-GRW SW3
Nickel	mg/L	T	-	-	-	8.27 J	-	-
Nickel	mg/L	D	-	6.05 :	-	-	8.15 :	-
Potassium	mg/L	T	-	-	-	<20.2 :	-	-
Potassium	mg/L	D	-	<31.4 J	-	-	<31.4 :	-
Selenium	mg/L	T	-	-	-	0.13 :	-	-
Selenium	mg/L	D	-	0.134 :	-	-	0.132 :	-
Silver	mg/L	T	-	-	-	<0.001 :	-	-
Silver	mg/L	D	-	<0.001 :	-	-	<0.001 :	-
Sodium	mg/L	T	-	-	-	<32.7 :	-	-
Sodium	mg/L	D	-	40.3 :	-	-	<36.6 :	-
Thallium	mg/L	T	-	-	-	<0.001 :	-	-
Thallium	mg/L	D	-	<0.001 :	-	-	<0.001 :	-
Vanadium	mg/L	T	-	-	-	0.0068 :	-	-
Vanadium	mg/L	D	-	0.013 :	-	-	0.0092 :	-
Zinc	mg/L	T	-	-	-	116. J	-	-
Zinc	mg/L	D	-	84.5 :	-	-	109. J	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Capulin Spring	Capulin Spring	Capulin Spring	CAPULIN SPRING	Capulin Spring	CAPULIN SPRING
			Sample Date	2/6/2003	3/4/2003	4/10/2003	4/10/2003	6/4/2003	7/20/2003
			Sample ID	Capulin Spring-T01N-GRW SW3	Capulin Spring-T01N-GRW SW3	CAPULINSPRING-T01N-GRW SW3	CAPULINSPRING-D01N-GRW SW3	Capulin Spring-T01N-GRW SW3	CAPULINSPRING-T01N-GRW SW3
Field Measurements									
DO	mg/L	T		-	-	9.32 :	-	-	10.15 :
Eh	millivolts	T		-	-	597.7 :	-	-	578.8 :
Flow	gpm	T		17.6 :	14.4 :	0.688 :	-	21.4 :	17.6 :
pH	SU	T		-	-	3.6 J	-	-	3. J
Specific Conductance	uS/cm	T		-	-	9713. :	-	-	11015. :
Temperature	Celsius	T		-	-	8.54 :	-	-	11.43 :
Turbidity	NTU	T		-	-	0.3 :	-	-	65. :
General Chemistry									
Ammonia	mg/L	T		-	-	0.092 :	-	-	0.47 J
Bicarbonate (as CaCO3)	mg/L	T		-	-	<1. :	-	-	<1. :
Carbonate (as CaCO3)	mg/L	T		-	-	<1. :	-	-	<1. :
Chloride	mg/L	T		-	-	21.6 :	-	-	18. :
Fluoride	mg/L	T		-	-	104. :	-	-	119. :
Hydroxide (as CaCO3)	mg/L	T		-	-	<1. :	-	-	<1. :
Nitrate	mg/L	T		-	-	<2. J	-	-	<2. J
Nitrite	mg/L	T		-	-	0.07 :	-	-	0.079 J
Phosphate, Ortho As P	mg/L	T		-	-	12.3 J	-	-	16.9 J
Phosphorus	mg/L	T		-	-	0.019 J	-	-	<0.01 J
Sulfate	mg/L	T		-	-	10700. J	-	-	13700. J
Total Alkalinity	mg/L	T		-	-	<1. :	-	-	<1. :
Total Dissolved Solids	mg/L	T		-	-	21300. J	-	-	21200. J
Total Kjeldahl Nitrogen	mg/L	T		-	-	0.67 :	-	-	0.77 :
Total Organic Carbon	mg/L	T		-	-	10.3 J	-	-	12.3 J
Total Suspended Solids	mg/L	T		-	-	9.9 :	-	-	19.5 :
Laboratory Parameters									
pH	SU	T		-	-	3.6 J	-	-	3. J
Specific Conductance	umhos/cm	T		-	-	8890. J	-	-	10400. J
Inorganics									
Cyanide	mg/L	T		-	-	<0.01 J	-	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	-	4190. :	-	-	5250. :
Hardness	mg/L	D		-	-	-	4130. :	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Capulin Spring 2/6/2003 Capulin Spring-T01N-GRW SW3	Capulin Spring 3/4/2003 Capulin Spring-T01N-GRW SW3	CAPULIN SPRING 4/10/2003 CAPULINSPRING-T01N-GRW SW3	CAPULIN SPRING 4/10/2003 CAPULINSPRING-D01N-GRW SW3	Capulin Spring 6/4/2003 Capulin Spring-T01N-GRW SW3	CAPULIN SPRING 7/20/2003 CAPULINSPRING-T01N-GRW SW3
Metals								
Aluminum	mg/L	T	-	-	908. :	-	-	1140. :
Aluminum	mg/L	D	-	-	-	897. :	-	-
Antimony	mg/L	T	-	-	<0.072 :	-	-	<0.038 :
Antimony	mg/L	D	-	-	-	<0.072 :	-	-
Arsenic	mg/L	T	-	-	0.102 :	-	-	0.109 :
Arsenic	mg/L	D	-	-	-	0.1 :	-	-
Barium	mg/L	T	-	-	<0.123 :	-	-	<0.073 :
Barium	mg/L	D	-	-	-	<0.123 :	-	-
Beryllium	mg/L	T	-	-	0.276 J	-	-	0.293 :
Beryllium	mg/L	D	-	-	-	0.285 :	-	-
Boron	mg/L	T	-	-	<0.084 :	-	-	0.0551 :
Boron	mg/L	D	-	-	-	<0.084 :	-	-
Cadmium	mg/L	T	-	-	0.391 :	-	-	0.557 :
Cadmium	mg/L	D	-	-	-	0.219 J	-	-
Calcium	mg/L	T	-	-	391. :	-	-	453. :
Calcium	mg/L	D	-	-	-	384. :	-	-
Chromium	mg/L	T	-	-	0.412 :	-	-	0.176 J
Chromium	mg/L	D	-	-	-	0.261 :	-	-
Cobalt	mg/L	T	-	-	2.76 :	-	-	3.53 :
Cobalt	mg/L	D	-	-	-	2.6 :	-	-
Copper	mg/L	T	-	-	6.7 :	-	-	8.59 :
Copper	mg/L	D	-	-	-	6.53 :	-	-
Iron	mg/L	T	-	-	370. J	-	-	428. :
Iron	mg/L	D	-	-	-	375. :	-	-
Lead	mg/L	T	-	-	0.0017 :	-	-	<0.001 :
Lead	mg/L	D	-	-	-	0.0017 :	-	-
Magnesium	mg/L	T	-	-	781. :	-	-	1000. :
Magnesium	mg/L	D	-	-	-	769. :	-	-
Manganese	mg/L	T	-	-	408. :	-	-	524. :
Manganese	mg/L	D	-	-	-	400. :	-	-
Mercury	mg/L	T	-	-	<0.0001 :	-	-	0.002 :
Mercury	mg/L	D	-	-	-	<0.0001 :	-	-
Molybdenum	mg/L	T	-	-	<0.023 :	-	-	<0.016 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Capulin Spring 2/6/2003 Capulin Spring-T01N-GRW SW3	Capulin Spring 3/4/2003 Capulin Spring-T01N-GRW SW3	CAPULIN SPRING 4/10/2003 CAPULINSPRING-T01N-GRW SW3	CAPULIN SPRING 4/10/2003 CAPULINSPRING-D01N-GRW SW3	Capulin Spring 6/4/2003 Capulin Spring-T01N-GRW SW3	CAPULIN SPRING 7/20/2003 CAPULINSPRING-T01N-GRW SW3
Molybdenum	mg/L	D	-	-	-	<0.023 :	-	-
Nickel	mg/L	T	-	-	6.35 :	-	-	8.18 :
Nickel	mg/L	D	-	-	-	6.13 :	-	-
Potassium	mg/L	T	-	-	<3.26 :	-	-	<25. :
Potassium	mg/L	D	-	-	-	<3.26 :	-	-
Selenium	mg/L	T	-	-	0.0897 :	-	-	0.109 :
Selenium	mg/L	D	-	-	-	0.0908 :	-	-
Silver	mg/L	T	-	-	<0.0002 :	-	-	<0.0049 J
Silver	mg/L	D	-	-	-	<0.0002 :	-	-
Sodium	mg/L	T	-	-	<3.52 :	-	-	<21.9 :
Sodium	mg/L	D	-	-	-	<3.52 :	-	-
Thallium	mg/L	T	-	-	<0.0002 :	-	-	<0.001 :
Thallium	mg/L	D	-	-	-	<0.0002 :	-	-
Vanadium	mg/L	T	-	-	0.0051 J	-	-	0.0089 :
Vanadium	mg/L	D	-	-	-	0.0065 J	-	-
Zinc	mg/L	T	-	-	81.6 :	-	-	118. :
Zinc	mg/L	D	-	-	-	80.1 :	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	CAPULIN SPRING	CAPULIN SPRING	CAPULIN SPRING	Capulin Spring	Capulin Spring	CAPULIN SPRING
			Sample Date	7/20/2003	10/21/2003	10/21/2003	11/4/2003	12/11/2003	1/7/2004
			Sample ID	CAPULINSPRING-D0 1N-GRW SW3	CAPULINSPRING-T0 1N-GRW SW3	CAPULINSPRING-D0 1N-GRW SW3	CAPULINSPRINGR-T 01N-GRW SW3	CAPULINSPRINGR-T 01N-GRW SW3	CAPULINSPRING-T0 1N-GRW SW3
Field Measurements									
DO	mg/L	T		-	8.75 :	-	-	-	9.7 :
Eh	millivolts	T		-	561.2 :	-	-	-	576.2 :
Flow	gpm	T		-	20. :	-	20. :	23.1 :	20. :
pH	SU	T		-	2.9 J	-	-	-	2.9 J
Specific Conductance	uS/cm	T		-	11814. :	-	-	-	9558. :
Temperature	Celsius	T		-	8.3 :	-	-	-	6.34 :
Turbidity	NTU	T		-	0.6 :	-	-	-	5.3 :
General Chemistry									
Ammonia	mg/L	T		-	0.34 J	-	-	-	0.54 :
Bicarbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	-	<1. :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	-	<1. :
Chloride	mg/L	T		-	10.5 J	-	-	-	24.5 :
Fluoride	mg/L	T		-	101. :	-	-	-	135. :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	-	<1. :
Nitrate	mg/L	T		-	<1. J	-	-	-	1.6 J
Nitrite	mg/L	T		-	0.0603 J	-	-	-	0.11 J
Phosphate, Ortho As P	mg/L	T		-	17.8 J	-	-	-	10.2 J
Phosphorus	mg/L	T		-	0.052 J	-	-	-	12.2 :
Sulfate	mg/L	T		-	12700. J	-	-	-	12300. :
Total Alkalinity	mg/L	T		-	<1. :	-	-	-	<1. :
Total Dissolved Solids	mg/L	T		-	21600. J	-	-	-	18400. :
Total Kjeldahl Nitrogen	mg/L	T		-	0.79 :	-	-	-	0.88 J
Total Organic Carbon	mg/L	T		-	13.2 J	-	-	-	11.2 :
Total Suspended Solids	mg/L	T		-	14.6 :	-	-	-	14.5 :
Laboratory Parameters									
pH	SU	T		-	2.9 J	-	-	-	2.9 J
Specific Conductance	umhos/cm	T		-	12300. J	-	-	-	9500. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	-	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	5120. :	-	-	-	5140. :
Hardness	mg/L	D		5310. :	-	5170. :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	CAPULIN SPRING	CAPULIN SPRING	CAPULIN SPRING	Capulin Spring	Capulin Spring	CAPULIN SPRING
			Sample Date	7/20/2003	10/21/2003	10/21/2003	11/4/2003	12/11/2003	1/7/2004
			Sample ID	CAPULINSPRING-D01N-GRW	CAPULINSPRING-T01N-GRW	CAPULINSPRING-D01N-GRW	CAPULINSPRINGR-T01N-GRW	CAPULINSPRINGR-T01N-GRW	CAPULINSPRING-T01N-GRW
				SW3	SW3	SW3	SW3	SW3	SW3
Metals									
Aluminum	mg/L	T		-	1140. :	-	-	-	1080. :
Aluminum	mg/L	D		1150. :	-	1150. :	-	-	-
Antimony	mg/L	T		-	<0.082 J	-	-	-	<0.029 :
Antimony	mg/L	D		<0.038 :	-	<0.082 J	-	-	-
Arsenic	mg/L	T		-	0.156 J	-	-	-	0.119 :
Arsenic	mg/L	D		0.108 :	-	0.166 J	-	-	-
Barium	mg/L	T		-	<0.117 J	-	-	-	<0.053 :
Barium	mg/L	D		<0.073 :	-	<0.117 J	-	-	-
Beryllium	mg/L	T		-	0.307 J	-	-	-	0.246 J
Beryllium	mg/L	D		0.299 :	-	0.301 J	-	-	-
Boron	mg/L	T		-	<0.064 J	-	-	-	<0.117 :
Boron	mg/L	D		0.0507 :	-	<0.064 J	-	-	-
Cadmium	mg/L	T		-	0.599 :	-	-	-	0.543 J
Cadmium	mg/L	D		0.545 :	-	0.604 :	-	-	-
Calcium	mg/L	T		-	443. :	-	-	-	456. :
Calcium	mg/L	D		458. :	-	448. :	-	-	-
Chromium	mg/L	T		-	0.501 J	-	-	-	0.653 :
Chromium	mg/L	D		0.17 J	-	0.444 J	-	-	-
Cobalt	mg/L	T		-	3.7 :	-	-	-	3.52 J
Cobalt	mg/L	D		3.57 :	-	3.75 :	-	-	-
Copper	mg/L	T		-	9.42 :	-	-	-	7.88 :
Copper	mg/L	D		8.72 :	-	9.61 :	-	-	-
Iron	mg/L	T		-	421. :	-	-	-	314. :
Iron	mg/L	D		431. :	-	427. :	-	-	-
Lead	mg/L	T		-	<0.002 :	-	-	-	<0.001 :
Lead	mg/L	D		<0.001 :	-	<0.002 :	-	-	-
Magnesium	mg/L	T		-	975. :	-	-	-	972. :
Magnesium	mg/L	D		1010. :	-	984. :	-	-	-
Manganese	mg/L	T		-	544. :	-	-	-	527. :
Manganese	mg/L	D		530. :	-	548. :	-	-	-
Mercury	mg/L	T		-	<0.0001 :	-	-	-	<0.0001 J
Mercury	mg/L	D		0.0004 J	-	<0.0001 :	-	-	-
Molybdenum	mg/L	T		-	<0.012 J	-	-	-	<0.024 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	CAPULIN SPRING 7/20/2003 CAPULINSPRING-D01N-GRW SW3		CAPULIN SPRING 10/21/2003 CAPULINSPRING-T01N-GRW SW3		CAPULIN SPRING 10/21/2003 CAPULINSPRING-D01N-GRW SW3		Capulin Spring 11/4/2003 CAPULINSPRINGR-T01N-GRW SW3		Capulin Spring 12/11/2003 CAPULINSPRINGR-T01N-GRW SW3		CAPULIN SPRING 1/7/2004 CAPULINSPRING-T01N-GRW SW3	
Molybdenum	mg/L	D	<0.016	:	-		<0.012	J	-		-		-	
Nickel	mg/L	T	-		8.74	:	-		-		-		8.33	:
Nickel	mg/L	D	8.45	:	-		8.82	:	-		-		-	
Potassium	mg/L	T	-		<63.8	:	-		-		-		<24.3	:
Potassium	mg/L	D	<25.	:	-		<63.8	:	-		-		-	
Selenium	mg/L	T	-		0.19	:	-		-		-		0.241	J
Selenium	mg/L	D	0.109	J	-		0.206	:	-		-		-	
Silver	mg/L	T	-		<0.001	:	-		-		-		<0.001	:
Silver	mg/L	D	<0.005	J	-		<0.001	:	-		-		-	
Sodium	mg/L	T	-		<99.1	:	-		-		-		<92.	:
Sodium	mg/L	D	<21.9	:	-		<99.1	:	-		-		-	
Thallium	mg/L	T	-		<0.001	:	-		-		-		<0.001	:
Thallium	mg/L	D	<0.001	:	-		<0.001	:	-		-		-	
Vanadium	mg/L	T	-		0.0138	:	-		-		-		0.0023	:
Vanadium	mg/L	D	0.0072	:	-		0.0121	:	-		-		-	
Zinc	mg/L	T	-		125.	:	-		-		-		114.	J
Zinc	mg/L	D	119.	:	-		127.	J	-		-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	CAPULIN SPRING	CAPULIN SPRING	Capulin Spring	CAPULIN SPRING	Capulin1	Capulin1
			Sample Date	1/7/2004	4/20/2004	4/20/2004	4/20/2004	10/8/2002	10/8/2002
			Sample ID	CAPULINSPRING-D01N-GRW	CAPULINSPRING-T01N-GRW	CAPULINSPRINGR-T01N-GRW	CAPULINSPRING-D01N-GRW	CAPULIN1-T01N-SFW	CAPULIN1-T01N-GRWRE
				SW3	SW3	SW3	SW3	SW3	SW3
Field Measurements									
DO	mg/L	T		-	-	9.46 :	-	-	-
Eh	millivolts	T		-	-	591. :	-	-	-
Flow	gpm	T		-	-	33. :	-	-	-
pH	SU	T		-	3. J	2.4 :	-	-	-
Specific Conductance	uS/cm	T		-	-	11583. :	-	-	-
Temperature	Celsius	T		-	-	8.69 :	-	-	-
Turbidity	NTU	T		-	-	2.9 :	-	-	-
General Chemistry									
Ammonia	mg/L	T		-	<0.31 :	-	-	-	-
Bicarbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	-	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	-	-
Chloride	mg/L	T		-	85.5 :	-	-	-	-
Fluoride	mg/L	T		-	102. :	-	-	-	38.5 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	-	-
Nitrate	mg/L	T		-	4.2 J	-	-	-	-
Nitrite	mg/L	T		-	0.049 :	-	-	-	-
Phosphate, Ortho As P	mg/L	T		-	18.2 :	-	-	-	-
Phosphorus	mg/L	T		-	19.6 J	-	-	-	-
Sulfate	mg/L	T		-	13400. :	-	-	-	4360. J
Total Alkalinity	mg/L	T		-	<1. :	-	-	-	-
Total Dissolved Solids	mg/L	T		-	18400. :	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	T		-	0.8 J	-	-	-	-
Total Organic Carbon	mg/L	T		-	11.7 J	-	-	-	-
Total Suspended Solids	mg/L	T		-	<12.4 J	-	-	-	-
Laboratory Parameters									
pH	SU	T		-	3. J	2.4 :	-	-	-
Specific Conductance	umhos/cm	T		-	8810. J	-	-	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	-	-	-
Physical Properties									
Hardness	mg/L	T		-	4680. :	-	-	-	-
Hardness	mg/L	D		5070. :	-	-	4600. :	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	CAPULIN SPRING 1/7/2004 CAPULINSPRING-D01N-GRW SW3	CAPULIN SPRING 4/20/2004 CAPULINSPRING-T01N-GRW SW3	Capulin Spring 4/20/2004 CAPULINSPRINGR-T01N-GRW SW3	CAPULIN SPRING 4/20/2004 CAPULINSPRING-D01N-GRW SW3	Capulin1 10/8/2002 CAPULIN1-T01N-SFW SW3	Capulin1 10/8/2002 CAPULIN1-T01N-GRWRE SW3
Metals								
Aluminum	mg/L	T	-	1120. :	-	-	-	-
Aluminum	mg/L	D	1060. :	-	-	1090. :	-	-
Antimony	mg/L	T	-	<0.053 :	-	-	-	-
Antimony	mg/L	D	<0.029 :	-	-	<0.053 :	-	-
Arsenic	mg/L	T	-	0.103 :	-	-	-	-
Arsenic	mg/L	D	0.0914 :	-	-	0.105 :	-	-
Barium	mg/L	T	-	<0.049 :	-	-	-	-
Barium	mg/L	D	<0.053 :	-	-	<0.049 :	-	-
Beryllium	mg/L	T	-	0.302 :	-	-	-	-
Beryllium	mg/L	D	0.237 :	-	-	0.294 :	-	-
Boron	mg/L	T	-	<0.036 :	-	-	-	-
Boron	mg/L	D	<0.117 :	-	-	<0.036 :	-	-
Cadmium	mg/L	T	-	0.527 :	-	-	-	-
Cadmium	mg/L	D	0.551 :	-	-	0.502 J	-	-
Calcium	mg/L	T	-	420. :	-	-	-	-
Calcium	mg/L	D	450. :	-	-	412. :	-	-
Chromium	mg/L	T	-	0.459 :	-	-	-	-
Chromium	mg/L	D	0.558 :	-	-	0.386 :	-	-
Chromium, Hexavalent	mg/L	D	-	-	-	-	0.016 :	-
Cobalt	mg/L	T	-	3.32 :	-	-	-	-
Cobalt	mg/L	D	3.47 :	-	-	3.21 :	-	-
Copper	mg/L	T	-	9.6 :	-	-	-	-
Copper	mg/L	D	7.82 :	-	-	9.28 :	-	-
Iron	mg/L	T	-	479. J	-	-	-	-
Iron	mg/L	D	310. :	-	-	468. :	-	-
Lead	mg/L	T	-	<0.004 :	-	-	-	-
Lead	mg/L	D	<0.001 :	-	-	<0.004 :	-	-
Magnesium	mg/L	T	-	883. :	-	-	-	-
Magnesium	mg/L	D	959. :	-	-	867. :	-	-
Manganese	mg/L	T	-	458. :	-	-	-	-
Manganese	mg/L	D	522. :	-	-	450. :	-	-
Mercury	mg/L	T	-	<0.0001 :	-	-	-	-
Mercury	mg/L	D	<0.0001 J	-	-	<0.0001 :	-	-

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	CAPULIN SPRING 1/7/2004 CAPULINSPRING-D01N-GRW SW3		CAPULIN SPRING 4/20/2004 CAPULINSPRING-T01N-GRW SW3		Capulin Spring 4/20/2004 CAPULINSPRINGR-T01N-GRW SW3		CAPULIN SPRING 4/20/2004 CAPULINSPRING-D01N-GRW SW3		Capulin1 10/8/2002 CAPULIN1-T01N-SFW SW3		Capulin1 10/8/2002 CAPULIN1-T01N-GRWRE SW3	
Molybdenum	mg/L	T	-		<0.0288	:	-		-		-		-	
Molybdenum	mg/L	D	<0.024	:	-		-		<0.0211	:	-		-	
Nickel	mg/L	T	-		7.3	:	-		-		-		-	
Nickel	mg/L	D	8.22	:	-		-		7.13	:	-		-	
Potassium	mg/L	T	-		<10.9	J	-		-		-		-	
Potassium	mg/L	D	<24.3	:	-		-		<10.9	J	-		-	
Selenium	mg/L	T	-		0.158	:	-		-		-		-	
Selenium	mg/L	D	0.255	:	-		-		0.16	:	-		-	
Silver	mg/L	T	-		<0.001	:	-		-		-		-	
Silver	mg/L	D	<0.001	:	-		-		<0.001	:	-		-	
Sodium	mg/L	T	-		<44.6	:	-		-		-		-	
Sodium	mg/L	D	<92.	:	-		-		<47.8	:	-		-	
Thallium	mg/L	T	-		<0.001	:	-		-		-		-	
Thallium	mg/L	D	<0.001	:	-		-		<0.001	:	-		-	
Vanadium	mg/L	T	-		0.0112	:	-		-		-		-	
Vanadium	mg/L	D	0.0055	:	-		-		0.0112	:	-		-	
Zinc	mg/L	T	-		105.	:	-		-		-		-	
Zinc	mg/L	D	111.	:	-		-		103.	:	-		-	

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Capulin1	Capulin1	Capulin1	Capulin1	CAPULIN1	CAPULIN1
			Sample Date	10/8/2002	10/8/2002	10/8/2002	4/11/2003	4/11/2003	10/21/2003
			Sample ID	Capulin1-T01N-GRW	CAPULIN1-D01N-GRWRE	CAPULIN1-D01N-GRW	CAPULIN1-T01N-SFW	CAPULIN1-D01N-SFW	CAPULIN1-T01N-GRW
			Exposure Area	SW3	SW3	SW3	SW3	SW3	SW3
Field Measurements									
DO	mg/L	T		10.56 :	-	-	8.08 :	-	8.39 :
Eh	millivolts	T		475.6 :	-	-	268.8 :	-	457. :
pH	SU	T		3.04 :	-	-	3.94 :	-	3.3 :
Specific Conductance	uS/cm	T		4723. :	-	-	549. :	-	2530. :
Temperature	Celsius	T		3.11 :	-	-	7.76 :	-	11.58 :
Turbidity	NTU	T		11.7 :	-	-	354.2 :	-	1.4 :
General Chemistry									
Ammonia	mg/L	T		<0.19 :	-	-	0.084 :	-	0.18 J
Bicarbonate (as CaCO3)	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Biochemical Oxygen Demand	mg/L	T		-	-	-	3.8 :	-	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	-	-	<20. :	-	-
Chloride	mg/L	T		28.2 :	-	-	0.95 :	-	8.8 :
Fluoride	mg/L	T		-	-	-	4.3 :	-	41.3 :
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Nitrate	mg/L	T		<0.2 :	-	-	<0.4 J	-	<0.2 J
Nitrite	mg/L	T		0.016 :	-	-	<0.005 :	-	0.0071 J
Phosphate, Ortho As P	mg/L	T		0.13 :	-	-	0.024 :	-	0.026 J
Phosphorus	mg/L	T		0.24 :	-	-	0.14 :	-	0.039 :
Sulfate	mg/L	T		-	-	-	294. :	-	2710. J
Total Alkalinity	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Total Dissolved Solids	mg/L	T		5760. :	-	-	568. :	-	3890. J
Total Kjeldahl Nitrogen	mg/L	T		<0.42 :	-	-	<0.24 J	-	<0.24 :
Total Organic Carbon	mg/L	T		7.4 :	-	-	4. :	-	4.7 J
Total Suspended Solids	mg/L	T		18.2 :	-	-	86. :	-	12.6 :
Laboratory Parameters									
pH	SU	T		3.04 :	-	-	3.94 :	-	3.3 :
Specific Conductance	umhos/cm	T		-	-	-	604. J	-	3570. J
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		714. J	-	-	196. :	-	1760. :
Hardness	mg/L	D		-	2190. J	-	-	207. :	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area	Fraction	Capulin1 10/8/2002 CAPULIN1-T01N-GRW SW3	Capulin1 10/8/2002 CAPULIN1-D01N-GRWRE SW3	Capulin1 10/8/2002 CAPULIN1-D01N-GRW SW3	Capulin1 4/11/2003 CAPULIN1-T01N-SFW SW3	CAPULIN1 4/11/2003 CAPULIN1-D01N-SFW SW3	CAPULIN1 10/21/2003 CAPULIN1-T01N-GRW SW3
Metals									
Aluminum	mg/L		T	-	-	-	22.5 :	-	149. :
Aluminum	mg/L		D	-	284. :	-	-	22.4 :	-
Antimony	mg/L		T	-	-	-	<0.072 :	-	<0.082 :
Antimony	mg/L		D	-	<0.028 :	-	-	<0.072 :	-
Arsenic	mg/L		T	-	-	-	<0.0002 :	-	0.0741 :
Arsenic	mg/L		D	-	<0.109 :	-	-	<0.0002 :	-
Barium	mg/L		T	-	-	-	<0.123 :	-	<0.117 :
Barium	mg/L		D	-	<0.048 :	-	-	<0.123 :	-
Beryllium	mg/L		T	-	-	-	0.0124 :	-	0.0985 :
Beryllium	mg/L		D	-	0.12 :	-	-	0.0144 :	-
Boron	mg/L		T	-	-	-	<0.084 :	-	<0.064 :
Boron	mg/L		D	-	<0.027 :	-	-	<0.084 :	-
Cadmium	mg/L		T	-	-	-	0.0055 :	-	<0.13 :
Cadmium	mg/L		D	-	0.115 :	-	-	0.0081 :	-
Calcium	mg/L		T	-	-	-	39.8 :	-	388. :
Calcium	mg/L		D	-	384. :	-	-	42.6 :	-
Chromium	mg/L		T	-	-	-	<0.01 :	-	<0.11 J
Chromium	mg/L		D	-	<0.16 J	-	-	<0.01 :	-
Cobalt	mg/L		T	-	-	-	0.073 :	-	0.773 :
Cobalt	mg/L		D	-	1.15 :	-	-	0.084 :	-
Copper	mg/L		T	-	-	-	0.0763 :	-	0.526 :
Copper	mg/L		D	-	<1.27 :	-	-	0.0855 :	-
Iron	mg/L		T	-	-	-	3.03 :	-	20.2 :
Iron	mg/L		D	-	28.3 :	-	-	2.44 :	-
Lead	mg/L		T	-	-	-	0.0075 :	-	<0.002 :
Lead	mg/L		D	-	<0.001 :	-	-	<0.002 :	-
Magnesium	mg/L		T	-	-	-	23.1 :	-	193. :
Magnesium	mg/L		D	-	298. :	-	-	25.1 :	-
Manganese	mg/L		T	-	-	-	13. :	-	114. :
Manganese	mg/L		D	-	168. :	-	-	13.9 :	-
Mercury	mg/L		T	<0.0001 J	-	-	<0.0001 :	-	<0.0001 :
Mercury	mg/L		D	-	-	<0.0001 J	-	<0.0001 :	-
Molybdenum	mg/L		T	-	-	-	<0.023 :	-	<0.012 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Capulin1 10/8/2002 CAPULIN1-T01N-GRW SW3		Capulin1 10/8/2002 CAPULIN1-D01N-GRWRE SW3		Capulin1 10/8/2002 CAPULIN1-D01N-GRW SW3		Capulin1 4/11/2003 CAPULIN1-T01N-SFW SW3		CAPULIN1 4/11/2003 CAPULIN1-D01N-SFW SW3		CAPULIN1 10/21/2003 CAPULIN1-T01N-GRW SW3	
Molybdenum	mg/L	D	-		<0.011	:	-		-		<0.023	:	-	
Nickel	mg/L	T	-		-		-		0.158	:	-		1.92	:
Nickel	mg/L	D	-		2.34	:	-		-		0.185	:	-	
Potassium	mg/L	T	-		-		-		<3.26	:	-		<63.8	:
Potassium	mg/L	D	-		<31.4	J	-		-		<3.26	:	-	
Selenium	mg/L	T	-		-		-		0.0023	J	-		0.0502	:
Selenium	mg/L	D	-		0.0586	:	-		-		0.0034	J	-	
Silver	mg/L	T	-		-		-		<0.0002	:	-		<0.001	:
Silver	mg/L	D	-		<0.001	:	-		-		<0.0002	:	-	
Sodium	mg/L	T	-		-		-		<3.52	:	-		<99.1	:
Sodium	mg/L	D	-		41.	:	-		-		<3.52	:	-	
Thallium	mg/L	T	-		-		-		<0.0002	:	-		<0.001	:
Thallium	mg/L	D	-		<0.001	:	-		-		<0.0002	:	-	
Vanadium	mg/L	T	-		-		-		0.00093	:	-		<0.001	:
Vanadium	mg/L	D	-		<0.002	:	-		-		<0.0002	:	-	
Zinc	mg/L	T	-		-		-		<2.18	:	-		22.	:
Zinc	mg/L	D	-		31.6	:	-		-		<2.34	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	CAPULIN1	Capulin1	CAPULIN1	CD-1	CD-1	CD-1
			Sample Date	10/21/2003	4/20/2004	4/20/2004	10/9/2002	10/9/2002	10/9/2002
			Sample ID	CAPULIN1-D01N-GRW	CAPULIN1-T01N-SFW	CAPULIN1-D01N-SFW	CD-T01N-SFW	CD-1-T01N-SFW	CD-1-D01N-SFW
				SW3	SW3	SW3	ID	ID	ID
Field Measurements									
DO	mg/L	T		-	8.91 :	-	-	9.15 :	-
Eh	millivolts	T		-	397.1 :	-	-	304. :	-
pH	SU	T		-	3.9 J	-	-	7.06 :	-
Specific Conductance	uS/cm	T		-	1807. :	-	-	403. :	-
Temperature	Celsius	T		-	10.52 :	-	-	9.77 :	-
Turbidity	NTU	T		-	19.3 :	-	-	14.9 :	-
General Chemistry									
Ammonia	mg/L	T		-	<0.082 :	-	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	49.4 :	-
Biochemical Oxygen Demand	mg/L	T		-	<1.3 J	-	-	<1.5 J	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	76.5 :	-	-	<20. :	-
Chloride	mg/L	T		-	8.2 :	-	-	4.1 :	-
Fluoride	mg/L	T		-	12.7 J	-	-	0.69 :	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Nitrate	mg/L	T		-	0.43 :	-	-	0.36 J	-
Nitrite	mg/L	T		-	<0.005 :	-	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	-	<0.01 J	-
Phosphorus	mg/L	T		-	0.012 :	-	-	<0.033 :	-
Sulfate	mg/L	T		-	1010. :	-	-	171. :	-
Total Alkalinity	mg/L	T		-	<1. :	-	-	49.4 :	-
Total Dissolved Solids	mg/L	T		-	1440. :	-	-	281. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	0.27 :	-	-	<0.24 :	-
Total Organic Carbon	mg/L	T		-	<4.5 :	-	-	1.1 :	-
Total Suspended Solids	mg/L	T		-	10.6 :	-	-	15.8 :	-
Laboratory Parameters									
pH	SU	T		-	3.9 J	-	-	7.06 :	-
Specific Conductance	umhos/cm	T		-	1410. J	-	-	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	-	<0.01 J	-
Physical Properties									
Hardness	mg/L	T		-	691. :	-	-	206. :	-
Hardness	mg/L	D		1730. :	-	686. :	-	-	203. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	CAPULIN1 10/21/2003 CAPULIN1-D01N-GRW SW3		Capulin1 4/20/2004 CAPULIN1-T01N-SFW SW3		CAPULIN1 4/20/2004 CAPULIN1-D01N-SFW SW3		CD-1 10/9/2002 CD-T01N-SFW ID		CD-1 10/9/2002 CD-1-T01N-SFW ID		CD-1 10/9/2002 CD-1-D01N-SFW ID	
Metals														
Aluminum	mg/L	T	-		47.1	:	-		-		1.86	:	-	
Aluminum	mg/L	D	147.	:	-		45.3	:	-		-		0.155	:
Antimony	mg/L	T	-		<0.027	:	-		-		<0.0002	:	-	
Antimony	mg/L	D	<0.082	:	-		<0.027	:	-		-		<0.0002	:
Arsenic	mg/L	T	-		<0.026	J	-		-		0.00029	:	-	
Arsenic	mg/L	D	0.0795	:	-		<0.026	J	-		-		0.00022	:
Barium	mg/L	T	-		<0.012	:	-		-		0.0356	:	-	
Barium	mg/L	D	<0.117	:	-		<0.012	:	-		-		0.0314	:
Beryllium	mg/L	T	-		0.037	:	-		-		0.00046	:	-	
Beryllium	mg/L	D	0.097	:	-		0.0351	:	-		-		<0.0002	:
Boron	mg/L	T	-		0.0242	:	-		-		<0.0076	:	-	
Boron	mg/L	D	<0.064	:	-		<0.018	:	-		-		<0.0076	:
Cadmium	mg/L	T	-		<0.03	:	-		-		0.00067	:	-	
Cadmium	mg/L	D	<0.13	:	-		<0.03	:	-		-		0.00056	:
Calcium	mg/L	T	-		163.	:	-		-		60.8	:	-	
Calcium	mg/L	D	380.	:	-		162.	:	-		-		60.1	:
Chromium	mg/L	T	-		<0.08	:	-		-		<0.0046	:	-	
Chromium	mg/L	D	0.144	J	-		<0.08	:	-		-		<0.0046	:
Chromium, Hexavalent	mg/L	D	-		-		-		<0.01	:	-		-	
Cobalt	mg/L	T	-		<0.168	:	-		-		0.0046	:	-	
Cobalt	mg/L	D	0.821	:	-		<0.152	:	-		-		0.0047	:
Copper	mg/L	T	-		<0.299	:	-		-		0.0205	J	-	
Copper	mg/L	D	0.595	:	-		<0.197	:	-		-		0.0042	J
Iron	mg/L	T	-		<7.01	:	-		-		0.457	:	-	
Iron	mg/L	D	20.3	:	-		<3.71	:	-		-		<0.0226	:
Lead	mg/L	T	-		<0.004	:	-		-		0.00051	:	-	
Lead	mg/L	D	<0.002	:	-		<0.004	:	-		-		<0.0001	:
Magnesium	mg/L	T	-		69.	:	-		-		13.1	:	-	
Magnesium	mg/L	D	190.	:	-		68.4	:	-		-		13.	:
Manganese	mg/L	T	-		35.4	:	-		-		0.475	:	-	
Manganese	mg/L	D	112.	:	-		35.5	:	-		-		0.459	:
Mercury	mg/L	T	-		<0.0001	:	-		-		<0.0001	:	-	
Mercury	mg/L	D	<0.0001	:	-		<0.0001	:	-		-		<0.0001	:

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Appendix A-2
Surface Water
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	
			CAPULIN1	10/21/2003	CAPULIN1-D01N-GRW		Capulin1	4/20/2004	CAPULIN1-T01N-SFW		CAPULIN1	4/20/2004	CAPULIN1-D01N-SFW		CD-1	10/9/2002	CD-T01N-SFW		CD-1	10/9/2002	CD-1-T01N-SFW		CD-1	10/9/2002	CD-1-D01N-SFW	
			SW3				SW3				SW3				ID				ID				ID			
Molybdenum	mg/L	T	-				<0.01	:			-				-				0.0023	:			-			
Molybdenum	mg/L	D	<0.012	:			-				<0.01	:			-				-				0.0026	:		
Nickel	mg/L	T	-				0.386	:			-				-				0.021	J			-			
Nickel	mg/L	D	2.05	:			-				0.404	:			-				-				0.0193	J		
Potassium	mg/L	T	-				<10.9	J			-				-				1.7	:			-			
Potassium	mg/L	D	<63.8	:			-				<10.9	J			-				-				1.71	:		
Selenium	mg/L	T	-				<0.007	:			-				-				<0.00063	:			-			
Selenium	mg/L	D	0.0489	:			-				<0.007	:			-				-				<0.0006	:		
Silver	mg/L	T	-				<0.001	J			-				-				<0.0001	:			-			
Silver	mg/L	D	<0.001	:			-				<0.001	J			-				-				<0.0001	:		
Sodium	mg/L	T	-				18.	J			-				-				6.68	:			-			
Sodium	mg/L	D	<99.1	:			-				<17.3	J			-				-				6.86	:		
Thallium	mg/L	T	-				<0.001	:			-				-				<0.0001	:			-			
Thallium	mg/L	D	<0.001	:			-				<0.001	:			-				-				<0.0001	:		
Vanadium	mg/L	T	-				<0.002	:			-				-				0.00017	J			-			
Vanadium	mg/L	D	<0.001	:			-				<0.002	:			-				-				<0.0001	:		
Zinc	mg/L	T	-				6.1	:			-				-				0.132	:			-			
Zinc	mg/L	D	21.6	:			-				6.14	:			-				-				0.072	:		

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	CD-1	CD-1	CD-1	CD-1	CD-1	CD-1
			Sample Date	3/23/2003	3/23/2003	7/15/2003	7/15/2003	9/21/2003	9/21/2003
			Sample ID	CD-1-T01N-SFW	CD-1-D01N-SFW	CD-1-T01N-SFW	CD-1-D01N-SFW	CD-1-T01N-SFW	CD-1-D01N-SFW
			ID	ID	ID	ID	ID	ID	ID
Field Measurements									
DO	mg/L	T		10.89 :	-	7.74 :	-	9.59 :	-
Eh	millivolts	T		290.8 :	-	110.4 :	-	178.5 :	-
Flow	cfs	T		0.5 :	-	0.7 :	-	2.1 :	-
pH	SU	T		7.6 J	-	7.8 J	-	7.7 J	-
Specific Conductance	uS/cm	T		408. :	-	324. :	-	324. :	-
Temperature	Celsius	T		7.73 :	-	18.54 :	-	8.54 :	-
Turbidity	NTU	T		75.4 :	-	2.5 :	-	16.6 :	-
General Chemistry									
Ammonia	mg/L	T		<0.064 J	-	0.045 :	-	0.061 :	-
Bicarbonate (as CaCO3)	mg/L	T		43.2 :	-	56.2 :	-	64.4 :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 J	-	<1.5 :	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		5.6 :	-	3.2 :	-	2.9 :	-
Fluoride	mg/L	T		1. :	-	<0.91 J	-	0.73 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.62 J	-	<0.5 J	-	0.37 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 :	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		0.77 J	-	<0.01 :	-	<0.01 J	-
Phosphorus	mg/L	T		0.059 J	-	0.018 :	-	0.024 :	-
Sulfate	mg/L	T		150. :	-	103. :	-	93.1 J	-
Total Alkalinity	mg/L	T		43.2 :	-	56.2 :	-	64.4 :	-
Total Dissolved Solids	mg/L	T		270. :	-	192. :	-	214. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 J	-	<0.24 :	-	<0.33 :	-
Total Organic Carbon	mg/L	T		1.6 :	-	<1. :	-	<1. :	-
Total Suspended Solids	mg/L	T		17.6 :	-	22.2 :	-	25.4 :	-
Laboratory Parameters									
pH	SU	T		7.6 J	-	7.8 J	-	7.7 J	-
Specific Conductance	umhos/cm	T		350. J	-	343. J	-	302. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		203. :	-	154. :	-	174. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / ID											
			CD-1		CD-1		CD-1		CD-1		CD-1		CD-1	
			3/23/2003		3/23/2003		7/15/2003		7/15/2003		9/21/2003		9/21/2003	
			CD-1-T01N-SFW		CD-1-D01N-SFW		CD-1-T01N-SFW		CD-1-D01N-SFW		CD-1-T01N-SFW		CD-1-D01N-SFW	
			ID		ID		ID		ID		ID		ID	
Hardness	mg/L	D	-	:	203.	:	-	:	155.	:	-	:	174.	:
Metals														
Aluminum	mg/L	T	2.27	:	-	:	1.26	:	-	:	1.41	:	-	:
Aluminum	mg/L	D	-	:	<0.0503	:	-	:	0.215	:	-	:	0.205	:
Antimony	mg/L	T	<0.0006	:	-	:	<0.0005	:	-	:	<0.00011	:	-	:
Antimony	mg/L	D	-	:	<0.0006	:	-	:	<0.0005	:	-	:	<0.00014	:
Arsenic	mg/L	T	<0.00058	:	-	:	<0.0002	:	-	:	<0.00038	:	-	:
Arsenic	mg/L	D	-	:	<0.00047	:	-	:	0.00021	:	-	:	<0.00038	:
Barium	mg/L	T	0.0431	:	-	:	0.0406	:	-	:	0.045	:	-	:
Barium	mg/L	D	-	:	0.0361	:	-	:	0.0342	:	-	:	0.0371	:
Beryllium	mg/L	T	<0.0003	:	-	:	0.00059	:	-	:	<0.00057	:	-	:
Beryllium	mg/L	D	-	:	<0.0003	:	-	:	0.00022	:	-	:	<0.00047	:
Boron	mg/L	T	<0.0084	:	-	:	0.0058	:	-	:	<0.0048	:	-	:
Boron	mg/L	D	-	:	<0.0084	:	-	:	0.0062	:	-	:	<0.0048	:
Cadmium	mg/L	T	<0.0014	:	-	:	0.00053	:	-	:	0.00061	:	-	:
Cadmium	mg/L	D	-	:	<0.00085	:	-	:	0.0005	:	-	:	0.00047	:
Calcium	mg/L	T	59.2	:	-	:	45.8	:	-	:	52.2	:	-	:
Calcium	mg/L	D	-	:	59.2	:	-	:	46.	:	-	:	52.	:
Chromium	mg/L	T	<0.001	:	-	:	<0.0014	:	-	:	<0.001	:	-	:
Chromium	mg/L	D	-	:	<0.001	:	-	:	<0.0014	:	-	:	<0.001	:
Cobalt	mg/L	T	0.0055	:	-	:	<0.002	:	-	:	0.0034	:	-	:
Cobalt	mg/L	D	-	:	0.006	:	-	:	<0.002	:	-	:	0.005	:
Copper	mg/L	T	0.0284	:	-	:	0.0125	:	-	:	0.0132	:	-	:
Copper	mg/L	D	-	:	<0.0096	:	-	:	0.0049	:	-	:	0.003	:
Iron	mg/L	T	<0.573	:	-	:	0.37	:	-	:	0.672	:	-	:
Iron	mg/L	D	-	:	<0.422	:	-	:	<0.0333	:	-	:	<0.044	:
Lead	mg/L	T	0.00097	:	-	:	0.0011	:	-	:	0.0015	:	-	:
Lead	mg/L	D	-	:	<0.0002	:	-	:	<0.0001	:	-	:	0.00007	:
Magnesium	mg/L	T	13.4	:	-	:	9.73	:	-	:	10.7	:	-	:
Magnesium	mg/L	D	-	:	13.4	:	-	:	9.72	:	-	:	10.7	:
Manganese	mg/L	T	0.428	:	-	:	0.251	:	-	:	0.303	:	-	:
Manganese	mg/L	D	-	:	0.415	:	-	:	0.233	:	-	:	0.289	:
Mercury	mg/L	T	<0.0001	:	-	:	<0.0001	:	-	:	<0.00006	:	-	:
Mercury	mg/L	D	-	:	<0.0001	:	-	:	<0.0001	:	-	:	<0.00006	:

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / ID											
			CD-1 / 3/23/2003 / CD-1-T01N-SFW		CD-1 / 3/23/2003 / CD-1-D01N-SFW		CD-1 / 7/15/2003 / CD-1-T01N-SFW		CD-1 / 7/15/2003 / CD-1-D01N-SFW		CD-1 / 9/21/2003 / CD-1-T01N-SFW		CD-1 / 9/21/2003 / CD-1-D01N-SFW	
Molybdenum	mg/L	T	0.0026	J	-		0.0026	:	-		<0.0024	:	-	
Molybdenum	mg/L	D	-		0.0023	:	-		0.0027	:	-		0.0022	:
Nickel	mg/L	T	0.0296	:	-		0.0186	:	-		0.0172	:	-	
Nickel	mg/L	D	-		0.0275	:	-		0.0162	:	-		0.0161	:
Potassium	mg/L	T	1.9	:	-		1.25	:	-		1.56	:	-	
Potassium	mg/L	D	-		1.77	:	-		1.21	:	-		1.43	:
Selenium	mg/L	T	<0.0013	:	-		<0.0016	:	-		0.00073	:	-	
Selenium	mg/L	D	-		<0.001	:	-		<0.0016	:	-		<0.00073	:
Silver	mg/L	T	<0.0002	:	-		<0.0001	J	-		<0.0002	:	-	
Silver	mg/L	D	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Sodium	mg/L	T	<9.16	:	-		5.63	:	-		5.36	:	-	
Sodium	mg/L	D	-		<9.16	:	-		5.55	:	-		5.39	:
Thallium	mg/L	T	<0.0002	:	-		<0.0001	:	-		<0.00001	:	-	
Thallium	mg/L	D	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Vanadium	mg/L	T	0.00042	:	-		<0.00082	:	-		<0.00075	:	-	
Vanadium	mg/L	D	-		<0.0002	:	-		<0.00053	:	-		<0.00043	:
Zinc	mg/L	T	0.217	:	-		0.142	:	-		0.14	:	-	
Zinc	mg/L	D	-		0.144	:	-		0.0786	:	-		0.0798	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Columbine Creek	Columbine Creek	Columbine Creek	ERLIN	ERLIN	ERLIN
			Sample Date	3/21/2003	7/15/2003	9/26/2003	10/7/2002	10/7/2002	3/21/2003
			Sample ID	Columbine Creek-T01N-SFW SWR	Columbine Creek-T01N-SFW SWR	ColumbineCreek-T01N-SFW SWR	ERLIN-T01N-SFW SW2	ERLIN-D01N-SFW SW2	ERLIN-T01N-SFW SW2
Field Measurements									
DO	mg/L	T		-	-	-	8.66 :	-	10.7 :
Eh	millivolts	T		-	-	-	128.3 :	-	189.9 :
Flow	cfs	T		1.1 :	2.6 :	2.3 :	-	-	-
pH	SU	T		-	-	-	6.69 :	-	7.5 :
Specific Conductance	uS/cm	T		-	-	-	421. :	-	427. :
Temperature	Celsius	T		-	-	-	9.16 :	-	2.61 :
Turbidity	NTU	T		-	-	-	24.5 :	-	90.5 :
General Chemistry									
Ammonia	mg/L	T		-	-	-	<0.04 :	-	<0.31 J
Bicarbonate (as CaCO3)	mg/L	T		-	-	-	55. :	-	42.4 :
Biochemical Oxygen Demand	mg/L	T		-	-	-	<1.3 J	-	<1.5 :
Carbonate (as CaCO3)	mg/L	T		-	-	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	-	-	<20. :	-	<20. :
Chloride	mg/L	T		-	-	-	3.9 :	-	5.9 :
Fluoride	mg/L	T		-	-	-	0.73 :	-	1.1 :
Hydroxide (as CaCO3)	mg/L	T		-	-	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	-	-	0.36 J	-	0.64 :
Nitrite	mg/L	T		-	-	-	<0.005 J	-	0.01 :
Phosphate, Ortho As P	mg/L	T		-	-	-	<0.01 J	-	<0.01 :
Phosphorus	mg/L	T		-	-	-	<0.051 :	-	<0.021 :
Sulfate	mg/L	T		-	-	-	154. :	-	148. :
Total Alkalinity	mg/L	T		-	-	-	55. :	-	42.4 :
Total Dissolved Solids	mg/L	T		-	-	-	261. :	-	308. :
Total Kjeldahl Nitrogen	mg/L	T		-	-	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	-	-	<1. :	-	1.4 :
Total Suspended Solids	mg/L	T		-	-	-	<9.1 :	-	7.3 :
Laboratory Parameters									
pH	SU	T		-	-	-	6.69 :	-	7.5 :
Specific Conductance	umhos/cm	T		-	-	-	-	-	348. :
Inorganics									
Cyanide	mg/L	T		-	-	-	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	-	-	190. :	-	210. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Columbine Creek 3/21/2003 Columbine Creek-T01N-SFW SWR	Columbine Creek 7/15/2003 Columbine Creek-T01N-SFW SWR	Columbine Creek 9/26/2003 ColumbineCreek-T01N-SFW SWR	ERLIN 10/7/2002 ERLIN-T01N-SFW SW2	ERLIN 10/7/2002 ERLIN-D01N-SFW SW2	ERLIN 3/21/2003 ERLIN-T01N-SFW SW2
Hardness	mg/L	D	-	-	-	-	196. :	-
Metals								
Aluminum	mg/L	T	-	-	-	0.76 :	-	0.0652 :
Aluminum	mg/L	D	-	-	-	-	0.126 :	-
Antimony	mg/L	T	-	-	-	<0.0002 :	-	<0.0006 :
Antimony	mg/L	D	-	-	-	-	<0.0002 :	-
Arsenic	mg/L	T	-	-	-	<0.0002 :	-	<0.0002 :
Arsenic	mg/L	D	-	-	-	-	<0.0002 :	-
Barium	mg/L	T	-	-	-	0.0314 :	-	0.0342 :
Barium	mg/L	D	-	-	-	-	0.0308 :	-
Beryllium	mg/L	T	-	-	-	<0.0003 :	-	<0.0003 J
Beryllium	mg/L	D	-	-	-	-	<0.0003 :	-
Boron	mg/L	T	-	-	-	<0.005 :	-	<0.0084 :
Boron	mg/L	D	-	-	-	-	<0.005 :	-
Cadmium	mg/L	T	-	-	-	0.0006 :	-	0.00065 :
Cadmium	mg/L	D	-	-	-	-	0.00053 :	-
Calcium	mg/L	T	-	-	-	55.9 :	-	60.8 :
Calcium	mg/L	D	-	-	-	-	57.4 :	-
Chromium	mg/L	T	-	-	-	<0.00088 :	-	<0.001 :
Chromium	mg/L	D	-	-	-	-	<0.0003 :	-
Chromium, Hexavalent	mg/L	D	-	-	-	0.0042 J	-	-
Cobalt	mg/L	T	-	-	-	0.0044 :	-	0.0055 :
Cobalt	mg/L	D	-	-	-	-	0.0044 :	-
Copper	mg/L	T	-	-	-	0.0099 :	-	0.0148 :
Copper	mg/L	D	-	-	-	-	0.0042 :	-
Iron	mg/L	T	-	-	-	0.241 :	-	<0.422 :
Iron	mg/L	D	-	-	-	-	0.1 :	-
Lead	mg/L	T	-	-	-	<0.0003 :	-	<0.0002 :
Lead	mg/L	D	-	-	-	-	<0.0001 :	-
Magnesium	mg/L	T	-	-	-	12.3 :	-	14.1 :
Magnesium	mg/L	D	-	-	-	-	12.7 :	-
Manganese	mg/L	T	-	-	-	0.446 :	-	0.501 :
Manganese	mg/L	D	-	-	-	-	0.461 :	-
Mercury	mg/L	T	-	-	-	<0.0001 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Columbine Creek 3/21/2003 Columbine Creek-T01N-SFW SWR	Columbine Creek 7/15/2003 Columbine Creek-T01N-SFW SWR	Columbine Creek 9/26/2003 ColumbineCreek-T01N-SFW SWR	ERLIN 10/7/2002 ERLIN-T01N-SFW SW2	ERLIN 10/7/2002 ERLIN-D01N-SFW SW2	ERLIN 3/21/2003 ERLIN-T01N-SFW SW2
Mercury	mg/L	D	-	-	-	-	<0.0001 :	-
Molybdenum	mg/L	T	-	-	-	0.0023 :	-	0.0024 :
Molybdenum	mg/L	D	-	-	-	-	0.0025 :	-
Nickel	mg/L	T	-	-	-	0.0161 :	-	0.0265 :
Nickel	mg/L	D	-	-	-	-	0.0165 :	-
Potassium	mg/L	T	-	-	-	1.42 :	-	1.64 :
Potassium	mg/L	D	-	-	-	-	1.43 :	-
Selenium	mg/L	T	-	-	-	0.00033 :	-	<0.001 :
Selenium	mg/L	D	-	-	-	-	0.00028 :	-
Silver	mg/L	T	-	-	-	<0.0001 :	-	<0.0002 :
Silver	mg/L	D	-	-	-	-	<0.0001 :	-
Sodium	mg/L	T	-	-	-	5.97 :	-	10.9 :
Sodium	mg/L	D	-	-	-	-	6.16 :	-
Thallium	mg/L	T	-	-	-	<0.0001 :	-	<0.0002 :
Thallium	mg/L	D	-	-	-	-	<0.0001 :	-
Vanadium	mg/L	T	-	-	-	0.00019 :	-	<0.0002 :
Vanadium	mg/L	D	-	-	-	-	<0.0001 :	-
Zinc	mg/L	T	-	-	-	0.0827 :	-	0.188 :
Zinc	mg/L	D	-	-	-	-	0.0737 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLIN	ERLIN	ERLIN	ERLIN	ERLIN	ERLMID
			Sample Date	3/21/2003	7/17/2003	7/17/2003	9/25/2003	9/25/2003	10/7/2002
			Sample ID	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLMID-T01N-SFW
				SW2	SW2	SW2	SW2	SW2	SW2
Field Measurements									
DO	mg/L	T		-	4.12 :	-	1.42 :	-	8.59 :
Eh	millivolts	T		-	297. :	-	21.6 :	-	154. :
pH	SU	T		-	7.6 J	-	7.2 J	-	6.55 :
Specific Conductance	uS/cm	T		-	288. :	-	313. :	-	418. :
Temperature	Celsius	T		-	16.43 :	-	10.06 :	-	9.35 :
Turbidity	NTU	T		-	40.3 :	-	61.7 :	-	21.5 :
General Chemistry									
Ammonia	mg/L	T		-	<0.04 :	-	<0.04 :	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		-	51.2 :	-	56.2 :	-	47.8 :
Biochemical Oxygen Demand	mg/L	T		-	<1.6 J	-	1.5 J	-	<1.3 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3. :	-	3.1 :	-	3.9 :
Fluoride	mg/L	T		-	<0.96 J	-	0.74 :	-	0.88 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<0.4 J	-	0.32 J	-	0.34 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	0.52 J	-	<0.01 J	-	<0.01 J
Phosphorus	mg/L	T		-	0.012 J	-	0.019 :	-	<0.054 :
Sulfate	mg/L	T		-	111. :	-	102. J	-	148. :
Total Alkalinity	mg/L	T		-	51.2 :	-	56.2 :	-	47.8 :
Total Dissolved Solids	mg/L	T		-	284. :	-	250. :	-	260. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.29 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.3 :	-	2. :	-	<1. :
Total Suspended Solids	mg/L	T		-	5.2 :	-	9.7 :	-	<10. :
Laboratory Parameters									
pH	SU	T		-	7.6 J	-	7.2 J	-	6.55 :
Specific Conductance	umhos/cm	T		-	305. J	-	305. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	176. :	-	156. :	-	205. :
Hardness	mg/L	D		211. :	-	155. :	-	165. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLIN	ERLIN	ERLIN	ERLIN	ERLIN	ERLMID
			Sample Date	3/21/2003	7/17/2003	7/17/2003	9/25/2003	9/25/2003	10/7/2002
			Sample ID	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLMID-T01N-SFW
				SW2	SW2	SW2	SW2	SW2	SW2
Metals									
Aluminum	mg/L	T		-	7.34 :	-	0.82 :	-	0.859 :
Aluminum	mg/L	D		<0.426 :	-	0.212 :	-	0.169 :	-
Antimony	mg/L	T		-	<0.0005 :	-	<0.00011 :	-	<0.0002 :
Antimony	mg/L	D		0.0017 :	-	<0.0005 :	-	<0.00011 :	-
Arsenic	mg/L	T		-	0.0017 :	-	<0.00038 :	-	<0.0002 :
Arsenic	mg/L	D		<0.0004 :	-	<0.0002 :	-	<0.00038 :	-
Barium	mg/L	T		-	0.102 :	-	0.034 :	-	0.0345 :
Barium	mg/L	D		0.0334 :	-	0.0331 :	-	0.0287 :	-
Beryllium	mg/L	T		-	0.0024 :	-	<0.00047 :	-	<0.0003 :
Beryllium	mg/L	D		<0.0003 J	-	0.00021 :	-	<0.00047 :	-
Boron	mg/L	T		-	0.0058 :	-	<0.0048 :	-	<0.005 :
Boron	mg/L	D		<0.0084 :	-	<0.0046 :	-	<0.0048 :	-
Cadmium	mg/L	T		-	0.0023 :	-	0.00039 :	-	0.00059 :
Cadmium	mg/L	D		0.00068 :	-	0.00052 :	-	0.00036 :	-
Calcium	mg/L	T		-	50.7 :	-	46.6 :	-	60.1 :
Calcium	mg/L	D		61.3 :	-	45.6 :	-	49.3 :	-
Chromium	mg/L	T		-	0.0081 :	-	<0.001 :	-	<0.00049 :
Chromium	mg/L	D		<0.001 :	-	<0.0006 :	-	<0.001 :	-
Chromium, Hexavalent	mg/L	D		-	-	-	-	-	0.0015 J
Cobalt	mg/L	T		-	0.0181 :	-	0.0018 :	-	0.0044 :
Cobalt	mg/L	D		0.0056 :	-	<0.0018 :	-	0.0014 :	-
Copper	mg/L	T		-	0.0757 :	-	0.0074 :	-	0.0092 :
Copper	mg/L	D		0.0056 :	-	<0.0044 :	-	<0.0024 :	-
Iron	mg/L	T		-	9.8 :	-	0.587 :	-	0.334 :
Iron	mg/L	D		<0.422 J	-	0.0172 :	-	<0.044 :	-
Lead	mg/L	T		-	0.0069 :	-	0.0015 :	-	0.00096 :
Lead	mg/L	D		<0.0002 :	-	<0.0001 :	-	<0.00004 :	-
Magnesium	mg/L	T		-	12. :	-	9.61 :	-	13.2 :
Magnesium	mg/L	D		14.2 :	-	10. :	-	10.1 :	-
Manganese	mg/L	T		-	1.36 :	-	0.23 :	-	0.479 :
Manganese	mg/L	D		0.493 :	-	0.222 :	-	0.222 :	-
Mercury	mg/L	T		-	0.00024 :	-	<0.00006 :	-	<0.0001 :
Mercury	mg/L	D		<0.0001 :	-	0.00011 :	-	<0.00006 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLIN	ERLIN	ERLIN	ERLIN	ERLIN	ERLMID
			Sample Date	3/21/2003	7/17/2003	7/17/2003	9/25/2003	9/25/2003	10/7/2002
			Sample ID	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLMID-T01N-SFW
				SW2	SW2	SW2	SW2	SW2	SW2
Molybdenum	mg/L	T		-	0.0019 :	-	<0.0021 :	-	0.0024 :
Molybdenum	mg/L	D		<0.0023 :	-	<0.0016 :	-	0.0022 :	-
Nickel	mg/L	T		-	0.125 :	-	0.0128 :	-	0.016 :
Nickel	mg/L	D		0.0267 :	-	0.0162 :	-	0.0121 :	-
Potassium	mg/L	T		-	1.92 :	-	1.47 :	-	1.55 :
Potassium	mg/L	D		1.7 :	-	1.45 :	-	1.39 :	-
Selenium	mg/L	T		-	0.0009 :	-	<0.00073 :	-	0.00052 :
Selenium	mg/L	D		<0.001 :	-	<0.0008 :	-	<0.00073 :	-
Silver	mg/L	T		-	<0.0001 J	-	<0.0002 :	-	<0.0001 :
Silver	mg/L	D		<0.0002 :	-	<0.0001 J	-	<0.0002 :	-
Sodium	mg/L	T		-	4.79 :	-	4.69 :	-	6.26 :
Sodium	mg/L	D		13.2 :	-	4.75 :	-	5. :	-
Thallium	mg/L	T		-	<0.0001 :	-	<0.00001 :	-	<0.0001 :
Thallium	mg/L	D		<0.0002 :	-	<0.0001 :	-	<0.00001 :	-
Vanadium	mg/L	T		-	0.0064 :	-	<0.0008 :	-	0.00022 :
Vanadium	mg/L	D		<0.0002 :	-	<0.0002 :	-	<0.00044 :	-
Zinc	mg/L	T		-	0.75 :	-	0.0642 :	-	0.088 :
Zinc	mg/L	D		0.157 :	-	0.0658 :	-	0.0332 :	-
Volatile Organics									
1,1,1-Trichloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1,2,2-Tetrachloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1,2-Trichloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1-Dichloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1-Dichloroethene	mg/L	T		-	-	-	-	-	<0.01 :
1,2,4-Trichlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dibromo-3-chloropropane	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dichlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dichloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dichloroethene (total)	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dichloropropane	mg/L	T		-	-	-	-	-	<0.01 :
1,3-Dichlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
1,4-Dichlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
2-Butanone	mg/L	T		-	-	-	-	-	<0.01 J

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLIN	ERLIN	ERLIN	ERLIN	ERLIN	ERLMID
			Sample Date	3/21/2003	7/17/2003	7/17/2003	9/25/2003	9/25/2003	10/7/2002
			Sample ID	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLMID-T01N-SFW
				SW2	SW2	SW2	SW2	SW2	SW2
2-Hexanone	mg/L	T		-	-	-	-	-	<0.01 J
4-Methyl-2-pentanone	mg/L	T		-	-	-	-	-	<0.01 :
Acetone	mg/L	T		-	-	-	-	-	<0.01 J
Benzene	mg/L	T		-	-	-	-	-	<0.01 :
Bromodichloromethane	mg/L	T		-	-	-	-	-	<0.01 :
Bromoform	mg/L	T		-	-	-	-	-	<0.01 :
Bromomethane	mg/L	T		-	-	-	-	-	<0.01 :
Carbon disulfide	mg/L	T		-	-	-	-	-	<0.01 :
Carbon tetrachloride	mg/L	T		-	-	-	-	-	<0.01 :
Chlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
Chloroethane	mg/L	T		-	-	-	-	-	<0.01 :
Chloroform	mg/L	T		-	-	-	-	-	<0.01 :
Chloromethane	mg/L	T		-	-	-	-	-	<0.01 :
cis-1,2-Dichloroethene	mg/L	T		-	-	-	-	-	<0.01 :
cis-1,3-Dichloropropene	mg/L	T		-	-	-	-	-	<0.01 :
Dibromochloromethane	mg/L	T		-	-	-	-	-	<0.01 :
Dichlorodifluoromethane	mg/L	T		-	-	-	-	-	<0.01 :
Ethylbenzene	mg/L	T		-	-	-	-	-	<0.01 :
Methylene chloride	mg/L	T		-	-	-	-	-	<0.01 :
Styrene	mg/L	T		-	-	-	-	-	<0.01 :
Tetrachloroethene	mg/L	T		-	-	-	-	-	<0.01 :
Toluene	mg/L	T		-	-	-	-	-	<0.01 :
Total Xylene	mg/L	T		-	-	-	-	-	<0.01 :
trans-1,2-Dichloroethene	mg/L	T		-	-	-	-	-	<0.01 :
trans-1,3-Dichloropropene	mg/L	T		-	-	-	-	-	<0.01 :
Trichloroethene	mg/L	T		-	-	-	-	-	<0.01 :
Trichlorofluoromethane	mg/L	T		-	-	-	-	-	<0.01 :
Vinyl chloride	mg/L	T		-	-	-	-	-	<0.01 :
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		-	-	-	-	-	<0.01 :
2,4,5-Trichlorophenol	mg/L	T		-	-	-	-	-	<0.026 :
2,4,6-Trichlorophenol	mg/L	T		-	-	-	-	-	<0.01 :
2,4-Dichlorophenol	mg/L	T		-	-	-	-	-	<0.01 :
2,4-Dimethylphenol	mg/L	T		-	-	-	-	-	<0.01 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLIN	ERLIN	ERLIN	ERLIN	ERLIN	ERLMID	
			Sample Date	3/21/2003	7/17/2003	7/17/2003	9/25/2003	9/25/2003	10/7/2002	
			Sample ID	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLMID-T01N-SFW	
				SW2	SW2	SW2	SW2	SW2	SW2	
2,4-Dinitrophenol	mg/L	T		-	-	-	-	-	<0.026	:
2,4-Dinitrotoluene	mg/L	T		-	-	-	-	-	<0.01	:
2,6-Dinitrotoluene	mg/L	T		-	-	-	-	-	<0.01	:
2-Chloronaphthalene	mg/L	T		-	-	-	-	-	<0.01	:
2-Chlorophenol	mg/L	T		-	-	-	-	-	<0.01	:
2-Methylnaphthalene	mg/L	T		-	-	-	-	-	<0.01	:
2-Methylphenol	mg/L	T		-	-	-	-	-	<0.01	:
2-Nitroaniline	mg/L	T		-	-	-	-	-	<0.026	:
2-Nitrophenol	mg/L	T		-	-	-	-	-	<0.01	:
3,3-Dichlorobenzidine	mg/L	T		-	-	-	-	-	<0.01	:
3-Nitroaniline	mg/L	T		-	-	-	-	-	<0.026	:
4,6-Dinitro-2-methylphenol	mg/L	T		-	-	-	-	-	<0.026	:
4-Bromophenyl phenyl ether	mg/L	T		-	-	-	-	-	<0.01	:
4-Chloro-3-methylphenol	mg/L	T		-	-	-	-	-	<0.01	:
4-Chloroaniline	mg/L	T		-	-	-	-	-	<0.01	:
4-Chlorophenyl phenyl ether	mg/L	T		-	-	-	-	-	<0.01	:
4-Methylphenol	mg/L	T		-	-	-	-	-	<0.01	:
4-Nitroaniline	mg/L	T		-	-	-	-	-	<0.026	J
4-Nitrophenol	mg/L	T		-	-	-	-	-	<0.026	:
Acenaphthene	mg/L	T		-	-	-	-	-	<0.01	:
Acenaphthylene	mg/L	T		-	-	-	-	-	<0.01	:
Anthracene	mg/L	T		-	-	-	-	-	<0.01	:
Benzaldehyde	mg/L	T		-	-	-	-	-	<0.01	J
Benzo(a)anthracene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(a)pyrene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(b)fluoranthene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(g,h,i)perylene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(k)fluoranthene	mg/L	T		-	-	-	-	-	<0.01	:
Bis(2-chloroethoxy)methane	mg/L	T		-	-	-	-	-	<0.01	:
Bis(2-chloroethyl)ether	mg/L	T		-	-	-	-	-	<0.01	:
Bis(2-ethylhexyl)phthalate	mg/L	T		-	-	-	-	-	<0.01	:
Butyl benzyl phthalate	mg/L	T		-	-	-	-	-	<0.01	:
Carbazole	mg/L	T		-	-	-	-	-	<0.01	:
Chrysene	mg/L	T		-	-	-	-	-	<0.01	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLIN	ERLIN	ERLIN	ERLIN	ERLIN	ERLMID	
			Sample Date	3/21/2003	7/17/2003	7/17/2003	9/25/2003	9/25/2003	10/7/2002	
			Sample ID	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLIN-T01N-SFW	ERLIN-D01N-SFW	ERLMID-T01N-SFW	
				SW2	SW2	SW2	SW2	SW2	SW2	
Dibenz(a,h)anthracene	mg/L	T		-	-	-	-	-	<0.01	:
Dibenzofuran	mg/L	T		-	-	-	-	-	<0.01	:
Dichlorodiisopropyl ether	mg/L	T		-	-	-	-	-	<0.01	:
Diethylphthalate	mg/L	T		-	-	-	-	-	<0.01	:
Dimethylphthalate	mg/L	T		-	-	-	-	-	<0.01	:
Di-n-Butyl phthalate	mg/L	T		-	-	-	-	-	<0.01	:
Di-n-Octyl phthalate	mg/L	T		-	-	-	-	-	<0.01	J
Fluoranthene	mg/L	T		-	-	-	-	-	<0.01	:
Fluorene	mg/L	T		-	-	-	-	-	<0.01	:
Hexachlorobenzene	mg/L	T		-	-	-	-	-	<0.01	:
Hexachlorobutadiene	mg/L	T		-	-	-	-	-	<0.01	:
Hexachlorocyclopentadiene	mg/L	T		-	-	-	-	-	<0.01	:
Hexachloroethane	mg/L	T		-	-	-	-	-	<0.01	:
Indeno(1,2,3-cd)pyrene	mg/L	T		-	-	-	-	-	<0.01	:
Isophorone	mg/L	T		-	-	-	-	-	<0.01	:
Naphthalene	mg/L	T		-	-	-	-	-	<0.01	:
Nitrobenzene	mg/L	T		-	-	-	-	-	<0.01	:
N-Nitrosodi-n-propylamine	mg/L	T		-	-	-	-	-	<0.01	:
N-Nitrosodiphenylamine	mg/L	T		-	-	-	-	-	<0.01	:
Pentachlorophenol	mg/L	T		-	-	-	-	-	<0.026	:
Phenanthrene	mg/L	T		-	-	-	-	-	<0.01	:
Phenol	mg/L	T		-	-	-	-	-	<0.01	:
Pyrene	mg/L	T		-	-	-	-	-	<0.01	:
Explosives										
2,4,6-Trinitrotoluene	mg/L	T		-	-	-	-	-	<0.00025	:
2,6-Pyridinediamine,	mg/L	T		-	-	-	-	-	<0.00025	J
Cyclotetramethylenetetranitramine	mg/L	T		-	-	-	-	-	<0.00025	:
Cyclotrimethylenetrinitramine	mg/L	T		-	-	-	-	-	<0.00025	:
Pentaerythritol tetranitrate	mg/L	T		-	-	-	-	-	<0.01	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLMID	ERLMID	ERLMID	ERLMID	ERLMID	ERLMID
			Sample Date	10/7/2002	3/21/2003	3/21/2003	7/17/2003	7/17/2003	9/25/2003
			Sample ID	ERLMID-D01N-SFW	ERLMID-T01N-SFW	ERLMID-D01N-SFW	ERLMID-T01N-SFW	ERLMID-D01N-SFW	ERLMID-T01N-SFW
				SW2	SW2	SW2	SW2	SW2	SW2
Field Measurements									
DO	mg/L	T		-	10.98 :	-	3.87 :	-	10.45 :
Eh	millivolts	T		-	170.8 :	-	304.6 :	-	10.6 :
pH	SU	T		-	7.5 :	-	6.7 J	-	7.9 J
Specific Conductance	uS/cm	T		-	432. :	-	285. :	-	311. :
Temperature	Celsius	T		-	3.45 :	-	15.65 :	-	10. :
Turbidity	NTU	T		-	67.6 :	-	36. :	-	61.6 :
General Chemistry									
Ammonia	mg/L	T		-	<0.14 J	-	<0.04 :	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		-	43.3 :	-	50. :	-	56.4 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 :	-	<1.6 J	-	<1.4 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	6.1 :	-	2.9 :	-	3.1 :
Fluoride	mg/L	T		-	1.1 :	-	<0.95 J	-	0.78 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.67 :	-	<0.4 J	-	0.33 J
Nitrite	mg/L	T		-	0.011 :	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 J
Phosphorus	mg/L	T		-	<0.028 :	-	0.013 :	-	0.016 :
Sulfate	mg/L	T		-	160. :	-	114. :	-	103. J
Total Alkalinity	mg/L	T		-	43.3 :	-	50. :	-	56.4 :
Total Dissolved Solids	mg/L	T		-	276. :	-	414. :	-	252. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.4 :	-	<1. :	-	<1. :
Total Suspended Solids	mg/L	T		-	8.6 :	-	5.1 :	-	10. :
Laboratory Parameters									
pH	SU	T		-	7.5 :	-	6.7 J	-	7.9 J
Specific Conductance	umhos/cm	T		-	358. :	-	2570. J	-	315. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	218. :	-	158. :	-	153. :
Hardness	mg/L	D		192. :	-	202. :	-	153. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			ERLMID 10/7/2002 ERLMID-D01N-SFW		ERLMID 3/21/2003 ERLMID-T01N-SFW		ERLMID 3/21/2003 ERLMID-D01N-SFW		ERLMID 7/17/2003 ERLMID-T01N-SFW		ERLMID 7/17/2003 ERLMID-D01N-SFW		ERLMID 9/25/2003 ERLMID-T01N-SFW	
			SW2		SW2		SW2		SW2		SW2		SW2	
Metals														
Aluminum	mg/L	T	-		<1.5	:	-		0.752	:	-		0.725	:
Aluminum	mg/L	D	<0.0745	:	-		0.0664	:	-		0.186	:	-	
Antimony	mg/L	T	-		<0.0013	:	-		<0.0005	:	-		<0.00013	:
Antimony	mg/L	D	<0.0002	:	-		<0.0006	:	-		<0.0005	:	-	
Arsenic	mg/L	T	-		<0.0004	:	-		<0.0002	:	-		<0.00038	:
Arsenic	mg/L	D	<0.0002	:	-		<0.0002	:	-		<0.0002	:	-	
Barium	mg/L	T	-		0.0368	:	-		0.0357	:	-		0.0332	:
Barium	mg/L	D	0.0294	:	-		0.0317	:	-		0.0327	:	-	
Beryllium	mg/L	T	-		<0.0003	J	-		0.00025	:	-		<0.00047	:
Beryllium	mg/L	D	<0.0003	:	-		0.00048	J	-		<0.0002	:	-	
Boron	mg/L	T	-		0.0102	:	-		0.005	:	-		<0.0048	:
Boron	mg/L	D	<0.005	:	-		<0.0084	:	-		0.0058	:	-	
Cadmium	mg/L	T	-		0.00054	:	-		0.0005	:	-		0.00037	:
Cadmium	mg/L	D	0.00058	:	-		0.00066	:	-		0.00048	:	-	
Calcium	mg/L	T	-		63.1	:	-		46.4	:	-		45.5	:
Calcium	mg/L	D	56.5	:	-		58.6	:	-		45.	:	-	
Chromium	mg/L	T	-		<0.001	:	-		<0.0006	:	-		<0.001	:
Chromium	mg/L	D	<0.00047	:	-		<0.001	:	-		<0.0006	:	-	
Cobalt	mg/L	T	-		0.0053	:	-		0.0018	:	-		0.0022	:
Cobalt	mg/L	D	0.0042	:	-		0.0051	:	-		0.002	:	-	
Copper	mg/L	T	-		0.0182	:	-		<0.009	:	-		<0.0065	:
Copper	mg/L	D	<0.0035	:	-		0.0051	:	-		<0.0045	:	-	
Iron	mg/L	T	-		<0.422	:	-		0.218	:	-		0.441	:
Iron	mg/L	D	0.0472	:	-		<0.422	:	-		<0.0168	:	-	
Lead	mg/L	T	-		<0.0002	:	-		0.00031	:	-		<0.0012	:
Lead	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Magnesium	mg/L	T	-		14.6	:	-		10.2	:	-		9.45	:
Magnesium	mg/L	D	12.4	:	-		13.6	:	-		9.91	:	-	
Manganese	mg/L	T	-		0.532	:	-		0.242	:	-		0.226	:
Manganese	mg/L	D	0.441	:	-		0.486	:	-		0.232	:	-	
Mercury	mg/L	T	-		<0.0001	:	-		0.00014	:	-		<0.00006	:
Mercury	mg/L	D	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Molybdenum	mg/L	T	-		0.0038	:	-		0.0028	:	-		0.0194	:

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Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			ERLMID 10/7/2002 ERLMID-D01N-SFW		ERLMID 3/21/2003 ERLMID-T01N-SFW		ERLMID 3/21/2003 ERLMID-D01N-SFW		ERLMID 7/17/2003 ERLMID-T01N-SFW		ERLMID 7/17/2003 ERLMID-D01N-SFW		ERLMID 9/25/2003 ERLMID-T01N-SFW	
			SW2		SW2		SW2		SW2		SW2		SW2	
Molybdenum	mg/L	D	0.0025	:	-		<0.0023	:	-		0.0025	:	-	
Nickel	mg/L	T	-		0.0282	:	-		0.0178	:	-		0.0122	:
Nickel	mg/L	D	0.0159	:	-		0.0262	:	-		0.017	:	-	
Potassium	mg/L	T	-		1.79	:	-		1.46	:	-		1.44	:
Potassium	mg/L	D	1.44	:	-		1.51	:	-		1.39	:	-	
Selenium	mg/L	T	-		<0.001	:	-		<0.0008	:	-		<0.00073	:
Selenium	mg/L	D	0.00031	:	-		<0.001	:	-		<0.0008	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Silver	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Sodium	mg/L	T	-		<9.16	:	-		4.91	:	-		4.48	:
Sodium	mg/L	D	6.23	:	-		9.42	:	-		4.87	:	-	
Thallium	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Thallium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		<0.0002	:	-		<0.0002	:	-		<0.00064	:
Vanadium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0002	:	-	
Zinc	mg/L	T	-		0.208	:	-		0.171	:	-		0.0619	:
Zinc	mg/L	D	0.059	:	-		0.153	:	-		0.0697	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLMID	ERLOUT	ERLOUT	ERLOUT	ERLOUT	ERLOUT
			Sample Date	9/25/2003	10/7/2002	10/7/2002	3/21/2003	3/21/2003	7/17/2003
			Sample ID	ERLMID-D01N-SFW	ERLOUT-T01N-SFW	ERLOUT-D01N-SFW	ERLOUT-T01N-SFW	ERLOUT-D01N-SFW	ERLOUT-T01N-SFW
			Exposure Area	SW2	SW2	SW2	SW2	SW2	SW2
Field Measurements									
DO	mg/L	T		-	8.16 :	-	11.01 :	-	3.75 :
Eh	millivolts	T		-	156.4 :	-	167.2 :	-	313.2 :
pH	SU	T		-	7.34 :	-	7.2 J	-	7.8 J
Specific Conductance	uS/cm	T		-	421. :	-	432. :	-	277. :
Temperature	Celsius	T		-	10.01 :	-	4.19 :	-	14.84 :
Turbidity	NTU	T		-	20.5 :	-	62.5 :	-	41.1 :
General Chemistry									
Ammonia	mg/L	T		-	<0.079 :	-	<0.094 :	-	0.042 :
Bicarbonate (as CaCO3)	mg/L	T		-	50.9 :	-	43. :	-	51.9 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	<1.4 :	-	<1.6 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.9 :	-	6. :	-	3. :
Fluoride	mg/L	T		-	0.69 :	-	1.1 :	-	<0.95 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.38 J	-	0.73 J	-	<0.31 J
Nitrite	mg/L	T		-	<0.005 J	-	0.0093 :	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	18.3 J	-	0.071 J	-	<0.01 J
Phosphorus	mg/L	T		-	0.075 J	-	<0.019 J	-	0.016 :
Sulfate	mg/L	T		-	151. :	-	146. :	-	144. :
Total Alkalinity	mg/L	T		-	50.9 :	-	43. :	-	51.9 :
Total Dissolved Solids	mg/L	T		-	268. :	-	286. :	-	302. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	<1. :	-	1.1 :	-	<1. :
Total Suspended Solids	mg/L	T		-	<8.9 :	-	11.4 :	-	7. :
Laboratory Parameters									
pH	SU	T		-	7.34 :	-	7.2 J	-	7.8 J
Specific Conductance	umhos/cm	T		-	-	-	360. J	-	211. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	192. :	-	194. :	-	162. :
Hardness	mg/L	D		165. :	-	185. :	-	198. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLMID	ERLOUT	ERLOUT	ERLOUT	ERLOUT	ERLOUT
			Sample Date	9/25/2003	10/7/2002	10/7/2002	3/21/2003	3/21/2003	7/17/2003
			Sample ID	ERLMID-D01N-SFW	ERLOUT-T01N-SFW	ERLOUT-D01N-SFW	ERLOUT-T01N-SFW	ERLOUT-D01N-SFW	ERLOUT-T01N-SFW
			Exposure Area	SW2	SW2	SW2	SW2	SW2	SW2
Metals									
Aluminum	mg/L	T		-	0.735 :	-	<1.35 :	-	0.909 :
Aluminum	mg/L	D		0.161 :	-	<0.0776 :	-	0.0647 :	-
Antimony	mg/L	T		-	<0.0002 :	-	<0.0006 :	-	<0.0005 :
Antimony	mg/L	D		<0.00014 :	-	<0.0002 :	-	<0.0006 :	-
Arsenic	mg/L	T		-	<0.0002 :	-	<0.0004 J	-	<0.0002 :
Arsenic	mg/L	D		<0.00038 :	-	<0.0002 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0326 :	-	0.0341 :	-	0.0377 :
Barium	mg/L	D		0.0306 :	-	0.0289 :	-	0.0341 :	-
Beryllium	mg/L	T		-	<0.0003 J	-	<0.0003 J	-	<0.00028 :
Beryllium	mg/L	D		<0.00047 :	-	<0.0003 J	-	<0.0003 J	-
Boron	mg/L	T		-	<0.005 J	-	<0.0084 :	-	0.0057 :
Boron	mg/L	D		<0.0048 :	-	<0.005 J	-	<0.0084 :	-
Cadmium	mg/L	T		-	0.00051 :	-	0.00069 :	-	0.00055 :
Cadmium	mg/L	D		0.00031 :	-	0.00047 :	-	0.00067 :	-
Calcium	mg/L	T		-	56.5 :	-	56. :	-	47.6 :
Calcium	mg/L	D		49.3 :	-	54.3 :	-	57.2 :	-
Chromium	mg/L	T		-	<0.0019 :	-	<0.001 :	-	<0.0006 :
Chromium	mg/L	D		<0.001 :	-	<0.0019 :	-	<0.001 :	-
Chromium, Hexavalent	mg/L	D		-	0.0042 J	-	-	-	-
Cobalt	mg/L	T		-	<0.0034 :	-	0.0041 :	-	0.0023 :
Cobalt	mg/L	D		0.0025 :	-	<0.0034 :	-	0.0045 :	-
Copper	mg/L	T		-	0.0091 :	-	0.0166 :	-	<0.0095 :
Copper	mg/L	D		<0.0022 :	-	0.0043 :	-	0.0061 :	-
Iron	mg/L	T		-	0.248 :	-	<0.311 :	-	0.198 :
Iron	mg/L	D		<0.044 :	-	<0.0378 :	-	<0.311 :	-
Lead	mg/L	T		-	0.00047 :	-	<0.0002 :	-	0.00031 :
Lead	mg/L	D		<0.00004 :	-	<0.0001 :	-	<0.0002 :	-
Magnesium	mg/L	T		-	12.4 :	-	13.1 :	-	10.5 :
Magnesium	mg/L	D		10.2 :	-	11.9 :	-	13.3 :	-
Manganese	mg/L	T		-	0.446 :	-	0.448 :	-	0.256 :
Manganese	mg/L	D		0.211 :	-	0.421 :	-	0.456 :	-
Mercury	mg/L	T		-	<0.0001 J	-	<0.0001 :	-	0.00021 J
Mercury	mg/L	D		<0.00006 :	-	<0.0001 J	-	<0.0001 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLMID	ERLOUT	ERLOUT	ERLOUT	ERLOUT	ERLOUT
			Sample Date	9/25/2003	10/7/2002	10/7/2002	3/21/2003	3/21/2003	7/17/2003
			Sample ID	ERLMID-D01N-SFW	ERLOUT-T01N-SFW	ERLOUT-D01N-SFW	ERLOUT-T01N-SFW	ERLOUT-D01N-SFW	ERLOUT-T01N-SFW
				SW2	SW2	SW2	SW2	SW2	SW2
Molybdenum	mg/L	T		-	0.0022 :	-	0.0036 :	-	0.0029 :
Molybdenum	mg/L	D		0.0058 :	-	0.0025 :	-	0.003 :	-
Nickel	mg/L	T		-	0.0167 :	-	0.0265 :	-	0.0196 :
Nickel	mg/L	D		0.0116 :	-	0.0156 :	-	0.0275 :	-
Potassium	mg/L	T		-	1.5 :	-	1.48 :	-	1.57 :
Potassium	mg/L	D		1.42 :	-	1.43 :	-	1.56 :	-
Selenium	mg/L	T		-	<0.0002 J	-	<0.001 :	-	<0.0008 :
Selenium	mg/L	D		<0.00073 :	-	<0.0002 J	-	<0.0014 J	-
Silver	mg/L	T		-	<0.0001 :	-	<0.0002 :	-	<0.0001 J
Silver	mg/L	D		<0.0002 :	-	<0.0001 :	-	<0.0002 :	-
Sodium	mg/L	T		-	5.87 :	-	5.88 :	-	5.2 :
Sodium	mg/L	D		4.96 :	-	5.93 :	-	7.42 :	-
Thallium	mg/L	T		-	<0.0001 :	-	<0.0002 :	-	<0.0001 :
Thallium	mg/L	D		<0.00001 :	-	<0.0001 :	-	<0.0002 :	-
Vanadium	mg/L	T		-	0.00014 :	-	<0.0002 :	-	<0.0002 :
Vanadium	mg/L	D		<0.00045 :	-	<0.0001 :	-	<0.0002 :	-
Zinc	mg/L	T		-	0.0846 :	-	0.187 :	-	0.107 :
Zinc	mg/L	D		0.0239 :	-	0.0571 :	-	0.144 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLOUT	ERLOUT	ERLOUT	GHGC Pond	GHGC Pond	GHGC Pond
			Sample Date	7/17/2003	9/25/2003	9/25/2003	9/10/2003	9/10/2003	10/3/2003
			Sample ID	ERLOUT-D01N-SFW	ERLOUT-T01N-SFW	ERLOUT-D01N-SFW	GHGC-T01N-SFW	GHGC-D01N-SFW	GHGC-T01N-SFW
			Exposure Area	SW2	SW2	SW2	SW3	SW3	SW3
Field Measurements									
DO	mg/L	T		-	9.8 :	-	12.92 :	-	8.77 :
Eh	millivolts	T		-	92.4 :	-	176.1 :	-	286.1 :
pH	SU	T		-	7.8 J	-	7.4 J	-	7.1 J
Specific Conductance	uS/cm	T		-	311. :	-	459. :	-	877. :
Temperature	Celsius	T		-	10.69 :	-	14.15 :	-	10.77 :
Turbidity	NTU	T		-	8.3 :	-	161.2 :	-	96.5 :
General Chemistry									
Ammonia	mg/L	T		-	<0.04 :	-	<0.33 :	-	0.076 :
Bicarbonate (as CaCO3)	mg/L	T		-	58.1 :	-	28.5 :	-	36.7 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	<1.3 J	-	1.8 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.3 :	-	51.7 :	-	200. :
Fluoride	mg/L	T		-	0.76 :	-	1.1 :	-	1.5 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.32 J	-	0.45 J	-	<0.34 :
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	0.0072 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	<0.49 J	-	<0.026 :
Phosphorus	mg/L	T		-	0.014 :	-	0.1 J	-	0.25 :
Sulfate	mg/L	T		-	100. J	-	116. :	-	110. J
Total Alkalinity	mg/L	T		-	58.1 :	-	28.5 :	-	36.7 :
Total Dissolved Solids	mg/L	T		-	244. :	-	344. :	-	622. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	0.32 :
Total Organic Carbon	mg/L	T		-	1. :	-	2.2 :	-	5.1 :
Total Suspended Solids	mg/L	T		-	8.6 :	-	55. :	-	48.2 :
Laboratory Parameters									
pH	SU	T		-	7.8 J	-	7.4 J	-	7.1 J
Specific Conductance	umhos/cm	T		-	314. J	-	436. J	-	847. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	166. :	-	145. :	-	177. :
Hardness	mg/L	D		154. :	-	173. :	-	138. :	-

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID																	
			ERLOUT 7/17/2003 ERLOUT-D01N-SFW		ERLOUT 9/25/2003 ERLOUT-T01N-SFW		ERLOUT 9/25/2003 ERLOUT-D01N-SFW		GHGC Pond 9/10/2003 GHGC-T01N-SFW		GHGC Pond 9/10/2003 GHGC-D01N-SFW		GHGC Pond 10/3/2003 GHGC-T01N-SFW							
			SW2		SW2		SW2		SW3		SW3		SW3							
Metals																				
Aluminum	mg/L	T	-		0.724	:	-		2.65	:	-		2.28	:						
Aluminum	mg/L	D	0.214	:	-		0.166	:	-		<0.0383	:	-							
Antimony	mg/L	T	-		<0.00011	:	-		<0.0005	:	-		<0.0005	:						
Antimony	mg/L	D	<0.0005	:	-		<0.00016	:	-		<0.0005	:	-							
Arsenic	mg/L	T	-		<0.00038	:	-		0.0009	:	-		0.0012	:						
Arsenic	mg/L	D	<0.0002	:	-		<0.00038	:	-		<0.0002	:	-							
Barium	mg/L	T	-		0.0356	:	-		0.101	:	-		0.0694	:						
Barium	mg/L	D	0.0338	:	-		0.0318	:	-		0.0154	:	-							
Beryllium	mg/L	T	-		<0.00047	:	-		<0.00043	:	-		<0.0004	:						
Beryllium	mg/L	D	<0.00027	:	-		<0.00047	:	-		<0.0003	:	-							
Boron	mg/L	T	-		0.0048	:	-		0.0069	:	-		0.0111	:						
Boron	mg/L	D	0.0049	:	-		<0.0048	:	-		<0.0064	:	-							
Cadmium	mg/L	T	-		0.00039	:	-		<0.0002	:	-		<0.0002	:						
Cadmium	mg/L	D	0.00045	:	-		0.0003	:	-		<0.0002	:	-							
Calcium	mg/L	T	-		49.6	:	-		49.9	:	-		61.9	:						
Calcium	mg/L	D	45.2	:	-		51.7	:	-		48.	:	-							
Chromium	mg/L	T	-		<0.001	:	-		0.0034	:	-		0.0033	J						
Chromium	mg/L	D	0.00083	:	-		<0.001	:	-		<0.0013	:	-							
Cobalt	mg/L	T	-		0.0023	:	-		<0.0031	:	-		<0.0029	:						
Cobalt	mg/L	D	0.0018	:	-		0.0032	:	-		<0.0031	:	-							
Copper	mg/L	T	-		<0.0067	:	-		0.0106	:	-		0.0117	:						
Copper	mg/L	D	<0.004	:	-		<0.0025	:	-		0.0019	:	-							
Iron	mg/L	T	-		0.369	:	-		5.91	:	-		3.72	:						
Iron	mg/L	D	<0.0168	:	-		<0.044	:	-		0.0775	:	-							
Lead	mg/L	T	-		<0.00084	:	-		0.0298	:	-		0.0188	:						
Lead	mg/L	D	<0.0001	:	-		<0.00004	:	-		0.00029	:	-							
Magnesium	mg/L	T	-		10.3	:	-		4.97	:	-		5.5	:						
Magnesium	mg/L	D	9.95	:	-		10.6	:	-		4.36	:	-							
Manganese	mg/L	T	-		0.232	:	-		0.0887	:	-		0.102	:						
Manganese	mg/L	D	0.23	:	-		0.219	:	-		0.0468	:	-							
Mercury	mg/L	T	-		<0.00006	:	-		<0.0001	:	-		<0.0001	:						
Mercury	mg/L	D	0.00038	J	-		<0.00006	:	-		<0.0001	:	-							
Molybdenum	mg/L	T	-		0.0037	:	-		0.218	:	-		0.496	:						

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ERLOUT	ERLOUT	ERLOUT	GHGC Pond	GHGC Pond	GHGC Pond
			Sample Date	7/17/2003	9/25/2003	9/25/2003	9/10/2003	9/10/2003	10/3/2003
			Sample ID	ERLOUT-D01N-SFW	ERLOUT-T01N-SFW	ERLOUT-D01N-SFW	GHGC-T01N-SFW	GHGC-D01N-SFW	GHGC-T01N-SFW
				SW2	SW2	SW2	SW3	SW3	SW3
Molybdenum	mg/L	D		0.0018 :	-	0.0031 :	-	0.23 :	-
Nickel	mg/L	T		-	0.0132 :	-	0.0026 :	-	0.0023 :
Nickel	mg/L	D		0.0174 :	-	0.0118 :	-	<0.0016 :	-
Potassium	mg/L	T		-	1.48 :	-	4.77 :	-	7.16 :
Potassium	mg/L	D		1.44 :	-	1.49 :	-	3.21 :	-
Selenium	mg/L	T		-	<0.00073 :	-	0.00043 J	-	0.00056 J
Selenium	mg/L	D		<0.0008 :	-	<0.00073 :	-	<0.0003 J	-
Silver	mg/L	T		-	<0.0002 :	-	0.00032 :	-	0.00023 :
Silver	mg/L	D		<0.0001 J	-	<0.0002 :	-	<0.0001 :	-
Sodium	mg/L	T		-	4.95 :	-	42.3 :	-	119. :
Sodium	mg/L	D		4.89 :	-	5.28 :	-	40.8 :	-
Thallium	mg/L	T		-	<0.00001 :	-	0.00011 :	-	<0.0001 :
Thallium	mg/L	D		<0.0001 :	-	<0.00001 :	-	<0.0001 :	-
Vanadium	mg/L	T		-	<0.00068 :	-	0.0038 :	-	0.0028 :
Vanadium	mg/L	D		<0.0002 :	-	<0.00049 :	-	0.00037 :	-
Zinc	mg/L	T		-	0.0581 :	-	<0.0133 :	-	0.0159 J
Zinc	mg/L	D		0.0679 :	-	0.0245 :	-	<0.0039 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	GHGC Pond	GHGC Pond	GHGC Pond	Hansen Creek	Hansen Creek	Hansen Creek
			Sample Date	10/3/2003	3/25/2004	3/25/2004	7/17/2003	7/17/2003	7/17/2003
			Sample ID	GHGC-D01N-SFW	GHGC-T01N-SFW	GHGC-D01N-SFW	HANSONCREEK-T01 N-SFW AMS	HANSENCREEK-T01 N-SFW AMS	HANSENCREEK-D01 N-SFW AMS
				SW3	SW3	SW3			
Field Measurements									
DO	mg/L	T		-	11.03 :	-	6.02 :	-	-
Eh	millivolts	T		-	49.4 :	-	468.2 :	-	-
pH	SU	T		-	9.6 J	-	3.46 :	3.5 J	-
Specific Conductance	uS/cm	T		-	543. :	-	2779. :	-	-
Temperature	Celsius	T		-	19.09 :	-	26.8 :	-	-
Turbidity	NTU	T		-	115.3 :	-	0. :	-	-
General Chemistry									
Ammonia	mg/L	T		-	0.091 :	-	-	0.051 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	19.5 :	-	-	<1. :	-
Biochemical Oxygen Demand	mg/L	T		-	2.1 J	-	-	<1.6 :	-
Carbonate (as CaCO3)	mg/L	T		-	24. :	-	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	38.3 :	-	-	<20. :	-
Chloride	mg/L	T		-	106. :	-	-	<1.3 :	-
Fluoride	mg/L	T		-	2.1 :	-	-	4.4 J	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Nitrate	mg/L	T		-	<0.2 :	-	-	<0.4 J	-
Nitrite	mg/L	T		-	<0.005 :	-	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		-	0.031 :	-	-	0.021 :	-
Phosphorus	mg/L	T		-	0.24 :	-	-	0.037 :	-
Sulfate	mg/L	T		-	52.6 :	-	-	2140. :	-
Total Alkalinity	mg/L	T		-	43.5 :	-	-	<1. :	-
Total Dissolved Solids	mg/L	T		-	318. :	-	-	3450. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	0.38 :	-	-	<0.24 :	-
Total Organic Carbon	mg/L	T		-	6.6 :	-	-	1. :	-
Total Suspended Solids	mg/L	T		-	71.7 :	-	-	5.2 :	-
Laboratory Parameters									
pH	SU	T		-	9.6 J	-	3.46 :	3.5 J	-
Specific Conductance	umhos/cm	T		-	441. J	-	-	301. J	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		-	90.4 :	-	-	1640. :	-
Hardness	mg/L	D		169. :	-	84.1 :	-	-	1690. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	GHGC Pond	GHGC Pond	GHGC Pond	Hansen Creek	Hansen Creek	Hansen Creek
			Sample Date	10/3/2003	3/25/2004	3/25/2004	7/17/2003	7/17/2003	7/17/2003
			Sample ID	GHGC-D01N-SFW	GHGC-T01N-SFW	GHGC-D01N-SFW	HANSONCREEK-T01	HANSENCREEK-T01	HANSENCREEK-D01
				SW3	SW3	SW3	N-SFW AMS	N-SFW AMS	N-SFW AMS
Metals									
Aluminum	mg/L	T		-	1.26 :	-	-	120. :	-
Aluminum	mg/L	D		0.0672 :	-	0.255 :	-	-	126. :
Antimony	mg/L	T		-	<0.0004 J	-	-	<0.038 :	-
Antimony	mg/L	D		<0.0005 :	-	<0.0004 J	-	-	<0.038 :
Arsenic	mg/L	T		-	0.0011 :	-	-	<0.024 :	-
Arsenic	mg/L	D		0.00052 :	-	0.00088 :	-	-	<0.024 :
Barium	mg/L	T		-	0.0354 :	-	-	<0.073 :	-
Barium	mg/L	D		0.0157 :	-	0.0097 :	-	-	<0.073 :
Beryllium	mg/L	T		-	<0.0002 J	-	-	0.0279 :	-
Beryllium	mg/L	D		<0.0004 :	-	<0.0002 J	-	-	0.0281 :
Boron	mg/L	T		-	<0.0102 :	-	-	<0.046 :	-
Boron	mg/L	D		0.0101 :	-	<0.0102 :	-	-	<0.046 :
Cadmium	mg/L	T		-	0.00037 :	-	-	<0.03 :	-
Cadmium	mg/L	D		0.00021 :	-	0.00029 :	-	-	<0.03 :
Calcium	mg/L	T		-	34. :	-	-	524. :	-
Calcium	mg/L	D		59.6 :	-	32. :	-	-	540. :
Chromium	mg/L	T		-	0.0025 :	-	-	<0.06 J	-
Chromium	mg/L	D		0.0012 J	-	<0.0013 :	-	-	<0.06 J
Cobalt	mg/L	T		-	<0.0011 :	-	-	0.226 :	-
Cobalt	mg/L	D		<0.0029 :	-	0.0021 :	-	-	0.25 :
Copper	mg/L	T		-	0.0124 :	-	-	0.151 :	-
Copper	mg/L	D		0.0033 :	-	0.0051 :	-	-	0.171 :
Iron	mg/L	T		-	1.31 :	-	-	2.23 :	-
Iron	mg/L	D		0.045 :	-	<0.0192 J	-	-	<1.68 :
Lead	mg/L	T		-	0.0071 :	-	-	0.0015 :	-
Lead	mg/L	D		<0.0002 :	-	<0.0004 :	-	-	0.0014 :
Magnesium	mg/L	T		-	1.36 :	-	-	80.8 :	-
Magnesium	mg/L	D		4.89 :	-	1.01 :	-	-	83.2 :
Manganese	mg/L	T		-	0.0794 :	-	-	14. :	-
Manganese	mg/L	D		0.058 :	-	0.007 :	-	-	14.5 :
Mercury	mg/L	T		-	<0.0001 :	-	-	0.00017 J	-
Mercury	mg/L	D		<0.0001 :	-	<0.0001 :	-	-	<0.0001 J
Molybdenum	mg/L	T		-	1.68 :	-	-	<0.016 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	GHGC Pond 10/3/2003 GHGC-D01N-SFW SW3		GHGC Pond 3/25/2004 GHGC-T01N-SFW SW3		GHGC Pond 3/25/2004 GHGC-D01N-SFW SW3		Hansen Creek 7/17/2003 HANSONCREEK-T01 N-SFW AMS		Hansen Creek 7/17/2003 HANSENCREEK-T01 N-SFW AMS		Hansen Creek 7/17/2003 HANSENCREEK-D01 N-SFW AMS	
Molybdenum	mg/L	D	0.488	:	-		1.67	:	-		-		<0.016	:
Nickel	mg/L	T	-		0.0017	:	-		-		0.56	J	-	
Nickel	mg/L	D	<0.0016	:	-		<0.0009	:	-		-		0.517	J
Potassium	mg/L	T	-		4.92	:	-		-		<25.	:	-	
Potassium	mg/L	D	6.02	:	-		4.45	:	-		-		<25.	:
Selenium	mg/L	T	-		<0.0007	:	-		-		<0.008	:	-	
Selenium	mg/L	D	0.00063	J	-		<0.0007	:	-		-		<0.008	:
Silver	mg/L	T	-		<0.0001	J	-		-		<0.001	J	-	
Silver	mg/L	D	<0.0001	:	-		<0.0001	J	-		-		<0.001	J
Sodium	mg/L	T	-		74.4	:	-		-		<21.9	:	-	
Sodium	mg/L	D	114.	:	-		73.4	:	-		-		<21.9	:
Thallium	mg/L	T	-		<0.0001	:	-		-		<0.001	:	-	
Thallium	mg/L	D	<0.0001	:	-		<0.0001	:	-		-		<0.001	:
Vanadium	mg/L	T	-		0.003	:	-		-		<0.002	:	-	
Vanadium	mg/L	D	0.00023	:	-		0.0015	:	-		-		<0.002	:
Zinc	mg/L	T	-		<0.0144	:	-		-		3.12	:	-	
Zinc	mg/L	D	0.0031	:	-		0.0021	:	-		-		3.22	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Hansen Creek	Hansen Creek	Hansen Creek	Hansen Creek	Hansen Creek	Hottentot Creek
			Sample Date	9/10/2003	9/10/2003	9/10/2003	4/21/2004	4/21/2004	9/10/2003
			Sample ID	HANSEN-T01N-SFW	HANSEN-D01N-SFW	HANSENCREEK-T01N-SFW	HANSENCREEK-T01N-SFW	HANSENCREEK-D01N-SFW	HAUTNTAUT-T01N-SFW
				AMS	AMS	AMS	AMS	AMS	AMS
Field Measurements									
DO	mg/L	T		-	-	7.31 :	10.42 :	-	-
Eh	millivolts	T		-	-	513.1 :	524.2 :	-	-
Flow	cfs	T		-	-	-	0.0045 :	-	-
pH	SU	T		2.8 J	-	2.78 :	4. J	-	3. J
Specific Conductance	uS/cm	T		-	-	4275. :	2650. :	-	-
Temperature	Celsius	T		-	-	15.37 :	6.91 :	-	-
Turbidity	NTU	T		-	-	150.2 :	4. :	-	-
General Chemistry									
Ammonia	mg/L	T		<0.18 :	-	-	<0.12 :	-	<0.12 :
Bicarbonate (as CaCO3)	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	-	<1.3 :	-	<1.4 J
Carbonate (as CaCO3)	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		<44.8 :	-	-	42.6 :	-	<57.3 :
Chloride	mg/L	T		5.6 :	-	-	11. :	-	2.3 :
Fluoride	mg/L	T		0.37 J	-	-	<6. :	-	0.91 J
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Nitrate	mg/L	T		<0.2 :	-	-	<0.2 :	-	0.37 :
Nitrite	mg/L	T		0.065 :	-	-	<0.005 :	-	0.036 :
Phosphate, Ortho As P	mg/L	T		<1.3 J	-	-	<0.01 :	-	<0.22 :
Phosphorus	mg/L	T		0.031 J	-	-	0.014 :	-	0.25 :
Sulfate	mg/L	T		3220. :	-	-	1990. :	-	1010. :
Total Alkalinity	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Total Dissolved Solids	mg/L	T		6530. J	-	-	2800. :	-	1650. :
Total Kjeldahl Nitrogen	mg/L	T		0.52 :	-	-	<0.24 :	-	0.39 :
Total Organic Carbon	mg/L	T		3. :	-	-	<1. :	-	3.6 :
Total Suspended Solids	mg/L	T		76.3 :	-	-	1.3 :	-	10.8 :
Laboratory Parameters									
pH	SU	T		2.8 J	-	2.78 :	4. J	-	3. J
Specific Conductance	umhos/cm	T		3850. J	-	-	2240. J	-	1610. J
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		2070. :	-	-	1390. :	-	562. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Hansen Creek 9/10/2003 HANSEN-T01N-SFW AMS		Hansen Creek 9/10/2003 HANSEN-D01N-SFW AMS		Hansen Creek 9/10/2003 HANSENCREEK-T01N-SFW AMS		Hansen Creek 4/21/2004 HANSENCREEK-T01N-SFW AMS		Hansen Creek 4/21/2004 HANSENCREEK-D01N-SFW AMS		Hottentot Creek 9/10/2003 HAUTNTAUT-T01N-SFW AMS	
Hardness	mg/L	D	-		1930.	:	-		-		1370.	:	-	
Metals														
Aluminum	mg/L	T	251.	:	-		-		100.	:	-		63.2	:
Aluminum	mg/L	D	-		232.	:	-		-		98.4	:	-	
Antimony	mg/L	T	<0.052	:	-		-		<0.027	:	-		<0.052	:
Antimony	mg/L	D	-		<0.052	:	-		-		<0.027	:	-	
Arsenic	mg/L	T	<0.041	:	-		-		<0.026	:	-		<0.041	:
Arsenic	mg/L	D	-		<0.041	:	-		-		<0.026	:	-	
Barium	mg/L	T	<0.115	:	-		-		<0.012	:	-		<0.115	:
Barium	mg/L	D	-		<0.115	:	-		-		<0.012	:	-	
Beryllium	mg/L	T	0.0433	:	-		-		0.02	:	-		0.0092	:
Beryllium	mg/L	D	-		0.0416	:	-		-		0.0207	:	-	
Boron	mg/L	T	<0.063	:	-		-		<0.018	:	-		<0.063	:
Boron	mg/L	D	-		<0.063	:	-		-		<0.018	:	-	
Cadmium	mg/L	T	<0.05	:	-		-		<0.1	:	-		<0.05	:
Cadmium	mg/L	D	-		<0.05	:	-		-		<0.1	:	-	
Calcium	mg/L	T	552.	:	-		-		432.	:	-		174.	:
Calcium	mg/L	D	-		516.	:	-		-		424.	:	-	
Chromium	mg/L	T	0.173	:	-		-		<0.13	:	-		<0.11	:
Chromium	mg/L	D	-		0.147	:	-		-		<0.13	:	-	
Cobalt	mg/L	T	0.785	:	-		-		0.22	:	-		<0.29	:
Cobalt	mg/L	D	-		0.721	:	-		-		0.184	:	-	
Copper	mg/L	T	1.22	:	-		-		<0.27	:	-		0.667	:
Copper	mg/L	D	-		1.06	:	-		-		<0.27	:	-	
Iron	mg/L	T	128.	:	-		-		<2.93	J	-		65.6	:
Iron	mg/L	D	-		115.	:	-		-		3.83	:	-	
Lead	mg/L	T	0.0107	:	-		-		<0.004	:	-		<0.002	:
Lead	mg/L	D	-		<0.002	:	-		-		<0.004	:	-	
Magnesium	mg/L	T	168.	:	-		-		76.5	:	-		31.	:
Magnesium	mg/L	D	-		156.	:	-		-		75.	:	-	
Manganese	mg/L	T	22.9	:	-		-		11.2	:	-		5.15	:
Manganese	mg/L	D	-		21.4	:	-		-		11.	:	-	
Mercury	mg/L	T	<0.0001	:	-		-		<0.0001	:	-		<0.0001	:
Mercury	mg/L	D	-		<0.0001	:	-		-		<0.0001	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Hansen Creek 9/10/2003 HANSEN-T01N-SFW AMS		Hansen Creek 9/10/2003 HANSEN-D01N-SFW AMS		Hansen Creek 9/10/2003 HANSENCREEK-T01N-SFW AMS		Hansen Creek 4/21/2004 HANSENCREEK-T01N-SFW AMS		Hansen Creek 4/21/2004 HANSENCREEK-D01N-SFW AMS		Hottentot Creek 9/10/2003 HAUTNTAUT-T01N-SFW AMS	
Molybdenum	mg/L	T	<0.011	:	-		-		<0.01	:	-		<0.011	:
Molybdenum	mg/L	D	-		<0.011	:	-		-		<0.01	:	-	
Nickel	mg/L	T	1.89	:	-		-		0.537	:	-		0.398	:
Nickel	mg/L	D	-		1.75	:	-		-		0.593	:	-	
Potassium	mg/L	T	<43.5	:	-		-		<15.5	:	-		<45.7	:
Potassium	mg/L	D	-		<33.5	:	-		-		<15.5	:	-	
Selenium	mg/L	T	0.0102	J	-		-		<0.007	:	-		0.0044	J
Selenium	mg/L	D	-		0.0114	J	-		-		<0.007	:	-	
Silver	mg/L	T	<0.001	:	-		-		<0.001	:	-		<0.001	:
Silver	mg/L	D	-		<0.001	:	-		-		<0.001	:	-	
Sodium	mg/L	T	<45.4	:	-		-		<32.8	:	-		<45.4	:
Sodium	mg/L	D	-		<45.4	:	-		-		<32.8	:	-	
Thallium	mg/L	T	<0.001	:	-		-		<0.001	:	-		<0.001	:
Thallium	mg/L	D	-		<0.001	:	-		-		<0.001	:	-	
Vanadium	mg/L	T	<0.001	:	-		-		<0.002	:	-		<0.001	:
Vanadium	mg/L	D	-		<0.001	:	-		-		<0.002	:	-	
Zinc	mg/L	T	4.06	:	-		-		2.85	:	-		1.98	:
Zinc	mg/L	D	-		3.77	:	-		-		2.75	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area / Fraction	Site ID	Hottentot Creek	Hunts Pond Mid		Hunts Pond Mid		Hunts Pond Mid		Hunts Pond Mid		Hunts Pond NW	
			Sample Date	9/10/2003	5/11/2004		5/11/2004		5/11/2004		5/12/2004		5/11/2004	
			Sample ID	HAUTNTAUT-D01N-SFW	HUNT2-T01N-SFW		HUNT2-D01N-SFW		HUNT1-T01N-SFW		HUNT-T01N-SFW		HUNT1-T01N-SFW	
			Exposure Area	AMS	Hunts Pond		Hunts Pond		Hunts Pond		Hunts Pond		Hunts Pond	
Field Measurements														
DO	mg/L	T		-	10.87	:	-		12.64	:	4.38	:	-	
Eh	millivolts	T		-	370.9	:	-		224.2	:	455.8	:	-	
pH	SU	T		-	7.1	J	-		6.61	:	6.14	:	7.2	J
Specific Conductance	uS/cm	T		-	450.	:	-		451.	:	548.	:	-	
Temperature	Celsius	T		-	15.73	:	-		14.58	:	14.48	:	-	
Turbidity	NTU	T		-	0.3	:	-		0.	:	0.	:	-	
General Chemistry														
Ammonia	mg/L	T		-	<0.04	J	-		-		-		<0.047	J
Bicarbonate (as CaCO3)	mg/L	T		-	52.2	:	-		-		-		52.9	:
Biochemical Oxygen Demand	mg/L	T		-	1.8	J	-		-		-		1.4	J
Carbonate (as CaCO3)	mg/L	T		-	<1.	:	-		-		-		<1.	:
Chemical Oxygen Demand	mg/L	T		-	<20.	:	-		-		-		<20.	:
Chloride	mg/L	T		-	4.6	J	-		-		-		4.7	J
Fluoride	mg/L	T		-	1.1	:	-		-		-		1.1	:
Hydroxide (as CaCO3)	mg/L	T		-	<1.	:	-		-		-		<1.	:
Nitrate	mg/L	T		-	<0.2	J	-		-		-		<0.2	J
Nitrite	mg/L	T		-	<0.005	:	-		-		-		<0.005	:
Phosphate, Ortho As P	mg/L	T		-	<0.01	:	-		-		-		<0.01	:
Phosphorus	mg/L	T		-	<0.01	:	-		-		-		<0.01	:
Sulfate	mg/L	T		-	168.	:	-		-		-		163.	:
Total Alkalinity	mg/L	T		-	52.2	:	-		-		-		52.9	:
Total Dissolved Solids	mg/L	T		-	268.	:	-		-		-		288.	:
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24	:	-		-		-		<0.24	:
Total Organic Carbon	mg/L	T		-	1.8	:	-		-		-		2.2	:
Total Suspended Solids	mg/L	T		-	<1.6	J	-		-		-		9.1	J
Laboratory Parameters														
pH	SU	T		-	7.1	J	-		6.61	:	6.14	:	7.2	J
Specific Conductance	umhos/cm	T		-	366.	J	-		-		-		372.	J
Inorganics														
Cyanide	mg/L	T		-	<0.01	:	-		-		-		<0.01	:
Physical Properties														
Hardness	mg/L	T		-	198.	:	-		-		-		201.	:
Hardness	mg/L	D		583.	-		200.	:	-		-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Hottentot Creek	Hunts Pond Mid	Hunts Pond Mid	Hunts Pond Mid	Hunts Pond Mid	Hunts Pond NW
			Sample Date	9/10/2003	5/11/2004	5/11/2004	5/11/2004	5/12/2004	5/11/2004
			Sample ID	HAUTNTAUT-D01N-SFW	HUNT2-T01N-SFW	HUNT2-D01N-SFW	HUNT1-T01N-SFW	HUNT-T01N-SFW	HUNT1-T01N-SFW
			Exposure Area	AMS	Hunts Pond	Hunts Pond	Hunts Pond	Hunts Pond	Hunts Pond
Metals									
Aluminum	mg/L	T		-	<0.0453 :	-	-	-	<0.0614 :
Aluminum	mg/L	D		65.6 :	-	<0.0337 :	-	-	-
Antimony	mg/L	T		-	<0.00046 :	-	-	-	<0.0004 :
Antimony	mg/L	D		<0.052 :	-	<0.00044 :	-	-	-
Arsenic	mg/L	T		-	<0.0002 :	-	-	-	<0.0002 :
Arsenic	mg/L	D		<0.041 :	-	<0.0002 :	-	-	-
Barium	mg/L	T		-	0.0186 :	-	-	-	0.0174 :
Barium	mg/L	D		<0.115 :	-	0.0164 :	-	-	-
Beryllium	mg/L	T		-	<0.0002 :	-	-	-	<0.0002 :
Beryllium	mg/L	D		0.0097 :	-	<0.0002 :	-	-	-
Boron	mg/L	T		-	<0.0073 :	-	-	-	0.0067 :
Boron	mg/L	D		<0.063 :	-	<0.0073 :	-	-	-
Cadmium	mg/L	T		-	<0.0002 :	-	-	-	<0.0002 :
Cadmium	mg/L	D		<0.05 :	-	<0.0002 :	-	-	-
Calcium	mg/L	T		-	60.8 :	-	-	-	61.7 :
Calcium	mg/L	D		180. :	-	61.5 :	-	-	-
Chromium	mg/L	T		-	<0.0008 :	-	-	-	<0.0008 :
Chromium	mg/L	D		<0.11 :	-	<0.0008 :	-	-	-
Cobalt	mg/L	T		-	<0.0011 :	-	-	-	<0.0011 :
Cobalt	mg/L	D		<0.29 :	-	<0.0011 :	-	-	-
Copper	mg/L	T		-	<0.0008 :	-	-	-	<0.0008 :
Copper	mg/L	D		0.764 :	-	<0.0008 :	-	-	-
Iron	mg/L	T		-	<0.051 :	-	-	-	<0.052 :
Iron	mg/L	D		68.6 :	-	<0.0218 :	-	-	-
Lead	mg/L	T		-	<0.0004 :	-	-	-	<0.0004 :
Lead	mg/L	D		<0.002 :	-	<0.0004 :	-	-	-
Magnesium	mg/L	T		-	11.2 :	-	-	-	11.3 :
Magnesium	mg/L	D		32.4 :	-	11.3 :	-	-	-
Manganese	mg/L	T		-	<0.011 :	-	-	-	0.0088 :
Manganese	mg/L	D		5.36 :	-	<0.0126 :	-	-	-
Mercury	mg/L	T		-	<0.0001 :	-	-	-	<0.0001 :
Mercury	mg/L	D		<0.0001 :	-	<0.0001 :	-	-	-
Molybdenum	mg/L	T		-	0.0202 :	-	-	-	0.0213 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
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	
			Hottentot Creek 9/10/2003 HAUTNTAUT-D01N-SFW AMS		Hunts Pond Mid 5/11/2004 HUNT2-T01N-SFW Hunts Pond		Hunts Pond Mid 5/11/2004 HUNT2-D01N-SFW Hunts Pond		Hunts Pond Mid 5/11/2004 HUNT1-T01N-SFW Hunts Pond		Hunts Pond Mid 5/12/2004 HUNT-T01N-SFW Hunts Pond		Hunts Pond NW 5/11/2004 HUNT1-T01N-SFW Hunts Pond	
Molybdenum	mg/L	D	<0.011	:	-		0.0206	:	-		-		-	
Nickel	mg/L	T	-		0.0025	:	-		-		-		0.0027	:
Nickel	mg/L	D	0.393	:	-		0.0026	:	-		-		-	
Potassium	mg/L	T	-		1.28	:	-		-		-		1.33	:
Potassium	mg/L	D	<52.8	:	-		1.33	:	-		-		-	
Selenium	mg/L	T	-		<0.0007	:	-		-		-		<0.0007	:
Selenium	mg/L	D	0.0045	J	-		<0.0007	:	-		-		-	
Silver	mg/L	T	-		<0.0001	:	-		-		-		<0.0001	:
Silver	mg/L	D	<0.001	:	-		<0.0001	:	-		-		-	
Sodium	mg/L	T	-		6.84	:	-		-		-		7.01	:
Sodium	mg/L	D	<45.4	:	-		7.03	:	-		-		-	
Thallium	mg/L	T	-		<0.0001	:	-		-		-		<0.0001	:
Thallium	mg/L	D	<0.001	:	-		<0.0001	:	-		-		-	
Vanadium	mg/L	T	-		<0.0002	:	-		-		-		0.00026	:
Vanadium	mg/L	D	<0.001	:	-		<0.0002	:	-		-		-	
Zinc	mg/L	T	-		0.0784	:	-		-		-		0.0888	:
Zinc	mg/L	D	2.06	:	-		0.0775	:	-		-		-	

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units		Site ID	Hunts Pond NW	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16
			Sample Date	5/11/2004	4/20/2003	4/20/2003	4/20/2003	4/20/2003	4/20/2003
			Sample ID	HUNT1-D01N-SFW	ISCO-LR-16-T04N-SFW	ISCO-LR-16-T03N-SFW	ISCO-LR-16-T02N-SFW	ISCO-LR-16-T01N-SFW	ISCO-LR-16-D04N-SFW
			Exposure Area	Hunts Pond	SNOW	SNOW	SNOW	SNOW	SNOW
Field Measurements									
pH	SU	T		-	8. J	7.9 J	7.8 J	7.8 J	-
Specific Conductance	uS/cm	T		-	361. :	358. :	360. :	359. :	-
General Chemistry									
Chloride	mg/L	T		-	4.6 :	4.8 :	4.7 :	4.8 :	-
Fluoride	mg/L	T		-	0.71 :	0.71 :	0.71 :	0.71 :	-
Nitrate	mg/L	T		-	0.46 J	0.51 J	0.44 J	0.43 J	-
Nitrite	mg/L	T		-	<0.005 :	<0.005 :	<0.005 :	<0.005 :	-
Sulfate	mg/L	T		-	102. J	102. J	102. J	101. J	-
Total Dissolved Solids	mg/L	T		-	232. :	236. :	244. :	254. :	-
Total Suspended Solids	mg/L	T		-	18.3 :	17.6 :	19.4 :	17.9 :	-
Laboratory Parameters									
pH	SU	T		-	8. J	7.9 J	7.8 J	7.8 J	-
Specific Conductance	umhos/cm	T		-	318. J	315. J	316. J	323. J	-
Physical Properties									
Hardness	mg/L	T		-	167. :	156. :	153. :	156. :	-
Hardness	mg/L	D		197. :	-	-	-	-	178. :
Metals									
Aluminum	mg/L	T		-	0.899 :	0.884 :	0.829 :	0.881 :	-
Aluminum	mg/L	D		<0.029 :	-	-	-	-	0.0624 J
Antimony	mg/L	T		-	<0.0006 :	<0.0006 :	<0.0006 :	<0.0006 :	-
Antimony	mg/L	D		<0.00052 :	-	-	-	-	<0.0006 :
Arsenic	mg/L	T		-	0.00028 :	<0.0002 :	<0.0002 :	<0.0002 :	-
Arsenic	mg/L	D		<0.0002 :	-	-	-	-	<0.0002 :
Barium	mg/L	T		-	0.0368 :	0.037 :	0.036 :	0.0384 :	-
Barium	mg/L	D		0.0168 :	-	-	-	-	0.0322 :
Beryllium	mg/L	T		-	0.00034 :	0.00031 :	<0.0003 :	<0.0003 J	-
Beryllium	mg/L	D		<0.0002 :	-	-	-	-	<0.0003 :
Boron	mg/L	T		-	<0.0084 :	<0.0084 :	<0.0084 :	<0.0084 :	-
Boron	mg/L	D		<0.0069 :	-	-	-	-	<0.0084 :
Cadmium	mg/L	T		-	<0.0005 J	<0.0005 J	<0.0005 J	<0.0005 J	-
Cadmium	mg/L	D		<0.0002 :	-	-	-	-	<0.0005 J
Calcium	mg/L	T		-	49.9 :	46.5 :	45.8 :	46.6 :	-
Calcium	mg/L	D		60.5 :	-	-	-	-	53.2 :

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Hunts Pond NW	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16
			Sample Date	5/11/2004	4/20/2003	4/20/2003	4/20/2003	4/20/2003	4/20/2003
			Sample ID	HUNT1-D01N-SFW	ISCO-LR-16-T04N-SFW	ISCO-LR-16-T03N-SFW	ISCO-LR-16-T02N-SFW	ISCO-LR-16-T01N-SFW	ISCO-LR-16-D04N-SFW
			Exposure Area	Hunts Pond	SNOW	SNOW	SNOW	SNOW	SNOW
Chromium	mg/L	T		-	0.001 :	<0.001 :	<0.001 :	0.0016 :	-
Chromium	mg/L	D		<0.0008 :	-	-	-	-	<0.001 :
Cobalt	mg/L	T		-	<0.0038 :	<0.0038 :	<0.0038 :	<0.0038 :	-
Cobalt	mg/L	D		<0.0011 :	-	-	-	-	<0.0038 :
Copper	mg/L	T		-	0.0128 :	0.0116 :	0.0113 :	0.0119 :	-
Copper	mg/L	D		<0.0008 :	-	-	-	-	0.0061 :
Iron	mg/L	T		-	<0.508 :	<0.483 :	<0.501 :	<0.414 :	-
Iron	mg/L	D		<0.0192 :	-	-	-	-	<0.642 :
Lead	mg/L	T		-	0.00084 :	0.001 :	0.00076 :	0.00078 :	-
Lead	mg/L	D		<0.0004 :	-	-	-	-	<0.0002 :
Magnesium	mg/L	T		-	10.3 :	9.65 :	9.5 :	9.6 :	-
Magnesium	mg/L	D		11.1 :	-	-	-	-	10.9 :
Manganese	mg/L	T		-	0.165 :	0.149 :	0.143 :	0.141 :	-
Manganese	mg/L	D		<0.0076 :	-	-	-	-	0.139 :
Mercury	mg/L	T		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Mercury	mg/L	D		<0.0001 :	-	-	-	-	<0.0001 :
Molybdenum	mg/L	T		-	0.0294 :	0.0296 :	0.0303 :	0.035 :	-
Molybdenum	mg/L	D		0.0221 :	-	-	-	-	0.0325 :
Nickel	mg/L	T		-	0.0095 :	0.0094 :	0.0093 :	0.0088 :	-
Nickel	mg/L	D		0.0031 :	-	-	-	-	0.0075 :
Potassium	mg/L	T		-	1.14 :	1.34 :	1.43 :	1.77 :	-
Potassium	mg/L	D		1.34 :	-	-	-	-	1.63 :
Selenium	mg/L	T		-	<0.001 :	<0.001 :	<0.001 :	<0.001 :	-
Selenium	mg/L	D		<0.0007 :	-	-	-	-	<0.001 :
Silver	mg/L	T		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D		<0.0001 :	-	-	-	-	<0.0001 :
Sodium	mg/L	T		-	12.7 :	9.57 :	8.93 :	9.04 :	-
Sodium	mg/L	D		6.88 :	-	-	-	-	12.1 :
Thallium	mg/L	T		-	<0.0002 :	<0.0002 :	<0.0002 :	<0.0002 :	-
Thallium	mg/L	D		<0.0001 :	-	-	-	-	<0.0002 :
Vanadium	mg/L	T		-	0.00062 J	0.00064 J	0.00055 J	0.00059 J	-
Vanadium	mg/L	D		0.00021 :	-	-	-	-	0.00035 J
Zinc	mg/L	T		-	0.0542 J	0.0484 J	0.0447 J	0.0514 J	-
Zinc	mg/L	D		0.083 :	-	-	-	-	0.0731 J

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO LR-16 4/20/2003 ISCO-LR-16-D03N-SFW SNOW	ISCO LR-16 4/20/2003 ISCO-LR-16-D02N-SFW SNOW	ISCO LR-16 4/20/2003 ISCO-LR-16-D01N-SFW SNOW	ISCO LR-16 4/22/2003 ISCO-LR-16-T08N-SFW SNOW	ISCO LR-16 4/22/2003 ISCO-LR-16-T07N-SFW SNOW	ISCO LR-16 4/22/2003 ISCO-LR-16-T06N-SFW SNOW
Field Measurements								
pH	SU	T	-	-	-	7.9 J	7.8 J	8.1 J
General Chemistry								
Chloride	mg/L	T	-	-	-	4.9 :	4.8 :	4.7 :
Fluoride	mg/L	T	-	-	-	0.69 :	0.71 :	0.71 :
Nitrate	mg/L	T	-	-	-	<0.4 J	<0.4 J	<0.4 J
Nitrite	mg/L	T	-	-	-	<0.005 :	<0.005 :	<0.005 :
Sulfate	mg/L	T	-	-	-	104. J	107. J	102. J
Total Dissolved Solids	mg/L	T	-	-	-	236. :	224. :	228. :
Total Suspended Solids	mg/L	T	-	-	-	18.8 :	10.5 :	17.4 :
Laboratory Parameters								
pH	SU	T	-	-	-	7.9 J	7.8 J	8.1 J
Specific Conductance	umhos/cm	T	-	-	-	321. J	319. J	316. J
Physical Properties								
Hardness	mg/L	T	-	-	-	158. :	165. :	162. :
Hardness	mg/L	D	161. :	155. :	160. :	-	-	-
Metals								
Aluminum	mg/L	T	-	-	-	1.16 :	0.997 :	0.974 :
Aluminum	mg/L	D	0.0807 J	<0.0503 J	<0.0821 J	-	-	-
Antimony	mg/L	T	-	-	-	<0.0005 :	<0.0003 :	<0.0003 :
Antimony	mg/L	D	<0.0006 :	<0.0006 :	<0.0006 :	-	-	-
Arsenic	mg/L	T	-	-	-	0.00022 :	0.00033 :	0.00034 :
Arsenic	mg/L	D	<0.0002 :	<0.0002 :	<0.0002 :	-	-	-
Barium	mg/L	T	-	-	-	0.0382 :	0.0345 :	0.0338 :
Barium	mg/L	D	0.032 :	0.0294 :	0.0329 :	-	-	-
Beryllium	mg/L	T	-	-	-	<0.00034 :	<0.0003 J	<0.0003 J
Beryllium	mg/L	D	<0.0003 :	<0.0003 :	<0.0003 J	-	-	-
Boron	mg/L	T	-	-	-	<0.0084 :	0.0094 :	<0.0084 :
Boron	mg/L	D	<0.0084 :	<0.0084 :	<0.0084 :	-	-	-
Cadmium	mg/L	T	-	-	-	0.00029 :	0.0003 :	0.00033 :
Cadmium	mg/L	D	<0.0005 J	<0.0005 J	<0.0005 J	-	-	-
Calcium	mg/L	T	-	-	-	47.1 :	49.2 :	48.4 :
Calcium	mg/L	D	48.1 :	46.2 :	47.8 :	-	-	-
Chromium	mg/L	T	-	-	-	0.0012 :	<0.001 :	<0.001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID
			ISCO LR-16	4/20/2003	ISCO-LR-16-D03N-SFW SNOW
Chromium	mg/L	D	0.0011 :		
Cobalt	mg/L	T	-		
Cobalt	mg/L	D	<0.0038 :		
Copper	mg/L	T	-		
Copper	mg/L	D	0.0049 :		
Iron	mg/L	T	-		
Iron	mg/L	D	<0.311 :		
Lead	mg/L	T	-		
Lead	mg/L	D	<0.0002 :		
Magnesium	mg/L	T	-		
Magnesium	mg/L	D	9.94 :		
Manganese	mg/L	T	-		
Manganese	mg/L	D	0.126 :		
Mercury	mg/L	T	-		
Mercury	mg/L	D	<0.0001 :		
Molybdenum	mg/L	T	-		
Molybdenum	mg/L	D	0.0319 :		
Nickel	mg/L	T	-		
Nickel	mg/L	D	0.0078 :		
Potassium	mg/L	T	-		
Potassium	mg/L	D	1.67 :		
Selenium	mg/L	T	-		
Selenium	mg/L	D	<0.001 :		
Silver	mg/L	T	-		
Silver	mg/L	D	<0.0001 :		
Sodium	mg/L	T	-		
Sodium	mg/L	D	8.12 :		
Thallium	mg/L	T	-		
Thallium	mg/L	D	<0.0002 :		
Vanadium	mg/L	T	-		
Vanadium	mg/L	D	0.00039 J		
Zinc	mg/L	T	-		
Zinc	mg/L	D	0.0275 J		

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID
			ISCO LR-16	4/20/2003	ISCO-LR-16-D02N-SFW SNOW
Chromium	mg/L	D	<0.001 :		
Cobalt	mg/L	T	-		
Cobalt	mg/L	D	<0.0038 :		
Copper	mg/L	T	-		
Copper	mg/L	D	0.0037 :		
Iron	mg/L	T	-		
Iron	mg/L	D	<0.311 :		
Lead	mg/L	T	-		
Lead	mg/L	D	<0.0002 :		
Magnesium	mg/L	T	-		
Magnesium	mg/L	D	9.53 :		
Manganese	mg/L	T	-		
Manganese	mg/L	D	0.123 :		
Mercury	mg/L	T	-		
Mercury	mg/L	D	<0.0001 :		
Molybdenum	mg/L	T	-		
Molybdenum	mg/L	D	0.0293 :		
Nickel	mg/L	T	-		
Nickel	mg/L	D	0.0072 :		
Potassium	mg/L	T	-		
Potassium	mg/L	D	1.15 :		
Selenium	mg/L	T	-		
Selenium	mg/L	D	<0.001 :		
Silver	mg/L	T	-		
Silver	mg/L	D	<0.0001 :		
Sodium	mg/L	T	-		
Sodium	mg/L	D	10.6 :		
Thallium	mg/L	T	-		
Thallium	mg/L	D	<0.0002 :		
Vanadium	mg/L	T	-		
Vanadium	mg/L	D	0.0004 J		
Zinc	mg/L	T	-		
Zinc	mg/L	D	<0.014 J		

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID
			ISCO LR-16	4/20/2003	ISCO-LR-16-D01N-SFW SNOW
Chromium	mg/L	D	<0.001 :		
Cobalt	mg/L	T	-		
Cobalt	mg/L	D	<0.0038 :		
Copper	mg/L	T	-		
Copper	mg/L	D	0.0046 :		
Iron	mg/L	T	-		
Iron	mg/L	D	<0.311 :		
Lead	mg/L	T	-		
Lead	mg/L	D	<0.0002 :		
Magnesium	mg/L	T	-		
Magnesium	mg/L	D	9.88 :		
Manganese	mg/L	T	-		
Manganese	mg/L	D	0.127 :		
Mercury	mg/L	T	-		
Mercury	mg/L	D	<0.0001 :		
Molybdenum	mg/L	T	-		
Molybdenum	mg/L	D	0.0369 :		
Nickel	mg/L	T	-		
Nickel	mg/L	D	0.0073 :		
Potassium	mg/L	T	-		
Potassium	mg/L	D	2.03 :		
Selenium	mg/L	T	-		
Selenium	mg/L	D	<0.001 :		
Silver	mg/L	T	-		
Silver	mg/L	D	<0.0001 :		
Sodium	mg/L	T	-		
Sodium	mg/L	D	9.7 :		
Thallium	mg/L	T	-		
Thallium	mg/L	D	<0.0002 :		
Vanadium	mg/L	T	-		
Vanadium	mg/L	D	0.00031 J		
Zinc	mg/L	T	-		
Zinc	mg/L	D	<0.014 J		

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID
			ISCO LR-16	4/22/2003	ISCO-LR-16-T08N-SFW SNOW
Chromium	mg/L	D	-		
Cobalt	mg/L	T	<0.0038 :		
Cobalt	mg/L	D	-		
Copper	mg/L	T	0.0143 :		
Copper	mg/L	D	-		
Iron	mg/L	T	0.54 :		
Iron	mg/L	D	-		
Lead	mg/L	T	0.0012 :		
Lead	mg/L	D	-		
Magnesium	mg/L	T	9.75 :		
Magnesium	mg/L	D	-		
Manganese	mg/L	T	0.163 :		
Manganese	mg/L	D	-		
Mercury	mg/L	T	<0.0001 :		
Mercury	mg/L	D	-		
Molybdenum	mg/L	T	0.0267 :		
Molybdenum	mg/L	D	-		
Nickel	mg/L	T	0.0093 :		
Nickel	mg/L	D	-		
Potassium	mg/L	T	1.52 :		
Potassium	mg/L	D	-		
Selenium	mg/L	T	<0.0008 :		
Selenium	mg/L	D	-		
Silver	mg/L	T	<0.0001 :		
Silver	mg/L	D	-		
Sodium	mg/L	T	8.22 :		
Sodium	mg/L	D	-		
Thallium	mg/L	T	<0.0001 :		
Thallium	mg/L	D	-		
Vanadium	mg/L	T	0.00063 J		
Vanadium	mg/L	D	-		
Zinc	mg/L	T	0.0664 J		
Zinc	mg/L	D	-		

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID
			ISCO LR-16	4/22/2003	ISCO-LR-16-T07N-SFW SNOW
Chromium	mg/L	D	-		
Cobalt	mg/L	T	<0.0038 :		
Cobalt	mg/L	D	-		
Copper	mg/L	T	0.0116 :		
Copper	mg/L	D	-		
Iron	mg/L	T	<0.567 :		
Iron	mg/L	D	-		
Lead	mg/L	T	<0.00096 :		
Lead	mg/L	D	-		
Magnesium	mg/L	T	10.1 :		
Magnesium	mg/L	D	-		
Manganese	mg/L	T	0.154 :		
Manganese	mg/L	D	-		
Mercury	mg/L	T	<0.0001 :		
Mercury	mg/L	D	-		
Molybdenum	mg/L	T	0.0275 :		
Molybdenum	mg/L	D	-		
Nickel	mg/L	T	<0.007 :		
Nickel	mg/L	D	-		
Potassium	mg/L	T	<1.6 :		
Potassium	mg/L	D	-		
Selenium	mg/L	T	0.00066 :		
Selenium	mg/L	D	-		
Silver	mg/L	T	<0.0001 :		
Silver	mg/L	D	-		
Sodium	mg/L	T	<10.4 :		
Sodium	mg/L	D	-		
Thallium	mg/L	T	<0.0001 :		
Thallium	mg/L	D	-		
Vanadium	mg/L	T	0.00054 J		
Vanadium	mg/L	D	-		
Zinc	mg/L	T	<0.0616 J		
Zinc	mg/L	D	-		

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID
			ISCO LR-16	4/22/2003	ISCO-LR-16-T06N-SFW SNOW
Chromium	mg/L	D	-		
Cobalt	mg/L	T	<0.0038 :		
Cobalt	mg/L	D	-		
Copper	mg/L	T	0.0114 :		
Copper	mg/L	D	-		
Iron	mg/L	T	<0.674 :		
Iron	mg/L	D	-		
Lead	mg/L	T	<0.001 :		
Lead	mg/L	D	-		
Magnesium	mg/L	T	9.97 :		
Magnesium	mg/L	D	-		
Manganese	mg/L	T	0.159 :		
Manganese	mg/L	D	-		
Mercury	mg/L	T	<0.0001 :		
Mercury	mg/L	D	-		
Molybdenum	mg/L	T	0.0265 :		
Molybdenum	mg/L	D	-		
Nickel	mg/L	T	<0.0074 :		
Nickel	mg/L	D	-		
Potassium	mg/L	T	<1.5 :		
Potassium	mg/L	D	-		
Selenium	mg/L	T	0.00074 :		
Selenium	mg/L	D	-		
Silver	mg/L	T	<0.0001 :		
Silver	mg/L	D	-		
Sodium	mg/L	T	<8.53 :		
Sodium	mg/L	D	-		
Thallium	mg/L	T	<0.0001 :		
Thallium	mg/L	D	-		
Vanadium	mg/L	T	0.00045 J		
Vanadium	mg/L	D	-		
Zinc	mg/L	T	<0.0595 J		
Zinc	mg/L	D	-		

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction											
		Site ID	ISCO LR-16		ISCO LR-16		ISCO LR-16		ISCO LR-16		ISCO LR-16		ISCO LR-16	
		Sample Date	4/22/2003		4/22/2003		4/22/2003		4/22/2003		4/22/2003		4/22/2003	
		Sample ID	ISCO-LR-16-T05N-SFW		ISCO-LR-16-T04N-SFW		ISCO-LR-16-T03N-SFW		ISCO-LR-16-T02N-SFW		ISCO-LR-16-T01N-SFW		ISCO-LR-16-D08N-SFW	
		Exposure Area	SNOW		SNOW		SNOW		SNOW		SNOW		SNOW	
Field Measurements														
pH	SU	T	8.	J	8.07	:	8.05	:	8.03	:	7.89	:	-	
Specific Conductance	uS/cm	T	-		355.	:	356.	:	356.	:	355.	:	-	
General Chemistry														
Chloride	mg/L	T	4.8	:	-		-		-		-		-	
Fluoride	mg/L	T	0.69	:	-		-		-		-		-	
Nitrate	mg/L	T	<0.4	J	-		-		-		-		-	
Nitrite	mg/L	T	<0.005	J	-		-		-		-		-	
Sulfate	mg/L	T	106.	J	-		-		-		-		-	
Total Dissolved Solids	mg/L	T	208.	:	-		-		-		-		-	
Total Suspended Solids	mg/L	T	12.5	:	-		-		-		-		-	
Laboratory Parameters														
pH	SU	T	8.	J	8.07	:	8.05	:	8.03	:	7.89	:	-	
Specific Conductance	umhos/cm	T	308.	J	-		-		-		-		-	
Physical Properties														
Hardness	mg/L	T	162.	:	-		-		-		-		-	
Hardness	mg/L	D	-		-		-		-		-		158.	:
Metals														
Aluminum	mg/L	T	0.99	:	-		-		-		-		-	
Aluminum	mg/L	D	-		-		-		-		-		0.173	:
Antimony	mg/L	T	<0.0013	:	-		-		-		-		-	
Antimony	mg/L	D	-		-		-		-		-		<0.0005	:
Arsenic	mg/L	T	0.00041	:	-		-		-		-		-	
Arsenic	mg/L	D	-		-		-		-		-		<0.0002	:
Barium	mg/L	T	0.0344	:	-		-		-		-		-	
Barium	mg/L	D	-		-		-		-		-		0.0314	:
Beryllium	mg/L	T	<0.0003	J	-		-		-		-		-	
Beryllium	mg/L	D	-		-		-		-		-		<0.0003	:
Boron	mg/L	T	0.0106	:	-		-		-		-		-	
Boron	mg/L	D	-		-		-		-		-		<0.0084	:
Cadmium	mg/L	T	0.00032	:	-		-		-		-		-	
Cadmium	mg/L	D	-		-		-		-		-		<0.0002	:
Calcium	mg/L	T	48.2	:	-		-		-		-		-	
Calcium	mg/L	D	-		-		-		-		-		47.2	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction						
		ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	
		4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003	
		ISCO-LR-16-T05N-SFW	ISCO-LR-16-T04N-SFW	ISCO-LR-16-T03N-SFW	ISCO-LR-16-T02N-SFW	ISCO-LR-16-T01N-SFW	ISCO-LR-16-D08N-SFW	
		SNOW	SNOW	SNOW	SNOW	SNOW	SNOW	
Chromium	mg/L	T	<0.001 :	-	-	-	-	-
Chromium	mg/L	D	-	-	-	-	-	<0.001 :
Cobalt	mg/L	T	<0.0038 :	-	-	-	-	-
Cobalt	mg/L	D	-	-	-	-	-	<0.0038 :
Copper	mg/L	T	0.0112 :	-	-	-	-	-
Copper	mg/L	D	-	-	-	-	-	0.0049 :
Iron	mg/L	T	<0.685 :	-	-	-	-	-
Iron	mg/L	D	-	-	-	-	-	<0.0311 :
Lead	mg/L	T	0.0013 :	-	-	-	-	-
Lead	mg/L	D	-	-	-	-	-	<0.0001 :
Magnesium	mg/L	T	9.99 :	-	-	-	-	-
Magnesium	mg/L	D	-	-	-	-	-	9.77 :
Manganese	mg/L	T	0.165 :	-	-	-	-	-
Manganese	mg/L	D	-	-	-	-	-	0.123 :
Mercury	mg/L	T	<0.0001 :	-	-	-	-	-
Mercury	mg/L	D	-	-	-	-	-	<0.0001 :
Molybdenum	mg/L	T	0.0278 :	-	-	-	-	-
Molybdenum	mg/L	D	-	-	-	-	-	0.0284 :
Nickel	mg/L	T	<0.0071 :	-	-	-	-	-
Nickel	mg/L	D	-	-	-	-	-	0.007 :
Potassium	mg/L	T	<1.55 :	-	-	-	-	-
Potassium	mg/L	D	-	-	-	-	-	1.51 :
Selenium	mg/L	T	0.0011 :	-	-	-	-	-
Selenium	mg/L	D	-	-	-	-	-	<0.0008 :
Silver	mg/L	T	<0.0001 :	-	-	-	-	-
Silver	mg/L	D	-	-	-	-	-	<0.0001 :
Sodium	mg/L	T	<8.59 :	-	-	-	-	-
Sodium	mg/L	D	-	-	-	-	-	8.36 :
Thallium	mg/L	T	<0.0001 :	-	-	-	-	-
Thallium	mg/L	D	-	-	-	-	-	<0.0001 :
Vanadium	mg/L	T	0.00058 J	-	-	-	-	-
Vanadium	mg/L	D	-	-	-	-	-	0.00029 J
Zinc	mg/L	T	<0.0645 J	-	-	-	-	-
Zinc	mg/L	D	-	-	-	-	-	<0.017 J

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO LR-16 4/22/2003 ISCO-LR-16-D07N-SFW SNOW	ISCO LR-16 4/22/2003 ISCO-LR-16-D06N-SFW SNOW	ISCO LR-16 4/22/2003 ISCO-LR-16-D05N-SFW SNOW	ISCO LR-16 4/24/2003 ISCO-LR-16-T12N-SFW SNOW	ISCO LR-16 4/24/2003 ISCO-LR-16-T11N-SFW SNOW	ISCO LR-16 4/24/2003 ISCO-LR-16-T10N-SFW SNOW
Field Measurements								
pH	SU	T	-	-	-	7.8 J	7.8 J	7.8 J
General Chemistry								
Chloride	mg/L	T	-	-	-	4.8 :	4.8 :	4.9 :
Fluoride	mg/L	T	-	-	-	0.72 :	0.73 :	0.72 :
Nitrate	mg/L	T	-	-	-	0.42 J	<0.4 J	<0.4 J
Nitrite	mg/L	T	-	-	-	<0.005 J	<0.005 J	<0.005 J
Sulfate	mg/L	T	-	-	-	110. J	107. J	108. J
Total Dissolved Solids	mg/L	T	-	-	-	252. :	236. :	254. :
Total Suspended Solids	mg/L	T	-	-	-	-	22.4 :	21.6 :
Laboratory Parameters								
pH	SU	T	-	-	-	7.8 J	7.8 J	7.8 J
Specific Conductance	umhos/cm	T	-	-	-	337. J	337. J	329. J
Physical Properties								
Hardness	mg/L	T	-	-	-	162. :	167. :	153. :
Hardness	mg/L	D	163. :	162. :	160. :	-	-	-
Metals								
Aluminum	mg/L	T	-	-	-	0.449 :	1.09 :	0.978 :
Aluminum	mg/L	D	0.142 :	0.13 :	0.135 :	-	-	-
Antimony	mg/L	T	-	-	-	<0.0003 :	<0.0003 :	<0.00064 :
Antimony	mg/L	D	<0.0003 :	<0.0003 :	<0.00037 :	-	-	-
Arsenic	mg/L	T	-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Arsenic	mg/L	D	0.00025 :	<0.0002 :	0.00028 :	-	-	-
Barium	mg/L	T	-	-	-	0.0325 :	0.0396 :	0.0357 :
Barium	mg/L	D	0.0291 :	0.0282 :	0.0274 :	-	-	-
Beryllium	mg/L	T	-	-	-	<0.0003 :	<0.0003 :	0.00036 :
Beryllium	mg/L	D	<0.0003 J	<0.0003 J	<0.0003 J	-	-	-
Boron	mg/L	T	-	-	-	0.009 :	0.0093 :	<0.0084 :
Boron	mg/L	D	0.0101 :	0.0088 :	0.0094 :	-	-	-
Cadmium	mg/L	T	-	-	-	<0.0001 :	0.00023 :	0.00018 :
Cadmium	mg/L	D	0.00015 :	0.00023 :	0.00024 :	-	-	-
Calcium	mg/L	T	-	-	-	48.4 :	49.7 :	45.6 :
Calcium	mg/L	D	48.6 :	48.4 :	48. :	-	-	-
Chromium	mg/L	T	-	-	-	<0.001 :	<0.001 :	0.0012 :

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	
			ISCO LR-16	4/22/2003	ISCO-LR-16-D07N-SFW SNOW	
Chromium	mg/L	D	<0.001	:		
Cobalt	mg/L	T	-			
Cobalt	mg/L	D	<0.0038	:		
Copper	mg/L	T	-			
Copper	mg/L	D	0.0051	:		
Iron	mg/L	T	-			
Iron	mg/L	D	<0.311	:		
Lead	mg/L	T	-			
Lead	mg/L	D	<0.00011	:		
Magnesium	mg/L	T	-			
Magnesium	mg/L	D	10.1	:		
Manganese	mg/L	T	-			
Manganese	mg/L	D	0.126	:		
Mercury	mg/L	T	-			
Mercury	mg/L	D	<0.0001	:		
Molybdenum	mg/L	T	-			
Molybdenum	mg/L	D	0.0287	:		
Nickel	mg/L	T	-			
Nickel	mg/L	D	<0.0056	:		
Potassium	mg/L	T	-			
Potassium	mg/L	D	<1.72	:		
Selenium	mg/L	T	-			
Selenium	mg/L	D	0.001	:		
Silver	mg/L	T	-			
Silver	mg/L	D	<0.0001	:		
Sodium	mg/L	T	-			
Sodium	mg/L	D	<8.94	:		
Thallium	mg/L	T	-			
Thallium	mg/L	D	<0.0001	:		
Vanadium	mg/L	T	-			
Vanadium	mg/L	D	0.00035	J		
Zinc	mg/L	T	-			
Zinc	mg/L	D	<0.0205	J		

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	
			ISCO LR-16	4/22/2003	ISCO-LR-16-D06N-SFW SNOW	
Chromium	mg/L	D	<0.001	:		
Cobalt	mg/L	T	-			
Cobalt	mg/L	D	<0.0038	:		
Copper	mg/L	T	-			
Copper	mg/L	D	0.0037	:		
Iron	mg/L	T	-			
Iron	mg/L	D	<0.311	:		
Lead	mg/L	T	-			
Lead	mg/L	D	<0.00013	:		
Magnesium	mg/L	T	-			
Magnesium	mg/L	D	10.	:		
Manganese	mg/L	T	-			
Manganese	mg/L	D	0.126	:		
Mercury	mg/L	T	-			
Mercury	mg/L	D	<0.0001	:		
Molybdenum	mg/L	T	-			
Molybdenum	mg/L	D	0.0279	:		
Nickel	mg/L	T	-			
Nickel	mg/L	D	<0.0061	:		
Potassium	mg/L	T	-			
Potassium	mg/L	D	<1.45	:		
Selenium	mg/L	T	-			
Selenium	mg/L	D	<0.0005	:		
Silver	mg/L	T	-			
Silver	mg/L	D	<0.0001	:		
Sodium	mg/L	T	-			
Sodium	mg/L	D	<9.59	:		
Thallium	mg/L	T	-			
Thallium	mg/L	D	<0.0001	:		
Vanadium	mg/L	T	-			
Vanadium	mg/L	D	0.00027	J		
Zinc	mg/L	T	-			
Zinc	mg/L	D	<0.0203	J		

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	
			ISCO LR-16	4/22/2003	ISCO-LR-16-D05N-SFW SNOW	
Chromium	mg/L	D	<0.001	:		
Cobalt	mg/L	T	-			
Cobalt	mg/L	D	<0.0038	:		
Copper	mg/L	T	-			
Copper	mg/L	D	0.0035	:		
Iron	mg/L	T	-			
Iron	mg/L	D	<0.311	:		
Lead	mg/L	T	-			
Lead	mg/L	D	<0.0011	:		
Magnesium	mg/L	T	-			
Magnesium	mg/L	D	9.88	:		
Manganese	mg/L	T	-			
Manganese	mg/L	D	0.13	:		
Mercury	mg/L	T	-			
Mercury	mg/L	D	<0.0001	:		
Molybdenum	mg/L	T	-			
Molybdenum	mg/L	D	0.0269	:		
Nickel	mg/L	T	-			
Nickel	mg/L	D	<0.0054	:		
Potassium	mg/L	T	-			
Potassium	mg/L	D	<1.37	:		
Selenium	mg/L	T	-			
Selenium	mg/L	D	0.0011	:		
Silver	mg/L	T	-			
Silver	mg/L	D	<0.0001	:		
Sodium	mg/L	T	-			
Sodium	mg/L	D	<9.19	:		
Thallium	mg/L	T	-			
Thallium	mg/L	D	<0.0001	:		
Vanadium	mg/L	T	-			
Vanadium	mg/L	D	0.00017	J		
Zinc	mg/L	T	-			
Zinc	mg/L	D	<0.0206	J		

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	
			ISCO LR-16	4/24/2003	ISCO-LR-16-T12N-SFW SNOW	
Chromium	mg/L	D	-			
Cobalt	mg/L	T	<0.0038	:		
Cobalt	mg/L	D	-			
Copper	mg/L	T	0.0055	:		
Copper	mg/L	D	-			
Iron	mg/L	T	<0.125	:		
Iron	mg/L	D	-			
Lead	mg/L	T	<0.0001	J		
Lead	mg/L	D	-			
Magnesium	mg/L	T	10.	:		
Magnesium	mg/L	D	-			
Manganese	mg/L	T	0.0595	J		
Manganese	mg/L	D	-			
Mercury	mg/L	T	<0.0001	:		
Mercury	mg/L	D	-			
Molybdenum	mg/L	T	0.0294	:		
Molybdenum	mg/L	D	-			
Nickel	mg/L	T	0.0037	:		
Nickel	mg/L	D	-			
Potassium	mg/L	T	1.57	:		
Potassium	mg/L	D	-			
Selenium	mg/L	T	<0.0005	:		
Selenium	mg/L	D	-			
Silver	mg/L	T	<0.0001	:		
Silver	mg/L	D	-			
Sodium	mg/L	T	8.52	:		
Sodium	mg/L	D	-			
Thallium	mg/L	T	<0.0001	:		
Thallium	mg/L	D	-			
Vanadium	mg/L	T	0.00044	J		
Vanadium	mg/L	D	-			
Zinc	mg/L	T	0.0261	J		
Zinc	mg/L	D	-			

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	
			ISCO LR-16	4/24/2003	ISCO-LR-16-T11N-SFW SNOW	
Chromium	mg/L	D	-			
Cobalt	mg/L	T	<0.0038	:		
Cobalt	mg/L	D	-			
Copper	mg/L	T	0.0127	:		
Copper	mg/L	D	-			
Iron	mg/L	T	0.451	:		
Iron	mg/L	D	-			
Lead	mg/L	T	0.0073	:		
Lead	mg/L	D	-			
Magnesium	mg/L	T	10.3	:		
Magnesium	mg/L	D	-			
Manganese	mg/L	T	0.173	:		
Manganese	mg/L	D	-			
Mercury	mg/L	T	<0.0001	:		
Mercury	mg/L	D	-			
Molybdenum	mg/L	T	0.0283	:		
Molybdenum	mg/L	D	-			
Nickel	mg/L	T	0.0096	:		
Nickel	mg/L	D	-			
Potassium	mg/L	T	1.62	:		
Potassium	mg/L	D	-			
Selenium	mg/L	T	<0.0005	:		
Selenium	mg/L	D	-			
Silver	mg/L	T	<0.0001	:		
Silver	mg/L	D	-			
Sodium	mg/L	T	8.68	:		
Sodium	mg/L	D	-			
Thallium	mg/L	T	<0.0001	:		
Thallium	mg/L	D	-			
Vanadium	mg/L	T	0.00058	J		
Vanadium	mg/L	D	-			
Zinc	mg/L	T	0.0686	J		
Zinc	mg/L	D	-			

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	
			ISCO LR-16	4/24/2003	ISCO-LR-16-T10N-SFW SNOW	
Chromium	mg/L	D	-			
Cobalt	mg/L	T	<0.0038	:		
Cobalt	mg/L	D	-			
Copper	mg/L	T	0.0128	:		
Copper	mg/L	D	-			
Iron	mg/L	T	0.432	:		
Iron	mg/L	D	-			
Lead	mg/L	T	0.00091	:		
Lead	mg/L	D	-			
Magnesium	mg/L	T	9.44	:		
Magnesium	mg/L	D	-			
Manganese	mg/L	T	0.163	:		
Manganese	mg/L	D	-			
Mercury	mg/L	T	<0.0001	:		
Mercury	mg/L	D	-			
Molybdenum	mg/L	T	0.0252	:		
Molybdenum	mg/L	D	-			
Nickel	mg/L	T	0.0098	:		
Nickel	mg/L	D	-			
Potassium	mg/L	T	1.47	:		
Potassium	mg/L	D	-			
Selenium	mg/L	T	<0.0005	:		
Selenium	mg/L	D	-			
Silver	mg/L	T	<0.0001	:		
Silver	mg/L	D	-			
Sodium	mg/L	T	7.93	:		
Sodium	mg/L	D	-			
Thallium	mg/L	T	<0.0001	:		
Thallium	mg/L	D	-			
Vanadium	mg/L	T	0.00051	J		
Vanadium	mg/L	D	-			
Zinc	mg/L	T	0.069	J		
Zinc	mg/L	D	-			

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Fraction	ISCO LR-16		ISCO LR-16		ISCO LR-16		ISCO LR-16		ISCO LR-16		ISCO LR-16	
Sample Date			4/24/2003		4/24/2003		4/24/2003		4/24/2003		4/24/2003		4/24/2003	
Sample ID			ISCO-LR-16-T09N-SFW		ISCO-LR-16-T04N-SFW		ISCO-LR-16-T03N-SFW		ISCO-LR-16-T02N-SFW		ISCO-LR-16-T01N-SFW		ISCO-LR-16-D12N-SFW	
Exposure Area			SNOW		SNOW		SNOW		SNOW		SNOW		SNOW	
Field Measurements														
pH	SU	T	7.6	J	7.92	:	7.91	:	7.86	:	7.75	:	-	
Specific Conductance	uS/cm	T	-		358.	:	357.	:	357.	:	355.	:	-	
General Chemistry														
Chloride	mg/L	T	4.9	:	-		-		-		-		-	
Fluoride	mg/L	T	0.71	:	-		-		-		-		-	
Nitrate	mg/L	T	<0.4	J	-		-		-		-		-	
Nitrite	mg/L	T	<0.005	J	-		-		-		-		-	
Sulfate	mg/L	T	106.	J	-		-		-		-		-	
Total Dissolved Solids	mg/L	T	246.	:	-		-		-		-		-	
Total Suspended Solids	mg/L	T	18.7	:	-		-		-		-		-	
Laboratory Parameters														
pH	SU	T	7.6	J	7.92	:	7.91	:	7.86	:	7.75	:	-	
Specific Conductance	umhos/cm	T	329.	J	-		-		-		-		-	
Physical Properties														
Hardness	mg/L	T	154.	:	-		-		-		-		-	
Hardness	mg/L	D	-		-		-		-		-		158.	:
Metals														
Aluminum	mg/L	T	1.08	:	-		-		-		-		-	
Aluminum	mg/L	D	-		-		-		-		-		<0.156	:
Antimony	mg/L	T	<0.0003	:	-		-		-		-		-	
Antimony	mg/L	D	-		-		-		-		-		<0.0003	:
Arsenic	mg/L	T	<0.0002	:	-		-		-		-		-	
Arsenic	mg/L	D	-		-		-		-		-		<0.0002	:
Barium	mg/L	T	0.0371	:	-		-		-		-		-	
Barium	mg/L	D	-		-		-		-		-		0.0313	:
Beryllium	mg/L	T	0.00034	:	-		-		-		-		-	
Beryllium	mg/L	D	-		-		-		-		-		<0.0003	:
Boron	mg/L	T	<0.0084	:	-		-		-		-		-	
Boron	mg/L	D	-		-		-		-		-		0.0094	:
Cadmium	mg/L	T	0.0002	:	-		-		-		-		-	
Cadmium	mg/L	D	-		-		-		-		-		0.00013	:
Calcium	mg/L	T	46.1	:	-		-		-		-		-	
Calcium	mg/L	D	-		-		-		-		-		47.1	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Fraction	ISCO LR-16		ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	
Sample Date			4/24/2003		4/24/2003	4/24/2003	4/24/2003	4/24/2003	4/24/2003	
Sample ID			ISCO-LR-16-T09N-SFW		ISCO-LR-16-T04N-SFW	ISCO-LR-16-T03N-SFW	ISCO-LR-16-T02N-SFW	ISCO-LR-16-T01N-SFW	ISCO-LR-16-D12N-SFW	
Exposure Area			SNOW		SNOW	SNOW	SNOW	SNOW	SNOW	
Chromium	mg/L	T	<0.001	:	-	-	-	-	-	
Chromium	mg/L	D	-		-	-	-	-	<0.001	:
Cobalt	mg/L	T	<0.0038	:	-	-	-	-	-	
Cobalt	mg/L	D	-		-	-	-	-	<0.0038	:
Copper	mg/L	T	0.0128	:	-	-	-	-	-	
Copper	mg/L	D	-		-	-	-	-	0.0039	:
Iron	mg/L	T	0.489	:	-	-	-	-	-	
Iron	mg/L	D	-		-	-	-	-	<0.0311	:
Lead	mg/L	T	0.001	:	-	-	-	-	-	
Lead	mg/L	D	-		-	-	-	-	<0.0001	J
Magnesium	mg/L	T	9.56	:	-	-	-	-	-	
Magnesium	mg/L	D	-		-	-	-	-	9.74	:
Manganese	mg/L	T	0.17	:	-	-	-	-	-	
Manganese	mg/L	D	-		-	-	-	-	0.133	J
Mercury	mg/L	T	<0.0001	:	-	-	-	-	-	
Mercury	mg/L	D	-		-	-	-	-	<0.0001	:
Molybdenum	mg/L	T	0.0256	:	-	-	-	-	-	
Molybdenum	mg/L	D	-		-	-	-	-	0.0282	:
Nickel	mg/L	T	0.0097	:	-	-	-	-	-	
Nickel	mg/L	D	-		-	-	-	-	0.0071	:
Potassium	mg/L	T	1.51	:	-	-	-	-	-	
Potassium	mg/L	D	-		-	-	-	-	1.5	:
Selenium	mg/L	T	<0.0005	:	-	-	-	-	-	
Selenium	mg/L	D	-		-	-	-	-	<0.0005	:
Silver	mg/L	T	<0.0001	:	-	-	-	-	-	
Silver	mg/L	D	-		-	-	-	-	<0.0001	:
Sodium	mg/L	T	8.09	:	-	-	-	-	-	
Sodium	mg/L	D	-		-	-	-	-	8.4	:
Thallium	mg/L	T	<0.0001	:	-	-	-	-	-	
Thallium	mg/L	D	-		-	-	-	-	<0.0001	:
Vanadium	mg/L	T	0.00064	J	-	-	-	-	-	
Vanadium	mg/L	D	-		-	-	-	-	0.00038	J
Zinc	mg/L	T	0.0686	J	-	-	-	-	-	
Zinc	mg/L	D	-		-	-	-	-	0.0207	J

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO LR-16 4/24/2003 ISCO-LR-16-D11N-SFW SNOW	ISCO LR-16 4/24/2003 ISCO-LR-16-D10N-SFW SNOW	ISCO LR-16 4/24/2003 ISCO-LR-16-D09N-SFW SNOW	ISCO LR-16 7/28/2003 ISCO-LR-16-T04N-SFW ST1	ISCO LR-16 7/28/2003 ISCO-LR-16-T03N-SFW ST1	ISCO LR-16 7/28/2003 ISCO-LR-16-T02N-SFW ST1
Field Measurements								
pH	SU	T	-	-	-	7. :	6.85 :	6.73 :
Specific Conductance	uS/cm	T	-	-	-	339. :	344. :	354. :
General Chemistry								
Chloride	mg/L	T	-	-	-	4. :	4. :	4.2 :
Fluoride	mg/L	T	-	-	-	0.67 :	0.68 :	0.68 :
Nitrate	mg/L	T	-	-	-	<0.4 J	0.43 J	0.41 J
Nitrite	mg/L	T	-	-	-	<0.005 J	<0.005 J	<0.005 J
Sulfate	mg/L	T	-	-	-	97.1 :	114. :	112. :
Total Dissolved Solids	mg/L	T	-	-	-	<270. :	264. :	322. :
Total Suspended Solids	mg/L	T	-	-	-	414. :	600. :	1160. :
Laboratory Parameters								
pH	SU	T	-	-	-	7. :	6.85 :	6.73 :
Physical Properties								
Hardness	mg/L	T	-	-	-	168. :	172. :	188. :
Hardness	mg/L	D	164. :	161. :	164. :	-	-	-
Metals								
Aluminum	mg/L	T	-	-	-	4.84 J	8.15 J	10.6 J
Aluminum	mg/L	D	<0.188 :	<0.181 :	<0.19 :	-	-	-
Antimony	mg/L	T	-	-	-	<0.0005 :	<0.0005 :	<0.0021 :
Antimony	mg/L	D	<0.0003 :	<0.0003 :	<0.0003 :	-	-	-
Arsenic	mg/L	T	-	-	-	0.0012 :	0.0017 :	0.0013 :
Arsenic	mg/L	D	<0.0002 :	<0.0002 :	<0.0002 :	-	-	-
Barium	mg/L	T	-	-	-	0.0755 :	0.0927 :	0.115 :
Barium	mg/L	D	0.0324 :	0.0317 :	0.0324 :	-	-	-
Beryllium	mg/L	T	-	-	-	<0.0015 :	0.0029 :	0.0036 :
Beryllium	mg/L	D	<0.0003 :	<0.0003 :	<0.0003 :	-	-	-
Boron	mg/L	T	-	-	-	0.0098 :	0.0095 :	0.0104 :
Boron	mg/L	D	0.0091 :	0.0089 :	0.0107 :	-	-	-
Cadmium	mg/L	T	-	-	-	0.00099 :	0.0016 :	0.002 :
Cadmium	mg/L	D	0.0002 :	0.00012 :	0.00016 :	-	-	-
Calcium	mg/L	T	-	-	-	50.9 :	52. :	56.9 :
Calcium	mg/L	D	49. :	48. :	49. :	-	-	-
Chromium	mg/L	T	-	-	-	0.0041 :	0.0058 :	0.0075 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16
			Sample Date	4/24/2003	4/24/2003	4/24/2003	7/28/2003	7/28/2003	7/28/2003
			Sample ID	ISCO-LR-16-D11N-SFW SNOW	ISCO-LR-16-D10N-SFW SNOW	ISCO-LR-16-D09N-SFW SNOW	ISCO-LR-16-T04N-SFW ST1	ISCO-LR-16-T03N-SFW ST1	ISCO-LR-16-T02N-SFW ST1
Chromium	mg/L	D		<0.001 :	<0.001 :	<0.001 :	-	-	-
Cobalt	mg/L	T		-	-	-	0.0084 :	0.0135 :	0.0155 :
Cobalt	mg/L	D		<0.0038 :	<0.0038 :	<0.0038 :	-	-	-
Copper	mg/L	T		-	-	-	0.0467 :	0.0795 :	0.114 :
Copper	mg/L	D		0.0039 :	0.0039 :	0.0039 :	-	-	-
Iron	mg/L	T		-	-	-	5.56 :	9.24 :	13.6 :
Iron	mg/L	D		<0.0311 :	<0.0311 :	<0.0313 :	-	-	-
Lead	mg/L	T		-	-	-	0.0064 :	0.0083 :	0.0122 :
Lead	mg/L	D		<0.0001 J	<0.0001 J	<0.0001 J	-	-	-
Magnesium	mg/L	T		-	-	-	9.88 :	10.2 :	11.2 :
Magnesium	mg/L	D		10.1 :	9.94 :	10.2 :	-	-	-
Manganese	mg/L	T		-	-	-	0.583 :	0.9 :	1.15 :
Manganese	mg/L	D		0.14 :	0.138 :	0.144 :	-	-	-
Mercury	mg/L	T		-	-	-	<0.00011 J	<0.0004 J	<0.0003 :
Mercury	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Molybdenum	mg/L	T		-	-	-	0.0101 J	0.0071 J	0.0064 J
Molybdenum	mg/L	D		0.0295 :	0.0292 :	0.0292 :	-	-	-
Nickel	mg/L	T		-	-	-	0.0242 :	0.0377 :	0.0533 :
Nickel	mg/L	D		0.0072 :	0.0072 :	0.008 :	-	-	-
Potassium	mg/L	T		-	-	-	2.19 :	2.24 :	2.4 :
Potassium	mg/L	D		1.58 :	1.54 :	1.56 :	-	-	-
Selenium	mg/L	T		-	-	-	0.00095 :	0.0011 :	0.0022 :
Selenium	mg/L	D		<0.0005 :	<0.0005 :	<0.0005 :	-	-	-
Silver	mg/L	T		-	-	-	<0.0001 :	<0.0001 :	0.00011 J
Silver	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Sodium	mg/L	T		-	-	-	8.38 :	8.16 :	8.65 :
Sodium	mg/L	D		8.66 :	8.52 :	8.61 :	-	-	-
Thallium	mg/L	T		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Thallium	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Vanadium	mg/L	T		-	-	-	0.004 :	0.0058 :	0.0013 :
Vanadium	mg/L	D		0.00034 J	0.00034 J	0.00036 J	-	-	-
Zinc	mg/L	T		-	-	-	0.282 :	0.499 :	0.634 :
Zinc	mg/L	D		0.0274 J	0.0223 J	0.0299 J	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16
			Sample Date	7/28/2003	7/28/2003	7/28/2003	7/28/2003	7/28/2003	8/13/2003
			Sample ID	ISCO-LR-16-T01N-SFW	ISCO-LR-16-D04N-SFW	ISCO-LR-16-D03N-SFW	ISCO-LR-16-D02N-SFW	ISCO-LR-16-D01N-SFW	ISCO-LR-16-T04N-SFW
				ST1	ST1	ST1	ST1	ST1	ST2
Field Measurements									
pH	SU	T		6.41 :	-	-	-	-	7.9 J
Specific Conductance	uS/cm	T		377. :	-	-	-	-	430. :
General Chemistry									
Bicarbonate (as CaCO3)	mg/L	T		-	-	-	-	-	74.9 :
Carbonate (as CaCO3)	mg/L	T		-	-	-	-	-	<1. :
Chloride	mg/L	T		4.4 :	-	-	-	-	5.1 J
Fluoride	mg/L	T		0.68 :	-	-	-	-	0.79 :
Hydroxide (as CaCO3)	mg/L	T		-	-	-	-	-	<1. :
Nitrate	mg/L	T		0.4 J	-	-	-	-	0.26 :
Nitrite	mg/L	T		<0.005 J	-	-	-	-	<0.005 J
Sulfate	mg/L	T		105. :	-	-	-	-	124. J
Total Alkalinity	mg/L	T		-	-	-	-	-	74.9 :
Total Dissolved Solids	mg/L	T		<286. :	-	-	-	-	330. :
Total Suspended Solids	mg/L	T		573. :	-	-	-	-	12. :
Laboratory Parameters									
pH	SU	T		6.41 :	-	-	-	-	7.9 J
Specific Conductance	umhos/cm	T		-	-	-	-	-	379. J
Physical Properties									
Hardness	mg/L	T		203. :	-	-	-	-	198. :
Hardness	mg/L	D		-	156. :	160. :	170. :	179. :	-
Metals									
Aluminum	mg/L	T		11.3 J	-	-	-	-	2.3 J
Aluminum	mg/L	D		-	0.106 :	<0.0806 :	0.0403 J	0.0328 J	-
Antimony	mg/L	T		<0.0005 :	-	-	-	-	<0.0005 J
Antimony	mg/L	D		-	<0.00052 :	<0.0005 :	<0.0005 :	<0.0005 :	-
Arsenic	mg/L	T		0.0022 :	-	-	-	-	0.00075 J
Arsenic	mg/L	D		-	0.00021 :	<0.0002 :	<0.0002 :	<0.0002 :	-
Barium	mg/L	T		0.117 :	-	-	-	-	0.0915 :
Barium	mg/L	D		-	0.0242 :	0.023 :	0.0224 :	0.024 :	-
Beryllium	mg/L	T		0.0042 :	-	-	-	-	0.00023 J
Beryllium	mg/L	D		-	<0.0002 :	<0.0002 :	<0.0002 :	<0.0002 :	-
Boron	mg/L	T		0.0128 :	-	-	-	-	0.0171 :
Boron	mg/L	D		-	0.0146 :	0.0092 :	0.0094 :	0.0107 :	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO LR-16 7/28/2003 ISCO-LR-16-T01N-SFW ST1		ISCO LR-16 7/28/2003 ISCO-LR-16-D04N-SFW ST1		ISCO LR-16 7/28/2003 ISCO-LR-16-D03N-SFW ST1		ISCO LR-16 7/28/2003 ISCO-LR-16-D02N-SFW ST1		ISCO LR-16 7/28/2003 ISCO-LR-16-D01N-SFW ST1		ISCO LR-16 8/13/2003 ISCO-LR-16-T04N-SFW ST2	
Cadmium	mg/L	T	0.0033	:	-		-		-		-		0.00049	:
Cadmium	mg/L	D	-		<0.0002	:	<0.0002	:	<0.0002	:	<0.0002	:	-	
Calcium	mg/L	T	61.8	:	-		-		-		-		59.4	:
Calcium	mg/L	D	-		47.8	:	49.	:	52.3	:	55.3	:	-	
Chromium	mg/L	T	0.0086	:	-		-		-		-		0.0023	:
Chromium	mg/L	D	-		<0.00082	:	<0.00078	:	<0.0014	:	<0.0014	:	-	
Cobalt	mg/L	T	0.0233	:	-		-		-		-		0.0022	:
Cobalt	mg/L	D	-		0.0031	:	0.0025	:	0.0025	:	0.0026	:	-	
Copper	mg/L	T	0.121	:	-		-		-		-		0.0138	:
Copper	mg/L	D	-		0.0024	:	0.0026	:	<0.0028	:	<0.0027	:	-	
Iron	mg/L	T	14.2	:	-		-		-		-		2.73	:
Iron	mg/L	D	-		<0.0592	:	<0.0345	:	<0.0333	:	<0.0333	:	-	
Lead	mg/L	T	0.0095	:	-		-		-		-		0.0086	J
Lead	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Magnesium	mg/L	T	11.9	:	-		-		-		-		12.1	:
Magnesium	mg/L	D	-		8.9	:	9.13	:	9.59	:	10.	:	-	
Manganese	mg/L	T	1.83	:	-		-		-		-		0.238	:
Manganese	mg/L	D	-		0.135	:	0.146	:	0.128	:	0.135	:	-	
Mercury	mg/L	T	0.00065	:	-		-		-		-		<0.0001	:
Mercury	mg/L	D	-		<0.0001	J	<0.00011	J	<0.0001	:	<0.0001	:	-	
Molybdenum	mg/L	T	0.0075	J	-		-		-		-		0.051	J
Molybdenum	mg/L	D	-		0.0252	J	0.0254	J	0.025	J	0.0331	J	-	
Nickel	mg/L	T	0.0769	:	-		-		-		-		0.0105	:
Nickel	mg/L	D	-		0.0028	:	0.0029	:	0.0034	:	0.0029	:	-	
Potassium	mg/L	T	2.36	:	-		-		-		-		2.61	:
Potassium	mg/L	D	-		1.91	:	1.93	:	1.89	:	1.87	:	-	
Selenium	mg/L	T	0.0014	:	-		-		-		-		<0.0008	:
Selenium	mg/L	D	-		<0.0008	:	<0.0008	:	<0.0008	:	<0.0008	:	-	
Silver	mg/L	T	<0.0001	:	-		-		-		-		<0.0001	:
Silver	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Sodium	mg/L	T	9.87	:	-		-		-		-		13.1	:
Sodium	mg/L	D	-		8.57	:	8.66	:	8.74	:	9.76	:	-	
Thallium	mg/L	T	<0.0001	:	-		-		-		-		<0.0001	:
Thallium	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID													
			ISCO LR-16	7/28/2003	ISCO-LR-16-T01N-SFW ST1		ISCO LR-16	7/28/2003	ISCO-LR-16-D04N-SFW ST1		ISCO LR-16	7/28/2003	ISCO-LR-16-D03N-SFW ST1		ISCO LR-16	7/28/2003	ISCO-LR-16-D02N-SFW ST1		ISCO LR-16	7/28/2003	ISCO-LR-16-D01N-SFW ST1		ISCO LR-16	8/13/2003	ISCO-LR-16-T04N-SFW ST2	
Vanadium	mg/L	T	0.01	:	-		-			-					0.0025	J		
Vanadium	mg/L	D	-		<0.0002	:	<0.0002	:		<0.0002	:		<0.0002	:	-			
Zinc	mg/L	T	0.93	:	-		-			-					0.0878	:		
Zinc	mg/L	D	-		0.0062	:	0.0096	:		<0.0056	:		<0.0061	:	-			

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16
			Sample Date	8/13/2003	8/13/2003	8/13/2003	8/13/2003	8/14/2003	8/14/2003
			Sample ID	ISCO-LR-16-T03N-SF	ISCO-LR-16-T02N-SF	ISCO-LR-16-T01N-SF	ISCO-LR-16-D04N-SF	ISCO-LR-16-T03N-SF	ISCO-LR-16-T02N-SF
				W ST2	W ST2	W ST2	W ST2	W ST2	W ST2
Field Measurements									
pH	SU	T		8.29 :	8.27 :	8.16 :	-	8. J	8. J
Specific Conductance	uS/cm	T		429. :	430. :	431. :	-	-	-
General Chemistry									
Bicarbonate (as CaCO3)	mg/L	T		-	-	-	-	75.9 :	76.2 :
Carbonate (as CaCO3)	mg/L	T		-	-	-	-	<1. :	<1. :
Chloride	mg/L	T		-	-	-	-	4.7 J	5. J
Fluoride	mg/L	T		-	-	-	-	0.79 :	0.79 :
Hydroxide (as CaCO3)	mg/L	T		-	-	-	-	<1. :	<1. :
Nitrate	mg/L	T		-	-	-	-	0.25 :	0.24 :
Nitrite	mg/L	T		-	-	-	-	<0.005 :	<0.005 :
Sulfate	mg/L	T		-	-	-	-	109. J	130. J
Total Alkalinity	mg/L	T		-	-	-	-	75.9 :	76.2 :
Total Dissolved Solids	mg/L	T		-	-	-	-	320. :	298. :
Total Suspended Solids	mg/L	T		-	-	-	-	7.9 :	9.8 :
Laboratory Parameters									
pH	SU	T		8.29 :	8.27 :	8.16 :	-	8. J	8. J
Specific Conductance	umhos/cm	T		-	-	-	-	415. J	411. J
Physical Properties									
Hardness	mg/L	T		-	-	-	-	194. :	197. :
Hardness	mg/L	D		-	-	-	187. :	-	-
Metals									
Aluminum	mg/L	T		-	-	-	-	1.5 J	2.16 J
Aluminum	mg/L	D		-	-	-	<0.0876 :	-	-
Antimony	mg/L	T		-	-	-	-	<0.0005 J	<0.0005 J
Antimony	mg/L	D		-	-	-	<0.0005 :	-	-
Arsenic	mg/L	T		-	-	-	-	0.00063 J	0.0008 J
Arsenic	mg/L	D		-	-	-	<0.0002 J	-	-
Barium	mg/L	T		-	-	-	-	0.0525 :	0.0582 :
Barium	mg/L	D		-	-	-	0.0331 :	-	-
Beryllium	mg/L	T		-	-	-	-	0.00046 :	0.00064 :
Beryllium	mg/L	D		-	-	-	<0.0002 J	-	-
Boron	mg/L	T		-	-	-	-	0.0156 :	0.016 :
Boron	mg/L	D		-	-	-	0.0153 :	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO LR-16 8/13/2003 ISCO-LR-16-T03N-SF W ST2	ISCO LR-16 8/13/2003 ISCO-LR-16-T02N-SF W ST2	ISCO LR-16 8/13/2003 ISCO-LR-16-T01N-SF W ST2	ISCO LR-16 8/13/2003 ISCO-LR-16-D04N-SF W ST2	ISCO LR-16 8/14/2003 ISCO-LR-16-T03N-SF W ST2	ISCO LR-16 8/14/2003 ISCO-LR-16-T02N-SF W ST2
Cadmium	mg/L	T	-	-	-	-	0.00081 :	0.0011 :
Cadmium	mg/L	D	-	-	-	<0.0002 :	-	-
Calcium	mg/L	T	-	-	-	-	58.7 :	59.3 :
Calcium	mg/L	D	-	-	-	56.6 :	-	-
Chromium	mg/L	T	-	-	-	-	<0.0014 J	<0.0014 J
Chromium	mg/L	D	-	-	-	0.00082 :	-	-
Cobalt	mg/L	T	-	-	-	-	0.0027 :	0.0036 :
Cobalt	mg/L	D	-	-	-	<0.0018 :	-	-
Copper	mg/L	T	-	-	-	-	0.0151 :	0.0211 :
Copper	mg/L	D	-	-	-	0.002 :	-	-
Iron	mg/L	T	-	-	-	-	1.82 :	2.59 :
Iron	mg/L	D	-	-	-	<0.0168 :	-	-
Lead	mg/L	T	-	-	-	-	0.0028 J	0.0039 J
Lead	mg/L	D	-	-	-	<0.0001 :	-	-
Magnesium	mg/L	T	-	-	-	-	11.6 :	11.8 :
Magnesium	mg/L	D	-	-	-	11.2 :	-	-
Manganese	mg/L	T	-	-	-	-	0.299 :	0.394 :
Manganese	mg/L	D	-	-	-	0.114 :	-	-
Mercury	mg/L	T	-	-	-	-	<0.0001 J	<0.0001 J
Mercury	mg/L	D	-	-	-	<0.0001 :	-	-
Molybdenum	mg/L	T	-	-	-	-	0.0412 J	0.0383 J
Molybdenum	mg/L	D	-	-	-	0.0515 J	-	-
Nickel	mg/L	T	-	-	-	-	0.0134 :	0.0171 :
Nickel	mg/L	D	-	-	-	0.0049 :	-	-
Potassium	mg/L	T	-	-	-	-	2.03 :	2.12 :
Potassium	mg/L	D	-	-	-	1.76 :	-	-
Selenium	mg/L	T	-	-	-	-	<0.0008 :	<0.0008 :
Selenium	mg/L	D	-	-	-	<0.0008 :	-	-
Silver	mg/L	T	-	-	-	-	<0.0001 :	<0.0001 :
Silver	mg/L	D	-	-	-	<0.0001 :	-	-
Sodium	mg/L	T	-	-	-	-	12.8 :	12.9 :
Sodium	mg/L	D	-	-	-	12.8 :	-	-
Thallium	mg/L	T	-	-	-	-	<0.0001 :	<0.0001 :
Thallium	mg/L	D	-	-	-	<0.0001 :	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	
			ISCO LR-16	8/13/2003	ISCO-LR-16-T03N-SF W ST2	
			ISCO LR-16	8/13/2003	ISCO-LR-16-T02N-SF W ST2	
			ISCO LR-16	8/13/2003	ISCO-LR-16-T01N-SF W ST2	
			ISCO LR-16	8/13/2003	ISCO-LR-16-D04N-SF W ST2	
			ISCO LR-16	8/14/2003	ISCO-LR-16-T03N-SF W ST2	
			ISCO LR-16	8/14/2003	ISCO-LR-16-T02N-SF W ST2	
Vanadium	mg/L	T	-	-	-	-	0.0015 J	0.0019 J
Vanadium	mg/L	D	-	-	-	0.00036 :	-	-
Zinc	mg/L	T	-	-	-	-	0.126 :	0.181 :
Zinc	mg/L	D	-	-	-	0.0278 :	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO LR-16 8/14/2003 ISCO-LR-16-T01N-SFW ST2		ISCO LR-16 8/14/2003 ISCO-LR-16-D03N-SFW ST2		ISCO LR-16 8/14/2003 ISCO-LR-16-D02N-SFW ST2		ISCO LR-16 8/14/2003 ISCO-LR-16-D01N-SFW ST2		ISCO LR-16 9/6/2003 ISCO-LR-16-T04N-SFW ST4		ISCO LR-16 9/6/2003 ISCO-LR-16-T03N-SFW ST4	
Field Measurements														
pH	SU	T	8.1	J	-		-		-		7.31	:	7.22	:
Specific Conductance	uS/cm	T	-		-		-		-		426.	:	419.	:
General Chemistry														
Bicarbonate (as CaCO3)	mg/L	T	75.9	:	-		-		-		-		-	
Carbonate (as CaCO3)	mg/L	T	<1.	:	-		-		-		-		-	
Chloride	mg/L	T	4.8	J	-		-		-		4.8	:	4.8	:
Fluoride	mg/L	T	0.77	:	-		-		-		0.73	:	0.73	:
Hydroxide (as CaCO3)	mg/L	T	<1.	:	-		-		-		-		-	
Nitrate	mg/L	T	0.24	:	-		-		-		0.28	J	0.29	J
Nitrite	mg/L	T	<0.005	:	-		-		-		<0.005	J	<0.005	J
Sulfate	mg/L	T	116.	J	-		-		-		169.	:	166.	:
Total Alkalinity	mg/L	T	75.9	:	-		-		-		-		-	
Total Dissolved Solids	mg/L	T	332.	:	-		-		-		390.	:	354.	:
Total Suspended Solids	mg/L	T	12.8	:	-		-		-		490.	:	554.	:
Laboratory Parameters														
pH	SU	T	8.1	J	-		-		-		7.31	:	7.22	:
Specific Conductance	umhos/cm	T	410.	J	-		-		-		-		-	
Physical Properties														
Hardness	mg/L	T	196.	:	-		-		-		221.	:	238.	:
Hardness	mg/L	D	-		196.	:	194.	:	191.	:	-		-	
Metals														
Aluminum	mg/L	T	4.27	J	-		-		-		15.2	:	21.2	:
Aluminum	mg/L	D	-		0.0742	:	0.0748	:	0.064	:	-		-	
Antimony	mg/L	T	<0.0005	J	-		-		-		<0.001	J	<0.001	J
Antimony	mg/L	D	-		<0.0005	:	<0.0005	:	<0.0005	:	-		-	
Arsenic	mg/L	T	0.0014	J	-		-		-		0.0076	J	0.0111	J
Arsenic	mg/L	D	-		<0.0002	J	0.00024	J	<0.0002	J	-		-	
Barium	mg/L	T	0.0744	:	-		-		-		0.489	:	0.766	:
Barium	mg/L	D	-		0.0341	:	0.0339	:	0.0332	:	-		-	
Beryllium	mg/L	T	0.0014	:	-		-		-		0.0017	:	0.0036	:
Beryllium	mg/L	D	-		<0.0002	:	<0.0002	:	<0.0002	:	-		-	
Boron	mg/L	T	0.0164	:	-		-		-		0.014	:	0.0155	:
Boron	mg/L	D	-		0.0158	:	0.0157	:	0.0152	:	-		-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO LR-16 8/14/2003 ISCO-LR-16-T01N-SFW ST2		ISCO LR-16 8/14/2003 ISCO-LR-16-D03N-SFW ST2		ISCO LR-16 8/14/2003 ISCO-LR-16-D02N-SFW ST2		ISCO LR-16 8/14/2003 ISCO-LR-16-D01N-SFW ST2		ISCO LR-16 9/6/2003 ISCO-LR-16-T04N-SFW ST4		ISCO LR-16 9/6/2003 ISCO-LR-16-T03N-SFW ST4	
Cadmium	mg/L	T	0.0014	:	-		-		-		0.0011	J	0.0023	J
Cadmium	mg/L	D	-		<0.0002	:	<0.0002	:	0.00021	:	-		-	
Calcium	mg/L	T	59.1	:	-		-		-		61.7	:	65.4	:
Calcium	mg/L	D	-		59.2	:	58.6	:	57.9	:	-		-	
Chromium	mg/L	T	<0.0014	J	-		-		-		0.015	:	0.0228	:
Chromium	mg/L	D	-		<0.0014	J	<0.0014	J	<0.0014	J	-		-	
Cobalt	mg/L	T	0.0079	:	-		-		-		0.013	:	0.0256	:
Cobalt	mg/L	D	-		<0.002	:	<0.002	:	<0.002	:	-		-	
Copper	mg/L	T	0.0442	:	-		-		-		0.0676	:	0.133	:
Copper	mg/L	D	-		0.002	:	0.002	:	0.0019	:	-		-	
Iron	mg/L	T	4.98	:	-		-		-		36.2	:	52.9	:
Iron	mg/L	D	-		<0.0333	:	<0.0333	:	<0.0333	:	-		-	
Lead	mg/L	T	0.0066	J	-		-		-		0.144	J	0.201	J
Lead	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	-		-	
Magnesium	mg/L	T	11.8	:	-		-		-		16.3	:	18.2	:
Magnesium	mg/L	D	-		11.6	:	11.5	:	11.4	:	-		-	
Manganese	mg/L	T	0.7	:	-		-		-		0.801	:	1.76	:
Manganese	mg/L	D	-		0.118	:	0.115	:	0.111	:	-		-	
Mercury	mg/L	T	<0.0001	J	-		-		-		<0.00012	:	<0.00015	:
Mercury	mg/L	D	-		<0.0001	J	<0.0001	J	<0.0001	J	-		-	
Molybdenum	mg/L	T	0.0284	J	-		-		-		0.0547	J	0.052	J
Molybdenum	mg/L	D	-		0.0533	J	0.0534	J	0.0531	J	-		-	
Nickel	mg/L	T	0.0325	:	-		-		-		0.0386	:	0.0799	:
Nickel	mg/L	D	-		0.0055	:	0.005	:	0.0049	:	-		-	
Potassium	mg/L	T	2.15	:	-		-		-		8.62	J	9.48	J
Potassium	mg/L	D	-		2.02	:	2.	:	1.98	:	-		-	
Selenium	mg/L	T	0.001	:	-		-		-		0.0016	J	0.0025	J
Selenium	mg/L	D	-		<0.0008	:	<0.0008	:	<0.0008	:	-		-	
Silver	mg/L	T	<0.0001	:	-		-		-		<0.0001	:	<0.0015	:
Silver	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	-		-	
Sodium	mg/L	T	12.5	:	-		-		-		12.3	:	12.	:
Sodium	mg/L	D	-		13.	:	13.1	:	12.5	:	-		-	
Thallium	mg/L	T	<0.0001	:	-		-		-		0.00046	:	0.0006	:
Thallium	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	-		-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID											
			ISCO LR-16	8/14/2003	ISCO-LR-16-T01N-SFW ST2		ISCO LR-16	8/14/2003	ISCO-LR-16-D03N-SFW ST2		ISCO LR-16	8/14/2003	ISCO-LR-16-D02N-SFW ST2		ISCO LR-16	8/14/2003	ISCO-LR-16-D01N-SFW ST2		ISCO LR-16	9/6/2003	ISCO-LR-16-T04N-SFW ST4		ISCO LR-16	9/6/2003	ISCO-LR-16-T03N-SFW ST4	
Vanadium	mg/L	T	0.0032	J	-		-		-		0.0174	:	-		0.0261	:
Vanadium	mg/L	D	-		0.00036	:	0.00046	:	0.00035	:	-		-			
Zinc	mg/L	T	0.371	:	-		-		-		0.329	:	0.78	:		
Zinc	mg/L	D	-		0.0196	:	0.0179	:	0.0156	:	-		-			

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16	ISCO LR-16
			Sample Date	9/6/2003	9/6/2003	9/6/2003	9/6/2003	9/6/2003	9/6/2003
			Sample ID	ISCO-LR-16-T02N-SFW ST4	ISCO-LR-16-T01N-SFW ST4	ISCO-LR-16-D04N-SFW ST4	ISCO-LR-16-D03N-SFW ST4	ISCO-LR-16-D02N-SFW ST4	ISCO-LR-16-D01N-SFW ST4
Field Measurements									
pH	SU	T		7.08 :	6.73 :	-	-	-	-
Specific Conductance	uS/cm	T		431. :	434. :	-	-	-	-
General Chemistry									
Chloride	mg/L	T		4.8 :	4.9 :	-	-	-	-
Fluoride	mg/L	T		0.74 :	0.73 :	-	-	-	-
Nitrate	mg/L	T		0.3 J	0.29 J	-	-	-	-
Nitrite	mg/L	T		<0.005 J	<0.005 J	-	-	-	-
Sulfate	mg/L	T		171. :	163. :	-	-	-	-
Total Dissolved Solids	mg/L	T		340. :	340. :	-	-	-	-
Total Suspended Solids	mg/L	T		442. :	473. :	-	-	-	-
Laboratory Parameters									
pH	SU	T		7.08 :	6.73 :	-	-	-	-
Physical Properties									
Hardness	mg/L	T		220. :	215. :	-	-	-	-
Hardness	mg/L	D		-	-	203. :	210. :	198. :	202. :
Metals									
Aluminum	mg/L	T		9.44 :	10.8 :	-	-	-	-
Aluminum	mg/L	D		-	-	<0.0804 :	<0.0669 :	<0.066 :	<0.0858 :
Antimony	mg/L	T		<0.001 J	<0.001 J	-	-	-	-
Antimony	mg/L	D		-	-	<0.001 :	<0.001 :	<0.001 :	<0.001 :
Arsenic	mg/L	T		0.005 J	0.0057 J	-	-	-	-
Arsenic	mg/L	D		-	-	<0.0002 J	<0.0002 J	<0.0002 J	<0.0002 J
Barium	mg/L	T		0.318 :	0.364 :	-	-	-	-
Barium	mg/L	D		-	-	0.0227 :	0.0248 :	0.0269 :	0.024 :
Beryllium	mg/L	T		0.0011 :	0.0012 :	-	-	-	-
Beryllium	mg/L	D		-	-	<0.0003 :	<0.0003 :	0.00039 :	<0.0003 :
Boron	mg/L	T		0.0174 :	0.0172 :	-	-	-	-
Boron	mg/L	D		-	-	0.0137 :	0.0143 :	0.0127 :	0.013 :
Cadmium	mg/L	T		0.00053 J	0.00056 J	-	-	-	-
Cadmium	mg/L	D		-	-	<0.0002 J	<0.0002 J	<0.0002 J	<0.0002 J
Calcium	mg/L	T		62.7 :	61.2 :	-	-	-	-
Calcium	mg/L	D		-	-	60.2 :	63.5 :	59. :	60.1 :
Chromium	mg/L	T		0.01 :	0.0109 :	-	-	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO LR-16 9/6/2003 ISCO-LR-16-T02N-SFW ST4		ISCO LR-16 9/6/2003 ISCO-LR-16-T01N-SFW ST4		ISCO LR-16 9/6/2003 ISCO-LR-16-D04N-SFW ST4		ISCO LR-16 9/6/2003 ISCO-LR-16-D03N-SFW ST4		ISCO LR-16 9/6/2003 ISCO-LR-16-D02N-SFW ST4		ISCO LR-16 9/6/2003 ISCO-LR-16-D01N-SFW ST4	
Chromium	mg/L	D	-		-		<0.0013	:	<0.0013	:	0.0014	:	<0.0013	:
Cobalt	mg/L	T	0.0082	:	0.0085	:	-		-		-		-	
Cobalt	mg/L	D	-		-		<0.0031	:	<0.0031	:	0.0042	:	<0.0031	:
Copper	mg/L	T	0.0428	:	0.0448	:	-		-		-		-	
Copper	mg/L	D	-		-		<0.0049	:	<0.0034	:	<0.0054	:	<0.0032	:
Iron	mg/L	T	25.2	:	27.7	:	-		-		-		-	
Iron	mg/L	D	-		-		<0.0455	:	<0.0455	:	<0.0455	:	<0.0455	:
Lead	mg/L	T	0.102	J	0.115	J	-		-		-		-	
Lead	mg/L	D	-		-		<0.0002	:	0.00024	:	<0.0002	:	0.00022	:
Magnesium	mg/L	T	15.4	:	15.	:	-		-		-		-	
Magnesium	mg/L	D	-		-		12.8	:	12.6	:	12.2	:	12.7	:
Manganese	mg/L	T	0.467	:	0.474	:	-		-		-		-	
Manganese	mg/L	D	-		-		0.254	:	0.287	:	0.25	:	0.253	:
Mercury	mg/L	T	0.00011	:	0.0001	:	-		-		-		-	
Mercury	mg/L	D	-		-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:
Molybdenum	mg/L	T	0.052	J	0.0549	J	-		-		-		-	
Molybdenum	mg/L	D	-		-		0.0479	:	0.0511	:	0.053	:	0.0494	:
Nickel	mg/L	T	0.0224	:	0.0247	:	-		-		-		-	
Nickel	mg/L	D	-		-		0.0041	:	0.0045	:	0.0049	:	0.0045	:
Potassium	mg/L	T	6.73	J	7.34	J	-		-		-		-	
Potassium	mg/L	D	-		-		1.92	:	2.2	:	2.	:	1.97	:
Selenium	mg/L	T	0.0011	J	0.0011	J	-		-		-		-	
Selenium	mg/L	D	-		-		<0.0006	J	<0.0006	J	<0.0006	J	<0.0006	J
Silver	mg/L	T	<0.00074	:	<0.00087	:	-		-		-		-	
Silver	mg/L	D	-		-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:
Sodium	mg/L	T	13.1	:	12.9	:	-		-		-		-	
Sodium	mg/L	D	-		-		12.1	:	12.6	:	11.9	:	12.2	:
Thallium	mg/L	T	0.00036	:	0.0004	:	-		-		-		-	
Thallium	mg/L	D	-		-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:
Vanadium	mg/L	T	0.0111	:	0.0122	:	-		-		-		-	
Vanadium	mg/L	D	-		-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:
Zinc	mg/L	T	0.167	:	0.169	:	-		-		-		-	
Zinc	mg/L	D	-		-		<0.009	:	<0.0078	:	<0.0098	:	<0.0071	:

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12
			Sample Date	4/20/2003	4/20/2003	4/20/2003	4/20/2003	4/20/2003	4/20/2003
			Sample ID	ISCO-RR-12-T04N-SFW SNOW	ISCO-RR-12-T03N-SFW SNOW	ISCO-RR-12-T02N-SFW SNOW	ISCO-RR-12-T01N-SFW SNOW	ISCO-RR-12-D04N-SFW SNOW	ISCO-RR-12-D03N-SFW SNOW
Field Measurements									
pH	SU	T		7.7 J	7.7 J	7.7 J	7.9 J	-	-
Specific Conductance	uS/cm	T		294. :	294. :	293. :	291. :	-	-
General Chemistry									
Chloride	mg/L	T		4.2 :	4.2 :	4.1 :	4.1 :	-	-
Fluoride	mg/L	T		0.54 :	0.53 :	0.53 :	0.52 :	-	-
Nitrate	mg/L	T		0.5 :	0.5 J	0.49 J	0.49 J	-	-
Nitrite	mg/L	T		<0.005 :	<0.005 J	<0.005 J	<0.005 J	-	-
Sulfate	mg/L	T		72.3 J	75.3 J	73.5 J	69.2 J	-	-
Total Dissolved Solids	mg/L	T		198. :	194. :	196. :	192. :	-	-
Total Suspended Solids	mg/L	T		19.1 :	16.1 :	12.8 :	13.3 :	-	-
Laboratory Parameters									
pH	SU	T		7.7 J	7.7 J	7.7 J	7.9 J	-	-
Specific Conductance	umhos/cm	T		258. J	266. J	260. J	262. J	-	-
Physical Properties									
Hardness	mg/L	T		136. :	133. :	135. :	130. :	-	-
Hardness	mg/L	D		-	-	-	-	129. :	134. :
Metals									
Aluminum	mg/L	T		0.69 :	0.531 :	0.501 :	0.553 :	-	-
Aluminum	mg/L	D		-	-	-	-	<0.153 :	<0.0503 J
Antimony	mg/L	T		<0.00085 :	<0.0006 :	<0.0006 :	<0.0006 :	-	-
Antimony	mg/L	D		-	-	-	-	<0.0003 :	<0.0006 :
Arsenic	mg/L	T		<0.0002 :	0.00021 :	<0.0002 :	<0.0002 :	-	-
Arsenic	mg/L	D		-	-	-	-	<0.0002 :	<0.0002 :
Barium	mg/L	T		0.0387 :	0.0392 :	0.0381 :	0.0398 :	-	-
Barium	mg/L	D		-	-	-	-	0.0306 :	0.0327 :
Beryllium	mg/L	T		0.00033 :	0.00032 :	<0.0003 :	<0.0003 :	-	-
Beryllium	mg/L	D		-	-	-	-	<0.0003 :	<0.0003 :
Boron	mg/L	T		<0.0084 :	<0.0084 :	<0.0084 :	<0.0084 :	-	-
Boron	mg/L	D		-	-	-	-	<0.0084 :	<0.0084 :
Cadmium	mg/L	T		<0.0005 :	<0.0005 J	<0.0005 J	<0.0005 J	-	-
Cadmium	mg/L	D		-	-	-	-	<0.0005 :	<0.0005 J
Calcium	mg/L	T		39.9 :	39.2 :	39.9 :	38.5 :	-	-
Calcium	mg/L	D		-	-	-	-	38.1 :	39.5 :

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 4/20/2003 ISCO-RR-12-T04N-SFW SNOW		ISCO RR-12 4/20/2003 ISCO-RR-12-T03N-SFW SNOW		ISCO RR-12 4/20/2003 ISCO-RR-12-T02N-SFW SNOW		ISCO RR-12 4/20/2003 ISCO-RR-12-T01N-SFW SNOW		ISCO RR-12 4/20/2003 ISCO-RR-12-D04N-SFW SNOW		ISCO RR-12 4/20/2003 ISCO-RR-12-D03N-SFW SNOW	
Chromium	mg/L	T	<0.001	:	<0.001	:	0.0011	:	<0.001	:	-		-	
Chromium	mg/L	D	-		-		-		-		<0.001	:	<0.001	:
Cobalt	mg/L	T	<0.0038	:	<0.0038	:	<0.0038	:	<0.0038	:	-		-	
Cobalt	mg/L	D	-		-		-		-		<0.0038	:	<0.0038	:
Copper	mg/L	T	0.0097	:	0.0097	:	0.0087	:	0.0102	:	-		-	
Copper	mg/L	D	-		-		-		-		0.0036	:	0.0037	:
Iron	mg/L	T	0.393	:	<0.586	:	<0.455	:	<0.39	:	-		-	
Iron	mg/L	D	-		-		-		-		<0.311	:	<0.311	:
Lead	mg/L	T	0.00069	J	0.00081	:	0.0008	:	0.00077	:	-		-	
Lead	mg/L	D	-		-		-		-		<0.0001	J	<0.0002	:
Magnesium	mg/L	T	8.79	:	8.51	:	8.65	:	8.35	:	-		-	
Magnesium	mg/L	D	-		-		-		-		8.32	:	8.57	:
Manganese	mg/L	T	<0.111	:	0.107	:	0.105	:	0.11	:	-		-	
Manganese	mg/L	D	-		-		-		-		<0.0837	:	0.0869	:
Mercury	mg/L	T	<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-		-	
Mercury	mg/L	D	-		-		-		-		<0.0001	:	<0.0001	:
Molybdenum	mg/L	T	0.0023	:	<0.0023	:	<0.0023	:	<0.0023	:	-		-	
Molybdenum	mg/L	D	-		-		-		-		0.0027	:	<0.0023	:
Nickel	mg/L	T	0.0126	:	0.0112	:	0.0118	:	0.0129	:	-		-	
Nickel	mg/L	D	-		-		-		-		0.0098	:	0.0098	:
Potassium	mg/L	T	1.04	:	<1.11	:	1.1	:	1.48	:	-		-	
Potassium	mg/L	D	-		-		-		-		0.947	:	<1.13	:
Selenium	mg/L	T	<0.0005	:	<0.001	:	<0.001	:	<0.001	:	-		-	
Selenium	mg/L	D	-		-		-		-		0.00061	:	<0.001	:
Silver	mg/L	T	<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-		-	
Silver	mg/L	D	-		-		-		-		<0.0001	:	<0.0001	:
Sodium	mg/L	T	<3.52	:	6.91	:	4.28	:	8.12	:	-		-	
Sodium	mg/L	D	-		-		-		-		4.46	:	6.04	:
Thallium	mg/L	T	<0.0001	:	<0.0002	:	<0.0002	:	<0.0002	:	-		-	
Thallium	mg/L	D	-		-		-		-		<0.0001	:	<0.0002	:
Vanadium	mg/L	T	0.00046	J	0.0004	J	0.00043	J	0.00033	J	-		-	
Vanadium	mg/L	D	-		-		-		-		0.00012	J	<0.0002	:
Zinc	mg/L	T	0.0776	J	0.0596	J	0.0606	J	0.0559	J	-		-	
Zinc	mg/L	D	-		-		-		-		0.0456	J	0.0576	J

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 4/20/2003 ISCO-RR-12-D02N-SFW SNOW	ISCO RR-12 4/20/2003 ISCO-RR-12-D01N-SFW SNOW	ISCO RR-12 4/22/2003 ISCO-RR-12-T08N-SFW SNOW	ISCO RR-12 4/22/2003 ISCO-RR-12-T08D-SFW SNOW	ISCO RR-12 4/22/2003 ISCO-RR-12-T07N-SFW SNOW	ISCO RR-12 4/22/2003 ISCO-RR-12-T06N-SFW SNOW
Field Measurements								
pH	SU	T	-	-	7.7 J	-	7.6 J	7.6 J
General Chemistry								
Chloride	mg/L	T	-	-	4.3 :	-	4.4 :	4.3 :
Fluoride	mg/L	T	-	-	0.54 :	-	0.54 :	0.51 :
Nitrate	mg/L	T	-	-	<0.4 J	-	<0.4 J	<0.4 J
Nitrite	mg/L	T	-	-	<0.005 J	-	<0.005 J	<0.005 J
Sulfate	mg/L	T	-	-	71.7 J	-	69.9 J	74.7 J
Total Dissolved Solids	mg/L	T	-	-	166. :	-	186. :	186. :
Total Suspended Solids	mg/L	T	-	-	18.5 :	20.2 :	20.6 :	17. :
Laboratory Parameters								
pH	SU	T	-	-	7.7 J	-	7.6 J	7.6 J
Specific Conductance	umhos/cm	T	-	-	274. J	-	269. J	264. J
Physical Properties								
Hardness	mg/L	T	-	-	129. :	-	128. :	128. :
Hardness	mg/L	D	132. :	132. :	-	-	-	-
Metals								
Aluminum	mg/L	T	-	-	0.69 :	-	0.676 :	0.672 :
Aluminum	mg/L	D	<0.396 J	<0.0503 J	-	-	-	-
Antimony	mg/L	T	-	-	<0.0003 :	-	<0.00049 :	<0.0005 :
Antimony	mg/L	D	<0.0006 :	<0.0006 :	-	-	-	-
Arsenic	mg/L	T	-	-	0.00023 :	-	0.00024 :	<0.0002 :
Arsenic	mg/L	D	<0.0002 :	<0.0002 :	-	-	-	-
Barium	mg/L	T	-	-	0.0394 :	-	0.0388 :	0.0393 :
Barium	mg/L	D	0.0357 :	0.0314 :	-	-	-	-
Beryllium	mg/L	T	-	-	<0.0003 :	-	<0.0003 :	<0.00038 :
Beryllium	mg/L	D	<0.0003 :	<0.0003 :	-	-	-	-
Boron	mg/L	T	-	-	<0.0084 :	-	<0.0084 :	<0.0084 :
Boron	mg/L	D	<0.0084 :	<0.0084 :	-	-	-	-
Cadmium	mg/L	T	-	-	0.00032 :	-	0.00033 :	0.00035 :
Cadmium	mg/L	D	<0.0005 J	<0.0005 J	-	-	-	-
Calcium	mg/L	T	-	-	37.9 :	-	37.6 :	37.8 :
Calcium	mg/L	D	38.8 :	38.8 :	-	-	-	-
Chromium	mg/L	T	-	-	<0.001 :	-	<0.001 :	<0.001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area	Fraction	ISCO RR-12 4/20/2003 ISCO-RR-12-D02N-SFW SNOW		ISCO RR-12 4/20/2003 ISCO-RR-12-D01N-SFW SNOW		ISCO RR-12 4/22/2003 ISCO-RR-12-T08N-SFW SNOW		ISCO RR-12 4/22/2003 ISCO-RR-12-T08D-SFW SNOW		ISCO RR-12 4/22/2003 ISCO-RR-12-T07N-SFW SNOW		ISCO RR-12 4/22/2003 ISCO-RR-12-T06N-SFW SNOW	
Chromium	mg/L		D	0.0028	:	<0.001	:	-		-		-		-	
Cobalt	mg/L		T	-		-		<0.0038	:	-		<0.0038	:	<0.0038	:
Cobalt	mg/L		D	<0.0038	:	<0.0038	:	-		-		-		-	
Copper	mg/L		T	-		-		0.0092	:	-		0.0104	:	0.0114	:
Copper	mg/L		D	0.0115	:	0.0044	:	-		-		-		-	
Iron	mg/L		T	-		-		0.458	:	-		0.43	:	0.473	:
Iron	mg/L		D	<0.311	:	<0.311	:	-		-		-		-	
Lead	mg/L		T	-		-		0.0011	:	-		0.001	:	0.0011	:
Lead	mg/L		D	<0.0002	:	<0.0002	:	-		-		-		-	
Magnesium	mg/L		T	-		-		8.22	:	-		8.19	:	8.25	:
Magnesium	mg/L		D	8.47	:	8.43	:	-		-		-		-	
Manganese	mg/L		T	-		-		0.104	:	-		0.104	:	0.106	:
Manganese	mg/L		D	0.0912	:	0.0886	:	-		-		-		-	
Mercury	mg/L		T	-		-		<0.0001	:	-		<0.0001	:	<0.0001	:
Mercury	mg/L		D	<0.0001	:	<0.0001	:	-		-		-		-	
Molybdenum	mg/L		T	-		-		<0.0023	:	-		<0.0023	:	<0.0023	:
Molybdenum	mg/L		D	<0.0023	:	<0.0023	:	-		-		-		-	
Nickel	mg/L		T	-		-		<0.0111	:	-		<0.0115	:	0.0122	:
Nickel	mg/L		D	0.123	J	0.0101	:	-		-		-		-	
Potassium	mg/L		T	-		-		1.31	:	-		1.29	:	1.26	:
Potassium	mg/L		D	<1.37	:	1.01	:	-		-		-		-	
Selenium	mg/L		T	-		-		<0.0005	:	-		<0.0005	:	<0.0008	:
Selenium	mg/L		D	<0.001	:	<0.001	:	-		-		-		-	
Silver	mg/L		T	-		-		<0.0001	:	-		<0.0001	:	<0.0001	:
Silver	mg/L		D	<0.0001	:	<0.0001	:	-		-		-		-	
Sodium	mg/L		T	-		-		4.9	:	-		4.96	:	4.86	:
Sodium	mg/L		D	3.71	:	7.19	:	-		-		-		-	
Thallium	mg/L		T	-		-		<0.0001	:	-		<0.0001	:	<0.0001	:
Thallium	mg/L		D	<0.0002	:	<0.0002	:	-		-		-		-	
Vanadium	mg/L		T	-		-		0.00047	J	-		0.00041	J	0.00044	J
Vanadium	mg/L		D	<0.0002	:	<0.0002	:	-		-		-		-	
Zinc	mg/L		T	-		-		0.0705	J	-		0.0706	J	0.0743	J
Zinc	mg/L		D	0.0607	J	0.0344	J	-		-		-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Fraction	ISCO RR-12		ISCO RR-12		ISCO RR-12		ISCO RR-12		ISCO RR-12		ISCO RR-12	
Sample Date			4/22/2003		4/22/2003		4/22/2003		4/22/2003		4/22/2003		4/22/2003	
Sample ID			ISCO-RR-12-T05N-SFW		ISCO-RR-12-T04N-SFW		ISCO-RR-12-T03N-SFW		ISCO-RR-12-T02N-SFW		ISCO-RR-12-T01N-SFW		ISCO-RR-12-D08N-SFW	
Exposure Area			SNOW		SNOW		SNOW		SNOW		SNOW		SNOW	
Field Measurements														
pH	SU	T	7.3	J	7.68	:	7.71	:	7.7	:	7.78	:	-	
Specific Conductance	uS/cm	T	-		288.	:	286.	:	287.	:	285.	:	-	
General Chemistry														
Chloride	mg/L	T	4.2	:	-		-		-		-		-	
Fluoride	mg/L	T	0.49	:	-		-		-		-		-	
Nitrate	mg/L	T	<0.4	J	-		-		-		-		-	
Nitrite	mg/L	T	<0.005	J	-		-		-		-		-	
Sulfate	mg/L	T	74.3	J	-		-		-		-		-	
Total Dissolved Solids	mg/L	T	178.	:	-		-		-		-		-	
Total Suspended Solids	mg/L	T	29.9	:	-		-		-		-		-	
Laboratory Parameters														
pH	SU	T	7.3	J	7.68	:	7.71	:	7.7	:	7.78	:	-	
Specific Conductance	umhos/cm	T	263.	J	-		-		-		-		-	
Physical Properties														
Hardness	mg/L	T	128.	:	-		-		-		-		-	
Hardness	mg/L	D	-		-		-		-		-		129.	:
Metals														
Aluminum	mg/L	T	0.621	:	-		-		-		-		-	
Aluminum	mg/L	D	-		-		-		-		-		<0.2	:
Antimony	mg/L	T	0.00051	:	-		-		-		-		-	
Antimony	mg/L	D	-		-		-		-		-		<0.0003	:
Arsenic	mg/L	T	<0.0002	:	-		-		-		-		-	
Arsenic	mg/L	D	-		-		-		-		-		<0.0002	:
Barium	mg/L	T	0.037	:	-		-		-		-		-	
Barium	mg/L	D	-		-		-		-		-		0.0324	:
Beryllium	mg/L	T	<0.0003	:	-		-		-		-		-	
Beryllium	mg/L	D	-		-		-		-		-		<0.0003	:
Boron	mg/L	T	<0.0084	:	-		-		-		-		-	
Boron	mg/L	D	-		-		-		-		-		<0.0084	:
Cadmium	mg/L	T	0.0003	:	-		-		-		-		-	
Cadmium	mg/L	D	-		-		-		-		-		0.00029	:
Calcium	mg/L	T	37.6	:	-		-		-		-		-	
Calcium	mg/L	D	-		-		-		-		-		38.	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12
			Sample Date	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003
			Sample ID	ISCO-RR-12-T05N-SFW SNOW	ISCO-RR-12-T04N-SFW SNOW	ISCO-RR-12-T03N-SFW SNOW	ISCO-RR-12-T02N-SFW SNOW	ISCO-RR-12-T01N-SFW SNOW	ISCO-RR-12-D08N-SFW SNOW
Chromium	mg/L	T		<0.001 :	-	-	-	-	-
Chromium	mg/L	D		-	-	-	-	-	<0.001 :
Cobalt	mg/L	T		<0.0038 :	-	-	-	-	-
Cobalt	mg/L	D		-	-	-	-	-	<0.0038 :
Copper	mg/L	T		0.0105 :	-	-	-	-	-
Copper	mg/L	D		-	-	-	-	-	0.003 :
Iron	mg/L	T		0.378 :	-	-	-	-	-
Iron	mg/L	D		-	-	-	-	-	<0.0311 :
Lead	mg/L	T		0.0009 :	-	-	-	-	-
Lead	mg/L	D		-	-	-	-	-	<0.0001 :
Magnesium	mg/L	T		8.19 :	-	-	-	-	-
Magnesium	mg/L	D		-	-	-	-	-	8.24 :
Manganese	mg/L	T		0.0986 :	-	-	-	-	-
Manganese	mg/L	D		-	-	-	-	-	0.0832 :
Mercury	mg/L	T		<0.0001 :	-	-	-	-	-
Mercury	mg/L	D		-	-	-	-	-	<0.0001 :
Molybdenum	mg/L	T		0.0029 :	-	-	-	-	-
Molybdenum	mg/L	D		-	-	-	-	-	<0.0023 :
Nickel	mg/L	T		0.0118 :	-	-	-	-	-
Nickel	mg/L	D		-	-	-	-	-	<0.0094 :
Potassium	mg/L	T		1.3 :	-	-	-	-	-
Potassium	mg/L	D		-	-	-	-	-	1.26 :
Selenium	mg/L	T		<0.0008 :	-	-	-	-	-
Selenium	mg/L	D		-	-	-	-	-	<0.0005 :
Silver	mg/L	T		<0.0001 :	-	-	-	-	-
Silver	mg/L	D		-	-	-	-	-	<0.0001 :
Sodium	mg/L	T		4.91 :	-	-	-	-	-
Sodium	mg/L	D		-	-	-	-	-	4.93 :
Thallium	mg/L	T		<0.0001 :	-	-	-	-	-
Thallium	mg/L	D		-	-	-	-	-	<0.0001 :
Vanadium	mg/L	T		0.00041 J	-	-	-	-	-
Vanadium	mg/L	D		-	-	-	-	-	0.00015 J
Zinc	mg/L	T		0.069 J	-	-	-	-	-
Zinc	mg/L	D		-	-	-	-	-	0.0436 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 4/22/2003 ISCO-RR-12-D07N-SFW SNOW		ISCO RR-12 4/22/2003 ISCO-RR-12-D06N-SFW SNOW		ISCO RR-12 4/22/2003 ISCO-RR-12-D05N-SFW SNOW		ISCO RR-12 4/24/2003 ISCO-RR-12-T12N-SFW SNOW		ISCO RR-12 4/24/2003 ISCO-RR-12-T11N-SFW SNOW		ISCO RR-12 4/24/2003 ISCO-RR-12-T10N-SFW SNOW	
Field Measurements														
pH	SU	T	-		-		-		7.4	J	7.4	J	7.4	J
General Chemistry														
Chloride	mg/L	T	-		-		-		4.3	:	4.2	:	4.2	:
Fluoride	mg/L	T	-		-		-		0.54	:	0.54	:	0.54	:
Nitrate	mg/L	T	-		-		-		0.42	J	<0.4	J	<0.4	J
Nitrite	mg/L	T	-		-		-		<0.005	J	<0.005	J	<0.005	J
Sulfate	mg/L	T	-		-		-		77.6	J	75.1	J	79.	J
Total Dissolved Solids	mg/L	T	-		-		-		190.	:	188.	:	192.	:
Total Suspended Solids	mg/L	T	-		-		-		17.4	:	19.9	:	17.9	:
Laboratory Parameters														
pH	SU	T	-		-		-		7.4	J	7.4	J	7.4	J
Specific Conductance	umhos/cm	T	-		-		-		271.	J	275.	J	272.	J
Physical Properties														
Hardness	mg/L	T	-		-		-		132.	:	129.	:	127.	:
Hardness	mg/L	D	132.	:	127.	:	127.	:	-		-		-	
Metals														
Aluminum	mg/L	T	-		-		-		0.664	:	0.658	:	0.685	:
Aluminum	mg/L	D	<0.212	:	0.162	:	0.165	:	-		-		-	
Antimony	mg/L	T	-		-		-		<0.0005	:	<0.0005	:	<0.0005	:
Antimony	mg/L	D	<0.0003	:	<0.0005	:	<0.0005	:	-		-		-	
Arsenic	mg/L	T	-		-		-		<0.0002	:	<0.0002	:	<0.0002	:
Arsenic	mg/L	D	<0.0002	:	<0.0002	:	<0.0002	:	-		-		-	
Barium	mg/L	T	-		-		-		0.0396	:	0.0393	:	0.0399	:
Barium	mg/L	D	0.0329	:	0.0312	:	0.0312	:	-		-		-	
Beryllium	mg/L	T	-		-		-		<0.0003	:	<0.0003	:	<0.0003	:
Beryllium	mg/L	D	<0.0003	:	<0.0003	:	<0.0003	:	-		-		-	
Boron	mg/L	T	-		-		-		<0.0084	:	<0.0084	:	<0.0084	:
Boron	mg/L	D	<0.0084	:	<0.0084	:	<0.0084	:	-		-		-	
Cadmium	mg/L	T	-		-		-		0.00039	:	0.00037	:	0.0004	:
Cadmium	mg/L	D	0.00026	:	0.00026	:	0.00029	:	-		-		-	
Calcium	mg/L	T	-		-		-		38.8	:	38.1	:	37.4	:
Calcium	mg/L	D	38.9	:	37.4	:	37.5	:	-		-		-	
Chromium	mg/L	T	-		-		-		<0.001	:	<0.001	:	<0.001	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12
			Sample Date	4/22/2003	4/22/2003	4/22/2003	4/24/2003	4/24/2003	4/24/2003
			Sample ID	ISCO-RR-12-D07N-SFW SNOW	ISCO-RR-12-D06N-SFW SNOW	ISCO-RR-12-D05N-SFW SNOW	ISCO-RR-12-T12N-SFW SNOW	ISCO-RR-12-T11N-SFW SNOW	ISCO-RR-12-T10N-SFW SNOW
Chromium	mg/L	D		<0.001 :	<0.001 :	0.0015 :	-	-	-
Cobalt	mg/L	T		-	-	-	<0.0038 :	<0.0038 :	<0.0038 :
Cobalt	mg/L	D		<0.0038 :	<0.0038 :	<0.0038 :	-	-	-
Copper	mg/L	T		-	-	-	<0.0104 :	<0.0106 :	<0.0109 :
Copper	mg/L	D		0.0031 :	0.0052 :	0.0053 :	-	-	-
Iron	mg/L	T		-	-	-	0.413 :	0.43 :	0.492 :
Iron	mg/L	D		<0.0339 :	0.0474 :	0.0453 :	-	-	-
Lead	mg/L	T		-	-	-	0.00094 :	0.001 :	0.0011 :
Lead	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Magnesium	mg/L	T		-	-	-	8.5 :	8.35 :	8.2 :
Magnesium	mg/L	D		8.45 :	8.14 :	8.14 :	-	-	-
Manganese	mg/L	T		-	-	-	0.113 :	0.111 :	0.115 :
Manganese	mg/L	D		0.0859 :	0.0818 :	0.0823 :	-	-	-
Mercury	mg/L	T		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Mercury	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Molybdenum	mg/L	T		-	-	-	<0.0023 :	<0.0023 :	<0.0023 :
Molybdenum	mg/L	D		<0.0023 :	<0.0023 :	<0.0023 :	-	-	-
Nickel	mg/L	T		-	-	-	<0.0126 :	<0.0116 :	<0.0117 :
Nickel	mg/L	D		<0.01 :	0.0105 :	0.0109 :	-	-	-
Potassium	mg/L	T		-	-	-	1.32 :	1.3 :	1.27 :
Potassium	mg/L	D		1.3 :	1.21 :	1.24 :	-	-	-
Selenium	mg/L	T		-	-	-	<0.0005 :	<0.0005 :	<0.0005 :
Selenium	mg/L	D		<0.0005 :	<0.0008 :	<0.0008 :	-	-	-
Silver	mg/L	T		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Silver	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Sodium	mg/L	T		-	-	-	4.88 :	4.88 :	4.79 :
Sodium	mg/L	D		5.15 :	4.83 :	4.86 :	-	-	-
Thallium	mg/L	T		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Thallium	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Vanadium	mg/L	T		-	-	-	0.00045 J	0.00048 J	0.00054 J
Vanadium	mg/L	D		0.00014 J	<0.0002 :	<0.0002 :	-	-	-
Zinc	mg/L	T		-	-	-	0.0865 J	0.0834 J	0.0865 J
Zinc	mg/L	D		0.0501 J	0.048 J	0.0462 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 4/24/2003 ISCO-RR-12-T09N-SFW SNOW	ISCO RR-12 4/24/2003 ISCO-RR-12-T04N-SFW SNOW	ISCO RR-12 4/24/2003 ISCO-RR-12-T03N-SFW SNOW	ISCO RR-12 4/24/2003 ISCO-RR-12-T02N-SFW SNOW	ISCO RR-12 4/24/2003 ISCO-RR-12-T01N-SFW SNOW	ISCO RR-12 4/24/2003 ISCO-RR-12-D12N-SFW SNOW
Field Measurements								
pH	SU	T	7.7 J	7.71 :	7.72 :	7.72 :	7.68 :	-
Specific Conductance	uS/cm	T	-	292. :	290. :	289. :	291. :	-
General Chemistry								
Chloride	mg/L	T	4.2 :	-	-	-	-	-
Fluoride	mg/L	T	0.54 :	-	-	-	-	-
Nitrate	mg/L	T	<0.4 J	-	-	-	-	-
Nitrite	mg/L	T	<0.005 J	-	-	-	-	-
Sulfate	mg/L	T	78. J	-	-	-	-	-
Total Dissolved Solids	mg/L	T	194. :	-	-	-	-	-
Laboratory Parameters								
pH	SU	T	7.7 J	7.71 :	7.72 :	7.72 :	7.68 :	-
Specific Conductance	umhos/cm	T	268. J	-	-	-	-	-
Physical Properties								
Hardness	mg/L	T	132. :	-	-	-	-	-
Hardness	mg/L	D	-	-	-	-	-	129. :
Metals								
Aluminum	mg/L	T	0.369 J	-	-	-	-	-
Aluminum	mg/L	D	-	-	-	-	-	0.166 :
Antimony	mg/L	T	<0.0003 :	-	-	-	-	-
Antimony	mg/L	D	-	-	-	-	-	<0.0005 :
Arsenic	mg/L	T	0.00024 :	-	-	-	-	-
Arsenic	mg/L	D	-	-	-	-	-	<0.0002 :
Barium	mg/L	T	0.0343 :	-	-	-	-	-
Barium	mg/L	D	-	-	-	-	-	0.0321 :
Beryllium	mg/L	T	<0.0003 :	-	-	-	-	-
Beryllium	mg/L	D	-	-	-	-	-	<0.0003 :
Boron	mg/L	T	<0.0084 :	-	-	-	-	-
Boron	mg/L	D	-	-	-	-	-	<0.0084 :
Cadmium	mg/L	T	0.00026 :	-	-	-	-	-
Cadmium	mg/L	D	-	-	-	-	-	0.0003 :
Calcium	mg/L	T	39. :	-	-	-	-	-
Calcium	mg/L	D	-	-	-	-	-	38. :
Chromium	mg/L	T	<0.001 :	-	-	-	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Fraction	ISCO RR-12 / 4/24/2003 / ISCO-RR-12-T09N-SFW / SNOW		ISCO RR-12 / 4/24/2003 / ISCO-RR-12-T04N-SFW / SNOW	ISCO RR-12 / 4/24/2003 / ISCO-RR-12-T03N-SFW / SNOW	ISCO RR-12 / 4/24/2003 / ISCO-RR-12-T02N-SFW / SNOW	ISCO RR-12 / 4/24/2003 / ISCO-RR-12-T01N-SFW / SNOW	ISCO RR-12 / 4/24/2003 / ISCO-RR-12-D12N-SFW / SNOW	
Chromium	mg/L	D	-		-	-	-	-	<0.001	:
Cobalt	mg/L	T	<0.0038	:	-	-	-	-	-	
Cobalt	mg/L	D	-		-	-	-	-	<0.0038	:
Copper	mg/L	T	0.0056	:	-	-	-	-	-	
Copper	mg/L	D	-		-	-	-	-	<0.0046	:
Iron	mg/L	T	<0.156	:	-	-	-	-	-	
Iron	mg/L	D	-		-	-	-	-	<0.0311	:
Lead	mg/L	T	0.001	:	-	-	-	-	-	
Lead	mg/L	D	-		-	-	-	-	<0.0001	:
Magnesium	mg/L	T	8.49	:	-	-	-	-	-	
Magnesium	mg/L	D	-		-	-	-	-	8.33	:
Manganese	mg/L	T	0.04	J	-	-	-	-	-	
Manganese	mg/L	D	-		-	-	-	-	0.0889	:
Mercury	mg/L	T	<0.0001	:	-	-	-	-	-	
Mercury	mg/L	D	-		-	-	-	-	<0.0001	:
Molybdenum	mg/L	T	<0.0023	:	-	-	-	-	-	
Molybdenum	mg/L	D	-		-	-	-	-	<0.0023	:
Nickel	mg/L	T	0.0066	:	-	-	-	-	-	
Nickel	mg/L	D	-		-	-	-	-	<0.0103	:
Potassium	mg/L	T	1.3	:	-	-	-	-	-	
Potassium	mg/L	D	-		-	-	-	-	1.28	:
Selenium	mg/L	T	<0.0005	:	-	-	-	-	-	
Selenium	mg/L	D	-		-	-	-	-	<0.0005	:
Silver	mg/L	T	<0.0001	:	-	-	-	-	-	
Silver	mg/L	D	-		-	-	-	-	<0.0001	:
Sodium	mg/L	T	4.89	:	-	-	-	-	-	
Sodium	mg/L	D	-		-	-	-	-	4.94	:
Thallium	mg/L	T	<0.0001	:	-	-	-	-	-	
Thallium	mg/L	D	-		-	-	-	-	<0.0001	:
Vanadium	mg/L	T	0.00052	J	-	-	-	-	-	
Vanadium	mg/L	D	-		-	-	-	-	<0.0002	:
Zinc	mg/L	T	0.0394	J	-	-	-	-	-	
Zinc	mg/L	D	-		-	-	-	-	0.0603	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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 4/24/2003 ISCO-RR-12-D11N-SFW SNOW	ISCO RR-12 4/24/2003 ISCO-RR-12-D10N-SFW SNOW	ISCO RR-12 4/24/2003 ISCO-RR-12-D09N-SFW SNOW	ISCO RR-12 7/27/2003 ISCO-RR-12-T04N-SFW ST1	ISCO RR-12 7/27/2003 ISCO-RR-12-T03N-SFW ST1	ISCO RR-12 7/27/2003 ISCO-RR-12-T02N-SFW ST1
Field Measurements								
pH	SU	T	-	-	-	6.95 :	6.83 :	6.7 :
Specific Conductance	uS/cm	T	-	-	-	261. :	275. :	274. :
General Chemistry								
Chloride	mg/L	T	-	-	-	3.3 :	3.3 :	2.8 :
Fluoride	mg/L	T	-	-	-	0.43 :	0.46 :	0.57 :
Nitrate	mg/L	T	-	-	-	0.51 J	0.53 J	0.46 J
Nitrite	mg/L	T	-	-	-	0.0071 J	0.0074 J	0.0064 J
Sulfate	mg/L	T	-	-	-	79.6 :	67. :	65.9 :
Total Dissolved Solids	mg/L	T	-	-	-	<210. :	<202. :	<218. :
Total Suspended Solids	mg/L	T	-	-	-	213. :	178. :	247. :
Laboratory Parameters								
pH	SU	T	-	-	-	6.95 :	6.83 :	6.7 :
Physical Properties								
Hardness	mg/L	T	-	-	-	140. :	136. :	141. :
Hardness	mg/L	D	130. :	132. :	133. :	-	-	-
Metals								
Aluminum	mg/L	T	-	-	-	4.77 J	3.06 J	5.12 J
Aluminum	mg/L	D	0.166 :	0.161 :	<0.16 J	-	-	-
Antimony	mg/L	T	-	-	-	<0.0005 :	<0.0005 :	<0.0005 :
Antimony	mg/L	D	<0.0005 :	<0.0005 :	<0.0003 :	-	-	-
Arsenic	mg/L	T	-	-	-	0.00087 :	0.00072 :	0.00084 :
Arsenic	mg/L	D	<0.0002 :	<0.0002 :	<0.0002 :	-	-	-
Barium	mg/L	T	-	-	-	0.102 :	0.0795 :	0.0873 :
Barium	mg/L	D	0.0323 :	0.0328 :	0.0328 :	-	-	-
Beryllium	mg/L	T	-	-	-	<0.0014 :	<0.0013 :	0.0025 :
Beryllium	mg/L	D	<0.0003 :	<0.0003 :	<0.0003 :	-	-	-
Boron	mg/L	T	-	-	-	0.0086 :	0.0081 :	0.0062 :
Boron	mg/L	D	<0.0084 :	<0.0084 :	<0.0084 :	-	-	-
Cadmium	mg/L	T	-	-	-	0.0015 :	0.001 :	0.0018 :
Cadmium	mg/L	D	0.00028 :	0.00031 :	0.0003 :	-	-	-
Calcium	mg/L	T	-	-	-	41.4 :	40.2 :	41.9 :
Calcium	mg/L	D	38.3 :	39. :	39.3 :	-	-	-
Chromium	mg/L	T	-	-	-	0.0036 :	<0.0026 :	0.0028 :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 4/24/2003 ISCO-RR-12-D11N-SFW SNOW		ISCO RR-12 4/24/2003 ISCO-RR-12-D10N-SFW SNOW		ISCO RR-12 4/24/2003 ISCO-RR-12-D09N-SFW SNOW		ISCO RR-12 7/27/2003 ISCO-RR-12-T04N-SFW ST1		ISCO RR-12 7/27/2003 ISCO-RR-12-T03N-SFW ST1		ISCO RR-12 7/27/2003 ISCO-RR-12-T02N-SFW ST1	
Chromium	mg/L	D	<0.001	:	<0.001	:	<0.001	:	-		-		-	
Cobalt	mg/L	T	-		-		-		0.0126	:	0.008	:	0.0094	:
Cobalt	mg/L	D	<0.0038	:	<0.0038	:	<0.0038	:	-		-		-	
Copper	mg/L	T	-		-		-		0.0654	:	0.0406	:	0.0657	:
Copper	mg/L	D	<0.0046	:	<0.0045	:	0.0048	:	-		-		-	
Iron	mg/L	T	-		-		-		4.87	:	3.05	:	4.6	:
Iron	mg/L	D	0.0381	:	<0.0311	:	<0.0423	:	-		-		-	
Lead	mg/L	T	-		-		-		0.0097	:	0.0065	:	0.0084	:
Lead	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	J	-		-		-	
Magnesium	mg/L	T	-		-		-		8.95	:	8.53	:	8.86	:
Magnesium	mg/L	D	8.37	:	8.53	:	8.53	:	-		-		-	
Manganese	mg/L	T	-		-		-		0.749	:	0.477	:	0.616	:
Manganese	mg/L	D	0.0895	:	0.0914	:	0.0928	J	-		-		-	
Mercury	mg/L	T	-		-		-		<0.0001	:	<0.00016	:	<0.00014	:
Mercury	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Molybdenum	mg/L	T	-		-		-		0.0013	:	0.0019	J	0.0015	:
Molybdenum	mg/L	D	<0.0023	:	<0.0023	:	<0.0023	:	-		-		-	
Nickel	mg/L	T	-		-		-		0.0357	:	0.025	:	0.0467	:
Nickel	mg/L	D	<0.0103	:	<0.0102	:	0.0107	:	-		-		-	
Potassium	mg/L	T	-		-		-		1.89	:	1.54	:	1.5	:
Potassium	mg/L	D	1.28	:	1.31	:	1.29	:	-		-		-	
Selenium	mg/L	T	-		-		-		<0.0008	:	0.00081	:	<0.0008	:
Selenium	mg/L	D	<0.0005	:	<0.0005	:	<0.0005	:	-		-		-	
Silver	mg/L	T	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Silver	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Sodium	mg/L	T	-		-		-		5.1	:	4.74	:	4.69	:
Sodium	mg/L	D	4.95	:	5.02	:	4.89	:	-		-		-	
Thallium	mg/L	T	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Thallium	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Vanadium	mg/L	T	-		-		-		0.003	:	0.0019	:	0.0029	:
Vanadium	mg/L	D	<0.0002	:	<0.0002	:	0.00017	J	-		-		-	
Zinc	mg/L	T	-		-		-		0.414	:	0.276	:	0.548	:
Zinc	mg/L	D	0.0587	J	0.0563	J	0.0591	J	-		-		-	

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 7/27/2003 ISCO-RR-12-T01N-SFW ST1		ISCO RR-12 7/27/2003 ISCO-RR-12-D04N-SFW ST1		ISCO RR-12 7/27/2003 ISCO-RR-12-D03N-SFW ST1		ISCO RR-12 7/27/2003 ISCO-RR-12-D02N-SFW ST1		ISCO RR-12 7/27/2003 ISCO-RR-12-D01N-SFW ST1		ISCO RR-12 8/13/2003 ISCO-RR-12-T04N-SFW ST2	
Field Measurements														
pH	SU	T	6.53	:	-		-		-		-		7.7	J
Specific Conductance	uS/cm	T	301.	:	-		-		-		-		647.	:
General Chemistry														
Bicarbonate (as CaCO3)	mg/L	T	-		-		-		-		-		48.1	:
Carbonate (as CaCO3)	mg/L	T	-		-		-		-		-		<1.	:
Chloride	mg/L	T	3.5	:	-		-		-		-		3.	J
Fluoride	mg/L	T	0.61	:	-		-		-		-		0.71	:
Hydroxide (as CaCO3)	mg/L	T	-		-		-		-		-		<1.	:
Nitrate	mg/L	T	0.57	J	-		-		-		-		0.38	:
Nitrite	mg/L	T	0.0065	J	-		-		-		-		<0.005	:
Sulfate	mg/L	T	88.9	:	-		-		-		-		95.	J
Total Alkalinity	mg/L	T	-		-		-		-		-		48.1	:
Total Dissolved Solids	mg/L	T	<226.	:	-		-		-		-		<242.	:
Total Suspended Solids	mg/L	T	127.	:	-		-		-		-		258.	:
Laboratory Parameters														
pH	SU	T	6.53	:	-		-		-		-		7.7	J
Specific Conductance	umhos/cm	T	-		-		-		-		-		304.	J
Physical Properties														
Hardness	mg/L	T	156.	:	-		-		-		-		166.	:
Hardness	mg/L	D	-		131.	:	136.	:	139.	:	152.	:	-	
Metals														
Aluminum	mg/L	T	4.85	J	-		-		-		-		2.04	J
Aluminum	mg/L	D	-		<0.132	:	<0.13	:	0.0825	J	0.0855	J	-	
Antimony	mg/L	T	<0.00051	:	-		-		-		-		<0.0005	J
Antimony	mg/L	D	-		<0.00061	:	<0.0005	:	<0.0005	:	<0.0005	:	-	
Arsenic	mg/L	T	0.00093	:	-		-		-		-		0.0012	J
Arsenic	mg/L	D	-		<0.0002	:	<0.0002	:	<0.0002	:	<0.0002	:	-	
Barium	mg/L	T	0.083	:	-		-		-		-		0.0616	:
Barium	mg/L	D	-		0.0326	:	0.0337	:	0.0316	:	0.0331	:	-	
Beryllium	mg/L	T	0.0025	:	-		-		-		-		0.00041	:
Beryllium	mg/L	D	-		<0.0002	:	<0.0002	:	<0.0002	:	<0.0002	:	-	
Boron	mg/L	T	0.0083	:	-		-		-		-		0.0063	:
Boron	mg/L	D	-		0.0077	:	0.0079	:	0.0059	:	0.0064	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12
			Sample Date	7/27/2003	7/27/2003	7/27/2003	7/27/2003	7/27/2003	8/13/2003
			Sample ID	ISCO-RR-12-T01N-SFW ST1	ISCO-RR-12-D04N-SFW ST1	ISCO-RR-12-D03N-SFW ST1	ISCO-RR-12-D02N-SFW ST1	ISCO-RR-12-D01N-SFW ST1	ISCO-RR-12-T04N-SFW ST2
Cadmium	mg/L	T		0.0018 :	-	-	-	-	0.00057 :
Cadmium	mg/L	D		-	<0.0002 :	<0.0002 :	0.00027 :	0.00032 :	-
Calcium	mg/L	T		46.4 :	-	-	-	-	48.8 :
Calcium	mg/L	D		-	39.1 :	40.5 :	41.5 :	45.5 :	-
Chromium	mg/L	T		0.0029 :	-	-	-	-	<0.0019 :
Chromium	mg/L	D		-	<0.0012 :	<0.00075 :	<0.0014 :	<0.0014 :	-
Cobalt	mg/L	T		0.0093 :	-	-	-	-	0.0043 :
Cobalt	mg/L	D		-	0.0029 :	0.0023 :	0.0024 :	0.0027 :	-
Copper	mg/L	T		0.066 :	-	-	-	-	0.0165 :
Copper	mg/L	D		-	0.0033 :	0.0033 :	<0.0039 :	<0.0036 :	-
Iron	mg/L	T		4.54 J	-	-	-	-	5.42 :
Iron	mg/L	D		-	<0.0428 :	<0.019 :	<0.0333 :	<0.0333 :	-
Lead	mg/L	T		0.008 :	-	-	-	-	0.0027 J
Lead	mg/L	D		-	0.00013 :	<0.0001 :	0.00014 :	<0.0001 :	-
Magnesium	mg/L	T		9.81 :	-	-	-	-	10.7 :
Magnesium	mg/L	D		-	8.14 :	8.36 :	8.49 :	9.36 :	-
Manganese	mg/L	T		0.63 J	-	-	-	-	0.238 :
Manganese	mg/L	D		-	0.0527 :	0.0674 :	0.0704 :	0.0803 :	-
Mercury	mg/L	T		<0.00018 :	-	-	-	-	<0.0001 :
Mercury	mg/L	D		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Molybdenum	mg/L	T		0.0017 J	-	-	-	-	0.0016 J
Molybdenum	mg/L	D		-	0.0028 :	0.0031 J	0.0032 :	0.0032 J	-
Nickel	mg/L	T		0.0515 :	-	-	-	-	0.0217 :
Nickel	mg/L	D		-	0.005 :	0.0053 :	0.0107 :	0.0107 :	-
Potassium	mg/L	T		1.57 :	-	-	-	-	1.46 :
Potassium	mg/L	D		-	1.64 :	1.63 :	1.38 :	1.42 :	-
Selenium	mg/L	T		<0.0008 :	-	-	-	-	<0.0008 :
Selenium	mg/L	D		-	<0.0008 :	<0.0008 :	<0.0008 :	<0.0008 :	-
Silver	mg/L	T		<0.0001 :	-	-	-	-	<0.0001 :
Silver	mg/L	D		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Sodium	mg/L	T		5.2 :	-	-	-	-	5.12 :
Sodium	mg/L	D		-	5.19 :	5.02 :	5.01 :	5.02 :	-
Thallium	mg/L	T		<0.0001 :	-	-	-	-	<0.0001 :
Thallium	mg/L	D		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID											
			ISCO RR-12	7/27/2003	ISCO-RR-12-T01N-SFW ST1		ISCO RR-12	7/27/2003	ISCO-RR-12-D04N-SFW ST1		ISCO RR-12	7/27/2003	ISCO-RR-12-D03N-SFW ST1		ISCO RR-12	7/27/2003	ISCO-RR-12-D02N-SFW ST1		ISCO RR-12	7/27/2003	ISCO-RR-12-D01N-SFW ST1		ISCO RR-12	8/13/2003	ISCO-RR-12-T04N-SFW ST2	
Vanadium	mg/L	T			0.0029	:			-				-				-				-				0.002	J
Vanadium	mg/L	D			-				<0.0002	:			<0.0002	:			<0.0002	:			<0.0002	:			-	
Zinc	mg/L	T			0.591	J			-				-				-				-				0.127	:
Zinc	mg/L	D			-				0.0167	:			0.0168	:			0.0324	:			0.0431	:			-	

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12
			Sample Date	8/13/2003	8/13/2003	8/13/2003	8/13/2003	8/13/2003	8/13/2003
			Sample ID	ISCO-RR-12-T03N-SFW ST2	ISCO-RR-12-T02N-SFW ST2	ISCO-RR-12-T01N-SFW ST2	ISCO-RR-12-D04N-SFW ST2	ISCO-RR-12-D03N-SFW ST2	ISCO-RR-12-D02N-SFW ST2
Field Measurements									
pH	SU	T		7.8 J	7.9 J	7.9 J	-	-	-
Specific Conductance	uS/cm	T		640. J	599. :	591. :	-	-	-
General Chemistry									
Bicarbonate (as CaCO3)	mg/L	T		49.6 :	64.7 :	62.6 :	-	-	-
Carbonate (as CaCO3)	mg/L	T		<1. :	<1. :	<1. :	-	-	-
Chloride	mg/L	T		3.1 J	3.4 J	3. J	-	-	-
Fluoride	mg/L	T		0.61 :	0.56 :	0.55 :	-	-	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	<1. :	<1. :	-	-	-
Nitrate	mg/L	T		0.36 :	0.35 :	0.36 :	-	-	-
Nitrite	mg/L	T		<0.005 :	<0.005 :	<0.005 :	-	-	-
Sulfate	mg/L	T		108. J	82.7 J	84.6 J	-	-	-
Total Alkalinity	mg/L	T		49.6 :	64.7 :	62.6 :	-	-	-
Total Dissolved Solids	mg/L	T		<264. :	<250. :	<238. :	-	-	-
Total Suspended Solids	mg/L	T		266. :	20. :	20.6 :	-	-	-
Laboratory Parameters									
pH	SU	T		7.8 J	7.9 J	7.9 J	-	-	-
Specific Conductance	umhos/cm	T		307. J	279. J	279. J	-	-	-
Physical Properties									
Hardness	mg/L	T		160. :	155. :	151. :	-	-	-
Hardness	mg/L	D		-	-	-	163. :	162. :	148. :
Metals									
Aluminum	mg/L	T		1.32 J	0.973 J	1.13 J	-	-	-
Aluminum	mg/L	D		-	-	-	0.566 :	0.101 :	0.17 :
Antimony	mg/L	T		<0.0005 J	<0.0005 J	<0.00077 J	-	-	-
Antimony	mg/L	D		-	-	-	<0.0005 :	<0.0005 :	<0.0005 :
Arsenic	mg/L	T		0.00094 J	0.00037 J	0.00044 J	-	-	-
Arsenic	mg/L	D		-	-	-	0.00052 J	<0.0002 J	<0.0002 J
Barium	mg/L	T		0.065 :	0.0518 :	0.0547 :	-	-	-
Barium	mg/L	D		-	-	-	0.0394 :	0.0331 :	0.0339 :
Beryllium	mg/L	T		<0.0004 :	<0.0004 :	0.00052 :	-	-	-
Beryllium	mg/L	D		-	-	-	<0.0004 :	<0.0004 :	<0.0004 :
Boron	mg/L	T		0.0068 :	0.0082 :	0.011 :	-	-	-
Boron	mg/L	D		-	-	-	0.0058 :	0.0063 :	0.0069 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 8/13/2003 ISCO-RR-12-T03N-SFW ST2		ISCO RR-12 8/13/2003 ISCO-RR-12-T02N-SFW ST2		ISCO RR-12 8/13/2003 ISCO-RR-12-T01N-SFW ST2		ISCO RR-12 8/13/2003 ISCO-RR-12-D04N-SFW ST2		ISCO RR-12 8/13/2003 ISCO-RR-12-D03N-SFW ST2		ISCO RR-12 8/13/2003 ISCO-RR-12-D02N-SFW ST2	
Cadmium	mg/L	T	0.00047	:	0.00056	:	0.00055	:	-		-		-	
Cadmium	mg/L	D	-		-		-		0.0002	:	<0.0002	:	0.0003	:
Calcium	mg/L	T	47.4	:	45.9	:	44.9	:	-		-		-	
Calcium	mg/L	D	-		-		-		48.	:	48.	:	44.1	:
Chromium	mg/L	T	0.0033	:	<0.0019	:	<0.0019	:	-		-		-	
Chromium	mg/L	D	-		-		-		<0.0019	:	<0.0019	:	<0.0019	:
Cobalt	mg/L	T	0.0051	:	<0.0037	:	<0.0037	:	-		-		-	
Cobalt	mg/L	D	-		-		-		<0.0037	:	<0.0037	:	<0.0037	:
Copper	mg/L	T	0.0125	:	0.0114	:	0.0133	:	-		-		-	
Copper	mg/L	D	-		-		-		0.0053	:	0.002	:	0.0035	:
Iron	mg/L	T	3.11	:	1.	:	1.22	J	-		-		-	
Iron	mg/L	D	-		-		-		1.76	:	<0.0667	:	<0.0667	:
Lead	mg/L	T	0.0038	J	0.002	J	0.0026	J	-		-		-	
Lead	mg/L	D	-		-		-		0.0024	:	<0.0001	:	<0.0001	:
Magnesium	mg/L	T	10.2	:	9.8	:	9.58	:	-		-		-	
Magnesium	mg/L	D	-		-		-		10.6	:	10.2	:	9.32	:
Manganese	mg/L	T	0.168	:	0.154	:	0.166	:	-		-		-	
Manganese	mg/L	D	-		-		-		0.179	:	0.116	:	0.0804	:
Mercury	mg/L	T	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Mercury	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Molybdenum	mg/L	T	0.0015	J	<0.0019	J	<0.0022	J	-		-		-	
Molybdenum	mg/L	D	-		-		-		0.0018	J	0.0023	J	0.0043	J
Nickel	mg/L	T	0.0167	:	0.015	:	0.0159	:	-		-		-	
Nickel	mg/L	D	-		-		-		0.0075	:	0.0044	:	0.0102	:
Potassium	mg/L	T	1.39	:	1.64	:	1.21	:	-		-		-	
Potassium	mg/L	D	-		-		-		1.52	:	1.39	:	1.16	:
Selenium	mg/L	T	<0.0008	:	<0.0008	:	<0.0008	:	-		-		-	
Selenium	mg/L	D	-		-		-		<0.0008	:	<0.0008	:	<0.0008	:
Silver	mg/L	T	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Silver	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Sodium	mg/L	T	5.78	:	5.92	:	5.62	:	-		-		-	
Sodium	mg/L	D	-		-		-		5.45	:	6.05	:	5.37	:
Thallium	mg/L	T	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Thallium	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID
			ISCO RR-12	8/13/2003	ISCO-RR-12-T03N-SFW ST2
			ISCO RR-12	8/13/2003	ISCO-RR-12-T02N-SFW ST2
			ISCO RR-12	8/13/2003	ISCO-RR-12-T01N-SFW ST2
			ISCO RR-12	8/13/2003	ISCO-RR-12-D04N-SFW ST2
			ISCO RR-12	8/13/2003	ISCO-RR-12-D03N-SFW ST2
			ISCO RR-12	8/13/2003	ISCO-RR-12-D02N-SFW ST2
Vanadium	mg/L	T	0.0014 J	0.00073 J	0.00085 J	-	-	-
Vanadium	mg/L	D	-	-	-	0.00067 :	<0.0002 :	<0.0002 :
Zinc	mg/L	T	0.107 :	0.104 :	0.114 J	-	-	-
Zinc	mg/L	D	-	-	-	0.032 :	0.0147 :	0.034 :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 8/13/2003 ISCO-RR-12-D01N-SFW ST2 T		ISCO RR-12 9/3/2003 ISCO-RR-12-T04N-SFW ST3 T		ISCO RR-12 9/3/2003 ISCO-RR-12-T03N-SFW ST3 T		ISCO RR-12 9/3/2003 ISCO-RR-12-T02N-SFW ST3 T		ISCO RR-12 9/3/2003 ISCO-RR-12-T01N-SFW ST3 T		ISCO RR-12 9/3/2003 ISCO-RR-12-D04N-SFW ST3 T	
Field Measurements														
pH	SU	T	-		7.19	:	7.61	:	7.68	:	7.05	:	-	
Specific Conductance	uS/cm	T	-		415.	:	401.	:	296.	:	303.	:	-	
General Chemistry														
Chloride	mg/L	T	-		2.9	:	3.	:	2.9	:	2.6	:	-	
Fluoride	mg/L	T	-		0.52	:	0.71	:	0.49	:	0.51	:	-	
Nitrate	mg/L	T	-		0.35	J	0.36	J	0.38	J	0.39	J	-	
Nitrite	mg/L	T	-		<0.005	J	<0.005	J	<0.005	J	<0.005	J	-	
Sulfate	mg/L	T	-		180.	:	154.	:	83.4	:	79.8	:	-	
Total Dissolved Solids	mg/L	T	-		298.	:	298.	:	206.	:	222.	:	-	
Total Suspended Solids	mg/L	T	-		812.	:	842.	:	173.	:	87.7	:	-	
Laboratory Parameters														
pH	SU	T	-		7.19	:	7.61	:	7.68	:	7.05	:	-	
Physical Properties														
Hardness	mg/L	T	-		239.	:	213.	:	158.	:	162.	:	-	
Hardness	mg/L	D	151.	:	-		-		-		-		213.	:
Metals														
Aluminum	mg/L	T	-		29.2	:	15.2	:	11.4	:	13.1	J	-	
Aluminum	mg/L	D	0.196	:	-		-		-		-		0.048	J
Antimony	mg/L	T	-		<0.0005	J	<0.0005	J	0.00056	J	<0.0005	J	-	
Antimony	mg/L	D	<0.0005	:	-		-		-		-		<0.0005	J
Arsenic	mg/L	T	-		0.013	J	0.0073	J	0.0038	J	0.004	J	-	
Arsenic	mg/L	D	<0.0002	J	-		-		-		-		<0.0002	J
Barium	mg/L	T	-		0.787	:	0.31	:	0.295	:	0.322	:	-	
Barium	mg/L	D	0.0354	:	-		-		-		-		0.0404	:
Beryllium	mg/L	T	-		0.003	:	0.0021	:	0.0021	:	0.0024	:	-	
Beryllium	mg/L	D	<0.0004	:	-		-		-		-		<0.0004	:
Boron	mg/L	T	-		0.0407	:	0.0202	:	0.0156	:	0.0141	:	-	
Boron	mg/L	D	0.0076	:	-		-		-		-		<0.0063	:
Cadmium	mg/L	T	-		0.0021	J	0.0014	J	0.0016	J	0.0017	J	-	
Cadmium	mg/L	D	0.00036	:	-		-		-		-		0.0013	J
Calcium	mg/L	T	-		60.8	:	60.1	:	44.7	:	44.8	:	-	
Calcium	mg/L	D	44.8	:	-		-		-		-		61.3	:
Chromium	mg/L	T	-		0.033	:	0.014	:	0.0099	:	0.0108	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12
			Sample Date	8/13/2003	9/3/2003	9/3/2003	9/3/2003	9/3/2003	9/3/2003
			Sample ID	ISCO-RR-12-D01N-SFW	ISCO-RR-12-T04N-SFW	ISCO-RR-12-T03N-SFW	ISCO-RR-12-T02N-SFW	ISCO-RR-12-T01N-SFW	ISCO-RR-12-D04N-SFW
				ST2	ST3	ST3	ST3	ST3	ST3
Chromium	mg/L	D		<0.0019 :	-	-	-	-	<0.0011 :
Cobalt	mg/L	T		-	0.0288 :	0.0169 :	0.0129 :	0.0142 :	-
Cobalt	mg/L	D		<0.0037 :	-	-	-	-	0.0171 :
Copper	mg/L	T		-	0.103 :	0.0791 :	0.0794 :	0.0851 J	-
Copper	mg/L	D		0.0032 :	-	-	-	-	<0.0017 :
Iron	mg/L	T		-	81.2 :	30.9 :	17.5 :	18.4 J	-
Iron	mg/L	D		<0.0667 :	-	-	-	-	<0.0278 :
Lead	mg/L	T		-	0.213 J	0.0687 J	0.0563 J	0.0608 J	-
Lead	mg/L	D		<0.0001 :	-	-	-	-	<0.0002 :
Magnesium	mg/L	T		-	21.1 :	15.2 :	11.2 :	12.2 :	-
Magnesium	mg/L	D		9.51 :	-	-	-	-	14.5 :
Manganese	mg/L	T		-	1.45 :	0.946 :	0.714 :	0.777 J	-
Manganese	mg/L	D		0.0829 :	-	-	-	-	0.821 :
Mercury	mg/L	T		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Mercury	mg/L	D		<0.0001 :	-	-	-	-	<0.0001 :
Molybdenum	mg/L	T		-	0.0145 J	0.0093 J	0.0072 J	0.0076 J	-
Molybdenum	mg/L	D		<0.0024 J	-	-	-	-	0.00038 J
Nickel	mg/L	T		-	0.0919 :	0.0562 :	0.0546 :	0.0621 :	-
Nickel	mg/L	D		0.0102 :	-	-	-	-	0.0539 :
Potassium	mg/L	T		-	12.5 J	6.68 J	4.85 J	5.13 J	-
Potassium	mg/L	D		1.26 :	-	-	-	-	1.7 :
Selenium	mg/L	T		-	0.0023 J	0.0016 J	0.0012 J	0.0011 J	-
Selenium	mg/L	D		<0.0008 :	-	-	-	-	0.00032 J
Silver	mg/L	T		-	<0.0011 :	<0.00064 :	<0.00055 :	<0.00052 :	-
Silver	mg/L	D		<0.0001 :	-	-	-	-	<0.0001 :
Sodium	mg/L	T		-	6.69 :	6.05 :	5.36 :	5.1 J	-
Sodium	mg/L	D		5.83 :	-	-	-	-	5.54 :
Thallium	mg/L	T		-	0.00047 :	0.00029 :	0.0002 :	0.0002 :	-
Thallium	mg/L	D		<0.0001 :	-	-	-	-	<0.0001 :
Vanadium	mg/L	T		-	0.0269 :	0.0178 :	0.0121 :	0.0125 J	-
Vanadium	mg/L	D		<0.0002 :	-	-	-	-	<0.0001 :
Zinc	mg/L	T		-	0.606 :	0.455 :	0.482 :	0.581 J	-
Zinc	mg/L	D		0.0364 :	-	-	-	-	0.177 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12	ISCO RR-12
			Sample Date	9/3/2003	9/3/2003	9/3/2003	9/5/2003	9/5/2003	9/5/2003
			Sample ID	ISCO-RR-12-D03N-SFW	ISCO-RR-12-D02N-SFW	ISCO-RR-12-D01N-SFW	ISCO-RR-12-T04N-SFW	ISCO-RR-12-T03N-SFW	ISCO-RR-12-T02N-SFW
				ST3	ST3	ST3	ST4	ST4	ST4
Field Measurements									
pH	SU	T		-	-	-	6. :	7.13 :	7.04 :
Specific Conductance	uS/cm	T		-	-	-	394. :	341. :	276. :
General Chemistry									
Chloride	mg/L	T		-	-	-	2.8 :	2.8 :	2.4 :
Fluoride	mg/L	T		-	-	-	0.47 :	0.55 :	0.51 :
Nitrate	mg/L	T		-	-	-	0.31 J	0.3 J	0.33 J
Nitrite	mg/L	T		-	-	-	<0.005 J	<0.005 J	<0.005 J
Sulfate	mg/L	T		-	-	-	204. :	104. :	74. :
Total Dissolved Solids	mg/L	T		-	-	-	304. :	218. :	168. :
Total Suspended Solids	mg/L	T		-	-	-	2850. J	1140. :	144. :
Laboratory Parameters									
pH	SU	T		-	-	-	6. :	7.13 :	7.04 :
Physical Properties									
Hardness	mg/L	T		-	-	-	247. :	175. :	136. :
Hardness	mg/L	D		197. :	151. :	148. :	-	-	-
Metals									
Aluminum	mg/L	T		-	-	-	26.4 :	12.7 :	4.47 :
Aluminum	mg/L	D		<0.0221 J	0.0912 J	0.0994 J	-	-	-
Antimony	mg/L	T		-	-	-	<0.0005 J	<0.0005 J	<0.0005 J
Antimony	mg/L	D		<0.0005 J	<0.0005 J	<0.0005 J	-	-	-
Arsenic	mg/L	T		-	-	-	0.0062 J	0.0052 J	0.00097 J
Arsenic	mg/L	D		<0.0002 J	<0.0002 J	<0.0002 J	-	-	-
Barium	mg/L	T		-	-	-	0.376 :	0.308 :	0.0964 :
Barium	mg/L	D		0.0236 :	0.0359 :	0.0335 :	-	-	-
Beryllium	mg/L	T		-	-	-	0.0045 :	0.002 :	0.00072 :
Beryllium	mg/L	D		<0.0004 :	<0.0004 :	<0.0004 :	-	-	-
Boron	mg/L	T		-	-	-	0.0104 :	0.0108 :	0.008 :
Boron	mg/L	D		0.0065 :	0.0069 :	<0.0063 :	-	-	-
Cadmium	mg/L	T		-	-	-	0.0031 J	0.0013 J	0.00058 J
Cadmium	mg/L	D		0.00033 J	<0.0002 J	<0.0002 J	-	-	-
Calcium	mg/L	T		-	-	-	72.5 :	49.9 :	39.5 :
Calcium	mg/L	D		59.7 :	45.5 :	44. :	-	-	-
Chromium	mg/L	T		-	-	-	0.0212 :	0.0133 :	0.0039 :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 9/3/2003 ISCO-RR-12-D03N-SFW ST3	ISCO RR-12 9/3/2003 ISCO-RR-12-D02N-SFW ST3	ISCO RR-12 9/3/2003 ISCO-RR-12-D01N-SFW ST3	ISCO RR-12 9/5/2003 ISCO-RR-12-T04N-SFW ST4	ISCO RR-12 9/5/2003 ISCO-RR-12-T03N-SFW ST4	ISCO RR-12 9/5/2003 ISCO-RR-12-T02N-SFW ST4
Chromium	mg/L	D	<0.0011 :	<0.0011 :	<0.0011 :	-	-	-
Cobalt	mg/L	T	-	-	-	0.0941 :	0.018 :	0.0041 :
Cobalt	mg/L	D	0.0045 :	0.00096 :	0.002 :	-	-	-
Copper	mg/L	T	-	-	-	0.249 :	0.0857 :	0.0308 :
Copper	mg/L	D	<0.0017 :	<0.0017 :	0.0017 :	-	-	-
Iron	mg/L	T	-	-	-	50. :	30.6 :	5.64 :
Iron	mg/L	D	<0.0278 :	0.0307 :	<0.0278 :	-	-	-
Lead	mg/L	T	-	-	-	0.168 J	0.0771 J	0.021 J
Lead	mg/L	D	<0.0002 :	<0.0002 :	<0.0002 :	-	-	-
Magnesium	mg/L	T	-	-	-	16. :	12.3 :	9.04 :
Magnesium	mg/L	D	11.6 :	9.02 :	9.2 :	-	-	-
Manganese	mg/L	T	-	-	-	3.75 :	0.937 :	0.286 :
Manganese	mg/L	D	0.34 :	0.0677 :	0.0636 :	-	-	-
Mercury	mg/L	T	-	-	-	0.00034 :	0.00012 :	0.00011 :
Mercury	mg/L	D	<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Molybdenum	mg/L	T	-	-	-	0.0064 J	0.0086 J	0.0189 J
Molybdenum	mg/L	D	0.0015 J	0.0022 J	0.0026 J	-	-	-
Nickel	mg/L	T	-	-	-	0.105 :	0.0467 :	0.02 :
Nickel	mg/L	D	0.013 :	0.0049 :	0.0079 :	-	-	-
Potassium	mg/L	T	-	-	-	7.15 J	5.8 J	2.95 J
Potassium	mg/L	D	1.66 :	1.63 :	1.51 :	-	-	-
Selenium	mg/L	T	-	-	-	0.0027 J	0.0018 J	<0.0006 J
Selenium	mg/L	D	0.00037 J	<0.0003 J	<0.0003 J	-	-	-
Silver	mg/L	T	-	-	-	<0.00085 :	<0.00046 :	<0.00015 :
Silver	mg/L	D	<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Sodium	mg/L	T	-	-	-	4.22 :	4.84 :	4.07 :
Sodium	mg/L	D	5.51 :	5.49 :	4.97 :	-	-	-
Thallium	mg/L	T	-	-	-	0.00041 :	0.00022 :	<0.0001 :
Thallium	mg/L	D	<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Vanadium	mg/L	T	-	-	-	0.0186 :	0.0137 :	0.0045 :
Vanadium	mg/L	D	<0.0001 :	0.00012 :	0.00013 :	-	-	-
Zinc	mg/L	T	-	-	-	0.64 :	0.431 :	0.157 :
Zinc	mg/L	D	0.0148 :	0.0156 :	0.025 :	-	-	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction											
		Site ID	ISCO RR-12		ISCO RR-12		ISCO RR-12		ISCO RR-12		ISCO RR-12		ISCO RR-15	
		Sample Date	9/5/2003		9/5/2003		9/5/2003		9/5/2003		9/5/2003		4/20/2003	
		Sample ID	ISCO-RR-12-T01N-SFW ST4		ISCO-RR-12-D04N-SFW ST4		ISCO-RR-12-D03N-SFW ST4		ISCO-RR-12-D02N-SFW ST4		ISCO-RR-12-D01N-SFW ST4		ISCO-RR-15-T04N-SFW SNOW	
		Exposure Area / Fraction												
Field Measurements														
pH	SU	T	6.51	:	-		-		-		-		7.4	J
Specific Conductance	uS/cm	T	282.	:	-		-		-		-		304.	:
General Chemistry														
Chloride	mg/L	T	2.1	:	-		-		-		-		4.3	:
Fluoride	mg/L	T	0.51	:	-		-		-		-		0.63	:
Nitrate	mg/L	T	0.29	J	-		-		-		-		0.47	J
Nitrite	mg/L	T	<0.005	J	-		-		-		-		<0.005	J
Sulfate	mg/L	T	81.5	:	-		-		-		-		84.3	J
Total Dissolved Solids	mg/L	T	186.	:	-		-		-		-		208.	:
Total Suspended Solids	mg/L	T	88.5	:	-		-		-		-		21.4	:
Laboratory Parameters														
pH	SU	T	6.51	:	-		-		-		-		7.4	J
Specific Conductance	umhos/cm	T	-		-		-		-		-		271.	J
Physical Properties														
Hardness	mg/L	T	148.	:	-		-		-		-		134.	:
Hardness	mg/L	D	-		215.	:	160.	:	137.	:	130.	:	-	
Metals														
Aluminum	mg/L	T	3.24	:	-		-		-		-		1.01	:
Aluminum	mg/L	D	-		0.438	:	<0.0307	:	0.1	:	0.253	:	-	
Antimony	mg/L	T	<0.0005	J	-		-		-		-		<0.0006	:
Antimony	mg/L	D	-		<0.0005	:	<0.0005	:	<0.0005	:	<0.0005	:	-	
Arsenic	mg/L	T	0.00063	J	-		-		-		-		<0.0002	:
Arsenic	mg/L	D	-		<0.0002	J	<0.0002	J	<0.0002	J	<0.0002	J	-	
Barium	mg/L	T	0.0848	:	-		-		-		-		0.0381	:
Barium	mg/L	D	-		0.0394	:	0.0208	:	0.0314	:	0.0285	:	-	
Beryllium	mg/L	T	0.00035	:	-		-		-		-		<0.0003	J
Beryllium	mg/L	D	-		<0.0003	:	<0.0003	:	<0.0003	:	<0.0003	:	-	
Boron	mg/L	T	0.0073	:	-		-		-		-		<0.0084	:
Boron	mg/L	D	-		0.0076	:	0.0065	:	0.0074	:	0.0072	:	-	
Cadmium	mg/L	T	0.0004	J	-		-		-		-		<0.0005	J
Cadmium	mg/L	D	-		0.0017	J	<0.0002	J	<0.0002	J	<0.0002	J	-	
Calcium	mg/L	T	43.5	:	-		-		-		-		39.6	:
Calcium	mg/L	D	-		66.5	:	48.6	:	40.7	:	38.8	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-12 9/5/2003 ISCO-RR-12-T01N-SFW ST4		ISCO RR-12 9/5/2003 ISCO-RR-12-D04N-SFW ST4		ISCO RR-12 9/5/2003 ISCO-RR-12-D03N-SFW ST4		ISCO RR-12 9/5/2003 ISCO-RR-12-D02N-SFW ST4		ISCO RR-12 9/5/2003 ISCO-RR-12-D01N-SFW ST4		ISCO RR-15 4/20/2003 ISCO-RR-15-T04N-SFW SNOW	
Chromium	mg/L	T	0.0032	:	-		-		-		-		<0.001	:
Chromium	mg/L	D	-		<0.0013	:	<0.0013	:	<0.0013	:	<0.0013	:	-	
Cobalt	mg/L	T	0.0032	:	-		-		-		-		<0.0038	:
Cobalt	mg/L	D	-		0.0199	:	0.004	:	<0.0031	:	<0.0031	:	-	
Copper	mg/L	T	0.028	:	-		-		-		-		0.0156	:
Copper	mg/L	D	-		0.0056	:	<0.002	:	0.0026	:	0.0027	:	-	
Iron	mg/L	T	4.54	:	-		-		-		-		<0.65	:
Iron	mg/L	D	-		<0.03	:	<0.041	:	<0.0996	:	0.0719	:	-	
Lead	mg/L	T	0.0137	J	-		-		-		-		0.00071	:
Lead	mg/L	D	-		<0.0002	:	<0.0002	:	<0.0002	:	<0.0002	:	-	
Magnesium	mg/L	T	9.53	:	-		-		-		-		8.57	:
Magnesium	mg/L	D	-		11.8	:	9.38	:	8.53	:	8.09	:	-	
Manganese	mg/L	T	0.216	:	-		-		-		-		0.199	:
Manganese	mg/L	D	-		1.16	:	0.313	:	0.102	:	0.0759	:	-	
Mercury	mg/L	T	<0.0001	:	-		-		-		-		<0.0001	:
Mercury	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Molybdenum	mg/L	T	0.0099	J	-		-		-		-		<0.0023	:
Molybdenum	mg/L	D	-		<0.0002	:	0.0028	:	0.0076	:	0.0057	:	-	
Nickel	mg/L	T	0.0175	:	-		-		-		-		0.0138	:
Nickel	mg/L	D	-		0.0521	:	0.0125	:	0.0076	:	0.008	:	-	
Potassium	mg/L	T	2.83	J	-		-		-		-		1.15	:
Potassium	mg/L	D	-		2.16	:	1.57	:	1.86	:	1.42	:	-	
Selenium	mg/L	T	0.0007	J	-		-		-		-		<0.001	:
Selenium	mg/L	D	-		0.00072	J	<0.0006	J	<0.0006	J	<0.0006	J	-	
Silver	mg/L	T	<0.00011	:	-		-		-		-		<0.0001	:
Silver	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Sodium	mg/L	T	4.24	:	-		-		-		-		7.47	:
Sodium	mg/L	D	-		4.36	:	4.21	:	4.	:	3.96	:	-	
Thallium	mg/L	T	<0.0001	:	-		-		-		-		<0.0002	:
Thallium	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Vanadium	mg/L	T	0.0033	:	-		-		-		-		0.00032	J
Vanadium	mg/L	D	-		<0.0001	:	<0.0001	:	0.00017	:	<0.0001	:	-	
Zinc	mg/L	T	0.139	:	-		-		-		-		0.106	J
Zinc	mg/L	D	-		0.249	:	0.0166	:	0.0233	:	0.0221	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 4/20/2003 ISCO-RR-15-T03N-SFW SNOW	ISCO RR-15 4/20/2003 ISCO-RR-15-T02N-SFW SNOW	ISCO RR-15 4/20/2003 ISCO-RR-15-T01N-SFW SNOW	ISCO RR-15 4/20/2003 ISCO-RR-15-D04N-SFW SNOW	ISCO RR-15 4/20/2003 ISCO-RR-15-D03N-SFW SNOW	ISCO RR-15 4/20/2003 ISCO-RR-15-D02N-SFW SNOW
Field Measurements								
pH	SU	T	7.3 J	7.7 J	7.7 J	-	-	-
Specific Conductance	uS/cm	T	304. :	301. :	303. :	-	-	-
General Chemistry								
Chloride	mg/L	T	4.4 :	4.2 :	4.3 :	-	-	-
Fluoride	mg/L	T	0.63 :	0.63 :	0.63 :	-	-	-
Nitrate	mg/L	T	0.47 J	0.48 J	0.5 J	-	-	-
Nitrite	mg/L	T	<0.005 J	<0.005 J	<0.005 J	-	-	-
Sulfate	mg/L	T	81.9 J	87.2 J	85.4 J	-	-	-
Total Dissolved Solids	mg/L	T	188. :	212. :	206. :	-	-	-
Total Suspended Solids	mg/L	T	16.6 :	26. :	20.3 :	-	-	-
Laboratory Parameters								
pH	SU	T	7.3 J	7.7 J	7.7 J	-	-	-
Specific Conductance	umhos/cm	T	268. J	270. J	268. J	-	-	-
Physical Properties								
Hardness	mg/L	T	137. :	136. :	135. :	-	-	-
Hardness	mg/L	D	-	-	-	131. :	132. :	133. :
Metals								
Aluminum	mg/L	T	0.995 :	1.22 :	1.19 :	-	-	-
Aluminum	mg/L	D	-	-	-	<0.0517 J	<0.0503 J	<0.144 :
Antimony	mg/L	T	<0.0006 :	<0.0003 :	<0.0003 :	-	-	-
Antimony	mg/L	D	-	-	-	<0.0006 :	<0.0006 :	<0.0003 :
Arsenic	mg/L	T	<0.0002 :	<0.0002 :	<0.0002 :	-	-	-
Arsenic	mg/L	D	-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Barium	mg/L	T	0.0375 :	0.036 :	0.0367 :	-	-	-
Barium	mg/L	D	-	-	-	0.0323 :	0.0315 :	0.0289 :
Beryllium	mg/L	T	0.0004 J	<0.0003 :	0.00036 :	-	-	-
Beryllium	mg/L	D	-	-	-	<0.0003 J	<0.0003 J	<0.0003 :
Boron	mg/L	T	<0.0084 :	<0.0084 :	<0.0084 :	-	-	-
Boron	mg/L	D	-	-	-	<0.0084 :	<0.0084 :	<0.0084 :
Cadmium	mg/L	T	<0.0005 J	<0.0005 :	<0.0005 :	-	-	-
Cadmium	mg/L	D	-	-	-	<0.0005 J	<0.0005 J	<0.0005 :
Calcium	mg/L	T	40.2 :	40.3 :	39.8 :	-	-	-
Calcium	mg/L	D	-	-	-	38.6 :	39. :	39.3 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 4/20/2003 ISCO-RR-15-T03N-SFW SNOW		ISCO RR-15 4/20/2003 ISCO-RR-15-T02N-SFW SNOW		ISCO RR-15 4/20/2003 ISCO-RR-15-T01N-SFW SNOW		ISCO RR-15 4/20/2003 ISCO-RR-15-D04N-SFW SNOW		ISCO RR-15 4/20/2003 ISCO-RR-15-D03N-SFW SNOW		ISCO RR-15 4/20/2003 ISCO-RR-15-D02N-SFW SNOW	
Chromium	mg/L	T	<0.001	:	<0.001	:	<0.001	:	-		-		-	
Chromium	mg/L	D	-		-		-		<0.001	:	0.0015	:	<0.001	:
Cobalt	mg/L	T	<0.0038	:	<0.0038	:	<0.0038	:	-		-		-	
Cobalt	mg/L	D	-		-		-		<0.0038	:	<0.0038	:	<0.0038	:
Copper	mg/L	T	0.0142	:	0.0127	:	0.0135	:	-		-		-	
Copper	mg/L	D	-		-		-		0.0057	:	0.009	:	0.002	:
Iron	mg/L	T	<0.663	:	0.42	:	0.518	:	-		-		-	
Iron	mg/L	D	-		-		-		<0.311	:	<0.311	:	<0.311	:
Lead	mg/L	T	0.00075	:	0.0012	:	0.0013	:	-		-		-	
Lead	mg/L	D	-		-		-		<0.0002	:	<0.0002	:	<0.00038	:
Magnesium	mg/L	T	8.89	:	8.69	:	8.61	:	-		-		-	
Magnesium	mg/L	D	-		-		-		8.46	:	8.52	:	8.47	:
Manganese	mg/L	T	0.2	:	0.209	:	0.218	:	-		-		-	
Manganese	mg/L	D	-		-		-		0.177	:	0.179	:	0.189	:
Mercury	mg/L	T	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Mercury	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Molybdenum	mg/L	T	<0.0023	:	<0.0023	:	<0.0023	:	-		-		-	
Molybdenum	mg/L	D	-		-		-		<0.0023	:	<0.0023	:	<0.0023	:
Nickel	mg/L	T	0.0128	:	<0.0126	:	<0.0135	:	-		-		-	
Nickel	mg/L	D	-		-		-		0.0116	:	0.0129	:	<0.0109	:
Potassium	mg/L	T	0.988	:	<1.39	:	<1.3	:	-		-		-	
Potassium	mg/L	D	-		-		-		1.27	:	1.31	:	<1.14	:
Selenium	mg/L	T	<0.001	:	<0.0005	:	<0.0005	:	-		-		-	
Selenium	mg/L	D	-		-		-		<0.001	:	<0.001	:	<0.0005	:
Silver	mg/L	T	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Silver	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Sodium	mg/L	T	6.16	:	5.27	:	5.8	:	-		-		-	
Sodium	mg/L	D	-		-		-		6.81	:	7.24	:	5.92	:
Thallium	mg/L	T	<0.0002	:	<0.0001	:	<0.0001	:	-		-		-	
Thallium	mg/L	D	-		-		-		<0.0002	:	<0.0002	:	<0.0001	:
Vanadium	mg/L	T	0.00039	J	0.00038	J	0.00038	J	-		-		-	
Vanadium	mg/L	D	-		-		-		<0.0002	:	<0.0002	:	<0.0001	:
Zinc	mg/L	T	0.0741	J	<0.0947	J	<0.124	J	-		-		-	
Zinc	mg/L	D	-		-		-		0.0493	J	0.0447	J	<0.0622	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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15
			Sample Date	4/20/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003
			Sample ID	ISCO-RR-15-D01N-SFW SNOW	ISCO-RR-15-T08N-SFW SNOW	ISCO-RR-15-T07N-SFW SNOW	ISCO-RR-15-T06N-SFW SNOW	ISCO-RR-15-T05N-SFW SNOW	ISCO-RR-15-T04N-SFW SNOW
Field Measurements									
pH	SU	T		-	7.7 J	7.7 J	7.7 J	7.7 J	7.61 :
Specific Conductance	uS/cm	T		-	-	-	-	-	296. :
General Chemistry									
Chloride	mg/L	T		-	4.5 :	4.6 :	0.57 :	4.4 :	-
Fluoride	mg/L	T		-	0.61 :	0.61 :	0.59 :	0.59 :	-
Nitrate	mg/L	T		-	<0.4 J	<0.4 J	<0.4 J	<0.4 J	-
Nitrite	mg/L	T		-	<0.005 J	<0.005 J	<0.005 J	<0.005 J	-
Sulfate	mg/L	T		-	83. J	79.6 J	78.4 J	81.5 J	-
Total Dissolved Solids	mg/L	T		-	198. :	214. :	204. :	206. :	-
Total Suspended Solids	mg/L	T		-	24.5 :	20.4 :	21.1 :	19. :	-
Laboratory Parameters									
pH	SU	T		-	7.7 J	7.7 J	7.7 J	7.7 J	7.61 :
Specific Conductance	umhos/cm	T		-	268. J	263. J	261. J	277. J	-
Physical Properties									
Hardness	mg/L	T		-	137. :	136. :	134. :	132. :	-
Hardness	mg/L	D		137. :	-	-	-	-	-
Metals									
Aluminum	mg/L	T		-	1.12 :	1.1 :	1.17 :	1.14 :	-
Aluminum	mg/L	D		<0.161 :	-	-	-	-	-
Antimony	mg/L	T		-	<0.00068 :	<0.0003 :	<0.0003 :	<0.0005 :	-
Antimony	mg/L	D		<0.00045 :	-	-	-	-	-
Arsenic	mg/L	T		-	0.0003 :	0.0003 :	0.00022 :	<0.0002 :	-
Arsenic	mg/L	D		<0.0002 :	-	-	-	-	-
Barium	mg/L	T		-	0.0351 :	0.0346 :	0.0348 :	0.0368 :	-
Barium	mg/L	D		0.0307 :	-	-	-	-	-
Beryllium	mg/L	T		-	<0.0003 J	<0.0003 J	<0.0003 J	<0.00033 :	-
Beryllium	mg/L	D		<0.0003 :	-	-	-	-	-
Boron	mg/L	T		-	<0.0084 :	<0.0084 :	<0.0084 :	<0.0084 :	-
Boron	mg/L	D		<0.0084 :	-	-	-	-	-
Cadmium	mg/L	T		-	0.00046 :	0.00051 :	0.00044 :	0.00038 :	-
Cadmium	mg/L	D		<0.0005 :	-	-	-	-	-
Calcium	mg/L	T		-	40.4 :	40. :	39.5 :	39.1 :	-
Calcium	mg/L	D		40.6 :	-	-	-	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 4/20/2003 ISCO-RR-15-D01N-SFW SNOW	ISCO RR-15 4/22/2003 ISCO-RR-15-T08N-SFW SNOW	ISCO RR-15 4/22/2003 ISCO-RR-15-T07N-SFW SNOW	ISCO RR-15 4/22/2003 ISCO-RR-15-T06N-SFW SNOW	ISCO RR-15 4/22/2003 ISCO-RR-15-T05N-SFW SNOW	ISCO RR-15 4/22/2003 ISCO-RR-15-T04N-SFW SNOW
Chromium	mg/L	T	-	0.0015 :	<0.001 :	<0.001 :	<0.001 :	-
Chromium	mg/L	D	<0.001 :	-	-	-	-	-
Cobalt	mg/L	T	-	<0.0038 :	<0.0038 :	<0.0038 :	<0.0038 :	-
Cobalt	mg/L	D	<0.0038 :	-	-	-	-	-
Copper	mg/L	T	-	0.0163 :	0.0148 :	0.0136 :	0.0155 :	-
Copper	mg/L	D	0.0038 :	-	-	-	-	-
Iron	mg/L	T	-	<0.662 :	<0.643 :	<0.59 :	0.419 :	-
Iron	mg/L	D	<0.311 :	-	-	-	-	-
Lead	mg/L	T	-	<0.00088 :	<0.00083 :	<0.00092 :	0.00078 :	-
Lead	mg/L	D	<0.00038 :	-	-	-	-	-
Magnesium	mg/L	T	-	8.85 :	8.75 :	8.64 :	8.48 :	-
Magnesium	mg/L	D	8.69 :	-	-	-	-	-
Manganese	mg/L	T	-	0.209 :	0.199 :	0.198 :	0.195 :	-
Manganese	mg/L	D	0.199 :	-	-	-	-	-
Mercury	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Mercury	mg/L	D	<0.0001 :	-	-	-	-	-
Molybdenum	mg/L	T	-	<0.0023 :	<0.0023 :	<0.0023 :	<0.0023 :	-
Molybdenum	mg/L	D	0.0036 :	-	-	-	-	-
Nickel	mg/L	T	-	0.0119 :	0.0122 :	0.013 :	0.0135 :	-
Nickel	mg/L	D	<0.0134 :	-	-	-	-	-
Potassium	mg/L	T	-	<1.32 :	<1.4 :	<1.31 :	1.26 :	-
Potassium	mg/L	D	<1.4 :	-	-	-	-	-
Selenium	mg/L	T	-	<0.0005 :	0.00075 :	<0.0005 :	<0.0008 :	-
Selenium	mg/L	D	<0.0005 :	-	-	-	-	-
Silver	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D	<0.0001 :	-	-	-	-	-
Sodium	mg/L	T	-	5.34 :	<4.7 :	<5.65 :	5.04 :	-
Sodium	mg/L	D	5.44 :	-	-	-	-	-
Thallium	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Thallium	mg/L	D	<0.0001 :	-	-	-	-	-
Vanadium	mg/L	T	-	0.0004 J	0.0003 J	0.0003 J	0.00037 J	-
Vanadium	mg/L	D	0.0001 J	-	-	-	-	-
Zinc	mg/L	T	-	<0.0997 J	<0.1 J	<0.0908 J	0.088 J	-
Zinc	mg/L	D	<0.0721 J	-	-	-	-	-

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15
			Sample Date	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003
			Sample ID	ISCO-RR-15-T03N-SFW SNOW	ISCO-RR-15-T02N-SFW SNOW	ISCO-RR-15-T01N-SFW SNOW	ISCO-RR-15-D08N-SFW SNOW	ISCO-RR-15-D07N-SFW SNOW	ISCO-RR-15-D06N-SFW SNOW
Field Measurements									
pH	SU	T		7.59 :	7.59 :	7.62 :	-	-	-
Specific Conductance	uS/cm	T		295. :	294. :	293. :	-	-	-
Laboratory Parameters									
pH	SU	T		7.59 :	7.59 :	7.62 :	-	-	-
Physical Properties									
Hardness	mg/L	D		-	-	-	138. :	137. :	134. :
Metals									
Aluminum	mg/L	D		-	-	-	0.147 :	0.126 :	0.139 :
Antimony	mg/L	D		-	-	-	<0.0003 :	<0.0003 :	<0.0003 :
Arsenic	mg/L	D		-	-	-	<0.0002 :	0.00033 :	<0.0002 :
Barium	mg/L	D		-	-	-	0.0297 :	0.0288 :	0.0301 :
Beryllium	mg/L	D		-	-	-	<0.0003 J	<0.0003 J	<0.0003 J
Boron	mg/L	D		-	-	-	<0.0084 :	<0.0084 :	<0.0084 :
Cadmium	mg/L	D		-	-	-	0.00036 :	0.00039 :	0.00034 :
Calcium	mg/L	D		-	-	-	40.5 :	40.2 :	39.6 :
Chromium	mg/L	D		-	-	-	<0.001 :	<0.001 :	<0.001 :
Cobalt	mg/L	D		-	-	-	<0.0038 :	<0.0038 :	<0.0038 :
Copper	mg/L	D		-	-	-	0.0074 :	0.0067 :	0.0063 :
Iron	mg/L	D		-	-	-	<0.311 :	<0.311 :	<0.311 :
Lead	mg/L	D		-	-	-	<0.0001 :	<0.00013 :	<0.0001 :
Magnesium	mg/L	D		-	-	-	8.81 :	8.76 :	8.6 :
Manganese	mg/L	D		-	-	-	0.187 :	0.184 :	0.187 :
Mercury	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Molybdenum	mg/L	D		-	-	-	<0.0023 :	<0.0023 :	<0.0023 :
Nickel	mg/L	D		-	-	-	0.0109 :	0.0118 :	0.0107 :
Potassium	mg/L	D		-	-	-	<1.5 :	<1.3 :	<1.78 :
Selenium	mg/L	D		-	-	-	0.00057 :	<0.0005 :	<0.0005 :
Silver	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Sodium	mg/L	D		-	-	-	5. :	<5.81 :	<5.02 :
Thallium	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Vanadium	mg/L	D		-	-	-	0.00012 J	<0.0001 :	<0.0001 :
Zinc	mg/L	D		-	-	-	<0.0533 J	<0.0518 J	<0.0518 J

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 4/22/2003 ISCO-RR-15-D05N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T12N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T11N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T10N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T09N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T04N-SFW SNOW
Field Measurements								
pH	SU	T	-	7.5 J	7.5 J	7.5 J	7.5 J	7.53 :
Specific Conductance	uS/cm	T	-	-	-	-	-	301. :
General Chemistry								
Chloride	mg/L	T	-	4.4 :	4.4 :	4.4 :	4.4 :	-
Fluoride	mg/L	T	-	0.64 :	0.65 :	0.64 :	0.64 :	-
Nitrate	mg/L	T	-	<0.4 J	<0.4 J	<0.4 J	<0.4 J	-
Nitrite	mg/L	T	-	<0.005 J	<0.005 J	<0.005 J	<0.005 J	-
Sulfate	mg/L	T	-	85.2 J	83.3 J	83.7 J	85.2 J	-
Total Dissolved Solids	mg/L	T	-	200. :	188. :	204. :	204. :	-
Total Suspended Solids	mg/L	T	-	23.3 :	21.1 :	24. :	30.7 :	-
Laboratory Parameters								
pH	SU	T	-	7.5 J	7.5 J	7.5 J	7.5 J	7.53 :
Specific Conductance	umhos/cm	T	-	277. J	274. J	273. J	278. J	-
Physical Properties								
Hardness	mg/L	T	-	142. :	142. :	146. :	137. :	-
Hardness	mg/L	D	132. :	-	-	-	-	-
Metals								
Aluminum	mg/L	T	-	1.36 :	1.38 :	1.46 :	1.28 :	-
Aluminum	mg/L	D	0.165 :	-	-	-	-	-
Antimony	mg/L	T	-	<0.0003 :	<0.0003 :	<0.0003 :	<0.0003 :	-
Antimony	mg/L	D	<0.0005 :	-	-	-	-	-
Arsenic	mg/L	T	-	<0.0002 :	0.00021 :	0.00021 :	<0.0002 :	-
Arsenic	mg/L	D	<0.0002 :	-	-	-	-	-
Barium	mg/L	T	-	0.0447 :	0.0432 :	0.0437 :	0.0408 :	-
Barium	mg/L	D	0.0306 :	-	-	-	-	-
Beryllium	mg/L	T	-	<0.0003 :	0.0004 :	<0.0003 :	0.0003 :	-
Beryllium	mg/L	D	<0.0003 :	-	-	-	-	-
Boron	mg/L	T	-	<0.0084 :	<0.0084 :	<0.0084 :	<0.0084 :	-
Boron	mg/L	D	<0.0084 :	-	-	-	-	-
Cadmium	mg/L	T	-	0.00032 :	0.00034 :	0.00034 :	0.00031 :	-
Cadmium	mg/L	D	0.00033 :	-	-	-	-	-
Calcium	mg/L	T	-	41.9 :	41.7 :	42.9 :	40.5 :	-
Calcium	mg/L	D	39. :	-	-	-	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 4/22/2003 ISCO-RR-15-D05N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T12N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T11N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T10N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T09N-SFW SNOW	ISCO RR-15 4/24/2003 ISCO-RR-15-T04N-SFW SNOW
Chromium	mg/L	T	-	<0.001 :	<0.001 :	0.0011 :	<0.001 :	-
Chromium	mg/L	D	<0.001 :	-	-	-	-	-
Cobalt	mg/L	T	-	<0.0038 :	<0.0038 :	<0.0038 :	<0.0038 :	-
Cobalt	mg/L	D	<0.0038 :	-	-	-	-	-
Copper	mg/L	T	-	0.0177 :	0.0182 :	0.02 :	0.0167 :	-
Copper	mg/L	D	0.0066 :	-	-	-	-	-
Iron	mg/L	T	-	0.607 :	0.592 :	0.65 :	0.558 :	-
Iron	mg/L	D	<0.0311 :	-	-	-	-	-
Lead	mg/L	T	-	0.0014 :	0.0012 :	0.0011 :	0.0011 :	-
Lead	mg/L	D	<0.0001 :	-	-	-	-	-
Magnesium	mg/L	T	-	9.15 :	9.12 :	9.4 :	8.83 :	-
Magnesium	mg/L	D	8.44 :	-	-	-	-	-
Manganese	mg/L	T	-	0.226 :	0.231 :	0.242 :	0.217 :	-
Manganese	mg/L	D	0.179 :	-	-	-	-	-
Mercury	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Mercury	mg/L	D	<0.0001 :	-	-	-	-	-
Molybdenum	mg/L	T	-	<0.0023 :	<0.0023 :	<0.0023 :	<0.0023 :	-
Molybdenum	mg/L	D	<0.0023 :	-	-	-	-	-
Nickel	mg/L	T	-	0.0142 :	0.0148 :	0.0156 :	0.014 :	-
Nickel	mg/L	D	0.0124 :	-	-	-	-	-
Potassium	mg/L	T	-	1.4 :	1.38 :	1.44 :	1.33 :	-
Potassium	mg/L	D	1.26 :	-	-	-	-	-
Selenium	mg/L	T	-	<0.0005 :	<0.0005 :	<0.0005 :	<0.0005 :	-
Selenium	mg/L	D	<0.0008 :	-	-	-	-	-
Silver	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D	<0.0001 :	-	-	-	-	-
Sodium	mg/L	T	-	5.26 :	5.19 :	5.44 :	5.05 :	-
Sodium	mg/L	D	4.87 :	-	-	-	-	-
Thallium	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Thallium	mg/L	D	<0.0001 :	-	-	-	-	-
Vanadium	mg/L	T	-	0.00052 J	0.00053 J	0.0005 J	0.00043 J	-
Vanadium	mg/L	D	<0.0002 :	-	-	-	-	-
Zinc	mg/L	T	-	0.104 J	0.111 J	0.113 J	0.1 J	-
Zinc	mg/L	D	0.0527 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15
			Sample Date	4/24/2003	4/24/2003	4/24/2003	4/24/2003	4/24/2003	4/24/2003
			Sample ID	ISCO-RR-15-T03N-SFW SNOW	ISCO-RR-15-T02N-SFW SNOW	ISCO-RR-15-T01N-SFW SNOW	ISCO-RR-15-D12N-SFW SNOW	ISCO-RR-15-D11N-SFW SNOW	ISCO-RR-15-D10N-SFW SNOW
Field Measurements									
pH	SU	T		7.5 :	7.49 :	7.52 :	-	-	-
Specific Conductance	uS/cm	T		301. :	299. :	300. :	-	-	-
Laboratory Parameters									
pH	SU	T		7.5 :	7.49 :	7.52 :	-	-	-
Physical Properties									
Hardness	mg/L	D		-	-	-	138. :	143. :	139. :
Metals									
Aluminum	mg/L	D		-	-	-	<0.175 :	<0.163 :	0.156 :
Antimony	mg/L	D		-	-	-	<0.0003 :	<0.0003 :	<0.0003 :
Arsenic	mg/L	D		-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Barium	mg/L	D		-	-	-	0.0322 :	0.0335 :	0.0322 :
Beryllium	mg/L	D		-	-	-	<0.0003 :	<0.0003 :	<0.0003 :
Boron	mg/L	D		-	-	-	<0.0084 :	<0.0084 :	<0.0084 :
Cadmium	mg/L	D		-	-	-	0.00028 :	0.00036 :	0.00036 :
Calcium	mg/L	D		-	-	-	40.5 :	42.2 :	40.9 :
Chromium	mg/L	D		-	-	-	<0.001 :	<0.001 :	<0.001 :
Cobalt	mg/L	D		-	-	-	<0.0038 :	<0.0038 :	<0.0038 :
Copper	mg/L	D		-	-	-	0.0052 :	0.0059 :	0.0055 :
Iron	mg/L	D		-	-	-	<0.0311 :	<0.0311 :	<0.0311 :
Lead	mg/L	D		-	-	-	<0.0001 J	<0.0001 J	<0.0001 J
Magnesium	mg/L	D		-	-	-	8.87 :	9.2 :	8.93 :
Manganese	mg/L	D		-	-	-	0.195 :	0.204 :	0.197 :
Mercury	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Molybdenum	mg/L	D		-	-	-	<0.0023 :	<0.0023 :	<0.0023 :
Nickel	mg/L	D		-	-	-	0.0127 :	0.0129 :	0.013 :
Potassium	mg/L	D		-	-	-	1.3 :	1.35 :	1.31 :
Selenium	mg/L	D		-	-	-	<0.0005 :	<0.0005 :	<0.0005 :
Silver	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Sodium	mg/L	D		-	-	-	5.06 :	5.4 :	5.19 :
Thallium	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Vanadium	mg/L	D		-	-	-	0.00021 J	0.00013 J	0.00016 J
Zinc	mg/L	D		-	-	-	0.0602 J	0.0654 J	0.0642 J

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 4/24/2003 ISCO-RR-15-D09N-S FW SNOW		ISCO RR-15 8/13/2003 ISCO-RR-15-T04N-S FW ST2		ISCO RR-15 8/13/2003 ISCO-RR-15-T03N-S FW ST2		ISCO RR-15 8/13/2003 ISCO-RR-15-T02N-SFW ST2		ISCO RR-15 8/13/2003 ISCO-RR-15-T01N-SFW ST2		ISCO RR-15 8/13/2003 ISCO-RR-15-D04N-S FW ST2	
Field Measurements														
pH	SU	T	-		7.6	J	7.8	J	7.5	J	7.8	J	-	
Specific Conductance	uS/cm	T	-		356.	:	325.	:	316.	:	328.	:	-	
General Chemistry														
Bicarbonate (as CaCO3)	mg/L	T	-		39.1	:	58.2	:	59.7	:	63.6	:	-	
Carbonate (as CaCO3)	mg/L	T	-		<1.	:	<1.	:	<1.	:	<1.	:	-	
Chloride	mg/L	T	-		3.2	J	3.3	J	3.2	J	3.2	J	-	
Fluoride	mg/L	T	-		0.7	:	0.67	:	0.66	:	0.67	:	-	
Hydroxide (as CaCO3)	mg/L	T	-		<1.	:	<1.	:	<1.	:	<1.	:	-	
Nitrate	mg/L	T	-		0.35	:	0.33	:	0.34	:	0.39	:	-	
Nitrite	mg/L	T	-		<0.005	:	<0.0052	:	<0.005	:	<0.005	:	-	
Sulfate	mg/L	T	-		116.	J	95.7	J	86.2	J	96.8	J	-	
Total Alkalinity	mg/L	T	-		39.1	:	58.2	:	59.7	:	63.6	:	-	
Total Dissolved Solids	mg/L	T	-		246.	:	<256.	:	<242.	:	<252.	:	-	
Total Suspended Solids	mg/L	T	-		235.	:	23.	:	53.6	:	118.	:	-	
Laboratory Parameters														
pH	SU	T	-		7.6	J	7.8	J	7.5	J	7.8	J	-	
Specific Conductance	umhos/cm	T	-		319.	J	314.	J	299.	J	292.	J	-	
Physical Properties														
Hardness	mg/L	T	-		183.	:	163.	:	168.	:	165.	:	-	
Hardness	mg/L	D	137.	:	-		-		-		-		168.	:
Metals														
Aluminum	mg/L	T	-		10.6	J	3.68	J	7.53	J	9.86	J	-	
Aluminum	mg/L	D	0.139	:	-		-		-		-		<0.114	:
Antimony	mg/L	T	-		<0.0005	J	<0.0005	J	<0.0005	J	<0.0005	J	-	
Antimony	mg/L	D	<0.0003	:	-		-		-		-		<0.0005	:
Arsenic	mg/L	T	-		0.004	J	0.001	J	0.0019	J	0.0013	J	-	
Arsenic	mg/L	D	<0.0002	:	-		-		-		-		<0.0002	J
Barium	mg/L	T	-		0.299	:	0.0739	:	0.0993	:	0.0874	:	-	
Barium	mg/L	D	0.0316	:	-		-		-		-		0.0302	:
Beryllium	mg/L	T	-		0.001	J	0.0011	:	0.0024	:	0.003	:	-	
Beryllium	mg/L	D	<0.0003	:	-		-		-		-		<0.0002	J
Boron	mg/L	T	-		0.0116	:	0.0067	:	0.0067	:	0.0073	:	-	
Boron	mg/L	D	<0.0084	:	-		-		-		-		0.0075	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 4/24/2003 ISCO-RR-15-D09N-S FW SNOW	ISCO RR-15 8/13/2003 ISCO-RR-15-T04N-S FW ST2	ISCO RR-15 8/13/2003 ISCO-RR-15-T03N-S FW ST2	ISCO RR-15 8/13/2003 ISCO-RR-15-T02N-SFW ST2	ISCO RR-15 8/13/2003 ISCO-RR-15-T01N-SFW ST2	ISCO RR-15 8/13/2003 ISCO-RR-15-D04N-S FW ST2
Cadmium	mg/L	T	-	0.00068 :	0.00079 :	0.0016 :	0.0018 :	-
Cadmium	mg/L	D	0.00032 :	-	-	-	-	0.00027 :
Calcium	mg/L	T	-	51. :	48.3 :	49.7 :	48.9 :	-
Calcium	mg/L	D	40.2 :	-	-	-	-	49.9 :
Chromium	mg/L	T	-	0.011 :	<0.0019 :	0.0048 :	0.0035 :	-
Chromium	mg/L	D	<0.001 :	-	-	-	-	<0.0006 :
Cobalt	mg/L	T	-	0.008 :	0.0063 :	0.0143 :	0.0146 :	-
Cobalt	mg/L	D	<0.0038 :	-	-	-	-	0.0025 :
Copper	mg/L	T	-	0.037 :	0.0387 :	0.0884 :	0.109 :	-
Copper	mg/L	D	0.0054 :	-	-	-	-	0.0025 :
Iron	mg/L	T	-	21.9 :	4.18 :	9.85 :	8.15 :	-
Iron	mg/L	D	<0.0311 :	-	-	-	-	<0.0362 :
Lead	mg/L	T	-	0.0706 J	0.0059 J	0.0104 J	0.0049 J	-
Lead	mg/L	D	<0.0001 J	-	-	-	-	<0.0001 :
Magnesium	mg/L	T	-	13.5 :	10.3 :	10.7 :	10.5 :	-
Magnesium	mg/L	D	8.78 :	-	-	-	-	10.6 :
Manganese	mg/L	T	-	0.452 :	0.398 :	0.648 :	0.875 :	-
Manganese	mg/L	D	0.194 :	-	-	-	-	0.253 :
Mercury	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Mercury	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :
Molybdenum	mg/L	T	-	0.0074 J	0.0017 J	0.0013 J	0.0017 J	-
Molybdenum	mg/L	D	<0.0023 :	-	-	-	-	0.0024 J
Nickel	mg/L	T	-	0.0285 :	0.0263 :	0.0484 :	0.056 :	-
Nickel	mg/L	D	0.0127 :	-	-	-	-	0.0043 :
Potassium	mg/L	T	-	5.69 :	1.52 :	1.68 :	1.44 :	-
Potassium	mg/L	D	1.29 :	-	-	-	-	1.44 :
Selenium	mg/L	T	-	<0.0008 :	<0.0008 :	0.00087 :	0.00099 :	-
Selenium	mg/L	D	<0.0005 :	-	-	-	-	<0.0008 :
Silver	mg/L	T	-	0.00033 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :
Sodium	mg/L	T	-	5.64 :	6.21 :	6.4 :	5.63 :	-
Sodium	mg/L	D	5.14 :	-	-	-	-	5.33 :
Thallium	mg/L	T	-	0.00018 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Thallium	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction						
		Site ID	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15	ISCO RR-15
		Sample Date	4/24/2003	8/13/2003	8/13/2003	8/13/2003	8/13/2003	8/13/2003
		Sample ID	ISCO-RR-15-D09N-S	ISCO-RR-15-T04N-S	ISCO-RR-15-T03N-S	ISCO-RR-15-T02N-SF	ISCO-RR-15-T01N-SF	ISCO-RR-15-D04N-S
		Exposure Area	FW SNOW	FW ST2	FW ST2	W ST2	W ST2	FW ST2
Vanadium	mg/L	T	-	0.0101 J	0.005 J	0.0046 J	0.0039 J	-
Vanadium	mg/L	D	<0.0001 :	-	-	-	-	<0.0002 :
Zinc	mg/L	T	-	0.223 :	0.248 :	0.531 :	0.633 :	-
Zinc	mg/L	D	0.064 J	-	-	-	-	0.0114 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction																	
		Site ID	ISCO RR-15		ISCO RR-15		ISCO RR-15		ISCO RR-15		ISCO RR-15		ISCO RR-15					
		Sample Date	8/13/2003		8/13/2003		8/13/2003		9/5/2003		9/5/2003		9/5/2003					
		Sample ID	ISCO-RR-15-D03N-SFW		ISCO-RR-15-D02N-SFW		ISCO-RR-15-D01N-SFW		ISCO-RR-15-T03N-SFW		ISCO-RR-15-T02N-SFW		ISCO-RR-15-T01N-SFW					
		Exposure Area	ST2		ST2		ST2		ST4		ST4		ST4					
Field Measurements																		
pH	SU	T	-		-		-		4.57	:	6.89	:	6.46	:				
Specific Conductance	uS/cm	T	-		-		-		624.	:	170.	:	279.	:				
General Chemistry																		
Chloride	mg/L	T	-		-		-		3.1	:	2.8	:	2.8	:				
Fluoride	mg/L	T	-		-		-		1.9	:	0.55	:	0.6	:				
Nitrate	mg/L	T	-		-		-		0.3	J	0.26	J	0.3	J				
Nitrite	mg/L	T	-		-		-		<0.005	J	<0.005	J	<0.005	J				
Sulfate	mg/L	T	-		-		-		368.	:	80.5	:	84.1	:				
Total Dissolved Solids	mg/L	T	-		-		-		638.	:	180.	:	<138.	:				
Total Suspended Solids	mg/L	T	-		-		-		3550.	:	636.	:	387.	:				
Laboratory Parameters																		
pH	SU	T	-		-		-		4.57	:	6.89	:	6.46	:				
Physical Properties																		
Hardness	mg/L	T	-		-		-		408.	:	153.	:	181.	:				
Hardness	mg/L	D	160.	:	152.	:	150.	:	-		-		-					
Metals																		
Aluminum	mg/L	T	-		-		-		49.6	:	17.6	:	34.6	:				
Aluminum	mg/L	D	0.216	:	0.136	:	0.138	:	-		-		-					
Antimony	mg/L	T	-		-		-		<0.0005	J	<0.0005	J	<0.0013	J				
Antimony	mg/L	D	<0.0005	:	<0.0005	:	<0.0005	:	-		-		-					
Arsenic	mg/L	T	-		-		-		0.023	J	0.005	J	0.0093	J				
Arsenic	mg/L	D	<0.0002	J	<0.0002	J	<0.0002	J	-		-		-					
Barium	mg/L	T	-		-		-		1.35	:	0.366	:	0.748	:				
Barium	mg/L	D	0.0349	:	0.0302	:	0.029	:	-		-		-					
Beryllium	mg/L	T	-		-		-		0.0064	:	0.0036	:	0.0064	:				
Beryllium	mg/L	D	<0.0004	:	<0.0004	:	<0.0004	:	-		-		-					
Boron	mg/L	T	-		-		-		0.0209	:	0.0107	:	0.0136	:				
Boron	mg/L	D	0.0061	:	0.0063	:	0.0066	:	-		-		-					
Cadmium	mg/L	T	-		-		-		0.0052	J	0.0021	J	0.0032	J				
Cadmium	mg/L	D	0.00032	:	<0.0002	:	<0.0002	:	-		-		-					
Calcium	mg/L	T	-		-		-		108.	:	42.2	:	46.7	:				
Calcium	mg/L	D	47.5	:	45.1	:	44.4	:	-		-		-					
Chromium	mg/L	T	-		-		-		0.0611	:	0.0144	:	0.033	:				

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 8/13/2003 ISCO-RR-15-D03N-SFW ST2		ISCO RR-15 8/13/2003 ISCO-RR-15-D02N-SFW ST2		ISCO RR-15 8/13/2003 ISCO-RR-15-D01N-SFW ST2		ISCO RR-15 9/5/2003 ISCO-RR-15-T03N-SFW ST4		ISCO RR-15 9/5/2003 ISCO-RR-15-T02N-SFW ST4		ISCO RR-15 9/5/2003 ISCO-RR-15-T01N-SFW ST4	
Chromium	mg/L	D	<0.0019	:	<0.0019	:	<0.0019	:	-		-		-	
Cobalt	mg/L	T	-		-		-		0.0759	:	0.0192	:	0.0366	:
Cobalt	mg/L	D	<0.0037	:	<0.0037	:	<0.0037	:	-		-		-	
Copper	mg/L	T	-		-		-		0.246	:	0.133	:	0.263	:
Copper	mg/L	D	0.0041	:	0.0029	:	0.0034	:	-		-		-	
Iron	mg/L	T	-		-		-		172.	:	27.4	:	62.7	:
Iron	mg/L	D	<0.0667	:	<0.0667	:	<0.0667	:	-		-		-	
Lead	mg/L	T	-		-		-		0.382	J	0.0794	J	0.169	J
Lead	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Magnesium	mg/L	T	-		-		-		33.6	:	11.5	:	15.7	:
Magnesium	mg/L	D	10.1	:	9.63	:	9.44	:	-		-		-	
Manganese	mg/L	T	-		-		-		3.4	:	1.08	:	1.88	:
Manganese	mg/L	D	0.216	:	0.243	:	0.234	:	-		-		-	
Mercury	mg/L	T	-		-		-		0.00022	:	<0.0001	:	0.00025	:
Mercury	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Molybdenum	mg/L	T	-		-		-		0.0178	J	0.0124	J	0.0226	J
Molybdenum	mg/L	D	0.0026	J	0.0027	J	0.0028	J	-		-		-	
Nickel	mg/L	T	-		-		-		0.179	:	0.0766	:	0.129	:
Nickel	mg/L	D	0.0117	:	0.0092	:	0.0085	:	-		-		-	
Potassium	mg/L	T	-		-		-		18.5	J	5.84	J	10.	J
Potassium	mg/L	D	1.39	:	1.47	:	1.27	:	-		-		-	
Selenium	mg/L	T	-		-		-		0.0055	J	0.0018	J	0.0037	J
Selenium	mg/L	D	<0.0008	:	<0.0008	:	<0.0008	:	-		-		-	
Silver	mg/L	T	-		-		-		<0.0017	:	<0.00065	:	<0.0014	:
Silver	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Sodium	mg/L	T	-		-		-		6.86	:	4.29	:	5.12	:
Sodium	mg/L	D	5.86	:	5.48	:	5.41	:	-		-		-	
Thallium	mg/L	T	-		-		-		0.00077	:	0.00028	:	0.00051	:
Thallium	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	:	-		-		-	
Vanadium	mg/L	T	-		-		-		0.0483	:	0.0175	:	0.0353	:
Vanadium	mg/L	D	<0.0002	:	<0.0002	:	<0.0002	:	-		-		-	
Zinc	mg/L	T	-		-		-		1.46	:	0.754	:	1.27	:
Zinc	mg/L	D	0.0392	:	0.0171	:	0.0163	:	-		-		-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 9/5/2003 ISCO-RR-15-D03N-SFW ST4		ISCO RR-15 9/5/2003 ISCO-RR-15-D02N-SFW ST4		ISCO RR-15 9/5/2003 ISCO-RR-15-D01N-SFW ST4		ISCO RR-15 9/6/2003 ISCO-RR-15-T04N-SFW ST4		ISCO RR-15 9/6/2003 ISCO-RR-15-D04N-SFW ST4		ISCO RR-6 4/20/2003 ISCO-RR-6-T04N-SFW SNOW	
Field Measurements														
pH	SU	T	-		-		-		4.93	:	-		7.6	J
Specific Conductance	uS/cm	T	-		-		-		439.	:	-		257.	:
General Chemistry														
Chloride	mg/L	T	-		-		-		3.	:	-		4.6	:
Fluoride	mg/L	T	-		-		-		0.8	:	-		0.3	:
Nitrate	mg/L	T	-		-		-		0.33	J	-		0.5	J
Nitrite	mg/L	T	-		-		-		<0.005	J	-		<0.005	J
Sulfate	mg/L	T	-		-		-		223.	:	-		55.3	J
Total Dissolved Solids	mg/L	T	-		-		-		432.	:	-		174.	:
Total Suspended Solids	mg/L	T	-		-		-		2730.	:	-		12.6	:
Laboratory Parameters														
pH	SU	T	-		-		-		4.93	:	-		7.6	J
Specific Conductance	umhos/cm	T	-		-		-		-		-		225.	J
Physical Properties														
Hardness	mg/L	T	-		-		-		335.	:	-		114.	:
Hardness	mg/L	D	339.	:	131.	:	138.	:	-		233.	:	-	
Metals														
Aluminum	mg/L	T	-		-		-		66.3	:	-		0.639	:
Aluminum	mg/L	D	6.8	:	0.0929	:	0.103	:	-		1.38	:	-	
Antimony	mg/L	T	-		-		-		<0.001	J	-		<0.0003	:
Antimony	mg/L	D	<0.0005	:	<0.0005	:	<0.0005	:	-		<0.001	:	-	
Arsenic	mg/L	T	-		-		-		0.0427	J	-		<0.0002	:
Arsenic	mg/L	D	<0.0002	J	<0.0002	J	<0.0002	J	-		<0.0002	J	-	
Barium	mg/L	T	-		-		-		2.03	:	-		0.0375	:
Barium	mg/L	D	0.0741	:	0.0264	:	0.0288	:	-		0.0576	:	-	
Beryllium	mg/L	T	-		-		-		0.0063	:	-		<0.0003	:
Beryllium	mg/L	D	0.0028	:	<0.0003	:	0.00042	:	-		0.00074	:	-	
Boron	mg/L	T	-		-		-		0.0237	:	-		<0.0084	:
Boron	mg/L	D	0.0093	:	0.0085	:	0.0069	:	-		<0.0064	:	-	
Cadmium	mg/L	T	-		-		-		0.0029	J	-		<0.0005	:
Cadmium	mg/L	D	0.0049	J	<0.0002	J	0.00025	J	-		0.0023	J	-	
Calcium	mg/L	T	-		-		-		75.2	:	-		33.5	:
Calcium	mg/L	D	103.	:	39.1	:	41.2	:	-		70.3	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-15 9/5/2003 ISCO-RR-15-D03N-SFW ST4		ISCO RR-15 9/5/2003 ISCO-RR-15-D02N-SFW ST4		ISCO RR-15 9/5/2003 ISCO-RR-15-D01N-SFW ST4		ISCO RR-15 9/6/2003 ISCO-RR-15-T04N-SFW ST4		ISCO RR-15 9/6/2003 ISCO-RR-15-D04N-SFW ST4		ISCO RR-6 4/20/2003 ISCO-RR-6-T04N-SFW SNOW	
Chromium	mg/L	T	-		-		-		0.0824	:	-		0.0011	:
Chromium	mg/L	D	<0.0013	:	<0.0013	:	<0.0013	:	-		<0.0013	:	-	
Cobalt	mg/L	T	-		-		-		0.0632	:	-		<0.0038	:
Cobalt	mg/L	D	0.0511	:	<0.0031	:	<0.0031	:	-		0.0257	:	-	
Copper	mg/L	T	-		-		-		0.26	:	-		0.0104	:
Copper	mg/L	D	0.0875	:	0.0029	:	0.0033	:	-		0.0243	:	-	
Iron	mg/L	T	-		-		-		231.	:	-		<0.311	:
Iron	mg/L	D	0.099	:	0.048	:	0.106	:	-		0.203	:	-	
Lead	mg/L	T	-		-		-		0.551	J	-		0.0024	:
Lead	mg/L	D	0.00031	:	<0.0002	:	<0.0002	:	-		0.00054	:	-	
Magnesium	mg/L	T	-		-		-		35.7	:	-		7.4	:
Magnesium	mg/L	D	19.8	:	8.08	:	8.61	:	-		14.	:	-	
Manganese	mg/L	T	-		-		-		2.88	:	-		0.131	:
Manganese	mg/L	D	2.28	:	0.122	:	0.194	:	-		1.34	:	-	
Mercury	mg/L	T	-		-		-		<0.00024	:	-		<0.0001	:
Mercury	mg/L	D	<0.0001	:	<0.0001	:	0.00011	:	-		<0.0001	:	-	
Molybdenum	mg/L	T	-		-		-		0.0334	J	-		<0.0023	:
Molybdenum	mg/L	D	<0.0002	:	0.0058	:	0.008	:	-		<0.0002	:	-	
Nickel	mg/L	T	-		-		-		0.157	:	-		0.0637	:
Nickel	mg/L	D	0.149	:	0.0048	:	0.0072	:	-		0.0728	:	-	
Potassium	mg/L	T	-		-		-		28.1	J	-		<1.22	:
Potassium	mg/L	D	1.68	:	1.58	:	1.66	:	-		1.77	:	-	
Selenium	mg/L	T	-		-		-		0.007	J	-		<0.0005	:
Selenium	mg/L	D	0.0014	J	<0.0006	J	<0.0006	J	-		<0.0006	J	-	
Silver	mg/L	T	-		-		-		0.0028	:	-		<0.0001	:
Silver	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	:	-		<0.0001	:	-	
Sodium	mg/L	T	-		-		-		7.25	:	-		4.87	:
Sodium	mg/L	D	3.85	:	4.18	:	4.49	:	-		4.31	:	-	
Thallium	mg/L	T	-		-		-		0.0013	:	-		<0.0001	:
Thallium	mg/L	D	<0.0001	:	<0.0001	:	<0.0001	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		-		-		0.0707	:	-		0.00033	J
Vanadium	mg/L	D	<0.0001	:	0.00014	:	0.00011	:	-		0.00014	:	-	
Zinc	mg/L	T	-		-		-		1.	:	-		<0.0502	J
Zinc	mg/L	D	1.1	:	0.0122	:	0.0179	:	-		0.485	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6
			Sample Date	4/20/2003	4/20/2003	4/20/2003	4/20/2003	4/20/2003	4/20/2003
			Sample ID	ISCO-RR-6-T03N-SFW SNOW	ISCO-RR-6-T02N-SFW SNOW	ISCO-RR-6-T01N-SFW SNOW	ISCO-RR-6-D04N-SFW SNOW	ISCO-RR-6-D03N-SFW SNOW	ISCO-RR-6-D02N-SFW SNOW
Field Measurements									
pH	SU	T		7.4 J	7.2 J	6.9 J	-	-	-
Specific Conductance	uS/cm	T		256. :	247. :	254. :	-	-	-
General Chemistry									
Chloride	mg/L	T		4.5 :	4.5 :	4.4 :	-	-	-
Fluoride	mg/L	T		0.3 :	0.3 :	0.3 :	-	-	-
Nitrate	mg/L	T		0.49 J	0.49 J	0.49 J	-	-	-
Nitrite	mg/L	T		<0.005 J	<0.005 J	<0.005 J	-	-	-
Sulfate	mg/L	T		59.8 J	58.2 J	62.5 J	-	-	-
Total Dissolved Solids	mg/L	T		168. :	158. :	164. :	-	-	-
Total Suspended Solids	mg/L	T		15.9 :	11.6 :	12.9 :	-	-	-
Laboratory Parameters									
pH	SU	T		7.4 J	7.2 J	6.9 J	-	-	-
Specific Conductance	umhos/cm	T		223. J	223. J	2. J	-	-	-
Physical Properties									
Hardness	mg/L	T		116. :	115. :	123. :	-	-	-
Hardness	mg/L	D		-	-	-	112. :	113. :	112. :
Metals									
Aluminum	mg/L	T		0.688 :	0.707 :	0.758 :	-	-	-
Aluminum	mg/L	D		-	-	-	<0.194 :	<0.2 :	<0.189 :
Antimony	mg/L	T		<0.0003 :	<0.0003 :	<0.0009 :	-	-	-
Antimony	mg/L	D		-	-	-	<0.0003 :	<0.0003 :	<0.0003 :
Arsenic	mg/L	T		<0.0002 :	<0.0002 :	<0.0002 :	-	-	-
Arsenic	mg/L	D		-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Barium	mg/L	T		0.039 :	0.0396 :	0.0399 :	-	-	-
Barium	mg/L	D		-	-	-	0.0336 :	0.0339 :	0.0326 :
Beryllium	mg/L	T		<0.0003 :	<0.0003 :	<0.0003 :	-	-	-
Beryllium	mg/L	D		-	-	-	<0.0003 :	<0.0003 :	<0.0003 :
Boron	mg/L	T		<0.0084 :	<0.0084 :	<0.0084 :	-	-	-
Boron	mg/L	D		-	-	-	<0.0084 :	<0.0084 :	<0.0084 :
Cadmium	mg/L	T		<0.0005 :	<0.0005 :	<0.0005 :	-	-	-
Cadmium	mg/L	D		-	-	-	<0.0005 :	<0.0005 :	<0.0005 :
Calcium	mg/L	T		34.2 :	33.7 :	36. :	-	-	-
Calcium	mg/L	D		-	-	-	33. :	33.2 :	32.9 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 4/20/2003 ISCO-RR-6-T03N-SFW SNOW	ISCO RR-6 4/20/2003 ISCO-RR-6-T02N-SFW SNOW	ISCO RR-6 4/20/2003 ISCO-RR-6-T01N-SFW SNOW	ISCO RR-6 4/20/2003 ISCO-RR-6-D04N-SFW SNOW	ISCO RR-6 4/20/2003 ISCO-RR-6-D03N-SFW SNOW	ISCO RR-6 4/20/2003 ISCO-RR-6-D02N-SFW SNOW
Chromium	mg/L	T	<0.001 :	<0.001 :	<0.001 :	-	-	-
Chromium	mg/L	D	-	-	-	<0.001 :	<0.001 :	<0.001 :
Cobalt	mg/L	T	<0.0038 :	<0.0038 :	<0.0038 :	-	-	-
Cobalt	mg/L	D	-	-	-	<0.0038 :	<0.0038 :	<0.0038 :
Copper	mg/L	T	0.0122 :	0.0118 :	0.0134 :	-	-	-
Copper	mg/L	D	-	-	-	0.0048 J	0.0048 J	0.0049 J
Iron	mg/L	T	0.579 :	0.457 :	0.743 :	-	-	-
Iron	mg/L	D	-	-	-	<0.311 :	<0.311 :	<0.311 :
Lead	mg/L	T	0.0012 :	0.0012 :	0.0013 :	-	-	-
Lead	mg/L	D	-	-	-	<0.0004 :	<0.00032 :	<0.00033 :
Magnesium	mg/L	T	7.56 :	7.45 :	8.07 :	-	-	-
Magnesium	mg/L	D	-	-	-	7.26 :	7.32 :	7.24 :
Manganese	mg/L	T	0.145 :	0.145 :	0.166 :	-	-	-
Manganese	mg/L	D	-	-	-	0.117 :	0.118 :	0.119 :
Mercury	mg/L	T	<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Mercury	mg/L	D	-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Molybdenum	mg/L	T	<0.0023 :	<0.0023 :	<0.0023 :	-	-	-
Molybdenum	mg/L	D	-	-	-	<0.0023 :	<0.0023 :	<0.0023 :
Nickel	mg/L	T	0.0083 :	0.0062 :	0.0062 :	-	-	-
Nickel	mg/L	D	-	-	-	0.0051 :	0.0053 :	0.0056 :
Potassium	mg/L	T	<1.27 :	<1.29 :	2.3 :	-	-	-
Potassium	mg/L	D	-	-	-	<1.32 :	<1.39 :	<1.12 :
Selenium	mg/L	T	<0.0005 :	<0.0005 :	<0.0005 :	-	-	-
Selenium	mg/L	D	-	-	-	<0.0005 :	<0.0005 :	<0.0005 :
Silver	mg/L	T	<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Silver	mg/L	D	-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Sodium	mg/L	T	5.66 :	5.58 :	6.54 :	-	-	-
Sodium	mg/L	D	-	-	-	4.87 :	5.59 :	4.1 :
Thallium	mg/L	T	<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Thallium	mg/L	D	-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Vanadium	mg/L	T	0.0004 J	0.00041 J	0.00041 J	-	-	-
Vanadium	mg/L	D	-	-	-	0.00015 J	0.00019 J	0.00014 J
Zinc	mg/L	T	<0.0591 J	<0.065 J	<0.0474 J	-	-	-
Zinc	mg/L	D	-	-	-	<0.0454 J	<0.0341 J	<0.0349 J

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 4/20/2003 ISCO-RR-6-D01N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T08N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T07N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T06N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T05N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T04N-SFW SNOW
Field Measurements								
pH	SU	T	-	7.7 J	7.7 J	7.6 J	7.7 J	7.33 :
Specific Conductance	uS/cm	T	-	-	-	-	-	248. :
General Chemistry								
Chloride	mg/L	T	-	4.6 :	4.4 :	4.4 :	4.5 :	-
Fluoride	mg/L	T	-	0.29 :	0.29 :	0.28 :	0.3 :	-
Nitrate	mg/L	T	-	<0.4 J	<0.4 J	<0.4 J	<0.4 J	-
Nitrite	mg/L	T	-	<0.005 J	<0.005 J	<0.005 J	<0.005 J	-
Sulfate	mg/L	T	-	55.5 J	55.9 J	55.5 J	55. J	-
Total Dissolved Solids	mg/L	T	-	160. :	146. :	152. :	152. :	-
Total Suspended Solids	mg/L	T	-	13.4 :	14.5 :	13.5 :	15.3 :	-
Laboratory Parameters								
pH	SU	T	-	7.7 J	7.7 J	7.6 J	7.7 J	7.33 :
Specific Conductance	umhos/cm	T	-	239. J	224. J	227. J	223. J	-
Physical Properties								
Hardness	mg/L	T	-	109. :	114. :	114. :	112. :	-
Hardness	mg/L	D	112. :	-	-	-	-	-
Metals								
Aluminum	mg/L	T	-	0.731 :	0.653 :	0.614 :	0.606 :	-
Aluminum	mg/L	D	<0.188 :	-	-	-	-	-
Antimony	mg/L	T	-	<0.0005 :	<0.0003 :	<0.0003 :	<0.00062 :	-
Antimony	mg/L	D	<0.0003 :	-	-	-	-	-
Arsenic	mg/L	T	-	<0.0002 :	0.0003 :	0.00021 :	0.00032 :	-
Arsenic	mg/L	D	<0.0002 :	-	-	-	-	-
Barium	mg/L	T	-	0.0392 :	0.039 :	0.0381 :	0.0374 :	-
Barium	mg/L	D	0.0344 :	-	-	-	-	-
Beryllium	mg/L	T	-	<0.0003 :	<0.0003 J	<0.0003 J	<0.0003 J	-
Beryllium	mg/L	D	<0.0003 :	-	-	-	-	-
Boron	mg/L	T	-	<0.0084 :	<0.0084 :	<0.0084 :	<0.0084 :	-
Boron	mg/L	D	<0.0084 :	-	-	-	-	-
Cadmium	mg/L	T	-	0.00023 :	0.00027 :	0.00028 :	0.00023 :	-
Cadmium	mg/L	D	<0.0005 :	-	-	-	-	-
Calcium	mg/L	T	-	31.8 :	33.3 :	33.5 :	32.8 :	-
Calcium	mg/L	D	32.8 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 4/20/2003 ISCO-RR-6-D01N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T08N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T07N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T06N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T05N-SFW SNOW	ISCO RR-6 4/22/2003 ISCO-RR-6-T04N-SFW SNOW
Chromium	mg/L	T	-	0.001 :	0.0011 :	<0.001 :	<0.001 :	-
Chromium	mg/L	D	<0.001 :	-	-	-	-	-
Cobalt	mg/L	T	-	<0.0038 :	<0.0038 :	<0.0038 :	<0.0038 :	-
Cobalt	mg/L	D	<0.0038 :	-	-	-	-	-
Copper	mg/L	T	-	0.013 J	0.0137 :	0.0122 :	0.0123 :	-
Copper	mg/L	D	0.0046 J	-	-	-	-	-
Iron	mg/L	T	-	0.493 :	<0.505 :	<0.46 :	<0.518 :	-
Iron	mg/L	D	<0.311 :	-	-	-	-	-
Lead	mg/L	T	-	0.00091 :	<0.00099 :	<0.00092 :	<0.001 :	-
Lead	mg/L	D	<0.0003 :	-	-	-	-	-
Magnesium	mg/L	T	-	7.08 :	7.4 :	7.42 :	7.27 :	-
Magnesium	mg/L	D	7.25 :	-	-	-	-	-
Manganese	mg/L	T	-	0.125 :	0.13 :	0.13 :	0.132 :	-
Manganese	mg/L	D	0.119 :	-	-	-	-	-
Mercury	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Mercury	mg/L	D	<0.0001 :	-	-	-	-	-
Molybdenum	mg/L	T	-	<0.0023 :	<0.0023 :	<0.0023 :	<0.0023 :	-
Molybdenum	mg/L	D	<0.0023 :	-	-	-	-	-
Nickel	mg/L	T	-	0.0059 :	<0.0073 :	<0.0073 :	<0.0073 :	-
Nickel	mg/L	D	0.005 :	-	-	-	-	-
Potassium	mg/L	T	-	1.27 :	<1.35 :	<1.48 :	<1.54 :	-
Potassium	mg/L	D	<1.59 :	-	-	-	-	-
Selenium	mg/L	T	-	<0.0008 :	<0.0005 :	<0.0005 :	<0.0005 :	-
Selenium	mg/L	D	<0.0005 :	-	-	-	-	-
Silver	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D	<0.0001 :	-	-	-	-	-
Sodium	mg/L	T	-	4.79 :	<5.65 :	<4.71 :	<5.1 :	-
Sodium	mg/L	D	4.81 :	-	-	-	-	-
Thallium	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Thallium	mg/L	D	<0.0001 :	-	-	-	-	-
Vanadium	mg/L	T	-	0.0004 J	0.00039 J	0.00039 J	0.00041 J	-
Vanadium	mg/L	D	0.00013 J	-	-	-	-	-
Zinc	mg/L	T	-	0.0407 J	<0.0422 J	<0.0399 J	<0.0412 J	-
Zinc	mg/L	D	<0.0399 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6
			Sample Date	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003
			Sample ID	ISCO-RR-6-T03N-SFW SNOW	ISCO-RR-6-T02N-SFW SNOW	ISCO-RR-6-T01N-SFW SNOW	ISCO-RR-6-D08N-SFW SNOW	ISCO-RR-6-D07N-SFW SNOW	ISCO-RR-6-D06N-SFW SNOW
Field Measurements									
pH	SU	T		7.29 :	7.26 :	7.02 :	-	-	-
Specific Conductance	uS/cm	T		248. :	248. :	248. :	-	-	-
Laboratory Parameters									
pH	SU	T		7.29 :	7.26 :	7.02 :	-	-	-
Physical Properties									
Hardness	mg/L	D		-	-	-	108. :	111. :	115. :
Metals									
Aluminum	mg/L	D		-	-	-	0.206 :	0.155 :	0.176 :
Antimony	mg/L	D		-	-	-	<0.0005 :	<0.0003 :	<0.0003 :
Arsenic	mg/L	D		-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Barium	mg/L	D		-	-	-	0.0335 :	0.0315 :	0.0317 :
Beryllium	mg/L	D		-	-	-	<0.0003 :	<0.0003 J	<0.0003 J
Boron	mg/L	D		-	-	-	<0.0084 :	<0.0084 :	<0.0084 :
Cadmium	mg/L	D		-	-	-	0.00022 :	0.00025 :	0.00019 :
Calcium	mg/L	D		-	-	-	31.7 :	32.6 :	33.6 :
Chromium	mg/L	D		-	-	-	<0.001 :	<0.001 :	<0.001 :
Cobalt	mg/L	D		-	-	-	<0.0038 :	<0.0038 :	<0.0038 :
Copper	mg/L	D		-	-	-	0.0214 J	0.0065 :	0.0061 :
Iron	mg/L	D		-	-	-	0.059 :	<0.311 :	<0.311 :
Lead	mg/L	D		-	-	-	<0.0001 :	<0.00013 :	<0.00021 :
Magnesium	mg/L	D		-	-	-	7.01 :	7.22 :	7.45 :
Manganese	mg/L	D		-	-	-	0.108 :	0.116 :	0.114 :
Mercury	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Molybdenum	mg/L	D		-	-	-	<0.0023 :	<0.0023 :	<0.0023 :
Nickel	mg/L	D		-	-	-	0.0053 :	<0.0073 :	<0.0073 :
Potassium	mg/L	D		-	-	-	1.19 :	<1.1 :	<1.02 :
Selenium	mg/L	D		-	-	-	<0.0008 :	<0.0005 :	<0.0005 :
Silver	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Sodium	mg/L	D		-	-	-	4.8 :	<5.4 :	<4.84 :
Thallium	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Vanadium	mg/L	D		-	-	-	<0.0002 :	<0.0001 :	0.00018 J
Zinc	mg/L	D		-	-	-	0.0279 J	<0.0329 J	<0.0306 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 4/22/2003 ISCO-RR-6-D05N-SFW SNOW	ISCO RR-6 4/24/2003 ISCO-RR-6-T12N-SFW SNOW	ISCO RR-6 4/24/2003 ISCO-RR-6-T11N-SFW SNOW	ISCO RR-6 4/24/2003 ISCO-RR-6-T10N-SFW SNOW	ISCO RR-6 4/24/2003 ISCO-RR-6-T09N-SFW SNOW	ISCO RR-6 4/24/2003 ISCO-RR-6-T04N-SFW SNOW
Field Measurements								
pH	SU	T	-	7.3 J	7.3 J	7.1 J	6.9 J	7.04 :
Specific Conductance	uS/cm	T	-	-	-	-	-	252. :
General Chemistry								
Chloride	mg/L	T	-	4.5 :	4.5 :	4.6 :	4.6 :	-
Fluoride	mg/L	T	-	0.32 :	0.32 :	0.32 :	0.32 :	-
Nitrate	mg/L	T	-	<0.4 J	<0.4 J	<0.4 J	<0.4 J	-
Nitrite	mg/L	T	-	<0.005 J	<0.005 J	<0.005 J	<0.005 J	-
Sulfate	mg/L	T	-	61.4 J	61.1 J	59.4 J	58.5 J	-
Total Dissolved Solids	mg/L	T	-	148. :	158. :	166. :	160. :	-
Total Suspended Solids	mg/L	T	-	10.8 :	11.4 :	13.1 :	12.8 :	-
Laboratory Parameters								
pH	SU	T	-	7.3 J	7.3 J	7.1 J	6.9 J	7.04 :
Specific Conductance	umhos/cm	T	-	233. J	233. J	250. J	10.5 J	-
Physical Properties								
Hardness	mg/L	T	-	115. :	116. :	112. :	115. :	-
Hardness	mg/L	D	114. :	-	-	-	-	-
Metals								
Aluminum	mg/L	T	-	0.639 :	0.636 :	0.614 :	0.621 :	-
Aluminum	mg/L	D	0.189 :	-	-	-	-	-
Antimony	mg/L	T	-	<0.0003 :	<0.0003 :	<0.0003 :	<0.0003 :	-
Antimony	mg/L	D	<0.0003 :	-	-	-	-	-
Arsenic	mg/L	T	-	<0.0002 :	0.00024 :	0.00023 :	0.00022 :	-
Arsenic	mg/L	D	0.00024 :	-	-	-	-	-
Barium	mg/L	T	-	0.0407 :	0.0413 :	0.0402 :	0.0411 :	-
Barium	mg/L	D	0.0327 :	-	-	-	-	-
Beryllium	mg/L	T	-	<0.0003 :	<0.0003 :	<0.0003 :	<0.0003 :	-
Beryllium	mg/L	D	<0.0003 J	-	-	-	-	-
Boron	mg/L	T	-	<0.0084 :	<0.0084 :	<0.0084 :	<0.0084 :	-
Boron	mg/L	D	<0.0084 :	-	-	-	-	-
Cadmium	mg/L	T	-	0.00022 :	0.00028 :	0.00028 :	0.00027 :	-
Cadmium	mg/L	D	0.00023 :	-	-	-	-	-
Calcium	mg/L	T	-	33.7 :	34.1 :	32.8 :	33.7 :	-
Calcium	mg/L	D	33.4 :	-	-	-	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6
			Sample Date	4/22/2003	4/24/2003	4/24/2003	4/24/2003	4/24/2003	4/24/2003
			Sample ID	ISCO-RR-6-D05N-SFW SNOW	ISCO-RR-6-T12N-SFW SNOW	ISCO-RR-6-T11N-SFW SNOW	ISCO-RR-6-T10N-SFW SNOW	ISCO-RR-6-T09N-SFW SNOW	ISCO-RR-6-T04N-SFW SNOW
Chromium	mg/L	T		-	<0.001 :	<0.001 :	<0.001 :	<0.001 :	-
Chromium	mg/L	D		<0.001 :	-	-	-	-	-
Cobalt	mg/L	T		-	<0.0038 :	<0.0038 :	<0.0038 :	<0.0038 :	-
Cobalt	mg/L	D		<0.0038 :	-	-	-	-	-
Copper	mg/L	T		-	0.0134 :	0.0138 :	0.013 :	0.0127 :	-
Copper	mg/L	D		0.007 :	-	-	-	-	-
Iron	mg/L	T		-	0.413 :	0.41 :	0.4 :	0.402 :	-
Iron	mg/L	D		<0.311 :	-	-	-	-	-
Lead	mg/L	T		-	0.00096 :	0.0009 :	0.00099 :	0.00096 :	-
Lead	mg/L	D		<0.00021 :	-	-	-	-	-
Magnesium	mg/L	T		-	7.53 :	7.61 :	7.33 :	7.54 :	-
Magnesium	mg/L	D		7.37 :	-	-	-	-	-
Manganese	mg/L	T		-	0.138 :	0.139 :	0.134 :	0.138 :	-
Manganese	mg/L	D		0.113 :	-	-	-	-	-
Mercury	mg/L	T		-	<0.0001 :	<0.0001 :	0.00015 :	<0.0001 :	-
Mercury	mg/L	D		<0.0001 :	-	-	-	-	-
Molybdenum	mg/L	T		-	<0.0023 :	<0.0023 :	<0.0023 :	<0.0023 :	-
Molybdenum	mg/L	D		<0.0023 :	-	-	-	-	-
Nickel	mg/L	T		-	<0.0064 :	<0.0067 :	<0.0064 :	<0.0068 :	-
Nickel	mg/L	D		<0.0073 :	-	-	-	-	-
Potassium	mg/L	T		-	1.24 :	1.29 :	1.23 :	1.27 :	-
Potassium	mg/L	D		<1.33 :	-	-	-	-	-
Selenium	mg/L	T		-	<0.0005 :	<0.0005 :	<0.0005 :	<0.0005 :	-
Selenium	mg/L	D		<0.0005 :	-	-	-	-	-
Silver	mg/L	T		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D		<0.0001 :	-	-	-	-	-
Sodium	mg/L	T		-	4.97 :	5.15 :	4.74 :	5.15 :	-
Sodium	mg/L	D		<5.78 :	-	-	-	-	-
Thallium	mg/L	T		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Thallium	mg/L	D		<0.0001 :	-	-	-	-	-
Vanadium	mg/L	T		-	0.0004 J	0.00038 J	0.00054 J	0.00043 J	-
Vanadium	mg/L	D		0.00015 J	-	-	-	-	-
Zinc	mg/L	T		-	0.0453 J	0.0462 J	0.0442 J	0.0467 J	-
Zinc	mg/L	D		<0.0313 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6
			Sample Date	4/24/2003	4/24/2003	4/24/2003	4/24/2003	4/24/2003	4/24/2003
			Sample ID	ISCO-RR-6-T03N-SFW SNOW	ISCO-RR-6-T02N-SFW SNOW	ISCO-RR-6-T01N-SFW SNOW	ISCO-RR-6-D12N-SFW SNOW	ISCO-RR-6-D11N-SFW SNOW	ISCO-RR-6-D10N-SFW SNOW
Field Measurements									
pH	SU	T		6.88 :	6.68 :	6.35 :	-	-	-
Specific Conductance	uS/cm	T		254. :	254. :	253. :	-	-	-
Laboratory Parameters									
pH	SU	T		6.88 :	6.68 :	6.35 :	-	-	-
Physical Properties									
Hardness	mg/L	D		-	-	-	115. :	113. :	116. :
Metals									
Aluminum	mg/L	D		-	-	-	0.21 :	0.199 :	0.206 :
Antimony	mg/L	D		-	-	-	<0.0003 :	<0.0003 :	<0.0003 :
Arsenic	mg/L	D		-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Barium	mg/L	D		-	-	-	0.0354 :	0.0351 :	0.0364 :
Beryllium	mg/L	D		-	-	-	<0.0003 :	<0.0003 :	<0.0003 :
Boron	mg/L	D		-	-	-	<0.0084 :	<0.0084 :	<0.0084 :
Cadmium	mg/L	D		-	-	-	0.00023 :	0.00021 :	0.0002 :
Calcium	mg/L	D		-	-	-	33.8 :	33. :	34.1 :
Chromium	mg/L	D		-	-	-	<0.001 :	<0.001 :	<0.001 :
Cobalt	mg/L	D		-	-	-	<0.0038 :	<0.0038 :	<0.0038 :
Copper	mg/L	D		-	-	-	0.0067 :	0.0062 :	0.0065 :
Iron	mg/L	D		-	-	-	<0.0537 :	<0.0431 :	<0.0515 :
Lead	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Magnesium	mg/L	D		-	-	-	7.54 :	7.35 :	7.59 :
Manganese	mg/L	D		-	-	-	0.122 :	0.119 :	0.123 :
Mercury	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Molybdenum	mg/L	D		-	-	-	<0.0023 :	<0.0023 :	<0.0023 :
Nickel	mg/L	D		-	-	-	<0.0059 :	<0.0055 :	<0.0059 :
Potassium	mg/L	D		-	-	-	1.24 :	1.18 :	1.23 :
Selenium	mg/L	D		-	-	-	<0.0005 :	<0.0005 :	<0.0005 :
Silver	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Sodium	mg/L	D		-	-	-	5.08 :	4.92 :	5.14 :
Thallium	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Vanadium	mg/L	D		-	-	-	0.00013 J	0.00018 J	0.00013 J
Zinc	mg/L	D		-	-	-	0.0329 J	0.0315 J	0.034 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 4/24/2003 ISCO-RR-6-D09N-SFW SNOW	ISCO RR-6 7/27/2003 ISCO-RR-6-T04N-SFW ST1	ISCO RR-6 7/27/2003 ISCO-RR-6-T03N-SFW ST1	ISCO RR-6 7/27/2003 ISCO-RR-6-T02N-SFW ST1	ISCO RR-6 7/27/2003 ISCO-RR-6-T01N-SFW ST1	ISCO RR-6 7/27/2003 ISCO-RR-6-D04N-SFW ST1
Field Measurements								
pH	SU	T	-	4.36 :	3.72 :	4.22 :	7.05 :	-
Specific Conductance	uS/cm	T	-	838. :	840. :	965. :	263. :	-
General Chemistry								
Chloride	mg/L	T	-	3.6 :	3.9 :	4.4 :	4.7 :	-
Fluoride	mg/L	T	-	0.91 :	1.2 :	1.1 :	0.32 :	-
Nitrate	mg/L	T	-	0.49 J	0.44 J	0.47 J	0.52 J	-
Nitrite	mg/L	T	-	<0.005 J	<0.005 J	<0.005 J	0.0096 J	-
Sulfate	mg/L	T	-	458. :	395. :	646. :	63.7 :	-
Total Dissolved Solids	mg/L	T	-	<752. :	862. :	952. :	<192. :	-
Total Suspended Solids	mg/L	T	-	19000. :	7810. :	12000. :	672. :	-
Laboratory Parameters								
pH	SU	T	-	4.36 :	3.72 :	4.22 :	7.05 :	-
Physical Properties								
Hardness	mg/L	T	-	688. :	482. :	588. :	138. :	-
Hardness	mg/L	D	109. :	-	-	-	-	489. :
Metals								
Aluminum	mg/L	T	-	53. J	31.4 J	40.3 J	6.34 J	-
Aluminum	mg/L	D	0.175 :	-	-	-	-	2.83 :
Antimony	mg/L	T	-	<0.0005 :	<0.0011 :	<0.00064 :	<0.0005 :	-
Antimony	mg/L	D	<0.0003 :	-	-	-	-	<0.0005 :
Arsenic	mg/L	T	-	0.003 :	0.0042 :	0.003 :	0.0015 :	-
Arsenic	mg/L	D	<0.0002 :	-	-	-	-	<0.0002 :
Barium	mg/L	T	-	0.0615 :	0.0387 :	0.055 :	0.118 :	-
Barium	mg/L	D	0.0344 :	-	-	-	-	0.0232 :
Beryllium	mg/L	T	-	0.0124 :	0.0058 :	0.0089 :	<0.0013 :	-
Beryllium	mg/L	D	<0.0003 :	-	-	-	-	<0.0012 :
Boron	mg/L	T	-	0.0124 :	0.012 :	0.0098 :	0.0086 :	-
Boron	mg/L	D	<0.0084 :	-	-	-	-	0.0097 :
Cadmium	mg/L	T	-	0.0049 :	0.0058 :	0.0063 :	0.0016 :	-
Cadmium	mg/L	D	0.00025 :	-	-	-	-	0.0027 :
Calcium	mg/L	T	-	226. :	166. :	207. :	40.9 :	-
Calcium	mg/L	D	32.1 :	-	-	-	-	164. :
Chromium	mg/L	T	-	0.0344 :	0.0374 :	0.0291 :	0.0054 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 4/24/2003 ISCO-RR-6-D09N-SF W SNOW	ISCO RR-6 7/27/2003 ISCO-RR-6-T04N-SF W ST1	ISCO RR-6 7/27/2003 ISCO-RR-6-T03N-SF W ST1	ISCO RR-6 7/27/2003 ISCO-RR-6-T02N-SF W ST1	ISCO RR-6 7/27/2003 ISCO-RR-6-T01N-SF W ST1	ISCO RR-6 7/27/2003 ISCO-RR-6-D04N-SF W ST1
Chromium	mg/L	D	<0.001 :	-	-	-	-	<0.0006 :
Cobalt	mg/L	T	-	0.223 :	0.0775 :	0.146 :	0.0168 :	-
Cobalt	mg/L	D	<0.0038 :	-	-	-	-	0.0424 :
Copper	mg/L	T	-	0.466 :	0.64 :	1.38 :	0.0989 :	-
Copper	mg/L	D	0.0062 :	-	-	-	-	0.0336 :
Iron	mg/L	T	-	63.2 :	70.6 :	55.9 :	9.12 :	-
Iron	mg/L	D	<0.0356 :	-	-	-	-	<0.0541 :
Lead	mg/L	T	-	0.0016 :	0.0021 :	0.0092 :	0.0114 :	-
Lead	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :
Magnesium	mg/L	T	-	29.9 :	16.4 :	17.6 :	8.82 :	-
Magnesium	mg/L	D	7.14 :	-	-	-	-	19.7 :
Manganese	mg/L	T	-	11.5 :	3.35 :	5.99 :	0.956 :	-
Manganese	mg/L	D	0.116 :	-	-	-	-	2.68 :
Mercury	mg/L	T	-	0.0011 :	0.0015 :	0.00056 :	<0.0002 J	-
Mercury	mg/L	D	<0.0001 :	-	-	-	-	<0.00013 J
Molybdenum	mg/L	T	-	0.00033 :	0.0131 :	0.0013 :	0.00097 :	-
Molybdenum	mg/L	D	<0.0023 :	-	-	-	-	<0.0003 :
Nickel	mg/L	T	-	0.258 :	0.131 :	0.176 :	0.0329 :	-
Nickel	mg/L	D	<0.0058 :	-	-	-	-	0.0969 :
Potassium	mg/L	T	-	6.67 :	3.23 :	4.18 :	2.19 :	-
Potassium	mg/L	D	1.16 :	-	-	-	-	3.82 :
Selenium	mg/L	T	-	0.0033 :	0.0027 :	0.0041 :	0.001 :	-
Selenium	mg/L	D	<0.0005 :	-	-	-	-	0.0013 :
Silver	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :
Sodium	mg/L	T	-	4.9 :	4.32 :	4.89 :	6.69 :	-
Sodium	mg/L	D	4.85 :	-	-	-	-	5.09 :
Thallium	mg/L	T	-	0.00018 :	0.00012 :	0.00013 :	<0.0001 :	-
Thallium	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :
Vanadium	mg/L	T	-	0.0307 :	0.0288 :	0.0174 :	0.0046 :	-
Vanadium	mg/L	D	0.00013 J	-	-	-	-	<0.0002 :
Zinc	mg/L	T	-	0.9 :	0.892 :	1.09 :	0.393 :	-
Zinc	mg/L	D	0.0324 J	-	-	-	-	0.38 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction																	
		ISCO RR-6		ISCO RR-6		ISCO RR-6		ISCO RR-6		ISCO RR-6		ISCO RR-6							
		7/27/2003		7/27/2003		7/27/2003		8/13/2003		8/13/2003		8/13/2003							
		ISCO-RR-6-D03N-SF		ISCO-RR-6-D02N-SF		ISCO-RR-6-D01N-SF		ISCO-RR-6-T04N-SF		ISCO-RR-6-T03N-SF		ISCO-RR-6-T02N-SF							
		W		W		W		W		W		W							
		ST1		ST1		ST1		ST2		ST2		ST2							
Field Measurements																			
pH	SU	T	-		-		-		7.9	J	7.9	J	7.7	J					
Specific Conductance	uS/cm	T	-		-		-		523.	:	528.	:	554.	:					
General Chemistry																			
Bicarbonate (as CaCO3)	mg/L	T	-		-		-		62.3	:	62.6	:	53.5	:					
Carbonate (as CaCO3)	mg/L	T	-		-		-		<1.	:	<1.	:	<1.	:					
Chloride	mg/L	T	-		-		-		3.1	J	3.1	J	3.1	J					
Fluoride	mg/L	T	-		-		-		0.34	:	0.37	:	0.47	:					
Hydroxide (as CaCO3)	mg/L	T	-		-		-		<1.	:	<1.	:	<1.	:					
Nitrate	mg/L	T	-		-		-		0.44	:	0.38	:	0.4	:					
Nitrite	mg/L	T	-		-		-		0.0063	:	0.0056	:	0.0055	:					
Sulfate	mg/L	T	-		-		-		75.3	J	63.8	J	79.8	J					
Total Alkalinity	mg/L	T	-		-		-		62.3	:	62.6	:	53.5	:					
Total Dissolved Solids	mg/L	T	-		-		-		194.	:	200.	:	208.	:					
Total Suspended Solids	mg/L	T	-		-		-		14.9	:	31.9	:	-						
Laboratory Parameters																			
pH	SU	T	-		-		-		7.9	J	7.9	J	7.7	J					
Specific Conductance	umhos/cm	T	-		-		-		249.	J	257.	J	263.	J					
Physical Properties																			
Hardness	mg/L	T	-		-		-		127.	:	133.	:	147.	:					
Hardness	mg/L	D	426.	:	548.	:	121.	:	-		-		-						
Metals																			
Aluminum	mg/L	T	-		-		-		0.958	J	1.87	J	2.45	J					
Aluminum	mg/L	D	7.7	:	4.91	:	<0.0584	:	-		-		-						
Antimony	mg/L	T	-		-		-		<0.0005	J	<0.0005	J	<0.0005	J					
Antimony	mg/L	D	<0.0005	:	<0.0005	:	<0.0011	:	-		-		-						
Arsenic	mg/L	T	-		-		-		0.00047	J	0.0011	J	0.0011	J					
Arsenic	mg/L	D	<0.0002	:	<0.0002	:	<0.0002	:	-		-		-						
Barium	mg/L	T	-		-		-		0.0468	:	0.0815	:	0.063	:					
Barium	mg/L	D	0.0251	:	0.0287	:	0.0247	:	-		-		-						
Beryllium	mg/L	T	-		-		-		<0.0002	J	0.00021	J	<0.0002	J					
Beryllium	mg/L	D	0.0026	:	0.0017	:	<0.0002	:	-		-		-						
Boron	mg/L	T	-		-		-		0.0088	:	0.01	:	0.0126	:					
Boron	mg/L	D	0.0113	:	0.01	:	0.0101	:	-		-		-						

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6
			Sample Date	7/27/2003	7/27/2003	7/27/2003	8/13/2003	8/13/2003	8/13/2003
			Sample ID	ISCO-RR-6-D03N-SF W ST1	ISCO-RR-6-D02N-SF W ST1	ISCO-RR-6-D01N-SF W ST1	ISCO-RR-6-T04N-SF W ST2	ISCO-RR-6-T03N-SF W ST2	ISCO-RR-6-T02N-SF W ST2
Cadmium	mg/L	T		-	-	-	0.00023 :	0.00033 :	0.0003 :
Cadmium	mg/L	D		0.0047 :	0.0047 :	<0.0002 :	-	-	-
Calcium	mg/L	T		-	-	-	37.4 :	39.3 :	42.9 :
Calcium	mg/L	D		149. :	197. :	36.3 :	-	-	-
Chromium	mg/L	T		-	-	-	<0.0006 :	0.0023 :	0.0029 :
Chromium	mg/L	D		<0.0019 :	<0.0006 :	<0.0011 :	-	-	-
Cobalt	mg/L	T		-	-	-	<0.0018 :	0.0043 :	0.0062 :
Cobalt	mg/L	D		0.0406 :	0.0437 :	0.0031 :	-	-	-
Copper	mg/L	T		-	-	-	0.0104 :	0.0182 :	0.017 :
Copper	mg/L	D		0.232 :	0.289 :	0.0031 :	-	-	-
Iron	mg/L	T		-	-	-	1.55 :	4.3 :	4.9 :
Iron	mg/L	D		0.213 :	<0.0648 :	<0.0397 :	-	-	-
Lead	mg/L	T		-	-	-	0.0024 J	0.0055 J	0.0137 J
Lead	mg/L	D		0.00036 :	0.00021 :	<0.0001 :	-	-	-
Magnesium	mg/L	T		-	-	-	8.08 :	8.6 :	9.61 :
Magnesium	mg/L	D		13.1 :	13.6 :	7.44 :	-	-	-
Manganese	mg/L	T		-	-	-	0.161 :	0.25 :	0.3 :
Manganese	mg/L	D		1.75 :	1.98 :	0.133 :	-	-	-
Mercury	mg/L	T		-	-	-	<0.0001 :	0.00012 :	<0.0001 :
Mercury	mg/L	D		<0.00012 :	<0.0001 :	<0.0001 J	-	-	-
Molybdenum	mg/L	T		-	-	-	0.00082 J	0.00086 J	0.00097 J
Molybdenum	mg/L	D		<0.0003 :	<0.0003 :	0.0018 :	-	-	-
Nickel	mg/L	T		-	-	-	0.0078 :	0.0127 :	0.0193 :
Nickel	mg/L	D		0.0866 :	0.0876 :	0.0044 :	-	-	-
Potassium	mg/L	T		-	-	-	1.37 :	1.56 :	1.9 :
Potassium	mg/L	D		2.51 :	3.29 :	1.66 :	-	-	-
Selenium	mg/L	T		-	-	-	<0.0008 :	<0.0008 :	<0.0008 :
Selenium	mg/L	D		0.0015 :	0.0018 :	<0.0008 :	-	-	-
Silver	mg/L	T		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Silver	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Sodium	mg/L	T		-	-	-	4.84 :	5.03 :	5.28 :
Sodium	mg/L	D		4.34 :	5.16 :	6.35 :	-	-	-
Thallium	mg/L	T		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Thallium	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID
Vanadium	mg/L	T	ISCO RR-6	7/27/2003	ISCO-RR-6-D03N-SF W ST1 -
Vanadium	mg/L	D	ISCO RR-6	7/27/2003	ISCO-RR-6-D03N-SF W ST1 <0.0002 :
Zinc	mg/L	T	ISCO RR-6	7/27/2003	ISCO-RR-6-D03N-SF W ST1 -
Zinc	mg/L	D	ISCO RR-6	7/27/2003	ISCO-RR-6-D03N-SF W ST1 0.695 :
Vanadium	mg/L	T	ISCO RR-6	7/27/2003	ISCO-RR-6-D02N-SF W ST1 -
Vanadium	mg/L	D	ISCO RR-6	7/27/2003	ISCO-RR-6-D02N-SF W ST1 <0.0002 :
Zinc	mg/L	T	ISCO RR-6	7/27/2003	ISCO-RR-6-D02N-SF W ST1 -
Zinc	mg/L	D	ISCO RR-6	7/27/2003	ISCO-RR-6-D02N-SF W ST1 0.693 :
Vanadium	mg/L	T	ISCO RR-6	7/27/2003	ISCO-RR-6-D01N-SF W ST1 -
Vanadium	mg/L	D	ISCO RR-6	7/27/2003	ISCO-RR-6-D01N-SF W ST1 <0.0002 :
Zinc	mg/L	T	ISCO RR-6	7/27/2003	ISCO-RR-6-D01N-SF W ST1 -
Zinc	mg/L	D	ISCO RR-6	7/27/2003	ISCO-RR-6-D01N-SF W ST1 0.0088 :
Vanadium	mg/L	T	ISCO RR-6	8/13/2003	ISCO-RR-6-T04N-SF W ST2 0.00061 J
Vanadium	mg/L	D	ISCO RR-6	8/13/2003	ISCO-RR-6-T04N-SF W ST2 -
Zinc	mg/L	T	ISCO RR-6	8/13/2003	ISCO-RR-6-T04N-SF W ST2 0.0331 :
Zinc	mg/L	D	ISCO RR-6	8/13/2003	ISCO-RR-6-T04N-SF W ST2 -
Vanadium	mg/L	T	ISCO RR-6	8/13/2003	ISCO-RR-6-T03N-SF W ST2 0.0018 J
Vanadium	mg/L	D	ISCO RR-6	8/13/2003	ISCO-RR-6-T03N-SF W ST2 -
Zinc	mg/L	T	ISCO RR-6	8/13/2003	ISCO-RR-6-T03N-SF W ST2 0.061 :
Zinc	mg/L	D	ISCO RR-6	8/13/2003	ISCO-RR-6-T03N-SF W ST2 -
Vanadium	mg/L	T	ISCO RR-6	8/13/2003	ISCO-RR-6-T02N-SF W ST2 0.0015 J
Vanadium	mg/L	D	ISCO RR-6	8/13/2003	ISCO-RR-6-T02N-SF W ST2 -
Zinc	mg/L	T	ISCO RR-6	8/13/2003	ISCO-RR-6-T02N-SF W ST2 0.07 :
Zinc	mg/L	D	ISCO RR-6	8/13/2003	ISCO-RR-6-T02N-SF W ST2 -

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 8/13/2003 ISCO-RR-6-T01N-SFW ST2		ISCO RR-6 8/13/2003 ISCO-RR-6-D04N-SFW ST2		ISCO RR-6 8/13/2003 ISCO-RR-6-D03N-SFW ST2		ISCO RR-6 8/13/2003 ISCO-RR-6-D02N-SFW ST2		ISCO RR-6 8/13/2003 ISCO-RR-6-D01N-SFW ST2		ISCO RR-6 9/3/2003 ISCO-RR-6-T04N-SFW ST3	
Field Measurements														
pH	SU	T	7.5	J	-		-		-		-		7.86	:
Specific Conductance	uS/cm	T	585.	:	-		-		-		-		273.	:
General Chemistry														
Bicarbonate (as CaCO3)	mg/L	T	40.1	:	-		-		-		-		-	
Carbonate (as CaCO3)	mg/L	T	<1.	:	-		-		-		-		-	
Chloride	mg/L	T	3.3	J	-		-		-		-		2.8	:
Fluoride	mg/L	T	0.55	:	-		-		-		-		0.31	:
Hydroxide (as CaCO3)	mg/L	T	<1.	:	-		-		-		-		-	
Nitrate	mg/L	T	0.39	J	-		-		-		-		0.38	J
Nitrite	mg/L	T	0.0053	J	-		-		-		-		<0.005	J
Sulfate	mg/L	T	92.4	J	-		-		-		-		73.2	:
Total Alkalinity	mg/L	T	40.1	:	-		-		-		-		-	
Total Dissolved Solids	mg/L	T	228.	:	-		-		-		-		178.	:
Total Suspended Solids	mg/L	T	-		-		-		-		-		303.	:
Laboratory Parameters														
pH	SU	T	7.5	J	-		-		-		-		7.86	:
Specific Conductance	umhos/cm	T	264.	J	-		-		-		-		-	
Physical Properties														
Hardness	mg/L	T	178.	:	-		-		-		-		148.	:
Hardness	mg/L	D	-		133.	:	130.	:	140.	:	143.	:	-	
Metals														
Aluminum	mg/L	T	18.	J	-		-		-		-		17.2	:
Aluminum	mg/L	D	-		0.201	:	0.17	:	0.162	:	<0.0584	:	-	
Antimony	mg/L	T	<0.0013	J	-		-		-		-		<0.0005	J
Antimony	mg/L	D	-		<0.0005	:	<0.0005	:	<0.00079	:	<0.0005	:	-	
Arsenic	mg/L	T	0.0101	J	-		-		-		-		0.0048	J
Arsenic	mg/L	D	-		<0.0002	J	<0.0002	J	<0.0002	J	<0.0002	J	-	
Barium	mg/L	T	0.442	:	-		-		-		-		0.354	:
Barium	mg/L	D	-		0.0306	:	0.0272	:	0.0235	:	0.0124	:	-	
Beryllium	mg/L	T	0.0017	J	-		-		-		-		0.0012	:
Beryllium	mg/L	D	-		<0.0002	J	<0.0002	J	<0.0002	J	<0.0002	J	-	
Boron	mg/L	T	0.0148	:	-		-		-		-		0.0186	:
Boron	mg/L	D	-		0.0108	:	0.0135	:	0.0119	:	0.0109	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 8/13/2003 ISCO-RR-6-T01N-SF W ST2		ISCO RR-6 8/13/2003 ISCO-RR-6-D04N-SF W ST2		ISCO RR-6 8/13/2003 ISCO-RR-6-D03N-SF W ST2		ISCO RR-6 8/13/2003 ISCO-RR-6-D02N-SF W ST2		ISCO RR-6 8/13/2003 ISCO-RR-6-D01N-SF W ST2		ISCO RR-6 9/3/2003 ISCO-RR-6-T04N-SF W ST3	
Cadmium	mg/L	T	0.0011	J	-		-		-		-		0.0011	J
Cadmium	mg/L	D	-		<0.0002	:	<0.0002	:	<0.0002	:	<0.0002	:	-	
Calcium	mg/L	T	47.3	:	-		-		-		-		41.3	:
Calcium	mg/L	D	-		39.5	:	38.4	:	41.1	:	41.6	:	-	
Chromium	mg/L	T	0.0207	:	-		-		-		-		0.0156	:
Chromium	mg/L	D	-		0.00067	:	0.0033	:	<0.0006	:	<0.0006	:	-	
Cobalt	mg/L	T	0.022	:	-		-		-		-		0.0117	:
Cobalt	mg/L	D	-		0.0036	:	<0.0018	:	<0.0018	:	<0.0018	:	-	
Copper	mg/L	T	0.0938	:	-		-		-		-		0.0965	:
Copper	mg/L	D	-		0.0029	:	0.0059	:	0.0024	:	0.0019	:	-	
Iron	mg/L	T	45.	:	-		-		-		-		24.3	:
Iron	mg/L	D	-		<0.0168	:	<0.029	:	0.118	:	<0.0168	:	-	
Lead	mg/L	T	0.102	J	-		-		-		-		0.0714	J
Lead	mg/L	D	-		<0.0001	:	<0.0001	:	0.00019	:	<0.0001	:	-	
Magnesium	mg/L	T	14.6	:	-		-		-		-		10.8	:
Magnesium	mg/L	D	-		8.47	:	8.27	:	9.06	:	9.56	:	-	
Manganese	mg/L	T	1.	:	-		-		-		-		0.644	:
Manganese	mg/L	D	-		0.149	:	0.163	:	0.23	:	0.292	:	-	
Mercury	mg/L	T	0.00022	:	-		-		-		-		<0.0001	:
Mercury	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Molybdenum	mg/L	T	0.0098	J	-		-		-		-		0.007	J
Molybdenum	mg/L	D	-		0.0013	J	0.0012	J	0.0013	J	0.0012	J	-	
Nickel	mg/L	T	0.0512	:	-		-		-		-		0.03	:
Nickel	mg/L	D	-		0.0057	:	0.0054	:	0.0045	:	0.0036	:	-	
Potassium	mg/L	T	7.93	:	-		-		-		-		7.55	J
Potassium	mg/L	D	-		1.52	:	1.45	:	1.52	:	1.43	:	-	
Selenium	mg/L	T	0.0022	J	-		-		-		-		0.0011	J
Selenium	mg/L	D	-		<0.0008	:	<0.0008	:	<0.0008	:	<0.0008	:	-	
Silver	mg/L	T	0.00068	:	-		-		-		-		<0.0006	:
Silver	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Sodium	mg/L	T	5.95	:	-		-		-		-		5.51	:
Sodium	mg/L	D	-		5.25	:	5.	:	5.28	:	5.17	:	-	
Thallium	mg/L	T	0.00037	:	-		-		-		-		0.0003	:
Thallium	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6
			Sample Date	8/13/2003	8/13/2003	8/13/2003	8/13/2003	8/13/2003	9/3/2003
			Sample ID	ISCO-RR-6-T01N-SFW	ISCO-RR-6-D04N-SFW	ISCO-RR-6-D03N-SFW	ISCO-RR-6-D02N-SFW	ISCO-RR-6-D01N-SFW	ISCO-RR-6-T04N-SFW
				ST2	ST2	ST2	ST2	ST2	ST3
Vanadium	mg/L	T		0.0221 J	-	-	-	-	0.0174 :
Vanadium	mg/L	D		-	<0.0002 :	<0.0002 :	<0.0002 :	<0.0002 :	-
Zinc	mg/L	T		0.284 :	-	-	-	-	0.226 :
Zinc	mg/L	D		-	0.0119 :	0.0078 :	0.0125 :	<0.0057 :	-

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 9/3/2003 ISCO-RR-6-T03N-SF W ST3		ISCO RR-6 9/3/2003 ISCO-RR-6-T02N-SF W ST3		ISCO RR-6 9/3/2003 ISCO-RR-6-T01N-SF W ST3		ISCO RR-6 9/3/2003 ISCO-RR-6-D04N-SF W ST3		ISCO RR-6 9/3/2003 ISCO-RR-6-D03N-SF W ST3		ISCO RR-6 9/3/2003 ISCO-RR-6-D02N-SF W ST3	
Field Measurements														
pH	SU	T	7.69	:	7.29	:	6.87	:	-		-		-	
Specific Conductance	uS/cm	T	272.	:	292.	:	367.	:	-		-		-	
General Chemistry														
Chloride	mg/L	T	2.7	:	2.9	:	3.2	:	-		-		-	
Fluoride	mg/L	T	0.32	:	0.36	:	0.4	:	-		-		-	
Nitrate	mg/L	T	0.33	J	0.33	J	0.33	J	-		-		-	
Nitrite	mg/L	T	<0.005	J	<0.005	J	<0.005	J	-		-		-	
Sulfate	mg/L	T	67.5	:	87.7	:	130.	:	-		-		-	
Total Dissolved Solids	mg/L	T	178.	:	198.	:	256.	:	-		-		-	
Total Suspended Solids	mg/L	T	358.	:	381.	:	600.	:	-		-		-	
Laboratory Parameters														
pH	SU	T	7.69	:	7.29	:	6.87	:	-		-		-	
Physical Properties														
Hardness	mg/L	T	156.	:	178.	:	187.	:	-		-		-	
Hardness	mg/L	D	-		-		-		134.	:	136.	:	143.	:
Metals														
Aluminum	mg/L	T	15.8	:	23.2	:	19.8	:	-		-		-	
Aluminum	mg/L	D	-		-		-		0.0594	:	0.0484	:	0.031	:
Antimony	mg/L	T	<0.0005	J	<0.0005	J	<0.0005	J	-		-		-	
Antimony	mg/L	D	-		-		-		<0.0005	J	<0.0005	J	<0.0005	J
Arsenic	mg/L	T	0.0051	J	0.0084	J	0.0093	J	-		-		-	
Arsenic	mg/L	D	-		-		-		<0.0002	J	<0.0002	J	<0.0002	J
Barium	mg/L	T	0.388	:	0.652	:	0.319	:	-		-		-	
Barium	mg/L	D	-		-		-		0.0293	:	0.0277	:	0.0266	:
Beryllium	mg/L	T	0.0013	:	0.0021	:	0.0028	:	-		-		-	
Beryllium	mg/L	D	-		-		-		<0.0004	:	<0.0004	:	<0.0004	:
Boron	mg/L	T	0.0199	:	0.0255	:	0.0204	:	-		-		-	
Boron	mg/L	D	-		-		-		0.0071	:	0.007	:	0.0071	:
Cadmium	mg/L	T	0.0012	J	0.0017	J	0.0021	J	-		-		-	
Cadmium	mg/L	D	-		-		-		<0.0002	J	<0.0002	J	0.0002	J
Calcium	mg/L	T	42.7	:	46.6	:	51.1	:	-		-		-	
Calcium	mg/L	D	-		-		-		40.6	:	40.9	:	43.9	:
Chromium	mg/L	T	0.0159	:	0.0252	:	0.0178	:	-		-		-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6
			Sample Date	9/3/2003	9/3/2003	9/3/2003	9/3/2003	9/3/2003	9/3/2003
			Sample ID	ISCO-RR-6-T03N-SF	ISCO-RR-6-T02N-SF	ISCO-RR-6-T01N-SF	ISCO-RR-6-D04N-SF	ISCO-RR-6-D03N-SF	ISCO-RR-6-D02N-SF
				W ST3	W ST3	W ST3	W ST3	W ST3	W ST3
Chromium	mg/L	D		-	-	-	<0.0011 :	<0.0011 :	<0.0011 :
Cobalt	mg/L	T		0.0133 :	0.0193 :	0.0313 :	-	-	-
Cobalt	mg/L	D		-	-	-	0.0015 :	0.0023 :	0.0033 :
Copper	mg/L	T		0.108 :	0.148 :	0.153 :	-	-	-
Copper	mg/L	D		-	-	-	0.0019 :	<0.0017 :	0.0028 :
Iron	mg/L	T		26.7 :	46. :	32. :	-	-	-
Iron	mg/L	D		-	-	-	<0.0278 :	<0.0278 :	<0.0278 :
Lead	mg/L	T		0.0951 J	0.16 J	0.0612 J	-	-	-
Lead	mg/L	D		-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Magnesium	mg/L	T		12. :	14.9 :	14.3 :	-	-	-
Magnesium	mg/L	D		-	-	-	7.99 :	8.28 :	8.17 :
Manganese	mg/L	T		0.809 :	1.17 :	1.46 :	-	-	-
Manganese	mg/L	D		-	-	-	0.124 :	0.128 :	0.195 :
Mercury	mg/L	T		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Mercury	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Molybdenum	mg/L	T		0.0079 J	0.0119 J	0.0054 J	-	-	-
Molybdenum	mg/L	D		-	-	-	0.0015 J	0.0013 J	0.0016 :
Nickel	mg/L	T		0.0331 :	0.0488 :	0.0753 :	-	-	-
Nickel	mg/L	D		-	-	-	<0.0016 :	0.0026 :	0.0058 :
Potassium	mg/L	T		6.94 J	9.32 J	5.76 J	-	-	-
Potassium	mg/L	D		-	-	-	1.59 :	1.5 :	1.57 :
Selenium	mg/L	T		0.0014 J	0.0021 J	0.0021 J	-	-	-
Selenium	mg/L	D		-	-	-	<0.0003 J	<0.0003 J	0.00033 J
Silver	mg/L	T		<0.0008 :	<0.0013 :	<0.00097 :	-	-	-
Silver	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Sodium	mg/L	T		5.42 :	5.95 :	5.68 :	-	-	-
Sodium	mg/L	D		-	-	-	5.03 :	5.02 :	5.14 :
Thallium	mg/L	T		0.00028 :	0.0004 :	0.00039 :	-	-	-
Thallium	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Vanadium	mg/L	T		0.0155 :	0.0242 :	0.0223 J	-	-	-
Vanadium	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Zinc	mg/L	T		0.272 :	0.397 :	0.482 :	-	-	-
Zinc	mg/L	D		-	-	-	0.0039 :	0.0051 :	0.0058 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 9/3/2003 ISCO-RR-6-D01N-SF W ST3		ISCO RR-6 9/5/2003 ISCO-RR-6-T04N-SF W ST4		ISCO RR-6 9/5/2003 ISCO-RR-6-T03N-SF W ST4		ISCO RR-6 9/5/2003 ISCO-RR-6-T02N-SF W ST4		ISCO RR-6 9/5/2003 ISCO-RR-6-T01N-SF W ST4		ISCO RR-6 9/5/2003 ISCO-RR-6-D04N-SF W ST4	
Field Measurements														
pH	SU	T	-		4.87	:	5.06	:	5.13	:	5.15	:	-	
Specific Conductance	uS/cm	T	-		451.	:	446.	:	354.	:	409.	:	-	
General Chemistry														
Chloride	mg/L	T	-		3.6	:	2.5	:	2.6	:	3.2	:	-	
Fluoride	mg/L	T	-		0.74	:	0.67	:	0.77	:	0.66	:	-	
Nitrate	mg/L	T	-		0.43	J	0.3	J	0.29	J	0.31	J	-	
Nitrite	mg/L	T	-		0.0052	J	0.0094	J	<0.005	J	<0.005	J	-	
Sulfate	mg/L	T	-		211.	:	230.	:	226.	:	192.	:	-	
Total Dissolved Solids	mg/L	T	-		386.	:	384.	:	408.	:	398.	:	-	
Total Suspended Solids	mg/L	T	-		5230.	:	5570.	:	4680.	:	2940.	:	-	
Laboratory Parameters														
pH	SU	T	-		4.87	:	5.06	:	5.13	:	5.15	:	-	
Physical Properties														
Hardness	mg/L	T	-		562.	:	574.	:	477.	:	281.	:	-	
Hardness	mg/L	D	168.	:	-		-		-		-		214.	:
Metals														
Aluminum	mg/L	T	-		182.	:	192.	:	136.	:	60.8	:	-	
Aluminum	mg/L	D	<0.0221	:	-		-		-		-		1.56	:
Antimony	mg/L	T	-		<0.0012	J	<0.0025	J	<0.0011	J	-		-	
Antimony	mg/L	D	<0.0005	J	-		-		-		-		<0.001	:
Arsenic	mg/L	T	-		0.196	J	0.177	J	0.112	J	0.0541	J	-	
Arsenic	mg/L	D	<0.0002	J	-		-		-		-		<0.0002	J
Barium	mg/L	T	-		8.25	:	7.86	:	5.01	:	1.71	:	-	
Barium	mg/L	D	0.025	:	-		-		-		-		0.0392	:
Beryllium	mg/L	T	-		0.0108	:	0.0146	:	0.0104	:	0.006	:	-	
Beryllium	mg/L	D	<0.0004	:	-		-		-		-		0.00086	:
Boron	mg/L	T	-		0.114	J	0.0538	:	0.037	:	0.0228	:	-	
Boron	mg/L	D	0.0087	:	-		-		-		-		0.0104	:
Cadmium	mg/L	T	-		0.0042	J	0.0051	J	0.0041	J	0.0013	J	-	
Cadmium	mg/L	D	0.00052	J	-		-		-		-		0.0024	J
Calcium	mg/L	T	-		77.3	:	86.	:	84.7	:	67.9	:	-	
Calcium	mg/L	D	48.7	:	-		-		-		-		66.5	:
Chromium	mg/L	T	-		0.294	:	0.309	:	0.193	:	0.0643	:	-	

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6
			Sample Date	9/3/2003	9/5/2003	9/5/2003	9/5/2003	9/5/2003	9/5/2003
			Sample ID	ISCO-RR-6-D01N-SF	ISCO-RR-6-T04N-SF	ISCO-RR-6-T03N-SF	ISCO-RR-6-T02N-SF	ISCO-RR-6-T01N-SF	ISCO-RR-6-D04N-SF
			Exposure Area	W ST3	W ST4	W ST4	W ST4	W ST4	W ST4
Chromium	mg/L	D		<0.0011 :	-	-	-	-	<0.0013 :
Cobalt	mg/L	T		-	0.17 :	0.29 :	0.172 :	0.0528 :	-
Cobalt	mg/L	D		0.0115 :	-	-	-	-	0.0252 :
Copper	mg/L	T		-	0.943 :	1.23 :	0.906 :	0.167 :	-
Copper	mg/L	D		<0.0017 :	-	-	-	-	0.0403 :
Iron	mg/L	T		-	689. :	604. :	400. :	188. :	-
Iron	mg/L	D		<0.0278 :	-	-	-	-	<0.0455 :
Lead	mg/L	T		-	3.02 J	2.71 J	1.69 J	0.387 J	-
Lead	mg/L	D		<0.0002 :	-	-	-	-	0.00065 :
Magnesium	mg/L	T		-	89.6 :	87.2 :	64.4 :	27.1 :	-
Magnesium	mg/L	D		11.1 :	-	-	-	-	11.6 :
Manganese	mg/L	T		-	7.16 :	10.1 :	6.44 :	2.06 :	-
Manganese	mg/L	D		0.549 :	-	-	-	-	1.38 :
Mercury	mg/L	T		-	0.00036 :	0.00069 :	0.00036 :	0.00027 :	-
Mercury	mg/L	D		<0.0001 :	-	-	-	-	<0.0001 :
Molybdenum	mg/L	T		-	0.068 J	0.0854 J	0.0737 J	0.0252 J	-
Molybdenum	mg/L	D		0.00047 :	-	-	-	-	<0.0002 :
Nickel	mg/L	T		-	0.254 :	0.363 :	0.243 :	0.115 :	-
Nickel	mg/L	D		0.0314 :	-	-	-	-	0.0651 :
Potassium	mg/L	T		-	49.8 J	43.5 J	36.6 J	27.8 J	-
Potassium	mg/L	D		1.59 :	-	-	-	-	2.19 :
Selenium	mg/L	T		-	0.0183 J	0.0273 J	0.0193 J	0.0053 J	-
Selenium	mg/L	D		0.00036 J	-	-	-	-	<0.0006 J
Silver	mg/L	T		-	0.016 :	0.022 :	0.0128 :	<0.0016 :	-
Silver	mg/L	D		<0.0001 :	-	-	-	-	<0.0001 :
Sodium	mg/L	T		-	9.47 :	6.73 :	7.01 :	6.96 :	-
Sodium	mg/L	D		5.51 :	-	-	-	-	4.5 :
Thallium	mg/L	T		-	0.003 :	0.0036 :	0.0025 :	0.0011 :	-
Thallium	mg/L	D		<0.0001 :	-	-	-	-	<0.0001 :
Vanadium	mg/L	T		-	0.288 :	0.296 :	0.192 :	0.0536 :	-
Vanadium	mg/L	D		<0.0001 :	-	-	-	-	<0.0001 :
Zinc	mg/L	T		-	1.78 :	2.01 :	1.41 :	0.468 :	-
Zinc	mg/L	D		0.0423 :	-	-	-	-	0.331 :

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 9/5/2003 ISCO-RR-6-D03N-SF W ST4		ISCO RR-6 9/5/2003 ISCO-RR-6-D02N-SF W ST4		ISCO RR-6 9/5/2003 ISCO-RR-6-D01N-SF W ST4		ISCO RR-6 9/10/2003 ISCO-RR-6-T04N-SF W STP		ISCO RR-6 9/10/2003 ISCO-RR-6-T03N-SF W STP		ISCO RR-6 9/10/2003 ISCO-RR-6-T02N-SF W STP	
Field Measurements														
pH	SU	T	-		-		-		7.1	:	6.96	:	6.67	:
Specific Conductance	uS/cm	T	-		-		-		203.	:	209.	:	216.	:
General Chemistry														
Chloride	mg/L	T	-		-		-		1.7	:	1.8	:	1.8	:
Fluoride	mg/L	T	-		-		-		0.4	J	0.32	:	0.32	:
Nitrate	mg/L	T	-		-		-		0.3	:	0.29	:	0.3	:
Nitrite	mg/L	T	-		-		-		<0.005	:	<0.005	:	<0.005	:
Sulfate	mg/L	T	-		-		-		49.6	J	53.3	:	71.5	:
Total Dissolved Solids	mg/L	T	-		-		-		<170.	:	<150.	:	<174.	:
Laboratory Parameters														
pH	SU	T	-		-		-		7.1	:	6.96	:	6.67	:
Physical Properties														
Hardness	mg/L	T	-		-		-		133.	:	202.	:	199.	:
Hardness	mg/L	D	206.	:	229.	:	197.	:	-		-		-	
Metals														
Aluminum	mg/L	T	-		-		-		8.59	:	16.9	:	19.	:
Aluminum	mg/L	D	1.05	:	1.28	:	1.26	:	-		-		-	
Antimony	mg/L	T	-		-		-		<0.0005	J	<0.0005	J	<0.0005	J
Antimony	mg/L	D	<0.001	:	<0.001	:	<0.001	:	-		-		-	
Arsenic	mg/L	T	-		-		-		0.0034	J	0.0059	J	0.0069	:
Arsenic	mg/L	D	<0.0002	J	<0.0002	J	<0.0002	J	-		-		-	
Barium	mg/L	T	-		-		-		0.287	:	0.844	:	1.2	:
Barium	mg/L	D	0.0307	:	0.0528	:	0.0286	:	-		-		-	
Beryllium	mg/L	T	-		-		-		0.00086	:	0.0027	:	0.0027	:
Beryllium	mg/L	D	0.00081	:	0.00055	:	0.00083	:	-		-		-	
Boron	mg/L	T	-		-		-		<0.0063	:	<0.0063	:	<0.0064	:
Boron	mg/L	D	<0.0064	:	<0.0064	:	0.0077	:	-		-		-	
Cadmium	mg/L	T	-		-		-		0.00037	J	0.0013	:	0.0014	:
Cadmium	mg/L	D	0.0023	J	0.0023	J	0.00092	J	-		-		-	
Calcium	mg/L	T	-		-		-		40.5	:	62.6	:	58.9	:
Calcium	mg/L	D	65.1	:	71.8	:	59.3	:	-		-		-	
Chromium	mg/L	T	-		-		-		0.0093	:	0.0151	:	0.0177	:
Chromium	mg/L	D	<0.0013	:	<0.0013	:	<0.0013	:	-		-		-	

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6
			Sample Date	9/5/2003	9/5/2003	9/5/2003	9/10/2003	9/10/2003	9/10/2003
			Sample ID	ISCO-RR-6-D03N-SF	ISCO-RR-6-D02N-SF	ISCO-RR-6-D01N-SF	ISCO-RR-6-T04N-SF	ISCO-RR-6-T03N-SF	ISCO-RR-6-T02N-SF
				W	W	W	W	W	W
				ST4	ST4	ST4	STP	STP	STP
Cobalt	mg/L	T		-	-	-	0.0094 :	0.0264 :	0.0261 :
Cobalt	mg/L	D		0.0234 :	0.025 :	0.0236 :	-	-	-
Copper	mg/L	T		-	-	-	0.0437 :	0.11 :	0.106 :
Copper	mg/L	D		0.0353 :	0.0395 :	0.0161 :	-	-	-
Iron	mg/L	T		-	-	-	15. :	27.2 :	32.2 :
Iron	mg/L	D		0.16 :	0.117 :	<0.0455 :	-	-	-
Lead	mg/L	T		-	-	-	0.0401 J	0.0642 J	0.0798 J
Lead	mg/L	D		0.0005 :	0.00029 :	<0.0002 :	-	-	-
Magnesium	mg/L	T		-	-	-	7.83 :	11.2 :	12.5 :
Magnesium	mg/L	D		10.6 :	12.1 :	11.8 :	-	-	-
Manganese	mg/L	T		-	-	-	0.518 :	1.39 :	1.4 :
Manganese	mg/L	D		1.43 :	1.35 :	0.951 :	-	-	-
Mercury	mg/L	T		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Mercury	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Molybdenum	mg/L	T		-	-	-	0.0048 J	0.006 J	0.0071 J
Molybdenum	mg/L	D		<0.0002 :	<0.0002 :	<0.0002 :	-	-	-
Nickel	mg/L	T		-	-	-	0.0189 :	0.0536 :	0.0527 :
Nickel	mg/L	D		0.0625 :	0.066 :	0.056 :	-	-	-
Potassium	mg/L	T		-	-	-	4.46 J	6.02 J	7.92 J
Potassium	mg/L	D		1.97 :	2.14 :	1.57 :	-	-	-
Selenium	mg/L	T		-	-	-	0.00065 J	0.0014 J	0.0014 J
Selenium	mg/L	D		<0.0006 J	<0.0006 J	<0.0006 J	-	-	-
Silver	mg/L	T		-	-	-	<0.00034 :	0.00052 :	0.00053 :
Silver	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Sodium	mg/L	T		-	-	-	3.73 :	3.71 :	3.67 :
Sodium	mg/L	D		3.38 :	4. :	4.66 :	-	-	-
Thallium	mg/L	T		-	-	-	0.00017 :	0.00024 :	0.00027 :
Thallium	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Vanadium	mg/L	T		-	-	-	0.0106 :	0.02 :	0.0207 :
Vanadium	mg/L	D		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Zinc	mg/L	T		-	-	-	0.118 :	0.313 :	0.287 :
Zinc	mg/L	D		0.277 :	0.301 :	0.194 :	-	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-6 9/10/2003 ISCO-RR-6-T01N-SF W STP		ISCO RR-6 9/10/2003 ISCO-RR-6-D04N-SF W STP		ISCO RR-6 9/10/2003 ISCO-RR-6-D03N-SF W STP		ISCO RR-6 9/10/2003 ISCO-RR-6-D02N-SF W STP		ISCO RR-6 9/10/2003 ISCO-RR-6-D01N-SF W STP		ISCO RR-8 4/20/2003 ISCO-RR-8-T04N-SF W SNOW	
Field Measurements														
pH	SU	T	6.34	:	-		-		-		-		7.9	J
Specific Conductance	uS/cm	T	218.	:	-		-		-		-		258.	:
General Chemistry														
Chloride	mg/L	T	2.1	:	-		-		-		-		4.4	:
Fluoride	mg/L	T	1.1	:	-		-		-		-		0.3	:
Nitrate	mg/L	T	0.29	:	-		-		-		-		0.49	J
Nitrite	mg/L	T	<0.005	:	-		-		-		-		<0.005	J
Sulfate	mg/L	T	75.3	:	-		-		-		-		60.5	J
Total Dissolved Solids	mg/L	T	204.	:	-		-		-		-		188.	:
Total Suspended Solids	mg/L	T	-		-		-		-		-		17.8	:
Laboratory Parameters														
pH	SU	T	6.34	:	-		-		-		-		7.9	J
Specific Conductance	umhos/cm	T	-		-		-		-		-		235.	J
Physical Properties														
Hardness	mg/L	T	163.	:	-		-		-		-		115.	:
Hardness	mg/L	D	-		99.	:	106.	:	106.	:	107.	:	-	
Metals														
Aluminum	mg/L	T	17.	:	-		-		-		-		0.706	:
Aluminum	mg/L	D	-		0.165	:	0.159	:	0.118	:	<0.116	:	-	
Antimony	mg/L	T	<0.0005	J	-		-		-		-		<0.0003	:
Antimony	mg/L	D	-		<0.0005	:	<0.0005	:	<0.0005	:	<0.0005	:	-	
Arsenic	mg/L	T	0.007	J	-		-		-		-		<0.0002	:
Arsenic	mg/L	D	-		<0.0002	J	<0.0002	J	<0.0002	J	<0.0002	J	-	
Barium	mg/L	T	0.786	:	-		-		-		-		0.0398	:
Barium	mg/L	D	-		0.0238	:	0.024	:	0.023	:	0.0232	:	-	
Beryllium	mg/L	T	<0.0021	:	-		-		-		-		<0.0003	:
Beryllium	mg/L	D	-		<0.0004	:	<0.0004	:	<0.0004	:	<0.00038	:	-	
Boron	mg/L	T	<0.0064	:	-		-		-		-		<0.0084	:
Boron	mg/L	D	-		<0.0063	:	0.0068	:	<0.0063	:	<0.0064	:	-	
Cadmium	mg/L	T	0.00085	J	-		-		-		-		<0.0005	:
Cadmium	mg/L	D	-		<0.0002	J	<0.0002	J	<0.0002	J	0.00031	J	-	
Calcium	mg/L	T	48.1	:	-		-		-		-		33.7	:
Calcium	mg/L	D	-		31.4	:	33.8	:	33.8	:	34.1	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-6	ISCO RR-8
			Sample Date	9/10/2003	9/10/2003	9/10/2003	9/10/2003	9/10/2003	4/20/2003
			Sample ID	ISCO-RR-6-T01N-SF	ISCO-RR-6-D04N-SF	ISCO-RR-6-D03N-SF	ISCO-RR-6-D02N-SF	ISCO-RR-6-D01N-SF	ISCO-RR-8-T04N-SF
				W STP	W STP	W STP	W STP	W STP	W SNOW
Chromium	mg/L	T		0.0176 :	-	-	-	-	<0.001 :
Chromium	mg/L	D		-	<0.0011 :	<0.0011 :	<0.0011 :	<0.0013 :	-
Cobalt	mg/L	T		0.0191 :	-	-	-	-	<0.0038 :
Cobalt	mg/L	D		-	<0.0029 :	<0.0029 :	<0.0029 :	<0.0031 :	-
Copper	mg/L	T		0.0884 :	-	-	-	-	0.0106 :
Copper	mg/L	D		-	0.0042 :	0.0043 :	0.0039 :	0.0037 :	-
Iron	mg/L	T		32.4 :	-	-	-	-	0.49 :
Iron	mg/L	D		-	0.187 :	<0.155 :	<0.158 :	0.189 :	-
Lead	mg/L	T		0.0817 J	-	-	-	-	0.0014 :
Lead	mg/L	D		-	0.00029 :	<0.0002 :	<0.0002 :	0.00028 :	-
Magnesium	mg/L	T		10.4 :	-	-	-	-	7.44 :
Magnesium	mg/L	D		-	5.02 :	5.35 :	5.22 :	5.25 :	-
Manganese	mg/L	T		0.964 :	-	-	-	-	0.137 :
Manganese	mg/L	D		-	0.0903 :	0.101 :	0.111 :	0.122 :	-
Mercury	mg/L	T		<0.0001 :	-	-	-	-	<0.0001 :
Mercury	mg/L	D		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Molybdenum	mg/L	T		0.0074 J	-	-	-	-	<0.0023 :
Molybdenum	mg/L	D		-	0.0011 :	0.0012 :	0.00096 :	0.0009 :	-
Nickel	mg/L	T		0.0387 :	-	-	-	-	<0.0058 :
Nickel	mg/L	D		-	0.0039 :	0.0041 :	0.0057 :	0.0048 :	-
Potassium	mg/L	T		8.02 J	-	-	-	-	<1.2 :
Potassium	mg/L	D		-	1.32 :	1.63 :	1.43 :	1.62 :	-
Selenium	mg/L	T		0.0013 J	-	-	-	-	<0.0005 :
Selenium	mg/L	D		-	<0.0003 J	<0.0003 J	<0.0003 J	<0.0003 J	-
Silver	mg/L	T		<0.00049 :	-	-	-	-	<0.0001 :
Silver	mg/L	D		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Sodium	mg/L	T		3.93 :	-	-	-	-	5.56 :
Sodium	mg/L	D		-	3.01 :	3.37 :	3.17 :	3.42 :	-
Thallium	mg/L	T		0.0003 :	-	-	-	-	<0.0001 :
Thallium	mg/L	D		-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Vanadium	mg/L	T		0.0211 :	-	-	-	-	0.00047 J
Vanadium	mg/L	D		-	0.00025 :	0.00022 :	0.00019 :	0.00014 :	-
Zinc	mg/L	T		0.211 :	-	-	-	-	<0.042 J
Zinc	mg/L	D		-	0.0066 :	0.0068 :	0.0076 :	<0.0095 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 4/20/2003 ISCO-RR-8-T03N-SFW SNOW		ISCO RR-8 4/20/2003 ISCO-RR-8-T02N-SFW SNOW		ISCO RR-8 4/20/2003 ISCO-RR-8-T01N-SFW SNOW		ISCO RR-8 4/20/2003 ISCO-RR-8-D04N-SFW SNOW		ISCO RR-8 4/20/2003 ISCO-RR-8-D03N-SFW SNOW		ISCO RR-8 4/20/2003 ISCO-RR-8-D02N-SFW SNOW	
Field Measurements														
pH	SU	T	7.8	J	7.7	J	7.7	J	-		-		-	
Specific Conductance	uS/cm	T	259.	:	258.	:	255.	:	-		-		-	
General Chemistry														
Chloride	mg/L	T	4.1	:	4.4	:	4.6	:	-		-		-	
Fluoride	mg/L	T	0.3	:	0.31	:	0.3	:	-		-		-	
Nitrate	mg/L	T	0.51	J	0.48	J	0.49	J	-		-		-	
Nitrite	mg/L	T	<0.005	J	<0.005	J	<0.005	J	-		-		-	
Sulfate	mg/L	T	58.9	J	58.7	J	58.9	J	-		-		-	
Total Dissolved Solids	mg/L	T	180.	:	174.	:	160.	:	-		-		-	
Total Suspended Solids	mg/L	T	16.6	:	21.6	:	34.3	:	-		-		-	
Laboratory Parameters														
pH	SU	T	7.8	J	7.7	J	7.7	J	-		-		-	
Specific Conductance	umhos/cm	T	229.	J	229.	J	225.	J	-		-		-	
Physical Properties														
Hardness	mg/L	T	116.	:	120.	:	113.	:	-		-		-	
Hardness	mg/L	D	-		-		-		111.	:	116.	:	113.	:
Metals														
Aluminum	mg/L	T	0.702	:	0.791	:	0.997	:	-		-		-	
Aluminum	mg/L	D	-		-		-		<0.184	:	<0.193	:	0.183	:
Antimony	mg/L	T	<0.00062	:	<0.0003	:	<0.0003	J	-		-		-	
Antimony	mg/L	D	-		-		-		<0.0003	:	<0.0003	:	<0.0003	:
Arsenic	mg/L	T	0.00027	:	<0.0002	:	0.00031	:	-		-		-	
Arsenic	mg/L	D	-		-		-		<0.0002	:	<0.0002	:	<0.0002	:
Barium	mg/L	T	0.0392	:	0.0405	:	0.0509	:	-		-		-	
Barium	mg/L	D	-		-		-		0.0309	:	0.0307	:	0.0306	:
Beryllium	mg/L	T	<0.0003	:	<0.0003	:	<0.0003	:	-		-		-	
Beryllium	mg/L	D	-		-		-		<0.0003	:	<0.0003	:	<0.0003	:
Boron	mg/L	T	<0.0084	:	<0.0084	:	<0.0084	:	-		-		-	
Boron	mg/L	D	-		-		-		<0.0084	:	<0.0084	:	<0.0084	:
Cadmium	mg/L	T	<0.0005	:	<0.0005	:	<0.0005	:	-		-		-	
Cadmium	mg/L	D	-		-		-		<0.0005	:	<0.0005	:	<0.0005	:
Calcium	mg/L	T	34.2	:	35.1	:	33.1	:	-		-		-	
Calcium	mg/L	D	-		-		-		32.6	:	34.	:	33.3	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-8	ISCO RR-8	ISCO RR-8	ISCO RR-8	ISCO RR-8	ISCO RR-8
			Sample Date	4/20/2003	4/20/2003	4/20/2003	4/20/2003	4/20/2003	4/20/2003
			Sample ID	ISCO-RR-8-T03N-SFW SNOW	ISCO-RR-8-T02N-SFW SNOW	ISCO-RR-8-T01N-SFW SNOW	ISCO-RR-8-D04N-SFW SNOW	ISCO-RR-8-D03N-SFW SNOW	ISCO-RR-8-D02N-SFW SNOW
Chromium	mg/L	T		0.0012 :	0.001 :	0.001 :	-	-	-
Chromium	mg/L	D		-	-	-	<0.001 :	0.0017 :	0.0019 :
Cobalt	mg/L	T		<0.0038 :	<0.0038 :	<0.0038 :	-	-	-
Cobalt	mg/L	D		-	-	-	<0.0038 :	<0.0038 :	<0.0038 :
Copper	mg/L	T		0.011 :	0.0114 :	0.0167 :	-	-	-
Copper	mg/L	D		-	-	-	0.0042 :	0.0034 :	0.0038 J
Iron	mg/L	T		0.396 :	0.688 :	0.903 :	-	-	-
Iron	mg/L	D		-	-	-	<0.311 :	<0.311 :	<0.311 :
Lead	mg/L	T		0.0033 :	0.0015 :	0.0024 J	-	-	-
Lead	mg/L	D		-	-	-	<0.00053 :	<0.00041 :	<0.00035 :
Magnesium	mg/L	T		7.55 :	7.76 :	7.31 :	-	-	-
Magnesium	mg/L	D		-	-	-	7.17 :	7.48 :	7.34 :
Manganese	mg/L	T		0.126 :	0.146 :	0.191 :	-	-	-
Manganese	mg/L	D		-	-	-	0.0999 :	0.105 :	0.115 :
Mercury	mg/L	T		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Mercury	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Molybdenum	mg/L	T		<0.0023 :	<0.0023 :	<0.0023 :	-	-	-
Molybdenum	mg/L	D		-	-	-	<0.0023 :	<0.0023 :	<0.0023 :
Nickel	mg/L	T		<0.0061 :	<0.0057 :	<0.008 :	-	-	-
Nickel	mg/L	D		-	-	-	<0.005 :	<0.0046 :	<0.0056 :
Potassium	mg/L	T		<1.53 :	<1.14 :	<1.5 :	-	-	-
Potassium	mg/L	D		-	-	-	<1.11 :	<1.16 :	<1.11 :
Selenium	mg/L	T		<0.0005 :	<0.0005 :	<0.0005 :	-	-	-
Selenium	mg/L	D		-	-	-	<0.0005 :	<0.0005 :	<0.0005 :
Silver	mg/L	T		<0.0001 :	<0.0001 :	<0.0001 J	-	-	-
Silver	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Sodium	mg/L	T		5.81 :	3.71 :	5.26 :	-	-	-
Sodium	mg/L	D		-	-	-	5.29 :	5.59 :	5.22 :
Thallium	mg/L	T		<0.0001 :	<0.0001 :	<0.0001 :	-	-	-
Thallium	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Vanadium	mg/L	T		0.0011 J	0.00045 J	0.00074 J	-	-	-
Vanadium	mg/L	D		-	-	-	0.0002 J	0.00018 J	<0.0001 :
Zinc	mg/L	T		<0.058 J	<0.0505 J	<0.0675 J	-	-	-
Zinc	mg/L	D		-	-	-	<0.0285 J	<0.0217 J	<0.0508 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 4/20/2003 ISCO-RR-8-D01N-SFW SNOW		ISCO RR-8 4/22/2003 ISCO-RR-8-T08N-SFW SNOW		ISCO RR-8 4/22/2003 ISCO-RR-8-T07N-SFW SNOW		ISCO RR-8 4/22/2003 ISCO-RR-8-T06N-SFW SNOW		ISCO RR-8 4/22/2003 ISCO-RR-8-T05N-SFW SNOW		ISCO RR-8 4/22/2003 ISCO-RR-8-T04N-SFW SNOW	
Field Measurements														
pH	SU	T	-		7.8	J	7.8	J	7.8	J	7.8	J	7.75	:
Specific Conductance	uS/cm	T	-		-		-		-		-		250.	:
General Chemistry														
Chloride	mg/L	T	-		4.6	:	4.6	:	4.5	:	4.6	:	-	
Fluoride	mg/L	T	-		0.29	:	0.28	:	0.29	:	0.29	:	-	
Nitrate	mg/L	T	-		<0.4	J	<0.4	J	<0.4	J	<0.4	J	-	
Nitrite	mg/L	T	-		<0.005	J	<0.005	J	<0.005	J	<0.005	J	-	
Sulfate	mg/L	T	-		57.8	J	57.8	J	56.6	J	55.9	J	-	
Total Dissolved Solids	mg/L	T	-		162.	:	154.	:	156.	:	156.	:	-	
Total Suspended Solids	mg/L	T	-		18.5	:	13.5	:	15.9	:	14.4	:	-	
Laboratory Parameters														
pH	SU	T	-		7.8	J	7.8	J	7.8	J	7.8	J	7.75	:
Specific Conductance	umhos/cm	T	-		228.	J	225.	J	234.	J	234.	J	-	
Physical Properties														
Hardness	mg/L	T	-		112.	:	110.	:	110.	:	107.	:	-	
Hardness	mg/L	D	114.	:	-		-		-		-		-	
Metals														
Aluminum	mg/L	T	-		0.623	:	0.609	:	0.79	:	0.644	:	-	
Aluminum	mg/L	D	0.172	:	-		-		-		-		-	
Antimony	mg/L	T	-		<0.0005	:	<0.0005	:	<0.0005	:	<0.0005	:	-	
Antimony	mg/L	D	<0.00072	:	-		-		-		-		-	
Arsenic	mg/L	T	-		<0.0002	:	0.00023	:	<0.0002	:	<0.0002	:	-	
Arsenic	mg/L	D	<0.0002	:	-		-		-		-		-	
Barium	mg/L	T	-		0.0389	:	0.0383	:	0.0401	:	0.0399	:	-	
Barium	mg/L	D	0.0293	:	-		-		-		-		-	
Beryllium	mg/L	T	-		<0.0003	:	<0.00034	:	<0.0003	:	<0.00036	:	-	
Beryllium	mg/L	D	<0.0003	:	-		-		-		-		-	
Boron	mg/L	T	-		<0.0084	:	<0.0084	:	<0.0084	:	<0.0084	:	-	
Boron	mg/L	D	<0.0084	:	-		-		-		-		-	
Cadmium	mg/L	T	-		0.0002	:	0.00026	:	<0.0002	:	0.00024	:	-	
Cadmium	mg/L	D	<0.0005	:	-		-		-		-		-	
Calcium	mg/L	T	-		32.8	:	32.4	:	32.3	:	31.4	:	-	
Calcium	mg/L	D	33.6	:	-		-		-		-		-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 4/20/2003 ISCO-RR-8-D01N-SFW SNOW	ISCO RR-8 4/22/2003 ISCO-RR-8-T08N-SFW SNOW	ISCO RR-8 4/22/2003 ISCO-RR-8-T07N-SFW SNOW	ISCO RR-8 4/22/2003 ISCO-RR-8-T06N-SFW SNOW	ISCO RR-8 4/22/2003 ISCO-RR-8-T05N-SFW SNOW	ISCO RR-8 4/22/2003 ISCO-RR-8-T04N-SFW SNOW
Chromium	mg/L	T	-	0.0011 :	0.001 :	<0.001 :	<0.001 :	-
Chromium	mg/L	D	<0.001 :	-	-	-	-	-
Cobalt	mg/L	T	-	<0.0038 :	<0.0038 :	<0.0038 :	<0.0038 :	-
Cobalt	mg/L	D	<0.0038 :	-	-	-	-	-
Copper	mg/L	T	-	0.0125 :	0.0121 :	0.0124 :	0.0126 :	-
Copper	mg/L	D	0.0035 J	-	-	-	-	-
Iron	mg/L	T	-	0.443 :	0.443 :	0.543 :	0.473 :	-
Iron	mg/L	D	<0.311 :	-	-	-	-	-
Lead	mg/L	T	-	0.00081 :	0.00088 :	0.00086 :	0.001 :	-
Lead	mg/L	D	<0.00059 :	-	-	-	-	-
Magnesium	mg/L	T	-	7.27 :	7.17 :	7.17 :	6.96 :	-
Magnesium	mg/L	D	7.39 :	-	-	-	-	-
Manganese	mg/L	T	-	0.117 :	0.117 :	0.116 :	0.121 :	-
Manganese	mg/L	D	0.108 :	-	-	-	-	-
Mercury	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Mercury	mg/L	D	<0.0001 :	-	-	-	-	-
Molybdenum	mg/L	T	-	<0.0023 :	<0.0023 :	<0.0023 :	<0.0023 :	-
Molybdenum	mg/L	D	<0.0023 :	-	-	-	-	-
Nickel	mg/L	T	-	0.0056 :	0.0057 :	0.0051 :	0.0058 :	-
Nickel	mg/L	D	<0.0042 :	-	-	-	-	-
Potassium	mg/L	T	-	1.27 :	1.26 :	1.34 :	1.21 :	-
Potassium	mg/L	D	<1.01 :	-	-	-	-	-
Selenium	mg/L	T	-	<0.0008 :	<0.0008 :	<0.0008 :	<0.0008 :	-
Selenium	mg/L	D	0.00059 :	-	-	-	-	-
Silver	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D	<0.0001 :	-	-	-	-	-
Sodium	mg/L	T	-	4.98 :	4.83 :	4.93 :	4.66 :	-
Sodium	mg/L	D	4.68 :	-	-	-	-	-
Thallium	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Thallium	mg/L	D	<0.0001 :	-	-	-	-	-
Vanadium	mg/L	T	-	0.00044 J	0.00043 J	0.00039 J	0.00048 J	-
Vanadium	mg/L	D	0.00015 J	-	-	-	-	-
Zinc	mg/L	T	-	0.0328 J	0.0333 J	0.0333 J	0.0344 J	-
Zinc	mg/L	D	<0.0283 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-8	ISCO RR-8	ISCO RR-8	ISCO RR-8	ISCO RR-8	ISCO RR-8
			Sample Date	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003	4/22/2003
			Sample ID	ISCO-RR-8-T03N-SFW SNOW	ISCO-RR-8-T02N-SFW SNOW	ISCO-RR-8-T01N-SFW SNOW	ISCO-RR-8-D08N-SFW SNOW	ISCO-RR-8-D07N-SFW SNOW	ISCO-RR-8-D06N-SFW SNOW
Field Measurements									
pH	SU	T		7.74 :	7.69 :	7.71 :	-	-	-
Specific Conductance	uS/cm	T		248. :	248. :	248. :	-	-	-
Laboratory Parameters									
pH	SU	T		7.74 :	7.69 :	7.71 :	-	-	-
Physical Properties									
Hardness	mg/L	D		-	-	-	112. :	111. :	109. :
Metals									
Aluminum	mg/L	D		-	-	-	0.209 :	0.205 :	0.194 :
Antimony	mg/L	D		-	-	-	<0.0005 :	<0.0005 :	<0.0005 :
Arsenic	mg/L	D		-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Barium	mg/L	D		-	-	-	0.0321 :	0.0409 :	0.0313 :
Beryllium	mg/L	D		-	-	-	<0.0003 :	<0.0003 :	<0.0003 :
Boron	mg/L	D		-	-	-	<0.0084 :	<0.0084 :	<0.0084 :
Cadmium	mg/L	D		-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Calcium	mg/L	D		-	-	-	32.8 :	32.4 :	31.9 :
Chromium	mg/L	D		-	-	-	0.0012 :	<0.001 :	<0.001 :
Cobalt	mg/L	D		-	-	-	<0.0038 :	<0.0038 :	<0.0038 :
Copper	mg/L	D		-	-	-	0.0061 :	0.0062 :	0.0063 :
Iron	mg/L	D		-	-	-	0.0581 :	0.068 :	0.0564 :
Lead	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Magnesium	mg/L	D		-	-	-	7.25 :	7.18 :	7.04 :
Manganese	mg/L	D		-	-	-	0.0981 :	0.0979 :	0.0959 :
Mercury	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Molybdenum	mg/L	D		-	-	-	<0.0023 :	<0.0023 :	<0.0023 :
Nickel	mg/L	D		-	-	-	0.0046 :	0.0041 :	0.0048 :
Potassium	mg/L	D		-	-	-	1.26 :	1.24 :	1.22 :
Selenium	mg/L	D		-	-	-	<0.0008 :	<0.0008 :	<0.0008 :
Silver	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Sodium	mg/L	D		-	-	-	4.98 :	5. :	4.9 :
Thallium	mg/L	D		-	-	-	<0.0001 :	<0.0001 :	<0.0001 :
Vanadium	mg/L	D		-	-	-	<0.0002 :	<0.0002 :	<0.0002 :
Zinc	mg/L	D		-	-	-	<0.0169 J	<0.0172 J	<0.0172 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 4/22/2003 ISCO-RR-8-D05N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-T12N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-T11N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-T10N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-T09N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-T04N-SFW SNOW	
Field Measurements														
pH	SU	T	-		7.6	J	7.4	J	7.4	J	7.3	J	7.57	:
Specific Conductance	uS/cm	T	-		-		-		-		-		255.	:
General Chemistry														
Chloride	mg/L	T	-		4.5	:	4.5	:	4.5	:	4.4	:	-	
Fluoride	mg/L	T	-		0.32	:	0.32	:	0.31	:	0.31	:	-	
Nitrate	mg/L	T	-		<0.4	J	<0.4	J	<0.4	J	<0.4	J	-	
Nitrite	mg/L	T	-		<0.005	J	<0.005	J	<0.005	J	<0.005	J	-	
Sulfate	mg/L	T	-		59.1	J	59.6	J	59.6	J	58.9	J	-	
Total Dissolved Solids	mg/L	T	-		184.	:	132.	:	148.	:	148.	:	-	
Total Suspended Solids	mg/L	T	-		14.8	:	15.5	:	21.1	:	15.9	:	-	
Laboratory Parameters														
pH	SU	T	-		7.6	J	7.4	J	7.4	J	7.3	J	7.57	:
Specific Conductance	umhos/cm	T	-		235.	J	234.	J	231.	J	247.	J	-	
Physical Properties														
Hardness	mg/L	T	-		115.	:	114.	:	118.	:	115.	:	-	
Hardness	mg/L	D	109.	:	-		-		-		-		-	
Metals														
Aluminum	mg/L	T	-		0.654	:	0.617	:	0.651	:	0.681	:	-	
Aluminum	mg/L	D	0.198	:	-		-		-		-		-	
Antimony	mg/L	T	-		<0.00065	:	<0.0003	:	<0.0003	:	<0.0003	:	-	
Antimony	mg/L	D	<0.0005	:	-		-		-		-		-	
Arsenic	mg/L	T	-		<0.0002	:	<0.0002	:	<0.0002	:	0.00021	:	-	
Arsenic	mg/L	D	<0.0002	:	-		-		-		-		-	
Barium	mg/L	T	-		0.0402	:	0.0396	:	0.0414	:	0.045	:	-	
Barium	mg/L	D	0.0316	:	-		-		-		-		-	
Beryllium	mg/L	T	-		<0.0003	:	<0.0003	:	<0.0003	:	<0.0003	:	-	
Beryllium	mg/L	D	<0.0003	:	-		-		-		-		-	
Boron	mg/L	T	-		<0.0084	:	<0.0084	:	<0.0084	:	<0.0084	:	-	
Boron	mg/L	D	<0.0084	:	-		-		-		-		-	
Cadmium	mg/L	T	-		0.00015	:	0.00027	:	0.00025	:	0.00023	J	-	
Cadmium	mg/L	D	<0.0002	:	-		-		-		-		-	
Calcium	mg/L	T	-		33.7	:	33.5	:	34.7	:	33.7	:	-	
Calcium	mg/L	D	31.9	:	-		-		-		-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 4/22/2003 ISCO-RR-8-D05N-SFW SNOW	ISCO RR-8 4/24/2003 ISCO-RR-8-T12N-SFW SNOW	ISCO RR-8 4/24/2003 ISCO-RR-8-T11N-SFW SNOW	ISCO RR-8 4/24/2003 ISCO-RR-8-T10N-SFW SNOW	ISCO RR-8 4/24/2003 ISCO-RR-8-T09N-SFW SNOW	ISCO RR-8 4/24/2003 ISCO-RR-8-T04N-SFW SNOW
Chromium	mg/L	T	-	0.0013 :	0.0016 :	<0.001 :	<0.001 :	-
Chromium	mg/L	D	<0.001 :	-	-	-	-	-
Cobalt	mg/L	T	-	<0.0038 :	<0.0038 :	<0.0038 :	<0.0038 :	-
Cobalt	mg/L	D	<0.0038 :	-	-	-	-	-
Copper	mg/L	T	-	0.0118 :	0.0104 :	0.0123 :	0.0128 :	-
Copper	mg/L	D	0.0066 :	-	-	-	-	-
Iron	mg/L	T	-	0.432 :	0.364 :	0.417 :	0.552 :	-
Iron	mg/L	D	0.0533 :	-	-	-	-	-
Lead	mg/L	T	-	0.00087 :	0.00085 :	0.00091 :	0.00094 :	-
Lead	mg/L	D	0.00017 :	-	-	-	-	-
Magnesium	mg/L	T	-	7.5 :	7.46 :	7.72 :	7.49 :	-
Magnesium	mg/L	D	7.04 :	-	-	-	-	-
Manganese	mg/L	T	-	0.127 :	0.123 :	0.133 :	0.133 :	-
Manganese	mg/L	D	0.0964 :	-	-	-	-	-
Mercury	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Mercury	mg/L	D	<0.0001 :	-	-	-	-	-
Molybdenum	mg/L	T	-	<0.0023 :	<0.0023 :	<0.0023 :	<0.0023 :	-
Molybdenum	mg/L	D	<0.0023 :	-	-	-	-	-
Nickel	mg/L	T	-	0.0047 :	<0.0055 :	<0.0059 :	<0.006 :	-
Nickel	mg/L	D	0.0051 :	-	-	-	-	-
Potassium	mg/L	T	-	1.32 :	1.29 :	1.34 :	1.29 :	-
Potassium	mg/L	D	1.22 :	-	-	-	-	-
Selenium	mg/L	T	-	<0.0005 :	<0.0005 :	<0.0005 :	<0.0005 J	-
Selenium	mg/L	D	<0.0008 :	-	-	-	-	-
Silver	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D	<0.0001 :	-	-	-	-	-
Sodium	mg/L	T	-	4.97 :	5.09 :	5.25 :	4.99 :	-
Sodium	mg/L	D	4.95 :	-	-	-	-	-
Thallium	mg/L	T	-	<0.0001 :	<0.0001 :	<0.0001 :	<0.0001 :	-
Thallium	mg/L	D	<0.0001 :	-	-	-	-	-
Vanadium	mg/L	T	-	0.00044 J	0.00039 J	0.00043 J	0.00042 J	-
Vanadium	mg/L	D	<0.0002 :	-	-	-	-	-
Zinc	mg/L	T	-	0.0356 J	0.0337 J	0.0369 J	0.0382 J	-
Zinc	mg/L	D	<0.0179 J	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 4/24/2003 ISCO-RR-8-T03N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-T02N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-T01N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-D12N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-D11N-SFW SNOW		ISCO RR-8 4/24/2003 ISCO-RR-8-D10N-SFW SNOW	
Field Measurements														
pH	SU	T	7.53	:	7.34	:	7.06	:	-		-		-	
Specific Conductance	uS/cm	T	253.	:	254.	:	254.	:	-		-		-	
Laboratory Parameters														
pH	SU	T	7.53	:	7.34	:	7.06	:	-		-		-	
Physical Properties														
Hardness	mg/L	D	-		-		-		116.	:	113.	:	119.	:
Metals														
Aluminum	mg/L	D	-		-		-		0.185	:	<0.213	:	0.189	:
Antimony	mg/L	D	-		-		-		<0.0003	:	<0.0003	:	<0.0003	:
Arsenic	mg/L	D	-		-		-		<0.0002	:	<0.0002	:	<0.0002	:
Barium	mg/L	D	-		-		-		0.0331	:	0.0332	:	0.0347	:
Beryllium	mg/L	D	-		-		-		<0.0003	:	<0.0003	:	<0.0003	:
Boron	mg/L	D	-		-		-		<0.0084	:	<0.0084	:	<0.0084	:
Cadmium	mg/L	D	-		-		-		<0.0001	:	0.00018	:	0.00017	:
Calcium	mg/L	D	-		-		-		33.9	:	33.2	:	34.8	:
Chromium	mg/L	D	-		-		-		<0.001	:	<0.001	:	<0.001	:
Cobalt	mg/L	D	-		-		-		<0.0038	:	<0.0038	:	<0.0038	:
Copper	mg/L	D	-		-		-		0.0051	:	0.0049	:	0.005	:
Iron	mg/L	D	-		-		-		<0.0367	:	<0.0462	:	<0.0446	:
Lead	mg/L	D	-		-		-		0.00011	:	<0.0001	:	<0.0001	:
Magnesium	mg/L	D	-		-		-		7.53	:	7.38	:	7.73	:
Manganese	mg/L	D	-		-		-		0.108	:	0.107	:	0.112	:
Mercury	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Molybdenum	mg/L	D	-		-		-		<0.0023	:	<0.0023	:	<0.0023	:
Nickel	mg/L	D	-		-		-		0.004	:	<0.0043	:	<0.0051	:
Potassium	mg/L	D	-		-		-		1.28	:	1.23	:	1.3	:
Selenium	mg/L	D	-		-		-		<0.0005	:	<0.0005	:	<0.0005	:
Silver	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Sodium	mg/L	D	-		-		-		5.05	:	5.04	:	5.16	:
Thallium	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Vanadium	mg/L	D	-		-		-		0.00011	J	0.00017	J	0.00014	J
Zinc	mg/L	D	-		-		-		0.019	J	0.02	J	0.02	J

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units		Site ID	ISCO RR-8		ISCO RR-8		ISCO RR-8		ISCO RR-8		ISCO RR-8		ISCO RR-8	
			Sample Date	4/24/2003		8/13/2003		8/13/2003		8/13/2003		8/13/2003		8/13/2003	
			Sample ID	ISCO-RR-8-D09N-SF		ISCO-RR-8-T04N-SF		ISCO-RR-8-T03N-SF		ISCO-RR-8-T02N-SF		ISCO-RR-8-T01N-SF		ISCO-RR-8-D04N-SF	
			Exposure Area	W SNOW		W ST2		W ST2		W ST2		W ST2		W ST2	
		Fraction													
Field Measurements															
pH	SU	T		-		8.	J	7.8	J	7.6	J	8.1	J	-	
Specific Conductance	uS/cm	T		-		315.	:	291.	:	279.	:	313.	:	-	
General Chemistry															
Bicarbonate (as CaCO3)	mg/L	T		-		56.8	:	42.5	:	26.6	:	63.2	:	-	
Carbonate (as CaCO3)	mg/L	T		-		<1.	:	<1.	:	<1.	:	<1.	:	-	
Chloride	mg/L	T		-		3.	J	3.2	J	3.6	J	3.4	J	-	
Fluoride	mg/L	T		-		0.44	:	0.6	:	0.5	:	0.32	:	-	
Hydroxide (as CaCO3)	mg/L	T		-		<1.	:	<1.	:	<1.	:	<1.	:	-	
Nitrate	mg/L	T		-		0.38	J	0.4	:	0.39	:	0.36	:	-	
Nitrite	mg/L	T		-		<0.005	:	<0.005	:	<0.005	:	<0.005	:	-	
Sulfate	mg/L	T		-		95.	J	93.7	J	112.	J	69.1	J	-	
Total Alkalinity	mg/L	T		-		56.8	:	42.5	:	26.6	:	63.2	:	-	
Total Dissolved Solids	mg/L	T		-		248.	:	228.	:	242.	:	196.	:	-	
Total Suspended Solids	mg/L	T		-		109.	:	144.	:	580.	:	70.9	:	-	
Laboratory Parameters															
pH	SU	T		-		8.	J	7.8	J	7.6	J	8.1	J	-	
Specific Conductance	umhos/cm	T		-		258.	J	267.	J	292.	J	247.	J	-	
Physical Properties															
Hardness	mg/L	T		-		140.	:	159.	:	149.	:	127.	:	-	
Hardness	mg/L	D		112.	:	-		-		-		-		147.	:
Metals															
Aluminum	mg/L	T		-		4.14	J	9.47	J	2.89	J	0.887	J	-	
Aluminum	mg/L	D		0.193	:	-		-		-		-		2.84	:
Antimony	mg/L	T		-		<0.0005	J	<0.0005	J	<0.0005	J	<0.0005	J	-	
Antimony	mg/L	D		<0.0003	:	-		-		-		-		<0.0005	:
Arsenic	mg/L	T		-		0.0017	J	0.0037	J	0.001	J	0.00033	J	-	
Arsenic	mg/L	D		<0.0002	:	-		-		-		-		<0.0002	J
Barium	mg/L	T		-		0.116	:	0.29	:	0.104	:	0.0478	:	-	
Barium	mg/L	D		0.0326	:	-		-		-		-		0.0197	:
Beryllium	mg/L	T		-		0.00025	J	0.00025	J	<0.0002	J	<0.0002	J	-	
Beryllium	mg/L	D		<0.0003	:	-		-		-		-		0.00037	J
Boron	mg/L	T		-		0.0097	:	0.0127	:	0.0115	:	0.0091	:	-	
Boron	mg/L	D		<0.0084	:	-		-		-		-		0.0126	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 4/24/2003 ISCO-RR-8-D09N-SF W SNOW	ISCO RR-8 8/13/2003 ISCO-RR-8-T04N-SF W ST2	ISCO RR-8 8/13/2003 ISCO-RR-8-T03N-SF W ST2	ISCO RR-8 8/13/2003 ISCO-RR-8-T02N-SF W ST2	ISCO RR-8 8/13/2003 ISCO-RR-8-T01N-SF W ST2	ISCO RR-8 8/13/2003 ISCO-RR-8-D04N-SF W ST2
Cadmium	mg/L	T	-	0.00025 :	0.00093 :	0.00034 :	<0.0002 :	-
Cadmium	mg/L	D	0.0002 :	-	-	-	-	0.00047 :
Calcium	mg/L	T	-	40. :	42.8 :	43.4 :	37.5 :	-
Calcium	mg/L	D	32.7 :	-	-	-	-	42.8 :
Chromium	mg/L	T	-	0.0048 :	0.013 :	0.0045 :	0.00081 :	-
Chromium	mg/L	D	<0.001 :	-	-	-	-	<0.0006 :
Cobalt	mg/L	T	-	0.0037 :	0.0072 :	0.0067 :	0.0019 :	-
Cobalt	mg/L	D	<0.0038 :	-	-	-	-	0.0066 :
Copper	mg/L	T	-	0.015 J	0.022 :	0.0171 :	0.0117 :	-
Copper	mg/L	D	0.0055 :	-	-	-	-	0.0311 J
Iron	mg/L	T	-	10.4 :	27.8 :	10. :	0.996 :	-
Iron	mg/L	D	<0.0458 :	-	-	-	-	0.222 :
Lead	mg/L	T	-	0.0293 J	0.084 J	0.0033 J	0.0024 J	-
Lead	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :
Magnesium	mg/L	T	-	9.83 :	12.6 :	9.79 :	8.07 :	-
Magnesium	mg/L	D	7.26 :	-	-	-	-	9.74 :
Manganese	mg/L	T	-	0.246 J	0.381 :	0.32 :	0.155 :	-
Manganese	mg/L	D	0.104 :	-	-	-	-	0.539 J
Mercury	mg/L	T	-	0.00012 :	0.00014 :	<0.0001 :	<0.0001 :	-
Mercury	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :
Molybdenum	mg/L	T	-	0.0036 J	0.0059 J	0.00096 J	0.0011 J	-
Molybdenum	mg/L	D	<0.0023 :	-	-	-	-	0.0011 J
Nickel	mg/L	T	-	0.0108 :	0.0175 :	0.0188 :	0.0064 :	-
Nickel	mg/L	D	<0.0048 :	-	-	-	-	0.0117 :
Potassium	mg/L	T	-	3.21 :	5.97 :	1.95 :	1.56 :	-
Potassium	mg/L	D	1.22 :	-	-	-	-	1.36 :
Selenium	mg/L	T	-	<0.0008 :	<0.0008 :	<0.0008 :	<0.0008 :	-
Selenium	mg/L	D	<0.0005 :	-	-	-	-	<0.0008 :
Silver	mg/L	T	-	0.00016 :	0.00031 :	<0.0001 :	<0.0001 :	-
Silver	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :
Sodium	mg/L	T	-	4.99 :	5.56 :	5.16 :	4.94 :	-
Sodium	mg/L	D	4.96 :	-	-	-	-	5.6 :
Thallium	mg/L	T	-	<0.0001 :	0.00017 :	<0.0001 :	<0.0001 :	-
Thallium	mg/L	D	<0.0001 :	-	-	-	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction						
		ISCO RR-8	ISCO RR-8	ISCO RR-8	ISCO RR-8	ISCO RR-8	ISCO RR-8	
		4/24/2003	8/13/2003	8/13/2003	8/13/2003	8/13/2003	8/13/2003	
		ISCO-RR-8-D09N-SF W SNOW	ISCO-RR-8-T04N-SF W ST2	ISCO-RR-8-T03N-SF W ST2	ISCO-RR-8-T02N-SF W ST2	ISCO-RR-8-T01N-SF W ST2	ISCO-RR-8-D04N-SF W ST2	
Vanadium	mg/L	T	-	0.0043 J	0.0083 J	0.0014 J	0.00074 J	-	
Vanadium	mg/L	D	0.00013 J	-	-	-	-	<0.0002 :	
Zinc	mg/L	T	-	0.0478 J	0.0737 :	0.0832 :	0.0437 :	-	
Zinc	mg/L	D	0.0189 J	-	-	-	-	0.0988 J	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 8/13/2003 ISCO-RR-8-D03N-SF W ST2	ISCO RR-8 8/13/2003 ISCO-RR-8-D02N-SF W ST2	ISCO RR-8 8/13/2003 ISCO-RR-8-D01N-SF W ST2	ISCO RR-8 9/3/2003 ISCO-RR-8-T04N-SF W ST3	ISCO RR-8 9/3/2003 ISCO-RR-8-T03N-SF W ST3	ISCO RR-8 9/3/2003 ISCO-RR-8-T02N-SF W ST3
Field Measurements								
pH	SU	T	-	-	-	6.73 :	7.16 :	6.74 :
Specific Conductance	uS/cm	T	-	-	-	-	328. :	314. :
Specific Conductance	mS/cm	T	-	-	-	418. :	-	-
General Chemistry								
Chloride	mg/L	T	-	-	-	3.2 :	3.5 :	-
Fluoride	mg/L	T	-	-	-	0.55 :	0.56 :	-
Nitrate	mg/L	T	-	-	-	0.37 J	0.44 J	-
Nitrite	mg/L	T	-	-	-	<0.005 J	<0.005 J	-
Sulfate	mg/L	T	-	-	-	168. :	133. :	-
Total Dissolved Solids	mg/L	T	-	-	-	304. :	254. :	-
Total Suspended Solids	mg/L	T	-	-	-	868. :	732. :	-
Laboratory Parameters								
pH	SU	T	-	-	-	6.73 :	7.16 :	6.74 :
Physical Properties								
Hardness	mg/L	T	-	-	-	233. :	193. :	171. :
Hardness	mg/L	D	139. :	149. :	125. :	-	-	-
Metals								
Aluminum	mg/L	T	-	-	-	29.5 :	19.6 :	18.8 :
Aluminum	mg/L	D	0.138 :	<0.0734 :	0.224 :	-	-	-
Antimony	mg/L	T	-	-	-	<0.0005 J	<0.0005 J	<0.0005 J
Antimony	mg/L	D	<0.001 :	<0.0005 :	<0.0005 :	-	-	-
Arsenic	mg/L	T	-	-	-	0.0135 J	0.0088 J	0.0062 J
Arsenic	mg/L	D	<0.0002 J	<0.0002 J	<0.0002 J	-	-	-
Barium	mg/L	T	-	-	-	0.73 :	0.463 :	0.434 :
Barium	mg/L	D	0.0137 :	0.0106 :	0.0291 :	-	-	-
Beryllium	mg/L	T	-	-	-	0.0021 :	0.0015 :	0.0016 :
Beryllium	mg/L	D	<0.0002 J	<0.0002 J	<0.0002 J	-	-	-
Boron	mg/L	T	-	-	-	0.0402 :	0.0259 :	0.0211 :
Boron	mg/L	D	0.0122 :	0.0128 :	0.0152 :	-	-	-
Cadmium	mg/L	T	-	-	-	0.00097 J	0.00081 J	0.0011 J
Cadmium	mg/L	D	<0.0002 J	<0.0002 :	<0.0002 :	-	-	-
Calcium	mg/L	T	-	-	-	59. :	52. :	45.4 :
Calcium	mg/L	D	40.6 :	43.5 :	36.9 :	-	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area	Fraction	ISCO RR-8 8/13/2003 ISCO-RR-8-D03N-SF W ST2		ISCO RR-8 8/13/2003 ISCO-RR-8-D02N-SF W ST2		ISCO RR-8 8/13/2003 ISCO-RR-8-D01N-SF W ST2		ISCO RR-8 9/3/2003 ISCO-RR-8-T04N-SF W ST3		ISCO RR-8 9/3/2003 ISCO-RR-8-T03N-SF W ST3		ISCO RR-8 9/3/2003 ISCO-RR-8-T02N-SF W ST3	
Chromium	mg/L		T	-		-		-		0.0359	:	0.0203	:	0.0184	:
Chromium	mg/L		D	<0.0006	:	<0.0006	:	<0.0006	:	-		-		-	
Cobalt	mg/L		T	-		-		-		0.0176	:	0.0131	:	0.0155	:
Cobalt	mg/L		D	<0.0018	:	0.0026	:	<0.0018	:	-		-		-	
Copper	mg/L		T	-		-		-		0.0736	:	0.0615	:	0.104	:
Copper	mg/L		D	0.0023	J	0.0016	:	0.0034	:	-		-		-	
Iron	mg/L		T	-		-		-		82.	:	45.8	:	34.7	:
Iron	mg/L		D	<0.0168	:	<0.0214	:	<0.0168	:	-		-		-	
Lead	mg/L		T	-		-		-		0.22	J	0.121	J	0.124	J
Lead	mg/L		D	<0.0001	J	<0.0001	:	<0.0001	:	-		-		-	
Magnesium	mg/L		T	-		-		-		20.8	:	15.3	:	14.	:
Magnesium	mg/L		D	9.26	:	9.69	:	7.89	:	-		-		-	
Manganese	mg/L		T	-		-		-		1.03	:	0.689	:	0.89	:
Manganese	mg/L		D	0.215	:	0.249	:	0.105	:	-		-		-	
Mercury	mg/L		T	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Mercury	mg/L		D	<0.0001	:	<0.0001	:	0.00014	:	-		-		-	
Molybdenum	mg/L		T	-		-		-		0.0168	J	0.0111	J	0.0096	J
Molybdenum	mg/L		D	0.0013	J	0.0013	J	0.0014	J	-		-		-	
Nickel	mg/L		T	-		-		-		0.0509	:	0.0364	:	0.0428	:
Nickel	mg/L		D	0.001	J	<0.0006	:	0.0035	:	-		-		-	
Potassium	mg/L		T	-		-		-		14.2	J	10.3	J	8.27	J
Potassium	mg/L		D	1.36	:	1.33	:	1.4	:	-		-		-	
Selenium	mg/L		T	-		-		-		0.0024	J	0.0016	J	0.0016	J
Selenium	mg/L		D	<0.0016	:	<0.0008	:	<0.0008	:	-		-		-	
Silver	mg/L		T	-		-		-		<0.0011	:	<0.00075	:	<0.001	:
Silver	mg/L		D	<0.0002	:	<0.0001	:	<0.0001	:	-		-		-	
Sodium	mg/L		T	-		-		-		6.79	:	6.62	:	5.99	:
Sodium	mg/L		D	5.29	:	5.11	:	5.07	:	-		-		-	
Thallium	mg/L		T	-		-		-		0.00053	:	0.00036	:	0.00032	:
Thallium	mg/L		D	<0.0001	J	<0.0001	:	<0.0001	:	-		-		-	
Vanadium	mg/L		T	-		-		-		0.0304	:	0.0185	:	0.0178	:
Vanadium	mg/L		D	<0.0004	:	<0.0002	:	<0.0002	:	-		-		-	
Zinc	mg/L		T	-		-		-		0.279	:	0.215	:	0.277	:
Zinc	mg/L		D	<0.0057	:	<0.0057	:	<0.0057	:	-		-		-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 9/3/2003 ISCO-RR-8-T01N-SFW ST3	ISCO RR-8 9/3/2003 ISCO-RR-8-D04N-SFW ST3	ISCO RR-8 9/3/2003 ISCO-RR-8-D03N-SFW ST3	ISCO RR-8 9/3/2003 ISCO-RR-8-D02N-SFW ST3	ISCO RR-8 9/3/2003 ISCO-RR-8-D01N-SFW ST3	ISCO RR-8 9/5/2003 ISCO-RR-8-T04N-SFW ST4
Field Measurements								
pH	SU	T	5.15 :	-	-	-	-	5.01 :
Specific Conductance	uS/cm	T	438. :	-	-	-	-	475. :
General Chemistry								
Chloride	mg/L	T	3.1 :	-	-	-	-	2.4 :
Fluoride	mg/L	T	1.1 :	-	-	-	-	0.76 :
Nitrate	mg/L	T	0.39 J	-	-	-	-	0.28 J
Nitrite	mg/L	T	<0.005 J	-	-	-	-	<0.005 J
Sulfate	mg/L	T	204. :	-	-	-	-	226. :
Total Dissolved Solids	mg/L	T	344. :	-	-	-	-	348. :
Total Suspended Solids	mg/L	T	1240. :	-	-	-	-	8370. :
Laboratory Parameters								
pH	SU	T	5.15 :	-	-	-	-	5.01 :
Physical Properties								
Hardness	mg/L	T	264. :	-	-	-	-	536. :
Hardness	mg/L	D	-	199. :	166. :	152. :	213. :	-
Metals								
Aluminum	mg/L	T	41.9 :	-	-	-	-	173. J
Aluminum	mg/L	D	-	0.376 :	0.0394 :	0.024 :	3.38 :	-
Antimony	mg/L	T	<0.0005 J	-	-	-	-	<0.0018 J
Antimony	mg/L	D	-	<0.0005 J	<0.0005 J	<0.0005 J	<0.0005 J	-
Arsenic	mg/L	T	0.02 J	-	-	-	-	0.138 J
Arsenic	mg/L	D	-	<0.0002 J	<0.0002 J	<0.0002 J	<0.0002 J	-
Barium	mg/L	T	1.11 :	-	-	-	-	5.88 J
Barium	mg/L	D	-	0.0202 :	0.0153 :	0.023 :	0.0559 :	-
Beryllium	mg/L	T	0.0034 :	-	-	-	-	0.0126 :
Beryllium	mg/L	D	-	<0.0004 :	<0.0004 :	<0.0004 :	0.0012 :	-
Boron	mg/L	T	0.0539 :	-	-	-	-	0.0442 J
Boron	mg/L	D	-	0.0074 :	0.0065 :	0.007 :	0.007 :	-
Cadmium	mg/L	T	0.0022 J	-	-	-	-	0.0048 :
Cadmium	mg/L	D	-	0.00047 J	<0.0002 J	<0.0002 J	0.0021 J	-
Calcium	mg/L	T	62.3 :	-	-	-	-	87.7 J
Calcium	mg/L	D	-	60.6 :	50.1 :	45. :	60.7 :	-
Chromium	mg/L	T	0.0483 :	-	-	-	-	0.245 J

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 9/3/2003 ISCO-RR-8-T01N-SF W ST3		ISCO RR-8 9/3/2003 ISCO-RR-8-D04N-SF W ST3		ISCO RR-8 9/3/2003 ISCO-RR-8-D03N-SF W ST3		ISCO RR-8 9/3/2003 ISCO-RR-8-D02N-SF W ST3		ISCO RR-8 9/3/2003 ISCO-RR-8-D01N-SF W ST3		ISCO RR-8 9/5/2003 ISCO-RR-8-T04N-SF W ST4	
Chromium	mg/L	D	-		<0.0011	:	<0.0011	:	0.0012	:	<0.0011	:	-	
Cobalt	mg/L	T	0.0396	:	-		-		-		-		0.242	J
Cobalt	mg/L	D	-		0.0082	:	0.0019	:	0.0024	:	0.0339	:	-	
Copper	mg/L	T	0.13	:	-		-		-		-		1.03	J
Copper	mg/L	D	-		<0.0017	:	<0.0017	:	<0.0017	:	0.0436	:	-	
Iron	mg/L	T	122.	:	-		-		-		-		518.	J
Iron	mg/L	D	-		0.643	:	0.0594	:	<0.0278	:	0.0428	:	-	
Lead	mg/L	T	0.308	J	-		-		-		-		2.1	J
Lead	mg/L	D	-		0.0014	:	<0.0002	:	<0.0002	:	<0.0002	:	-	
Magnesium	mg/L	T	26.4	:	-		-		-		-		77.	J
Magnesium	mg/L	D	-		11.6	:	10.	:	9.6	:	14.9	:	-	
Manganese	mg/L	T	1.85	:	-		-		-		-		8.62	J
Manganese	mg/L	D	-		0.551	:	0.26	:	0.241	:	1.19	:	-	
Mercury	mg/L	T	<0.0001	:	-		-		-		-		0.00057	:
Mercury	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Molybdenum	mg/L	T	0.0191	J	-		-		-		-		0.0709	J
Molybdenum	mg/L	D	-		0.00075	J	0.0014	J	0.0015	J	<0.0002	J	-	
Nickel	mg/L	T	0.111	:	-		-		-		-		0.309	:
Nickel	mg/L	D	-		0.023	:	<0.0016	:	0.0041	:	0.0845	:	-	
Potassium	mg/L	T	17.2	J	-		-		-		-		39.8	J
Potassium	mg/L	D	-		1.93	:	1.6	:	1.56	:	1.63	:	-	
Selenium	mg/L	T	0.0029	J	-		-		-		-		0.0249	J
Selenium	mg/L	D	-		0.00034	J	0.00035	J	0.00044	J	0.00058	J	-	
Silver	mg/L	T	<0.0016	:	-		-		-		-		0.0178	:
Silver	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Sodium	mg/L	T	7.61	:	-		-		-		-		6.53	:
Sodium	mg/L	D	-		5.79	:	5.56	:	5.27	:	5.43	:	-	
Thallium	mg/L	T	0.0007	:	-		-		-		-		0.0033	:
Thallium	mg/L	D	-		<0.0001	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Vanadium	mg/L	T	0.039	:	-		-		-		-		0.237	J
Vanadium	mg/L	D	-		0.00039	:	<0.0001	:	<0.0001	:	<0.0001	:	-	
Zinc	mg/L	T	0.579	:	-		-		-		-		1.71	J
Zinc	mg/L	D	-		0.0197	:	0.0036	:	0.005	:	0.412	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 9/5/2003 ISCO-RR-8-T03N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-T02N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-T01N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-D04N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-D03N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-D02N-SF W ST4	
Field Measurements														
pH	SU	T	4.94	:	3.43	:	6.45	:	-		-		-	
Specific Conductance	uS/cm	T	461.	:	1138.	:	278.	:	-		-		-	
General Chemistry														
Chloride	mg/L	T	2.	:	4.2	:	3.2	:	-		-		-	
Fluoride	mg/L	T	0.66	:	2.3	:	0.4	:	-		-		-	
Nitrate	mg/L	T	0.25	J	0.3	J	0.31	J	-		-		-	
Nitrite	mg/L	T	<0.005	J	<0.005	J	<0.005	J	-		-		-	
Sulfate	mg/L	T	204.	:	564.	:	90.2	:	-		-		-	
Total Dissolved Solids	mg/L	T	332.	:	1060.	:	238.	:	-		-		-	
Total Suspended Solids	mg/L	T	2640.	:	5790.	:	352.	:	-		-		-	
Laboratory Parameters														
pH	SU	T	4.94	:	3.43	:	6.45	:	-		-		-	
Physical Properties														
Hardness	mg/L	T	383.	:	863.	:	141.	:	-		-		-	
Hardness	mg/L	D	-		-		-		227.	:	215.	:	518.	:
Metals														
Aluminum	mg/L	T	92.4	:	180.	:	8.25	:	-		-		-	
Aluminum	mg/L	D	-		-		-		1.27	:	1.06	:	31.6	:
Antimony	mg/L	T	<0.0005	J	<0.0005	J	<0.0005	J	-		-		-	
Antimony	mg/L	D	-		-		-		<0.0005	:	<0.0005	:	<0.0005	:
Arsenic	mg/L	T	0.0828	J	0.188	J	0.0033	J	-		-		-	
Arsenic	mg/L	D	-		-		-		<0.0002	J	<0.0002	J	<0.0002	J
Barium	mg/L	T	3.18	:	4.89	:	0.215	:	-		-		-	
Barium	mg/L	D	-		-		-		0.0327	:	0.0451	:	0.0458	:
Beryllium	mg/L	T	0.0073	:	0.0126	:	0.00063	:	-		-		-	
Beryllium	mg/L	D	-		-		-		0.00048	:	0.00061	:	0.0072	:
Boron	mg/L	T	0.03	J	0.0618	:	0.009	:	-		-		-	
Boron	mg/L	D	-		-		-		0.0103	:	0.0086	:	0.01	:
Cadmium	mg/L	T	0.0028	J	0.0053	J	0.00051	J	-		-		-	
Cadmium	mg/L	D	-		-		-		0.0027	J	0.0018	J	0.0054	J
Calcium	mg/L	T	80.3	:	161.	:	40.4	:	-		-		-	
Calcium	mg/L	D	-		-		-		72.5	:	66.8	:	157.	:
Chromium	mg/L	T	0.122	:	0.297	:	0.0089	:	-		-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ISCO RR-8 9/5/2003 ISCO-RR-8-T03N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-T02N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-T01N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-D04N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-D03N-SF W ST4		ISCO RR-8 9/5/2003 ISCO-RR-8-D02N-SF W ST4	
Chromium	mg/L	D	-		-		-		<0.0013	:	<0.0013	:	0.0134	:
Cobalt	mg/L	T	0.0964	:	0.178	:	0.007	:	-		-		-	
Cobalt	mg/L	D	-		-		-		0.0269	:	0.0242	:	0.108	:
Copper	mg/L	T	0.481	:	0.576	:	0.0325	:	-		-		-	
Copper	mg/L	D	-		-		-		0.0307	:	0.0196	:	0.244	:
Iron	mg/L	T	301.	:	874.	:	18.	:	-		-		-	
Iron	mg/L	D	-		-		-		0.0612	:	<0.104	:	2.76	:
Lead	mg/L	T	0.91	J	2.06	J	0.0509	J	-		-		-	
Lead	mg/L	D	-		-		-		0.00033	:	<0.0002	:	<0.0002	:
Magnesium	mg/L	T	44.3	:	112.	:	9.84	:	-		-		-	
Magnesium	mg/L	D	-		-		-		11.1	:	11.7	:	30.9	:
Manganese	mg/L	T	3.92	:	6.96	:	0.381	:	-		-		-	
Manganese	mg/L	D	-		-		-		1.58	:	1.22	:	3.81	:
Mercury	mg/L	T	0.00026	:	0.00035	:	<0.0001	:	-		-		-	
Mercury	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Molybdenum	mg/L	T	0.0442	J	0.0793	J	0.0091	J	-		-		-	
Molybdenum	mg/L	D	-		-		-		<0.0002	:	<0.0002	:	<0.0002	:
Nickel	mg/L	T	0.171	:	0.371	:	0.0185	:	-		-		-	
Nickel	mg/L	D	-		-		-		0.0698	:	0.0593	:	0.273	:
Potassium	mg/L	T	33.2	J	72.6	J	4.94	J	-		-		-	
Potassium	mg/L	D	-		-		-		2.37	:	1.98	:	1.56	:
Selenium	mg/L	T	0.0113	J	0.0224	J	0.00065	J	-		-		-	
Selenium	mg/L	D	-		-		-		0.00088	J	0.00061	J	0.0025	J
Silver	mg/L	T	0.0054	:	0.0102	:	<0.00029	:	-		-		-	
Silver	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Sodium	mg/L	T	7.15	:	20.4	:	4.94	:	-		-		-	
Sodium	mg/L	D	-		-		-		3.66	:	4.32	:	3.79	:
Thallium	mg/L	T	0.0015	:	0.0034	:	0.00015	:	-		-		-	
Thallium	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Vanadium	mg/L	T	0.0895	:	0.264	:	0.0093	:	-		-		-	
Vanadium	mg/L	D	-		-		-		<0.0001	:	<0.0001	:	<0.0001	:
Zinc	mg/L	T	1.06	:	1.76	:	0.104	:	-		-		-	
Zinc	mg/L	D	-		-		-		0.312	:	0.305	:	1.26	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ISCO RR-8	Lower Reach Capulin Canyon	Lower Reach Capulin Canyon	Lower Reach Goathill	Lower Reach Goathill	Lower Reach Goathill
			Sample Date	9/5/2003	9/10/2003	9/10/2003	7/28/2003	7/28/2003	7/28/2003
			Sample ID	ISCO-RR-8-D01N-SFW ST4	LowerReachCapulinCanyon-T01N-SFW SW3	LowerReachCapulinCanyon-D01N-SFW SW3	LowerReachGoathill-T01N-SFW SW3	LowerReachGoathill-D01N-SFW SW3	LowerReachGoathill2-T01N-SFW SW3
Field Measurements									
DO	mg/L	T		-	2.19 :	-	7.94 :	-	7.94 :
Eh	millivolts	T		-	455.8 :	-	242.6 :	-	242.6 :
pH	SU	T		-	3.3 J	-	7.4 J	-	6.62 :
Specific Conductance	uS/cm	T		-	2712. :	-	655. :	-	655. :
Temperature	Celsius	T		-	13.03 :	-	18.35 :	-	18.35 :
Turbidity	NTU	T		-	130.6 :	-	129.5 :	-	129.5 :
General Chemistry									
Ammonia	mg/L	T		-	<0.24 :	-	0.13 :	-	-
Bicarbonate (as CaCO3)	mg/L	T		-	<1. :	-	26.8 :	-	-
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	2.6 :	-	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	-
Chemical Oxygen Demand	mg/L	T		-	<44.8 :	-	28. :	-	-
Chloride	mg/L	T		-	6. :	-	29.6 :	-	-
Fluoride	mg/L	T		-	1.2 J	-	2.6 :	-	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	-
Nitrate	mg/L	T		-	0.28 J	-	1.2 :	-	-
Nitrite	mg/L	T		-	0.021 J	-	0.012 :	-	-
Phosphate, Ortho As P	mg/L	T		-	<0.13 J	-	0.014 :	-	-
Phosphorus	mg/L	T		-	0.25 :	-	0.4 :	-	-
Sulfate	mg/L	T		-	2130. :	-	238. :	-	-
Total Alkalinity	mg/L	T		-	<1. :	-	26.8 :	-	-
Total Dissolved Solids	mg/L	T		-	3380. :	-	546. :	-	-
Total Kjeldahl Nitrogen	mg/L	T		-	0.42 :	-	0.5 :	-	-
Total Organic Carbon	mg/L	T		-	9.7 :	-	6.7 :	-	-
Total Suspended Solids	mg/L	T		-	58.9 :	-	72.7 :	-	-
Laboratory Parameters									
pH	SU	T		-	3.3 J	-	7.4 J	-	6.62 :
Specific Conductance	umhos/cm	T		-	2710. J	-	622. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	-
Physical Properties									
Hardness	mg/L	T		-	1490. :	-	310. :	-	-
Hardness	mg/L	D		128. :	-	1430. :	-	308. :	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area	Fraction	ISCO RR-8 9/5/2003 ISCO-RR-8-D01N-SFW ST4		Lower Reach Capulin Canyon 9/10/2003 LowerReachCapulinCanyon-T01N-SFW SW3		Lower Reach Capulin Canyon 9/10/2003 LowerReachCapulinCanyon-D01N-SFW SW3		Lower Reach Goathill 7/28/2003 LowerReachGoathill-T01N-SFW SW3		Lower Reach Goathill 7/28/2003 LowerReachGoathill-D01N-SFW SW3		Lower Reach Goathill 7/28/2003 LowerReachGoathill2-T01N-SFW SW3	
Metals															
Aluminum	mg/L		T	-		151.	:	-		1.83	:	-		-	
Aluminum	mg/L		D	0.0715	:	-		143.	:	-		0.0355	J	-	
Antimony	mg/L		T	-		<0.052	:	-		<0.0005	:	-		-	
Antimony	mg/L		D	<0.0005	:	-		<0.052	:	-		<0.0005	:	-	
Arsenic	mg/L		T	-		0.0533	:	-		0.00043	:	-		-	
Arsenic	mg/L		D	<0.0002	J	-		<0.041	:	-		0.00032	:	-	
Barium	mg/L		T	-		<0.115	:	-		0.0576	:	-		-	
Barium	mg/L		D	0.0208	:	-		<0.115	:	-		0.0292	:	-	
Beryllium	mg/L		T	-		0.073	:	-		<0.00023	:	-		-	
Beryllium	mg/L		D	<0.0003	:	-		0.0728	:	-		<0.0002	:	-	
Boron	mg/L		T	-		<0.063	:	-		0.0146	:	-		-	
Boron	mg/L		D	0.0085	:	-		<0.063	:	-		0.0138	:	-	
Cadmium	mg/L		T	-		0.0837	:	-		0.00037	:	-		-	
Cadmium	mg/L		D	<0.0002	J	-		0.0821	:	-		0.00027	:	-	
Calcium	mg/L		T	-		328.	:	-		98.	:	-		-	
Calcium	mg/L		D	39.	:	-		315.	:	-		98.4	:	-	
Chromium	mg/L		T	-		<0.11	:	-		0.0047	:	-		-	
Chromium	mg/L		D	<0.0013	:	-		<0.11	:	-		0.0017	:	-	
Cobalt	mg/L		T	-		0.489	:	-		<0.002	:	-		-	
Cobalt	mg/L		D	<0.0031	:	-		0.495	:	-		0.002	:	-	
Copper	mg/L		T	-		1.05	:	-		<0.0151	:	-		-	
Copper	mg/L		D	0.0067	:	-		1.01	:	-		<0.0037	:	-	
Iron	mg/L		T	-		<26.6	:	-		2.16	:	-		-	
Iron	mg/L		D	0.0623	:	-		<22.6	:	-		<0.0333	:	-	
Lead	mg/L		T	-		0.0186	:	-		0.0061	:	-		-	
Lead	mg/L		D	<0.0002	:	-		<0.002	:	-		<0.0001	:	-	
Magnesium	mg/L		T	-		164.	:	-		15.8	:	-		-	
Magnesium	mg/L		D	7.55	:	-		158.	:	-		15.2	:	-	
Manganese	mg/L		T	-		84.9	:	-		0.357	:	-		-	
Manganese	mg/L		D	0.19	:	-		82.3	:	-		0.284	:	-	
Mercury	mg/L		T	-		<0.0001	:	-		<0.0001	:	-		-	
Mercury	mg/L		D	<0.0001	:	-		<0.0001	:	-		<0.00028	:	-	
Molybdenum	mg/L		T	-		<0.011	:	-		0.329	:	-		-	

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area Fraction	ISCO RR-8 9/5/2003 ISCO-RR-8-D01N-SFW ST4		Lower Reach Capulin Canyon 9/10/2003 LowerReachCapulinCanyon-T01N-SFW SW3		Lower Reach Capulin Canyon 9/10/2003 LowerReachCapulinCanyon-D01N-SFW SW3		Lower Reach Goathill 7/28/2003 LowerReachGoathill-T01N-SFW SW3		Lower Reach Goathill 7/28/2003 LowerReachGoathill-D01N-SFW SW3		Lower Reach Goathill 7/28/2003 LowerReachGoathill2-T01N-SFW SW3	
Molybdenum	mg/L	D	0.005	:	-		<0.011	:	-		0.36	:	-	
Nickel	mg/L	T	-		1.26	:	-		0.0122	:	-		-	
Nickel	mg/L	D	<0.0016	:	-		1.2	:	-		0.0084	:	-	
Potassium	mg/L	T	-		<31.8	:	-		4.4	:	-		-	
Potassium	mg/L	D	1.47	:	-		<31.8	:	-		4.18	:	-	
Selenium	mg/L	T	-		0.0279	J	-		<0.0008	:	-		-	
Selenium	mg/L	D	<0.0006	J	-		0.0284	J	-		0.00088	:	-	
Silver	mg/L	T	-		<0.001	:	-		<0.0001	:	-		-	
Silver	mg/L	D	<0.0001	:	-		<0.001	:	-		<0.0001	:	-	
Sodium	mg/L	T	-		<45.4	:	-		24.6	:	-		-	
Sodium	mg/L	D	4.78	:	-		<45.4	:	-		24.8	:	-	
Thallium	mg/L	T	-		<0.001	:	-		<0.0001	:	-		-	
Thallium	mg/L	D	<0.0001	:	-		<0.001	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		0.0026	:	-		0.0032	:	-		-	
Vanadium	mg/L	D	<0.0001	:	-		<0.001	:	-		0.00051	:	-	
Zinc	mg/L	T	-		16.4	:	-		0.0209	:	-		-	
Zinc	mg/L	D	<0.002	J	-		16.	:	-		<0.006	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Lower Reach Goathill	Lower Reach Goathill	Lower Reach Goathill	Lower Reach Goathill	Lower Reach Goathill	Lower Reach Goathill
			Sample Date	9/7/2003	9/7/2003	9/10/2003	9/10/2003	10/3/2003	10/3/2003
			Sample ID	LowerReachGoathill2-T01N-SFW	LowerReachGoathill2-D01N-SFW	LowerReachGoathill2-T01N-SFW	LOWERREACHGOATHILL2-D01N-SFW	LowerReachOfGoathill-T01N-SFW	LowerReachOfGoathill-D01N-SFW
				SW3	SW3	SW3	SW3	SW3	SW3
Field Measurements									
DO	mg/L	T		-	-	12.32 :	-	8.37 :	-
Eh	millivolts	T		273.4 :	-	158.9 :	-	352.3 :	-
pH	SU	T		7.6 J	-	7.2 J	-	5.2 J	-
Specific Conductance	uS/cm	T		805. :	-	534. :	-	1112. :	-
Temperature	Celsius	T		16.46 :	-	13.62 :	-	10.66 :	-
Turbidity	NTU	T		33.7 :	-	98.3 :	-	17.1 :	-
General Chemistry									
Ammonia	mg/L	T		<0.093 :	-	<0.06 :	-	0.055 :	-
Bicarbonate (as CaCO3)	mg/L	T		62.4 :	-	36.7 :	-	<2.1 :	-
Biochemical Oxygen Demand	mg/L	T		1.8 :	-	<1.3 J	-	<1.3 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		25.9 :	-	<53.1 :	-	28. :	-
Chloride	mg/L	T		19.8 :	-	8.4 :	-	58. :	-
Fluoride	mg/L	T		2.2 :	-	1.5 :	-	3.8 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		1.4 J	-	0.64 J	-	<0.64 :	-
Nitrite	mg/L	T		0.012 J	-	<0.005 J	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		<0.026 J	-	<0.017 J	-	<0.01 :	-
Phosphorus	mg/L	T		0.057 :	-	0.056 :	-	0.047 :	-
Sulfate	mg/L	T		338. J	-	230. :	-	529. J	-
Total Alkalinity	mg/L	T		62.4 :	-	36.7 :	-	<2.1 :	-
Total Dissolved Solids	mg/L	T		596. :	-	448. :	-	964. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.67 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<4.7 :	-	2.1 :	-	2.6 :	-
Total Suspended Solids	mg/L	T		16.3 :	-	29. :	-	10.7 :	-
Laboratory Parameters									
pH	SU	T		7.6 J	-	7.2 J	-	5.2 J	-
Specific Conductance	umhos/cm	T		731. J	-	499. J	-	1080. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 J	-
Physical Properties									
Hardness	mg/L	T		409. :	-	255. :	-	529. :	-
Hardness	mg/L	D		-	401. :	-	262. :	-	537. :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Lower Reach Goathill	Lower Reach Goathill	Lower Reach Goathill	Lower Reach Goathill	Lower Reach Goathill	Lower Reach Goathill
			Sample Date	9/7/2003	9/7/2003	9/10/2003	9/10/2003	10/3/2003	10/3/2003
			Sample ID	LowerReachGoathill2-T01N-SFW	LowerReachGoathill2-D01N-SFW	LOWERREACHGOATHILL2-T01N-SFW	LOWERREACHGOATHILL2-D01N-SFW	LowerReachOfGoathill-T01N-SFW	LowerReachOfGoathill-D01N-SFW
				SW3	SW3	SW3	SW3	SW3	SW3
Metals									
Aluminum	mg/L	T		0.199 :	-	1.4 :	-	6.48 :	-
Aluminum	mg/L	D		-	<0.0246 :	-	<0.0353 :	-	5.99 :
Antimony	mg/L	T		<0.001 :	-	<0.00061 :	-	<0.0005 :	-
Antimony	mg/L	D		-	<0.001 :	-	<0.0005 :	-	<0.0005 :
Arsenic	mg/L	T		0.00044 :	-	0.00047 :	-	0.0002 :	-
Arsenic	mg/L	D		-	0.00041 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		0.03 :	-	0.0554 :	-	0.038 :	-
Barium	mg/L	D		-	0.0261 :	-	0.0214 :	-	0.0298 :
Beryllium	mg/L	T		<0.0004 :	-	<0.00056 :	-	0.0024 :	-
Beryllium	mg/L	D		-	<0.0004 :	-	<0.0003 :	-	0.0022 :
Boron	mg/L	T		0.0143 :	-	0.0084 :	-	0.0208 :	-
Boron	mg/L	D		-	0.0135 :	-	0.011 :	-	0.0199 :
Cadmium	mg/L	T		<0.0004 :	-	<0.0002 :	-	0.0028 :	-
Cadmium	mg/L	D		-	<0.0004 :	-	<0.0002 :	-	0.0025 :
Calcium	mg/L	T		142. :	-	89.4 :	-	182. :	-
Calcium	mg/L	D		-	139. :	-	92. :	-	184. :
Chromium	mg/L	T		<0.0011 :	-	0.0026 :	-	0.0018 J	-
Chromium	mg/L	D		-	<0.0011 :	-	<0.0013 :	-	0.0011 J
Cobalt	mg/L	T		<0.0029 :	-	<0.0031 :	-	0.0196 :	-
Cobalt	mg/L	D		-	<0.0029 :	-	<0.0031 :	-	0.0219 :
Copper	mg/L	T		<0.0049 :	-	0.0073 :	-	0.104 :	-
Copper	mg/L	D		-	<0.0042 :	-	0.002 :	-	0.0981 :
Iron	mg/L	T		<0.455 :	-	2.96 :	-	0.771 :	-
Iron	mg/L	D		-	<0.455 :	-	0.0329 :	-	0.0974 :
Lead	mg/L	T		<0.0019 :	-	0.016 :	-	0.0022 :	-
Lead	mg/L	D		-	<0.00062 :	-	<0.0002 :	-	<0.0002 :
Magnesium	mg/L	T		13.1 :	-	7.86 :	-	18.3 :	-
Magnesium	mg/L	D		-	12.8 :	-	7.78 :	-	18.5 :
Manganese	mg/L	T		0.091 :	-	0.0906 :	-	2.68 :	-
Manganese	mg/L	D		-	0.0872 :	-	0.0743 :	-	2.72 :
Mercury	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Molybdenum	mg/L	T		0.604 :	-	0.415 :	-	0.409 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Lower Reach Goathill 9/7/2003 LowerReachGoathill2-T01N-SFW SW3		Lower Reach Goathill 9/7/2003 LowerReachGoathill2-D01N-SFW SW3		Lower Reach Goathill 9/10/2003 LOWERREACHGOATHILL2-T01N-SFW SW3		Lower Reach Goathill 9/10/2003 LOWERREACHGOATHILL2-D01N-SFW SW3		Lower Reach Goathill 10/3/2003 LowerReachOfGoathill-T01N-SFW SW3		Lower Reach Goathill 10/3/2003 LowerReachOfGoathill-D01N-SFW SW3	
Molybdenum	mg/L	D	-		0.6	:	-		0.406	:	-		0.394	:
Nickel	mg/L	T	<0.0024	:	-		0.0026	:	-		0.0509	:	-	
Nickel	mg/L	D	-		<0.0024	:	-		0.0018	:	-		0.0482	:
Potassium	mg/L	T	4.6	:	-		3.27	:	-		4.13	:	-	
Potassium	mg/L	D	-		4.63	:	-		2.6	:	-		4.11	:
Selenium	mg/L	T	0.0012	J	-		0.00035	J	-		0.0013	J	-	
Selenium	mg/L	D	-		0.0012	J	-		<0.0003	J	-		0.0012	J
Silver	mg/L	T	<0.0002	:	-		0.00023	:	-		<0.0001	:	-	
Silver	mg/L	D	-		<0.0002	:	-		<0.0001	:	-		<0.0001	:
Sodium	mg/L	T	25.	:	-		12.8	:	-		48.8	:	-	
Sodium	mg/L	D	-		22.2	:	-		13.2	:	-		49.3	:
Thallium	mg/L	T	<0.0002	:	-		<0.0001	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0002	:	-		<0.0001	:	-		<0.0001	:
Vanadium	mg/L	T	0.00061	:	-		0.002	:	-		0.00047	:	-	
Vanadium	mg/L	D	-		0.00027	:	-		0.00027	:	-		0.00012	:
Zinc	mg/L	T	<0.019	:	-		<0.0111	:	-		0.488	J	-	
Zinc	mg/L	D	-		<0.019	:	-		<0.0035	:	-		0.493	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-1	LR-1	LR-1	LR-1	LR-1	LR-1
			Sample Date	9/30/2002	9/30/2002	3/20/2003	3/20/2003	7/15/2003	7/15/2003
			Sample ID	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		9.15 :	-	10.27 :	-	8.45 :	-
Eh	millivolts	T		358. :	-	289.5 :	-	472.1 :	-
Flow	cfs	T		21.8 :	-	11.6 :	-	18.4 :	-
pH	SU	T		7.61 :	-	7.7 J	-	7.6 J	-
Specific Conductance	uS/cm	T		364. :	-	460. :	-	338. :	-
Temperature	Celsius	T		14.9 :	-	9.71 :	-	16.27 :	-
Turbidity	NTU	T		20.4 :	-	5.2 :	-	1.5 :	-
General Chemistry									
Ammonia	mg/L	T		<0.024 :	-	<0.13 J	-	0.14 :	-
Bicarbonate (as CaCO3)	mg/L	T		52. :	-	47.3 :	-	63.1 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.4 J	-	<1.5 :	-
Carbonate (as CaCO3)	mg/L	T		<2. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		3.8 :	-	5.9 :	-	3.5 :	-
Fluoride	mg/L	T		0.76 :	-	1. :	-	<0.93 J	-
Hydroxide (as CaCO3)	mg/L	T		<2. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.25 :	-	0.6 J	-	<0.4 J	-
Nitrite	mg/L	T		<0.005 J	-	0.0079 J	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 J	-	<0.01 :	-
Phosphorus	mg/L	T		<0.087 :	-	0.044 :	-	0.014 :	-
Sulfate	mg/L	T		134. :	-	143. :	-	113. :	-
Total Alkalinity	mg/L	T		52. :	-	47.3 :	-	63.1 :	-
Total Dissolved Solids	mg/L	T		318. :	-	258. :	-	202. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<1. :	-	1.2 :	-	1.5 :	-
Total Suspended Solids	mg/L	T		31.7 :	-	13.5 :	-	4.7 :	-
Laboratory Parameters									
pH	SU	T		7.61 :	-	7.7 J	-	7.6 J	-
Specific Conductance	umhos/cm	T		-	-	363. :	-	367. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		194. :	-	213. :	-	169. :	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	LR-1 9/30/2002 LR-1-T01N-SFW SWR		LR-1 9/30/2002 LR-1-D01N-SFW SWR		LR-1 3/20/2003 LR-1-T01N-SFW SWR		LR-1 3/20/2003 LR-1-D01N-SFW SWR		LR-1 7/15/2003 LR-1-T01N-SFW SWR		LR-1 7/15/2003 LR-1-D01N-SFW SWR	
Hardness	mg/L	D	-		189.	:	-		222.	:	-		168.	:
Metals														
Aluminum	mg/L	T	2.22	:	-		<1.93	:	-		0.452	:	-	
Aluminum	mg/L	D	-		0.136	:	-		0.101	:	-		0.12	:
Antimony	mg/L	T	<0.0002	:	-		<0.0006	:	-		<0.0021	:	-	
Antimony	mg/L	D	-		<0.0002	:	-		<0.0006	:	-		<0.0005	:
Arsenic	mg/L	T	0.00023	:	-		<0.0004	:	-		0.00035	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Barium	mg/L	T	0.0486	:	-		0.0423	:	-		0.0364	:	-	
Barium	mg/L	D	-		0.0274	:	-		0.0371	:	-		0.0353	:
Beryllium	mg/L	T	0.00036	:	-		<0.0003	J	-		0.00028	:	-	
Beryllium	mg/L	D	-		<0.0002	:	-		<0.0003	J	-		<0.0002	:
Boron	mg/L	T	<0.005	:	-		<0.0084	:	-		0.0091	:	-	
Boron	mg/L	D	-		<0.0074	:	-		0.0087	:	-		0.0084	:
Cadmium	mg/L	T	0.00039	:	-		<0.0005	:	-		0.00038	:	-	
Cadmium	mg/L	D	-		0.0003	:	-		0.00047	:	-		0.00036	:
Calcium	mg/L	T	58.	:	-		62.6	:	-		50.9	:	-	
Calcium	mg/L	D	-		56.6	:	-		65.3	:	-		50.6	:
Chromium	mg/L	T	0.0019	:	-		<0.0011	:	-		<0.0014	:	-	
Chromium	mg/L	D	-		0.0025	:	-		<0.001	:	-		<0.0014	:
Chromium, Hexavalent	mg/L	D	<0.01	:	-		-		-		-		-	
Cobalt	mg/L	T	0.0033	:	-		0.0041	:	-		<0.002	:	-	
Cobalt	mg/L	D	-		0.0024	:	-		<0.0038	:	-		<0.002	:
Copper	mg/L	T	0.0137	:	-		0.0199	:	-		0.0056	:	-	
Copper	mg/L	D	-		0.0027	:	-		0.0053	:	-		0.0032	:
Iron	mg/L	T	1.67	:	-		<0.422	:	-		0.11	:	-	
Iron	mg/L	D	-		<0.046	:	-		<0.422	:	-		<0.0333	:
Lead	mg/L	T	0.0014	:	-		0.00067	:	-		0.00026	:	-	
Lead	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0001	:
Magnesium	mg/L	T	12.	:	-		13.7	:	-		10.2	:	-	
Magnesium	mg/L	D	-		11.6	:	-		14.3	:	-		10.1	:
Manganese	mg/L	T	0.365	:	-		0.376	:	-		0.147	:	-	
Manganese	mg/L	D	-		0.332	:	-		0.38	:	-		0.142	:
Mercury	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			LR-1		LR-1		LR-1		LR-1		LR-1		LR-1	
			9/30/2002		9/30/2002		3/20/2003		3/20/2003		7/15/2003		7/15/2003	
			LR-1-T01N-SFW		LR-1-D01N-SFW		LR-1-T01N-SFW		LR-1-D01N-SFW		LR-1-T01N-SFW		LR-1-D01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:
Molybdenum	mg/L	T	0.003	:	-		0.0023	:	-		0.0076	:	-	
Molybdenum	mg/L	D	-		0.0039	:	-		0.0024	:	-		0.0068	:
Nickel	mg/L	T	0.0112	:	-		0.0189	:	-		0.0093	:	-	
Nickel	mg/L	D	-		0.0101	:	-		0.0201	:	-		0.01	:
Potassium	mg/L	T	2.16	:	-		1.73	:	-		1.36	:	-	
Potassium	mg/L	D	-		1.6	:	-		1.75	:	-		1.41	:
Selenium	mg/L	T	0.00029	:	-		<0.001	:	-		<0.0016	:	-	
Selenium	mg/L	D	-		0.0003	:	-		<0.001	:	-		<0.0016	:
Silver	mg/L	T	<0.0059	:	-		<0.0002	:	-		<0.0001	J	-	
Silver	mg/L	D	-		<0.0059	:	-		<0.0002	:	-		<0.0001	J
Sodium	mg/L	T	6.8	:	-		15.4	:	-		6.92	:	-	
Sodium	mg/L	D	-		6.56	:	-		19.7	:	-		7.08	:
Thallium	mg/L	T	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0001	:
Vanadium	mg/L	T	0.00042	:	-		<0.0002	:	-		<0.0014	:	-	
Vanadium	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.00079	:
Zinc	mg/L	T	0.0795	:	-		0.172	:	-		0.0678	:	-	
Zinc	mg/L	D	-		0.0308	:	-		0.0994	:	-		0.0537	:
Volatile Organics														
1,1,1-Trichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2,2-Tetrachloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2-Trichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1-Dichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1-Dichloroethene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2,4-Trichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dibromo-3-chloropropane	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloroethene (total)	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloropropane	mg/L	T	<0.01	:	-		-		-		-		-	
1,3-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,4-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-1	LR-1	LR-1	LR-1	LR-1	LR-1
			Sample Date	9/30/2002	9/30/2002	3/20/2003	3/20/2003	7/15/2003	7/15/2003
			Sample ID	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2-Butanone	mg/L	T		<0.01 :	-	-	-	-	-
2-Hexanone	mg/L	T		<0.01 :	-	-	-	-	-
4-Methyl-2-pentanone	mg/L	T		<0.01 :	-	-	-	-	-
Acetone	mg/L	T		<0.01 :	-	-	-	-	-
Benzene	mg/L	T		<0.01 :	-	-	-	-	-
Bromodichloromethane	mg/L	T		<0.01 :	-	-	-	-	-
Bromoform	mg/L	T		<0.01 :	-	-	-	-	-
Bromomethane	mg/L	T		<0.01 :	-	-	-	-	-
Carbon disulfide	mg/L	T		<0.01 :	-	-	-	-	-
Carbon tetrachloride	mg/L	T		<0.01 :	-	-	-	-	-
Chlorobenzene	mg/L	T		<0.01 :	-	-	-	-	-
Chloroethane	mg/L	T		<0.01 :	-	-	-	-	-
Chloroform	mg/L	T		<0.01 :	-	-	-	-	-
Chloromethane	mg/L	T		<0.01 :	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	T		<0.01 :	-	-	-	-	-
Dibromochloromethane	mg/L	T		<0.01 :	-	-	-	-	-
Dichlorodifluoromethane	mg/L	T		<0.01 :	-	-	-	-	-
Ethylbenzene	mg/L	T		<0.01 :	-	-	-	-	-
Methylene chloride	mg/L	T		<0.01 :	-	-	-	-	-
Styrene	mg/L	T		<0.01 :	-	-	-	-	-
Tetrachloroethene	mg/L	T		<0.01 :	-	-	-	-	-
Toluene	mg/L	T		<0.01 :	-	-	-	-	-
Total Xylene	mg/L	T		<0.01 :	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	T		<0.01 :	-	-	-	-	-
Trichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
Trichlorofluoromethane	mg/L	T		<0.01 :	-	-	-	-	-
Vinyl chloride	mg/L	T		<0.01 :	-	-	-	-	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		<0.01 :	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	T		<0.025 :	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2,4-Dichlorophenol	mg/L	T		<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-1	LR-1	LR-1	LR-1	LR-1	LR-1
			Sample Date	9/30/2002	9/30/2002	3/20/2003	3/20/2003	7/15/2003	7/15/2003
			Sample ID	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2,4-Dimethylphenol	mg/L	T		<0.01 :	-	-	-	-	-
2,4-Dinitrophenol	mg/L	T		<0.025 :	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	T		<0.01 :	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	T		<0.01 :	-	-	-	-	-
2-Chloronaphthalene	mg/L	T		<0.01 :	-	-	-	-	-
2-Chlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2-Methylnaphthalene	mg/L	T		<0.01 :	-	-	-	-	-
2-Methylphenol	mg/L	T		<0.01 :	-	-	-	-	-
2-Nitroaniline	mg/L	T		<0.025 :	-	-	-	-	-
2-Nitrophenol	mg/L	T		<0.01 :	-	-	-	-	-
3,3-Dichlorobenzidine	mg/L	T		<0.01 :	-	-	-	-	-
3-Nitroaniline	mg/L	T		<0.025 :	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	T		<0.025 :	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	T		<0.01 :	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	T		<0.01 :	-	-	-	-	-
4-Chloroaniline	mg/L	T		<0.01 :	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	T		<0.01 :	-	-	-	-	-
4-Methylphenol	mg/L	T		<0.01 :	-	-	-	-	-
4-Nitroaniline	mg/L	T		<0.025 :	-	-	-	-	-
4-Nitrophenol	mg/L	T		<0.025 :	-	-	-	-	-
Acenaphthene	mg/L	T		<0.01 :	-	-	-	-	-
Acenaphthylene	mg/L	T		<0.01 :	-	-	-	-	-
Anthracene	mg/L	T		<0.01 :	-	-	-	-	-
Benzaldehyde	mg/L	T		<0.01 J	-	-	-	-	-
Benzo(a)anthracene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(a)pyrene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	T		<0.01 :	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/L	T		<0.01 :	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/L	T		<0.01 :	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T		<0.01 :	-	-	-	-	-
Butyl benzyl phthalate	mg/L	T		<0.01 :	-	-	-	-	-
Carbazole	mg/L	T		<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-1	LR-1	LR-1	LR-1	LR-1	LR-1
			Sample Date	9/30/2002	9/30/2002	3/20/2003	3/20/2003	7/15/2003	7/15/2003
			Sample ID	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Chrysene	mg/L	T		<0.01 :	-	-	-	-	-
Dibenz(a,h)anthracene	mg/L	T		<0.01 :	-	-	-	-	-
Dibenzofuran	mg/L	T		<0.01 :	-	-	-	-	-
Dichlorodiisopropyl ether	mg/L	T		<0.01 :	-	-	-	-	-
Diethylphthalate	mg/L	T		<0.01 :	-	-	-	-	-
Dimethylphthalate	mg/L	T		<0.01 :	-	-	-	-	-
Di-n-Butyl phthalate	mg/L	T		<0.01 :	-	-	-	-	-
Di-n-Octyl phthalate	mg/L	T		<0.01 :	-	-	-	-	-
Fluoranthene	mg/L	T		<0.01 :	-	-	-	-	-
Fluorene	mg/L	T		<0.01 :	-	-	-	-	-
Hexachlorobenzene	mg/L	T		<0.01 :	-	-	-	-	-
Hexachlorobutadiene	mg/L	T		<0.01 :	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	T		<0.01 :	-	-	-	-	-
Hexachloroethane	mg/L	T		<0.01 :	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T		<0.01 :	-	-	-	-	-
Isophorone	mg/L	T		<0.01 :	-	-	-	-	-
Naphthalene	mg/L	T		<0.01 :	-	-	-	-	-
Nitrobenzene	mg/L	T		<0.01 :	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/L	T		<0.01 :	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	T		<0.01 :	-	-	-	-	-
Pentachlorophenol	mg/L	T		<0.025 J	-	-	-	-	-
Phenanthrene	mg/L	T		<0.01 :	-	-	-	-	-
Phenol	mg/L	T		<0.01 :	-	-	-	-	-
Pyrene	mg/L	T		<0.01 :	-	-	-	-	-
Explosives									
2,4,6-Trinitrotoluene	mg/L	T		<0.00025 :	-	-	-	-	-
2,6-Pyridinediamine,	mg/L	T		<0.00025 J	-	-	-	-	-
Cyclotetramethylenetetranitramine	mg/L	T		<0.00025 :	-	-	-	-	-
Cyclotrimethylenetrinitramine	mg/L	T		<0.00025 :	-	-	-	-	-
Pentaerythritol tetranitrate	mg/L	T		<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-1	LR-1	LR-1	LR-11A	LR-11A	LR-11A
			Sample Date	9/23/2003	9/24/2003	9/24/2003	9/27/2002	9/27/2002	3/20/2003
			Sample ID	LR-1-T01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-11A-T01N-SFW	LR-11A-D01N-SFW	LR-11A-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		10.85 :	-	-	-	-	11.11 :
Eh	millivolts	T		272.8 :	-	-	213.8 :	-	278.6 :
Flow	cfs	T		20.7 :	-	-	20.54 :	-	15.7 :
pH	SU	T		6.89 :	7.6 J	-	6.71 :	-	7.5 J
Specific Conductance	uS/cm	T		359. :	-	-	494. :	-	565. :
Temperature	Celsius	T		9.7 :	-	-	14.69 :	-	3.5 :
Turbidity	NTU	T		23.7 :	-	-	24.1 :	-	40.1 :
General Chemistry									
Ammonia	mg/L	T		-	<0.04 :	-	<0.024 :	-	<0.12 J
Bicarbonate (as CaCO3)	mg/L	T		-	68. :	-	64.4 :	-	59.7 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	<1.4 J	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.7 :	-	4.4 :	-	7.3 :
Fluoride	mg/L	T		-	0.81 :	-	0.8 :	-	0.98 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.41 J	-	<0.47 J	-	0.62 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	0.0098 J
Phosphate, Ortho As P	mg/L	T		-	<0.34 J	-	0.015 J	-	<0.01 J
Phosphorus	mg/L	T		-	0.027 :	-	<0.13 :	-	0.052 :
Sulfate	mg/L	T		-	107. J	-	171. :	-	190. :
Total Alkalinity	mg/L	T		-	68. :	-	64.4 :	-	59.7 :
Total Dissolved Solids	mg/L	T		-	224. :	-	347. :	-	342. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.29 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	<1. :	-	1.8 :	-	1.6 :
Total Suspended Solids	mg/L	T		-	13.3 :	-	22.6 :	-	17. :
Laboratory Parameters									
pH	SU	T		6.89 :	7.6 J	-	6.71 :	-	7.5 J
Specific Conductance	umhos/cm	T		-	352. J	-	-	-	430. :
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	171. :	-	233. :	-	254. :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-1	LR-1	LR-1	LR-11A	LR-11A	LR-11A
			Sample Date	9/23/2003	9/24/2003	9/24/2003	9/27/2002	9/27/2002	3/20/2003
			Sample ID	LR-1-T01N-SFW	LR-1-T01N-SFW	LR-1-D01N-SFW	LR-11A-T01N-SFW	LR-11A-D01N-SFW	LR-11A-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		-	-	170. :	-	243. :	-
Metals									
Aluminum	mg/L	T		-	0.887 :	-	2.21 :	-	<1.73 :
Aluminum	mg/L	D		-	-	0.113 :	-	<0.0847 :	-
Antimony	mg/L	T		-	<0.00011 :	-	<0.0002 :	-	<0.0006 :
Antimony	mg/L	D		-	-	<0.00016 :	-	<0.0002 :	-
Arsenic	mg/L	T		-	<0.00038 :	-	<0.0002 :	-	<0.0004 :
Arsenic	mg/L	D		-	-	<0.00038 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0418 :	-	0.0452 :	-	0.0413 :
Barium	mg/L	D		-	-	0.0351 :	-	0.0331 :	-
Beryllium	mg/L	T		-	<0.00047 :	-	0.00031 :	-	<0.00031 J
Beryllium	mg/L	D		-	-	<0.00047 :	-	<0.0002 :	-
Boron	mg/L	T		-	<0.008 :	-	<0.0176 :	-	0.0121 :
Boron	mg/L	D		-	-	<0.0087 :	-	<0.011 :	-
Cadmium	mg/L	T		-	0.00043 :	-	0.00033 :	-	<0.0005 :
Cadmium	mg/L	D		-	-	0.00044 :	-	0.00025 :	-
Calcium	mg/L	T		-	51.8 :	-	70.4 :	-	75.8 :
Calcium	mg/L	D		-	-	51.6 :	-	73.5 :	-
Chromium	mg/L	T		-	<0.001 :	-	0.002 :	-	<0.001 :
Chromium	mg/L	D		-	-	<0.001 :	-	<0.0012 :	-
Chromium, Hexavalent	mg/L	D		-	-	-	<0.01 :	-	-
Cobalt	mg/L	T		-	0.0024 :	-	0.0027 :	-	<0.0038 :
Cobalt	mg/L	D		-	-	0.003 :	-	0.002 :	-
Copper	mg/L	T		-	0.009 :	-	0.0118 :	-	0.0189 :
Copper	mg/L	D		-	-	<0.0026 :	-	0.0022 :	-
Iron	mg/L	T		-	0.548 :	-	1.06 :	-	<0.422 :
Iron	mg/L	D		-	-	<0.044 :	-	<0.046 :	-
Lead	mg/L	T		-	0.0012 :	-	0.0011 :	-	0.00077 :
Lead	mg/L	D		-	-	<0.00004 :	-	<0.0001 :	-
Magnesium	mg/L	T		-	10.2 :	-	13.9 :	-	15.6 :
Magnesium	mg/L	D		-	-	10.1 :	-	14.4 :	-
Manganese	mg/L	T		-	0.23 :	-	0.31 :	-	0.367 :
Manganese	mg/L	D		-	-	0.218 :	-	0.298 :	-
Mercury	mg/L	T		-	<0.00006 :	-	<0.0001 :	-	<0.0001 :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	LR-1 9/23/2003 LR-1-T01N-SFW SWR	LR-1 9/24/2003 LR-1-T01N-SFW SWR	LR-1 9/24/2003 LR-1-D01N-SFW SWR	LR-11A 9/27/2002 LR-11A-T01N-SFW SWR	LR-11A 9/27/2002 LR-11A-D01N-SFW SWR	LR-11A 3/20/2003 LR-11A-T01N-SFW SWR
Mercury	mg/L	D	-	-	<0.00006 :	-	<0.0001 :	-
Molybdenum	mg/L	T	-	0.0037 :	-	0.0581 :	-	0.0612 :
Molybdenum	mg/L	D	-	-	0.0046 :	-	0.0601 :	-
Nickel	mg/L	T	-	0.0127 :	-	0.0096 :	-	0.0177 :
Nickel	mg/L	D	-	-	0.014 :	-	0.0079 :	-
Potassium	mg/L	T	-	1.43 :	-	2.06 :	-	1.93 :
Potassium	mg/L	D	-	-	1.31 :	-	1.75 :	-
Selenium	mg/L	T	-	<0.00073 :	-	0.00023 :	-	<0.001 :
Selenium	mg/L	D	-	-	<0.00073 :	-	0.00025 :	-
Silver	mg/L	T	-	<0.0002 :	-	<0.0059 :	-	<0.0002 :
Silver	mg/L	D	-	-	<0.0002 :	-	<0.0059 :	-
Sodium	mg/L	T	-	5.54 :	-	12.2 :	-	13.6 :
Sodium	mg/L	D	-	-	5.54 :	-	11.9 :	-
Thallium	mg/L	T	-	<0.00001 :	-	<0.0001 :	-	<0.0002 :
Thallium	mg/L	D	-	-	<0.00001 :	-	<0.0001 :	-
Vanadium	mg/L	T	-	<0.00047 :	-	0.0004 :	-	0.00022 :
Vanadium	mg/L	D	-	-	<0.00044 :	-	<0.0001 :	-
Zinc	mg/L	T	-	0.104 :	-	0.067 :	-	0.152 :
Zinc	mg/L	D	-	-	<0.063 :	-	0.0209 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-11A	LR-11A	LR-11A	LR-11A	LR-11A	LR-13
			Sample Date	3/20/2003	7/14/2003	7/14/2003	9/23/2003	9/23/2003	9/26/2002
			Sample ID	LR-11A-D01N-SFW	LR-11A-T01N-SFW	LR-11A-D01N-SFW	LR-11A-T01N-SFW	LR-11A-D01N-SFW	LR-13-T01N-SFW
			Exposure Area	SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	8.24 :	-	8.49 :	-	-
Eh	millivolts	T		-	25.3 :	-	99.3 :	-	234.1 :
Flow	cfs	T		-	23.1 :	-	26.4 :	-	21.39 :
pH	SU	T		-	7.9 J	-	7.7 J	-	6.8 :
Specific Conductance	uS/cm	T		-	401. :	-	469. :	-	487. :
Temperature	Celsius	T		-	18.29 :	-	12.72 :	-	15.05 :
Turbidity	NTU	T		-	0. :	-	7.6 :	-	26.5 :
General Chemistry									
Ammonia	mg/L	T		-	0.11 :	-	0.08 :	-	<0.31 :
Bicarbonate (as CaCO3)	mg/L	T		-	74.1 :	-	69.4 :	-	62.5 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 :	-	<1.4 J	-	<1.5 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	4.5 :	-	3.8 :	-	4.6 :
Fluoride	mg/L	T		-	<0.89 J	-	0.79 :	-	0.84 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<0.4 J	-	0.33 J	-	<0.2 :
Nitrite	mg/L	T		-	<0.005 :	-	<0.005 :	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.059 :	-	<0.01 :
Phosphorus	mg/L	T		-	0.014 :	-	0.035 :	-	<0.043 :
Sulfate	mg/L	T		-	141. :	-	126. J	-	168. :
Total Alkalinity	mg/L	T		-	74.1 :	-	69.4 :	-	62.5 :
Total Dissolved Solids	mg/L	T		-	300. :	-	304. :	-	343. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.5 :	-	1.7 :	-	<1. :
Total Suspended Solids	mg/L	T		-	4.6 :	-	14.6 :	-	24.8 :
Laboratory Parameters									
pH	SU	T		-	7.9 J	-	7.7 J	-	6.8 :
Specific Conductance	umhos/cm	T		-	423. J	-	382. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	205. :	-	209. :	-	232. :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area	LR-11A 3/20/2003 LR-11A-D01N-SFW SWR	LR-11A 7/14/2003 LR-11A-T01N-SFW SWR	LR-11A 7/14/2003 LR-11A-D01N-SFW SWR	LR-11A 9/23/2003 LR-11A-T01N-SFW SWR	LR-11A 9/23/2003 LR-11A-D01N-SFW SWR	LR-13 9/26/2002 LR-13-T01N-SFW SWR
Hardness	mg/L	D		249. :	-	208. :	-	205. :	-
Metals									
Aluminum	mg/L	T		-	0.328 :	-	0.971 :	-	1.44 :
Aluminum	mg/L	D		0.065 :	-	<0.0814 J	-	0.126 :	-
Antimony	mg/L	T		-	<0.0005 :	-	<0.00016 :	-	<0.0002 :
Antimony	mg/L	D		<0.0006 :	-	<0.0005 :	-	<0.00018 :	-
Arsenic	mg/L	T		-	<0.0002 :	-	<0.00038 :	-	<0.0002 :
Arsenic	mg/L	D		<0.0002 :	-	<0.0002 :	-	<0.00038 :	-
Barium	mg/L	T		-	0.0386 :	-	0.0469 :	-	0.0425 :
Barium	mg/L	D		0.0353 :	-	0.0374 :	-	0.0355 :	-
Beryllium	mg/L	T		-	<0.0002 :	-	<0.00047 :	-	0.00027 :
Beryllium	mg/L	D		<0.0003 J	-	<0.0002 :	-	<0.00047 :	-
Boron	mg/L	T		-	0.0134 :	-	0.0085 :	-	<0.0108 :
Boron	mg/L	D		0.0101 :	-	0.0141 :	-	0.0076 :	-
Cadmium	mg/L	T		-	0.00033 :	-	0.00041 :	-	0.00032 :
Cadmium	mg/L	D		0.00056 :	-	0.00027 :	-	0.00035 :	-
Calcium	mg/L	T		-	62.4 :	-	63.6 :	-	70.3 :
Calcium	mg/L	D		74.6 :	-	63.3 :	-	62.2 :	-
Chromium	mg/L	T		-	<0.0006 J	-	<0.001 :	-	<0.0012 :
Chromium	mg/L	D		<0.001 :	-	<0.0006 J	-	<0.001 :	-
Chromium, Hexavalent	mg/L	D		-	-	-	-	-	<0.01 :
Cobalt	mg/L	T		-	<0.0018 :	-	0.0016 :	-	0.0026 :
Cobalt	mg/L	D		<0.0038 :	-	<0.0018 :	-	0.0015 :	-
Copper	mg/L	T		-	0.0044 :	-	0.0095 :	-	0.0106 :
Copper	mg/L	D		0.0043 :	-	0.0026 :	-	<0.0026 :	-
Iron	mg/L	T		-	<0.0823 :	-	0.82 :	-	0.965 :
Iron	mg/L	D		<0.422 :	-	<0.0168 :	-	<0.044 :	-
Lead	mg/L	T		-	0.00018 :	-	0.0019 :	-	0.0011 :
Lead	mg/L	D		<0.0002 :	-	<0.0001 :	-	<0.00004 :	-
Magnesium	mg/L	T		-	12. :	-	12.3 :	-	13.8 :
Magnesium	mg/L	D		15.3 :	-	12.2 :	-	12. :	-
Manganese	mg/L	T		-	0.15 :	-	0.241 :	-	0.272 :
Manganese	mg/L	D		0.336 :	-	0.163 :	-	0.213 :	-
Mercury	mg/L	T		-	<0.00018 :	-	<0.00006 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			LR-11A 3/20/2003 LR-11A-D01N-SFW		LR-11A 7/14/2003 LR-11A-T01N-SFW		LR-11A 7/14/2003 LR-11A-D01N-SFW		LR-11A 9/23/2003 LR-11A-T01N-SFW		LR-11A 9/23/2003 LR-11A-D01N-SFW		LR-13 9/26/2002 LR-13-T01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Mercury	mg/L	D	<0.0001	:	-		<0.00019	:	-		<0.00006	:	-	
Molybdenum	mg/L	T	-		0.0585	:	-		0.0346	:	-		0.0566	:
Molybdenum	mg/L	D	0.0592	:	-		0.0609	:	-		0.0389	:	-	
Nickel	mg/L	T	-		0.0077	:	-		0.0118	:	-		0.0083	:
Nickel	mg/L	D	0.0166	:	-		0.0083	:	-		0.0114	:	-	
Potassium	mg/L	T	-		1.63	:	-		1.75	:	-		2.	:
Potassium	mg/L	D	1.83	:	-		1.72	:	-		1.55	:	-	
Selenium	mg/L	T	-		<0.0008	:	-		<0.00073	:	-		0.00036	:
Selenium	mg/L	D	<0.001	:	-		<0.0008	:	-		<0.00073	:	-	
Silver	mg/L	T	-		<0.0001	J	-		<0.0002	:	-		<0.0059	:
Silver	mg/L	D	<0.0002	:	-		<0.0001	J	-		<0.0002	:	-	
Sodium	mg/L	T	-		11.7	:	-		9.86	:	-		12.1	:
Sodium	mg/L	D	15.4	:	-		11.8	:	-		9.61	:	-	
Thallium	mg/L	T	-		<0.0001	:	-		<0.00001	:	-		<0.0001	:
Thallium	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.00001	:	-	
Vanadium	mg/L	T	-		0.00023	:	-		<0.0011	:	-		0.00036	:
Vanadium	mg/L	D	<0.0002	:	-		<0.0002	:	-		<0.00063	:	-	
Zinc	mg/L	T	-		0.0486	:	-		0.0874	:	-		0.052	:
Zinc	mg/L	D	0.11	:	-		0.0398	:	-		0.0407	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-13	LR-13	LR-13	LR-13	LR-13	LR-13
			Sample Date	9/26/2002	3/20/2003	3/20/2003	7/14/2003	7/14/2003	9/21/2003
			Sample ID	LR-13-D01N-SFW	LR-13-T01N-SFW	LR-13-D01N-SFW	LR-13-T01N-SFW	LR-13-D01N-SFW	LR-13-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.45 :	-	8.77 :	-	10.42 :
Eh	millivolts	T		-	98.2 :	-	270.3 :	-	341.5 :
Flow	cfs	T		-	15. :	-	21.7 :	-	37.9 :
pH	SU	T		-	7.9 J	-	8.1 J	-	7.7 J
Specific Conductance	uS/cm	T		-	500. :	-	420. :	-	385. :
Temperature	Celsius	T		-	9.51 :	-	17.44 :	-	9.37 :
Turbidity	NTU	T		-	69.7 :	-	0.2 :	-	10.3 :
General Chemistry									
Ammonia	mg/L	T		-	<0.082 J	-	0.1 :	-	0.047 :
Bicarbonate (as CaCO3)	mg/L	T		-	57.3 :	-	75.4 :	-	75.5 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.5 J	-	<1.4 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	6.9 :	-	4.3 :	-	3.6 :
Fluoride	mg/L	T		-	1. :	-	<0.86 J	-	0.79 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.57 J	-	<0.22 J	-	0.32 J
Nitrite	mg/L	T		-	0.007 J	-	<0.005 J	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 J	-	<0.01 J
Phosphorus	mg/L	T		-	0.041 :	-	0.014 :	-	0.032 :
Sulfate	mg/L	T		-	188. :	-	153. :	-	110. J
Total Alkalinity	mg/L	T		-	57.3 :	-	75.4 :	-	75.5 :
Total Dissolved Solids	mg/L	T		-	304. :	-	304. :	-	252. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.4 :	-	1.6 :	-	1.8 :
Total Suspended Solids	mg/L	T		-	8.5 :	-	1.8 :	-	10.4 :
Laboratory Parameters									
pH	SU	T		-	7.9 J	-	8.1 J	-	7.7 J
Specific Conductance	umhos/cm	T		-	451. J	-	422. J	-	365. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	244. :	-	206. :	-	205. :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			LR-13 9/26/2002 LR-13-D01N-SFW	LR-13 3/20/2003 LR-13-T01N-SFW	LR-13 3/20/2003 LR-13-D01N-SFW	LR-13 7/14/2003 LR-13-T01N-SFW	LR-13 7/14/2003 LR-13-D01N-SFW	LR-13 9/21/2003 LR-13-T01N-SFW
			SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D	238. :	-	247. :	-	209. :	-
Metals								
Aluminum	mg/L	T	-	1.15 :	-	0.321 :	-	0.901 :
Aluminum	mg/L	D	0.0976 :	-	0.103 :	-	<0.0439 J	-
Antimony	mg/L	T	-	<0.0006 :	-	<0.0005 :	-	<0.00028 :
Antimony	mg/L	D	<0.0002 :	-	<0.0006 :	-	<0.0005 :	-
Arsenic	mg/L	T	-	<0.0004 J	-	<0.0002 :	-	<0.00038 :
Arsenic	mg/L	D	<0.0002 :	-	<0.0002 :	-	<0.0002 :	-
Barium	mg/L	T	-	0.0394 :	-	0.0382 :	-	0.0441 :
Barium	mg/L	D	0.0315 :	-	0.037 :	-	0.0373 :	-
Beryllium	mg/L	T	-	<0.0003 :	-	<0.0002 :	-	<0.00058 :
Beryllium	mg/L	D	<0.0002 :	-	<0.0003 :	-	<0.0002 :	-
Boron	mg/L	T	-	0.0112 :	-	0.0124 :	-	<0.011 :
Boron	mg/L	D	<0.0099 :	-	0.0135 :	-	0.0145 :	-
Cadmium	mg/L	T	-	<0.0005 J	-	0.00027 :	-	0.00046 :
Cadmium	mg/L	D	0.0002 :	-	0.00029 :	-	0.00027 :	-
Calcium	mg/L	T	-	73.1 :	-	62.8 :	-	62. :
Calcium	mg/L	D	72.2 :	-	73.9 :	-	63.4 :	-
Chromium	mg/L	T	-	<0.001 :	-	<0.0014 :	-	<0.001 :
Chromium	mg/L	D	0.0014 :	-	<0.001 :	-	<0.0006 J	-
Cobalt	mg/L	T	-	<0.0038 :	-	<0.002 :	-	0.0024 :
Cobalt	mg/L	D	0.0021 :	-	<0.0038 :	-	<0.0018 :	-
Copper	mg/L	T	-	0.0144 :	-	<0.0076 :	-	0.0087 :
Copper	mg/L	D	0.0017 :	-	0.0043 :	-	0.0019 :	-
Iron	mg/L	T	-	<0.422 :	-	<0.106 :	-	0.534 :
Iron	mg/L	D	<0.046 :	-	<0.422 :	-	<0.0168 :	-
Lead	mg/L	T	-	0.00056 :	-	0.00013 :	-	0.0011 :
Lead	mg/L	D	<0.0001 :	-	<0.0002 :	-	<0.0001 :	-
Magnesium	mg/L	T	-	14.9 :	-	12. :	-	12.1 :
Magnesium	mg/L	D	14.1 :	-	15.1 :	-	12.2 :	-
Manganese	mg/L	T	-	0.272 :	-	0.144 :	-	0.224 :
Manganese	mg/L	D	0.25 :	-	0.258 :	-	0.141 :	-
Mercury	mg/L	T	-	<0.0001 J	-	<0.0001 :	-	<0.00006 :
Mercury	mg/L	D	<0.0001 :	-	<0.0001 J	-	<0.00016 :	-

J = Qualified as estimated during data validation
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-13	LR-13	LR-13	LR-13	LR-13	LR-13
			Sample Date	9/26/2002	3/20/2003	3/20/2003	7/14/2003	7/14/2003	9/21/2003
			Sample ID	LR-13-D01N-SFW	LR-13-T01N-SFW	LR-13-D01N-SFW	LR-13-T01N-SFW	LR-13-D01N-SFW	LR-13-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Molybdenum	mg/L	T		-	0.0636 :	-	0.0561 :	-	0.0426 :
Molybdenum	mg/L	D		0.0614 :	-	0.0638 :	-	0.0572 :	-
Nickel	mg/L	T		-	0.0127 :	-	0.0079 :	-	0.0125 :
Nickel	mg/L	D		0.0065 :	-	0.0136 :	-	0.0074 :	-
Potassium	mg/L	T		-	1.88 :	-	1.73 :	-	1.69 :
Potassium	mg/L	D		1.84 :	-	1.85 :	-	1.7 :	-
Selenium	mg/L	T		-	<0.001 J	-	<0.0008 :	-	<0.00073 :
Selenium	mg/L	D		<0.0002 :	-	<0.001 J	-	<0.0008 :	-
Silver	mg/L	T		-	<0.0002 :	-	<0.0001 J	-	<0.0002 :
Silver	mg/L	D		<0.0059 :	-	<0.0002 :	-	<0.0001 J	-
Sodium	mg/L	T		-	18.8 :	-	12. :	-	9.87 :
Sodium	mg/L	D		12.6 :	-	20.4 :	-	12.2 :	-
Thallium	mg/L	T		-	<0.0002 :	-	<0.0001 :	-	<0.00001 :
Thallium	mg/L	D		<0.0001 :	-	<0.0002 :	-	<0.0001 :	-
Vanadium	mg/L	T		-	<0.0002 :	-	<0.0002 :	-	<0.00074 :
Vanadium	mg/L	D		0.00014 :	-	<0.0002 :	-	0.00022 :	-
Zinc	mg/L	T		-	<0.0972 :	-	0.0379 J	-	0.0847 :
Zinc	mg/L	D		0.0194 :	-	<0.0414 :	-	0.0319 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-13	LR-16	LR-16	LR-16	LR-16	LR-16
			Sample Date	9/21/2003	9/26/2002	9/26/2002	3/20/2003	3/20/2003	7/14/2003
			Sample ID	LR-13-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW
			Exposure Area	SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	-	-	9.48 :	-	8.64 :
Eh	millivolts	T		-	264.1 :	-	151.9 :	-	326.2 :
Flow	cfs	T		-	21.49 :	-	15.9 :	-	24. :
pH	SU	T		-	6.4 :	-	8. J	-	8.2 J
Specific Conductance	uS/cm	T		-	488. :	-	496. :	-	413. :
Temperature	Celsius	T		-	14.62 :	-	8.29 :	-	17.35 :
Turbidity	NTU	T		-	24.1 :	-	68.2 :	-	1.8 :
General Chemistry									
Ammonia	mg/L	T		-	<0.034 :	-	<0.087 J	-	0.073 :
Bicarbonate (as CaCO3)	mg/L	T		-	63.7 :	-	59.9 :	-	75.2 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 :	-	<1.5 J	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	5.1 :	-	7.8 :	-	4.9 :
Fluoride	mg/L	T		-	0.8 :	-	1. :	-	<0.89 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<0.2 J	-	0.51 J	-	<0.4 J
Nitrite	mg/L	T		-	<0.005 :	-	0.0074 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	0.48 J	-	<0.01 J
Phosphorus	mg/L	T		-	<0.097 :	-	<0.027 J	-	0.014 :
Sulfate	mg/L	T		-	169. :	-	178. :	-	147. :
Total Alkalinity	mg/L	T		-	63.7 :	-	59.9 :	-	75.2 :
Total Dissolved Solids	mg/L	T		-	343. :	-	286. :	-	296. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	<1. :	-	1.4 :	-	1.3 :
Total Suspended Solids	mg/L	T		-	61.2 :	-	7.5 :	-	<1.5 :
Laboratory Parameters									
pH	SU	T		-	6.4 :	-	8. J	-	8.2 J
Specific Conductance	umhos/cm	T		-	-	-	451. J	-	417. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	229. :	-	235. :	-	202. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID													
			LR-13		LR-16		LR-16		LR-16		LR-16		LR-16			
			9/21/2003		9/26/2002		9/26/2002		3/20/2003		3/20/2003		7/14/2003			
			LR-13-D01N-SFW		LR-16-T01N-SFW		LR-16-D01N-SFW		LR-16-T01N-SFW		LR-16-D01N-SFW		LR-16-T01N-SFW			
			SWR		SWR		SWR		SWR		SWR		SWR			
Hardness	mg/L	D	191.	:	-		230.	:	-		255.	:	-			
Metals																
Aluminum	mg/L	T	-		2.09	:	-		0.903	:	-		<0.22	:		
Aluminum	mg/L	D	0.111	:	-		0.0919	:	-		0.097	:	-			
Antimony	mg/L	T	-		<0.00022	:	-		<0.0006	:	-		<0.0005	:		
Antimony	mg/L	D	<0.00022	:	-		<0.0002	:	-		<0.0006	:	-			
Arsenic	mg/L	T	-		0.00041	:	-		<0.0004	J	-		<0.0002	:		
Arsenic	mg/L	D	<0.00038	:	-		<0.0002	:	-		<0.0002	:	-			
Barium	mg/L	T	-		0.0602	:	-		0.0361	:	-		0.0367	:		
Barium	mg/L	D	0.0354	:	-		0.0312	:	-		0.037	:	-			
Beryllium	mg/L	T	-		0.00033	:	-		<0.0003	:	-		<0.0002	:		
Beryllium	mg/L	D	<0.00047	:	-		<0.0002	:	-		<0.0003	:	-			
Boron	mg/L	T	-		<0.0176	:	-		0.0164	:	-		0.0144	:		
Boron	mg/L	D	<0.0088	:	-		<0.0142	:	-		0.0155	:	-			
Cadmium	mg/L	T	-		0.00052	:	-		<0.0005	J	-		0.0003	:		
Cadmium	mg/L	D	0.00035	:	-		0.00044	:	-		0.00029	:	-			
Calcium	mg/L	T	-		68.8	:	-		70.1	:	-		61.3	:		
Calcium	mg/L	D	57.9	:	-		69.5	:	-		76.	:	-			
Chromium	mg/L	T	-		0.002	:	-		<0.001	:	-		<0.0006	J		
Chromium	mg/L	D	<0.001	:	-		<0.0012	:	-		<0.001	:	-			
Chromium, Hexavalent	mg/L	D	-		<0.01	:	-		-		-		-			
Cobalt	mg/L	T	-		0.0029	:	-		<0.0038	:	-		<0.0018	:		
Cobalt	mg/L	D	0.0023	:	-		<0.0018	:	-		<0.0038	:	-			
Copper	mg/L	T	-		0.0128	:	-		0.0124	:	-		0.0031	:		
Copper	mg/L	D	0.0023	:	-		0.0021	:	-		0.0044	:	-			
Iron	mg/L	T	-		2.	:	-		<0.422	:	-		<0.0297	:		
Iron	mg/L	D	<0.044	:	-		<0.046	:	-		<0.422	:	-			
Lead	mg/L	T	-		0.0014	:	-		0.00029	:	-		0.00011	:		
Lead	mg/L	D	0.00007	:	-		<0.0001	:	-		<0.0002	:	-			
Magnesium	mg/L	T	-		13.9	:	-		14.6	:	-		12.	:		
Magnesium	mg/L	D	11.3	:	-		13.8	:	-		15.9	:	-			
Manganese	mg/L	T	-		0.29	:	-		0.252	:	-		0.127	:		
Manganese	mg/L	D	0.195	:	-		0.233	:	-		0.259	:	-			
Mercury	mg/L	T	-		<0.0001	:	-		<0.0001	J	-		<0.00017	:		

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-13	LR-16	LR-16	LR-16	LR-16	LR-16
			Sample Date	9/21/2003	9/26/2002	9/26/2002	3/20/2003	3/20/2003	7/14/2003
			Sample ID	LR-13-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Mercury	mg/L	D		<0.00006 :	-	<0.0001 :	-	<0.0001 :	-
Molybdenum	mg/L	T		-	0.0551 :	-	0.0616 :	-	0.0591 :
Molybdenum	mg/L	D		0.0363 :	-	0.0645 :	-	0.0662 :	-
Nickel	mg/L	T		-	0.0091 :	-	0.0121 :	-	0.0059 :
Nickel	mg/L	D		0.0107 :	-	0.0066 :	-	0.0122 :	-
Potassium	mg/L	T		-	2.53 :	-	1.92 :	-	1.82 :
Potassium	mg/L	D		1.51 :	-	2.01 :	-	2.11 :	-
Selenium	mg/L	T		-	0.00043 :	-	<0.001 J	-	<0.0008 :
Selenium	mg/L	D		<0.00073 :	-	<0.0002 :	-	<0.0014 J	-
Silver	mg/L	T		-	<0.0059 :	-	<0.0002 :	-	<0.0001 J
Silver	mg/L	D		<0.0002 :	-	<0.0059 :	-	<0.0002 :	-
Sodium	mg/L	T		-	13.7 :	-	18.9 :	-	13.2 :
Sodium	mg/L	D		9.16 :	-	14. :	-	19.7 :	-
Thallium	mg/L	T		-	<0.0001 :	-	<0.0002 :	-	<0.0001 :
Thallium	mg/L	D		<0.00001 :	-	<0.0001 :	-	<0.0002 :	-
Vanadium	mg/L	T		-	0.00093 :	-	0.00062 :	-	0.00052 :
Vanadium	mg/L	D		<0.00054 :	-	0.00049 :	-	0.00056 :	-
Zinc	mg/L	T		-	0.0626 :	-	0.102 :	-	0.0371 :
Zinc	mg/L	D		0.0409 :	-	0.0131 :	-	<0.0494 :	-
Volatile Organics									
1,1,1-Trichloroethane	mg/L	T		-	<0.01 :	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	T		-	<0.01 :	-	-	-	-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T		-	<0.01 :	-	-	-	-
1,1,2-Trichloroethane	mg/L	T		-	<0.01 :	-	-	-	-
1,1-Dichloroethane	mg/L	T		-	<0.01 :	-	-	-	-
1,1-Dichloroethene	mg/L	T		-	<0.01 :	-	-	-	-
1,2,4-Trichlorobenzene	mg/L	T		-	<0.01 :	-	-	-	-
1,2-Dibromo-3-chloropropane	mg/L	T		-	<0.01 :	-	-	-	-
1,2-Dichlorobenzene	mg/L	T		-	<0.01 :	-	-	-	-
1,2-Dichloroethane	mg/L	T		-	<0.01 :	-	-	-	-
1,2-Dichloroethene (total)	mg/L	T		-	<0.01 :	-	-	-	-
1,2-Dichloropropane	mg/L	T		-	<0.01 :	-	-	-	-
1,3-Dichlorobenzene	mg/L	T		-	<0.01 :	-	-	-	-
1,4-Dichlorobenzene	mg/L	T		-	<0.01 :	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-13	LR-16	LR-16	LR-16	LR-16	LR-16
			Sample Date	9/21/2003	9/26/2002	9/26/2002	3/20/2003	3/20/2003	7/14/2003
			Sample ID	LR-13-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2-Butanone	mg/L	T		-	<0.01 :	-	-	-	-
2-Hexanone	mg/L	T		-	<0.01 :	-	-	-	-
4-Methyl-2-pentanone	mg/L	T		-	<0.01 :	-	-	-	-
Acetone	mg/L	T		-	<0.01 :	-	-	-	-
Benzene	mg/L	T		-	<0.01 :	-	-	-	-
Bromodichloromethane	mg/L	T		-	<0.01 :	-	-	-	-
Bromoform	mg/L	T		-	<0.01 :	-	-	-	-
Bromomethane	mg/L	T		-	<0.01 :	-	-	-	-
Carbon disulfide	mg/L	T		-	<0.01 :	-	-	-	-
Carbon tetrachloride	mg/L	T		-	<0.01 :	-	-	-	-
Chlorobenzene	mg/L	T		-	<0.01 :	-	-	-	-
Chloroethane	mg/L	T		-	<0.01 :	-	-	-	-
Chloroform	mg/L	T		-	<0.01 :	-	-	-	-
Chloromethane	mg/L	T		-	<0.01 :	-	-	-	-
cis-1,2-Dichloroethene	mg/L	T		-	<0.01 :	-	-	-	-
cis-1,3-Dichloropropene	mg/L	T		-	<0.01 :	-	-	-	-
Dibromochloromethane	mg/L	T		-	<0.01 :	-	-	-	-
Dichlorodifluoromethane	mg/L	T		-	<0.01 :	-	-	-	-
Ethylbenzene	mg/L	T		-	<0.01 :	-	-	-	-
Methylene chloride	mg/L	T		-	<0.01 :	-	-	-	-
Styrene	mg/L	T		-	0.001 J	-	-	-	-
Tetrachloroethene	mg/L	T		-	<0.01 :	-	-	-	-
Toluene	mg/L	T		-	<0.01 :	-	-	-	-
Total Xylene	mg/L	T		-	<0.01 :	-	-	-	-
trans-1,2-Dichloroethene	mg/L	T		-	<0.01 :	-	-	-	-
trans-1,3-Dichloropropene	mg/L	T		-	<0.01 :	-	-	-	-
Trichloroethene	mg/L	T		-	<0.01 :	-	-	-	-
Trichlorofluoromethane	mg/L	T		-	<0.01 :	-	-	-	-
Vinyl chloride	mg/L	T		-	<0.01 :	-	-	-	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		-	<0.01 :	-	-	-	-
2,4,5-Trichlorophenol	mg/L	T		-	<0.026 :	-	-	-	-
2,4,6-Trichlorophenol	mg/L	T		-	<0.01 :	-	-	-	-
2,4-Dichlorophenol	mg/L	T		-	<0.01 :	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-13	LR-16	LR-16	LR-16	LR-16	LR-16
			Sample Date	9/21/2003	9/26/2002	9/26/2002	3/20/2003	3/20/2003	7/14/2003
			Sample ID	LR-13-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2,4-Dimethylphenol	mg/L	T		-	<0.01 :	-	-	-	-
2,4-Dinitrophenol	mg/L	T		-	<0.026 J	-	-	-	-
2,4-Dinitrotoluene	mg/L	T		-	<0.01 :	-	-	-	-
2,6-Dinitrotoluene	mg/L	T		-	<0.01 :	-	-	-	-
2-Chloronaphthalene	mg/L	T		-	<0.01 :	-	-	-	-
2-Chlorophenol	mg/L	T		-	<0.01 :	-	-	-	-
2-Methylnaphthalene	mg/L	T		-	<0.01 J	-	-	-	-
2-Methylphenol	mg/L	T		-	<0.01 :	-	-	-	-
2-Nitroaniline	mg/L	T		-	<0.026 :	-	-	-	-
2-Nitrophenol	mg/L	T		-	<0.01 :	-	-	-	-
3,3-Dichlorobenzidine	mg/L	T		-	<0.01 :	-	-	-	-
3-Nitroaniline	mg/L	T		-	<0.026 :	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	T		-	<0.026 :	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	T		-	<0.01 :	-	-	-	-
4-Chloro-3-methylphenol	mg/L	T		-	<0.01 :	-	-	-	-
4-Chloroaniline	mg/L	T		-	<0.01 :	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	T		-	<0.01 :	-	-	-	-
4-Methylphenol	mg/L	T		-	<0.01 :	-	-	-	-
4-Nitroaniline	mg/L	T		-	<0.026 :	-	-	-	-
4-Nitrophenol	mg/L	T		-	<0.026 :	-	-	-	-
Acenaphthene	mg/L	T		-	<0.01 :	-	-	-	-
Acenaphthylene	mg/L	T		-	<0.01 :	-	-	-	-
Anthracene	mg/L	T		-	<0.01 :	-	-	-	-
Benzaldehyde	mg/L	T		-	<0.01 J	-	-	-	-
Benzo(a)anthracene	mg/L	T		-	<0.01 :	-	-	-	-
Benzo(a)pyrene	mg/L	T		-	<0.01 :	-	-	-	-
Benzo(b)fluoranthene	mg/L	T		-	<0.01 :	-	-	-	-
Benzo(g,h,i)perylene	mg/L	T		-	<0.01 :	-	-	-	-
Benzo(k)fluoranthene	mg/L	T		-	<0.01 :	-	-	-	-
Bis(2-chloroethoxy)methane	mg/L	T		-	<0.01 :	-	-	-	-
Bis(2-chloroethyl)ether	mg/L	T		-	<0.01 :	-	-	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T		-	<0.01 :	-	-	-	-
Butyl benzyl phthalate	mg/L	T		-	<0.01 :	-	-	-	-
Carbazole	mg/L	T		-	<0.01 :	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-13	LR-16	LR-16	LR-16	LR-16	LR-16
			Sample Date	9/21/2003	9/26/2002	9/26/2002	3/20/2003	3/20/2003	7/14/2003
			Sample ID	LR-13-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-16-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Chrysene	mg/L	T		-	<0.01 :	-	-	-	-
Dibenz(a,h)anthracene	mg/L	T		-	<0.01 :	-	-	-	-
Dibenzofuran	mg/L	T		-	<0.01 :	-	-	-	-
Dichlorodiisopropyl ether	mg/L	T		-	<0.01 :	-	-	-	-
Diethylphthalate	mg/L	T		-	<0.01 :	-	-	-	-
Dimethylphthalate	mg/L	T		-	<0.01 :	-	-	-	-
Di-n-Butyl phthalate	mg/L	T		-	<0.01 :	-	-	-	-
Di-n-Octyl phthalate	mg/L	T		-	<0.01 :	-	-	-	-
Fluoranthene	mg/L	T		-	<0.01 :	-	-	-	-
Fluorene	mg/L	T		-	<0.01 :	-	-	-	-
Hexachlorobenzene	mg/L	T		-	<0.01 :	-	-	-	-
Hexachlorobutadiene	mg/L	T		-	<0.01 :	-	-	-	-
Hexachlorocyclopentadiene	mg/L	T		-	<0.01 :	-	-	-	-
Hexachloroethane	mg/L	T		-	<0.01 :	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T		-	<0.01 :	-	-	-	-
Isophorone	mg/L	T		-	<0.01 :	-	-	-	-
Naphthalene	mg/L	T		-	<0.01 :	-	-	-	-
Nitrobenzene	mg/L	T		-	<0.01 :	-	-	-	-
N-Nitrosodi-n-propylamine	mg/L	T		-	<0.01 :	-	-	-	-
N-Nitrosodiphenylamine	mg/L	T		-	<0.01 :	-	-	-	-
Pentachlorophenol	mg/L	T		-	<0.026 J	-	-	-	-
Phenanthrene	mg/L	T		-	<0.01 :	-	-	-	-
Phenol	mg/L	T		-	<0.01 :	-	-	-	-
Pyrene	mg/L	T		-	<0.01 :	-	-	-	-
Explosives									
2,4,6-Trinitrotoluene	mg/L	T		-	<0.00025 :	-	-	-	-
2,6-Pyridinediamine,	mg/L	T		-	<0.00025 J	-	-	-	-
Cyclotetramethylenetetranitramine	mg/L	T		-	<0.00025 :	-	-	-	-
Cyclotrimethylenetrinitramine	mg/L	T		-	<0.00025 :	-	-	-	-
Pentaerythritol tetranitrate	mg/L	T		-	<0.01 :	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-16	LR-16	LR-16	LR-4	LR-4	LR-4
			Sample Date	7/14/2003	9/21/2003	9/21/2003	9/30/2002	9/30/2002	3/23/2003
			Sample ID	LR-16-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-4-T01N-SFW	LR-4-D01N-SFW	LR-4-T01N-SFW
				SWR	SWR	SWR	IDR	IDR	IDR
Field Measurements									
DO	mg/L	T		-	9.94 :	-	9.61 :	-	10.18 :
Eh	millivolts	T		-	305.6 :	-	321.4 :	-	92.5 :
Flow	cfs	T		-	38.2 :	-	0.17 :	-	0.1 :
pH	SU	T		-	7.8 J	-	7.61 :	-	7.6 J
Specific Conductance	uS/cm	T		-	387. :	-	615. :	-	776. :
Temperature	Celsius	T		-	8.47 :	-	12.88 :	-	13.87 :
Turbidity	NTU	T		-	15.1 :	-	2.6 :	-	74.7 :
General Chemistry									
Ammonia	mg/L	T		-	0.048 :	-	<0.024 :	-	<0.064 J
Bicarbonate (as CaCO3)	mg/L	T		-	73.5 :	-	164. :	-	146. :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	<1.4 J	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<4. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.9 :	-	7.5 :	-	8.4 :
Fluoride	mg/L	T		-	0.79 :	-	0.72 :	-	0.76 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<4. :	-	<1. :
Nitrate	mg/L	T		-	0.31 J	-	<0.2 J	-	<0.4 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	0.011 J	-	<0.01 J
Phosphorus	mg/L	T		-	0.025 :	-	<0.029 :	-	<0.031 :
Sulfate	mg/L	T		-	116. J	-	193. :	-	239. :
Total Alkalinity	mg/L	T		-	73.5 :	-	164. :	-	146. :
Total Dissolved Solids	mg/L	T		-	186. J	-	479. :	-	568. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	<1. :	-	1.7 :	-	3.6 :
Total Suspended Solids	mg/L	T		-	11.4 :	-	<5.5 :	-	7.9 :
Laboratory Parameters									
pH	SU	T		-	7.8 J	-	7.61 :	-	7.6 J
Specific Conductance	umhos/cm	T		-	367. J	-	-	-	695. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	196. :	-	293. :	-	330. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			LR-16		LR-16		LR-16		LR-4		LR-4		LR-4	
			7/14/2003		9/21/2003		9/21/2003		9/30/2002		9/30/2002		3/23/2003	
			LR-16-D01N-SFW		LR-16-T01N-SFW		LR-16-D01N-SFW		LR-4-T01N-SFW		LR-4-D01N-SFW		LR-4-T01N-SFW	
			SWR		SWR		SWR		IDR		IDR		IDR	
Hardness	mg/L	D	201.	:	-		203.	:	-		289.	:	-	
Metals														
Aluminum	mg/L	T	-		0.923	:	-		0.124	:	-		<0.251	:
Aluminum	mg/L	D	<0.0507	J	-		0.106	:	-		<0.019	:	-	
Antimony	mg/L	T	-		<0.00011	:	-		<0.0002	:	-		<0.0006	:
Antimony	mg/L	D	<0.0005	:	-		<0.00059	:	-		0.00039	:	-	
Arsenic	mg/L	T	-		<0.00038	:	-		<0.0002	:	-		<0.00062	:
Arsenic	mg/L	D	<0.0002	:	-		<0.00038	:	-		<0.0002	:	-	
Barium	mg/L	T	-		0.0487	:	-		0.0432	:	-		0.0469	:
Barium	mg/L	D	0.0361	:	-		0.0374	:	-		0.0406	:	-	
Beryllium	mg/L	T	-		<0.00047	:	-		<0.0002	:	-		<0.00045	:
Beryllium	mg/L	D	<0.0002	:	-		<0.00047	:	-		<0.0002	:	-	
Boron	mg/L	T	-		<0.0097	:	-		0.0497	:	-		0.0448	:
Boron	mg/L	D	0.0148	:	-		<0.0101	:	-		0.0494	:	-	
Cadmium	mg/L	T	-		0.00047	:	-		<0.0001	:	-		<0.0005	:
Cadmium	mg/L	D	0.00021	:	-		<0.00034	:	-		<0.0001	:	-	
Calcium	mg/L	T	-		59.1	:	-		91.	:	-		102.	:
Calcium	mg/L	D	60.9	:	-		61.2	:	-		89.9	:	-	
Chromium	mg/L	T	-		<0.001	:	-		<0.0012	:	-		<0.0013	:
Chromium	mg/L	D	<0.0006	J	-		<0.001	:	-		<0.0012	:	-	
Cobalt	mg/L	T	-		0.002	:	-		<0.0018	:	-		<0.0038	:
Cobalt	mg/L	D	<0.0018	:	-		0.0028	:	-		<0.0018	:	-	
Copper	mg/L	T	-		0.0101	:	-		0.0023	:	-		<0.0015	:
Copper	mg/L	D	0.0018	:	-		0.0022	:	-		0.0153	:	-	
Iron	mg/L	T	-		0.682	:	-		0.204	:	-		<0.422	:
Iron	mg/L	D	<0.0168	:	-		<0.044	:	-		<0.046	:	-	
Lead	mg/L	T	-		0.0015	:	-		0.00045	:	-		0.00048	:
Lead	mg/L	D	0.00014	:	-		0.00008	:	-		<0.00018	:	-	
Magnesium	mg/L	T	-		11.7	:	-		15.9	:	-		18.1	:
Magnesium	mg/L	D	11.9	:	-		12.1	:	-		15.7	:	-	
Manganese	mg/L	T	-		0.251	:	-		0.0455	:	-		0.0256	:
Manganese	mg/L	D	0.123	:	-		0.203	:	-		0.0412	:	-	
Mercury	mg/L	T	-		<0.00006	:	-		<0.0001	:	-		<0.0001	:
Mercury	mg/L	D	<0.0001	:	-		<0.00006	:	-		<0.0001	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Fraction	LR-16	LR-16	LR-16	LR-4	LR-4	LR-4
Sample Date			7/14/2003	9/21/2003	9/21/2003	9/30/2002	9/30/2002	3/23/2003
Sample ID			LR-16-D01N-SFW	LR-16-T01N-SFW	LR-16-D01N-SFW	LR-4-T01N-SFW	LR-4-D01N-SFW	LR-4-T01N-SFW
Exposure Area			SWR	SWR	SWR	IDR	IDR	IDR
Molybdenum	mg/L	T	-	0.0353 :	-	0.0076 :	-	0.012 :
Molybdenum	mg/L	D	0.0594 :	-	0.0366 :	-	0.0082 :	-
Nickel	mg/L	T	-	0.0125 :	-	0.0008 :	-	<0.003 :
Nickel	mg/L	D	0.0064 :	-	0.011 :	-	0.00069 :	-
Potassium	mg/L	T	-	1.76 :	-	2.45 :	-	1.86 :
Potassium	mg/L	D	1.78 :	-	1.68 :	-	2.4 :	-
Selenium	mg/L	T	-	<0.00073 :	-	0.0003 :	-	<0.0014 :
Selenium	mg/L	D	<0.0008 :	-	<0.00073 :	-	0.00052 :	-
Silver	mg/L	T	-	<0.0002 :	-	<0.0059 :	-	<0.0002 :
Silver	mg/L	D	<0.0001 J	-	<0.0002 :	-	<0.0059 :	-
Sodium	mg/L	T	-	10.5 :	-	38.6 :	-	<46.2 :
Sodium	mg/L	D	13.2 :	-	10.9 :	-	38.4 :	-
Thallium	mg/L	T	-	<0.00001 :	-	<0.0001 :	-	<0.0002 :
Thallium	mg/L	D	<0.0001 :	-	<0.00001 :	-	<0.0001 :	-
Vanadium	mg/L	T	-	<0.0011 :	-	0.00023 :	-	0.00031 :
Vanadium	mg/L	D	0.0005 :	-	<0.00087 :	-	0.00019 :	-
Zinc	mg/L	T	-	0.12 :	-	0.006 :	-	<0.039 :
Zinc	mg/L	D	0.027 :	-	0.0439 :	-	0.0038 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-4	LR-4	LR-4	LR-4	LR-4	LR-4
			Sample Date	3/23/2003	7/15/2003	7/15/2003	9/23/2003	11/3/2003	11/5/2003
			Sample ID	LR-4-D01N-SFW	LR-4-T01N-SFW	LR-4-D01N-SFW	LR-4-T01N-SFW	LR-4-T01N-SFW	LR-4-T01N-SFW
				IDR	IDR	IDR	IDR	IDR	IDR
Field Measurements									
DO	mg/L	T		-	7.36 :	-	8.11 :	9.68 :	-
Eh	millivolts	T		-	138.5 :	-	68.2 :	27. :	-
Flow	cfs	T		-	0.1 :	-	-	-	0.4 :
pH	SU	T		-	7.4 J	-	7.59 :	7.51 :	7.8 J
Specific Conductance	uS/cm	T		-	377. :	-	404. :	455. :	-
Temperature	Celsius	T		-	12.57 :	-	13.53 :	7.09 :	-
Turbidity	NTU	T		-	3.5 :	-	5.4 :	1.7 :	-
General Chemistry									
Ammonia	mg/L	T		-	0.068 :	-	-	-	0.078 J
Bicarbonate (as CaCO3)	mg/L	T		-	80.5 :	-	-	-	103. :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	-	-	<1.4 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	-	-	<20. :
Chloride	mg/L	T		-	3.3 J	-	-	-	4.3 :
Fluoride	mg/L	T		-	<0.81 J	-	-	-	0.61 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	-	<1. :
Nitrate	mg/L	T		-	<0.4 J	-	-	-	<0.2 J
Nitrite	mg/L	T		-	<0.005 J	-	-	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	-	-	<0.01 J
Phosphorus	mg/L	T		-	0.018 :	-	-	-	0.013 :
Sulfate	mg/L	T		-	119. :	-	-	-	109. J
Total Alkalinity	mg/L	T		-	80.5 :	-	-	-	103. :
Total Dissolved Solids	mg/L	T		-	250. :	-	-	-	264. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	-	-	<0.24 :
Total Organic Carbon	mg/L	T		-	<1. :	-	-	-	1.6 :
Total Suspended Solids	mg/L	T		-	3. :	-	-	-	7.7 :
Laboratory Parameters									
pH	SU	T		-	7.4 J	-	7.59 :	7.51 :	7.8 J
Specific Conductance	umhos/cm	T		-	367. J	-	-	-	461. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	-	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	178. :	-	-	-	189. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			LR-4		LR-4		LR-4		LR-4		LR-4		LR-4	
			3/23/2003		7/15/2003		7/15/2003		9/23/2003		11/3/2003		11/5/2003	
			LR-4-D01N-SFW		LR-4-T01N-SFW		LR-4-D01N-SFW		LR-4-T01N-SFW		LR-4-T01N-SFW		LR-4-T01N-SFW	
			IDR		IDR		IDR		IDR		IDR		IDR	
Hardness	mg/L	D	356.	:	-		178.	:	-		-		-	
Metals														
Aluminum	mg/L	T	-		0.272	:	-		-		-		0.122	:
Aluminum	mg/L	D	<0.0503	:	-		<0.0236	J	-		-		-	
Antimony	mg/L	T	-		<0.0005	:	-		-		-		<0.0005	:
Antimony	mg/L	D	<0.0006	:	-		<0.0005	:	-		-		-	
Arsenic	mg/L	T	-		<0.0002	:	-		-		-		<0.0002	:
Arsenic	mg/L	D	<0.00067	:	-		<0.0002	:	-		-		-	
Barium	mg/L	T	-		0.038	:	-		-		-		0.0403	:
Barium	mg/L	D	0.0434	:	-		0.0356	:	-		-		-	
Beryllium	mg/L	T	-		<0.0002	:	-		-		-		<0.0004	:
Beryllium	mg/L	D	<0.00095	:	-		<0.0002	:	-		-		-	
Boron	mg/L	T	-		0.0195	:	-		-		-		0.0269	:
Boron	mg/L	D	0.0443	:	-		0.0198	:	-		-		-	
Cadmium	mg/L	T	-		<0.0002	:	-		-		-		<0.0002	:
Cadmium	mg/L	D	<0.0005	:	-		<0.0002	:	-		-		-	
Calcium	mg/L	T	-		53.9	:	-		-		-		59.2	:
Calcium	mg/L	D	110.	:	-		54.1	:	-		-		-	
Chromium	mg/L	T	-		<0.0014	:	-		-		-		<0.0011	:
Chromium	mg/L	D	<0.0016	:	-		<0.0014	:	-		-		-	
Cobalt	mg/L	T	-		<0.002	:	-		-		-		<0.0029	:
Cobalt	mg/L	D	<0.0038	:	-		<0.002	:	-		-		-	
Copper	mg/L	T	-		0.0041	:	-		-		-		0.0018	:
Copper	mg/L	D	<0.0015	:	-		0.0029	:	-		-		-	
Iron	mg/L	T	-		0.294	:	-		-		-		<0.232	:
Iron	mg/L	D	<0.422	:	-		0.045	:	-		-		-	
Lead	mg/L	T	-		0.00032	:	-		-		-		0.00074	:
Lead	mg/L	D	<0.0002	:	-		<0.0001	:	-		-		-	
Magnesium	mg/L	T	-		10.4	:	-		-		-		10.1	:
Magnesium	mg/L	D	19.6	:	-		10.5	:	-		-		-	
Manganese	mg/L	T	-		0.0372	:	-		-		-		0.0104	:
Manganese	mg/L	D	0.0378	:	-		0.0316	:	-		-		-	
Mercury	mg/L	T	-		<0.0001	:	-		-		-		<0.0001	:
Mercury	mg/L	D	<0.0001	:	-		<0.0001	:	-		-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-4	LR-4	LR-4	LR-4	LR-4	LR-4
			Sample Date	3/23/2003	7/15/2003	7/15/2003	9/23/2003	11/3/2003	11/5/2003
			Sample ID	LR-4-D01N-SFW	LR-4-T01N-SFW	LR-4-D01N-SFW	LR-4-T01N-SFW	LR-4-T01N-SFW	LR-4-T01N-SFW
				IDR	IDR	IDR	IDR	IDR	IDR
Molybdenum	mg/L	T		-	0.0051 :	-	-	-	0.0064 :
Molybdenum	mg/L	D		0.0107 :	-	0.0055 :	-	-	-
Nickel	mg/L	T		-	0.0043 :	-	-	-	0.0017 :
Nickel	mg/L	D		<0.003 :	-	0.0031 :	-	-	-
Potassium	mg/L	T		-	1.29 :	-	-	-	1.62 :
Potassium	mg/L	D		1.73 :	-	1.27 :	-	-	-
Selenium	mg/L	T		-	<0.0016 :	-	-	-	<0.0003 :
Selenium	mg/L	D		<0.001 :	-	<0.0016 :	-	-	-
Silver	mg/L	T		-	<0.0001 J	-	-	-	<0.0001 :
Silver	mg/L	D		<0.0002 :	-	0.00047 J	-	-	-
Sodium	mg/L	T		-	14.7 :	-	-	-	21.3 :
Sodium	mg/L	D		<43.7 :	-	14.8 :	-	-	-
Thallium	mg/L	T		-	<0.0001 :	-	-	-	<0.0001 :
Thallium	mg/L	D		<0.0002 :	-	<0.0001 :	-	-	-
Vanadium	mg/L	T		-	<0.00096 :	-	-	-	0.00031 :
Vanadium	mg/L	D		0.00026 :	-	<0.00043 :	-	-	-
Zinc	mg/L	T		-	0.0224 :	-	-	-	<0.008 :
Zinc	mg/L	D		<0.039 :	-	0.0125 :	-	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-4	LR-4	LR-4	LR-4	LR-4U	LR-4U
			Sample Date	11/5/2003	5/6/2004	5/6/2004	5/6/2004	5/6/2004	5/6/2004
			Sample ID	LR-4-D01N-SFW	LR4-T01N-SFW	LR-4-T01N-SFW	LR4-D01N-SFW	LR-4U-T01N-SFW	LR-4U-D01N-SFW
				IDR	IDR	IDR	IDR	IDR	IDR
Field Measurements									
DO	mg/L	T		-	-	10.91 :	-	10.11 :	-
Eh	millivolts	T		-	-	106.7 :	-	178.9 :	-
Flow	gpm	T		-	-	345. :	-	200. :	-
pH	SU	T		-	8.1 J	7.54 :	-	8. J	-
Specific Conductance	uS/cm	T		-	-	444. :	-	527. :	-
Temperature	Celsius	T		-	-	15.34 :	-	19.27 :	-
Turbidity	NTU	T		-	-	11. :	-	0. :	-
General Chemistry									
Ammonia	mg/L	T		-	<0.051 J	-	-	<0.065 J	-
Bicarbonate (as CaCO3)	mg/L	T		-	105. :	-	-	150. :	-
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	-	<20. :	-
Chloride	mg/L	T		-	4.1 J	-	-	5.2 J	-
Fluoride	mg/L	T		-	0.58 :	-	-	0.8 :	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Nitrate	mg/L	T		-	<0.2 J	-	-	<0.2 J	-
Nitrite	mg/L	T		-	<0.005 :	-	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	-	<0.01 :	-
Phosphorus	mg/L	T		-	0.041 :	-	-	0.028 :	-
Sulfate	mg/L	T		-	113. :	-	-	116. :	-
Total Alkalinity	mg/L	T		-	105. :	-	-	150. :	-
Total Dissolved Solids	mg/L	T		-	334. :	-	-	320. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	0.33 :	-	-	0.25 :	-
Total Organic Carbon	mg/L	T		-	2.7 :	-	-	2.4 :	-
Total Suspended Solids	mg/L	T		-	13. J	-	-	<2.4 J	-
Laboratory Parameters									
pH	SU	T		-	8.1 J	7.54 :	-	8. J	-
Specific Conductance	umhos/cm	T		-	387. J	-	-	465. J	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	-	<0.01 J	-
Physical Properties									
Hardness	mg/L	T		-	169. :	-	-	192. :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-4	LR-4	LR-4	LR-4	LR-4U	LR-4U
			Sample Date	11/5/2003	5/6/2004	5/6/2004	5/6/2004	5/6/2004	5/6/2004
			Sample ID	LR-4-D01N-SFW	LR4-T01N-SFW	LR-4-T01N-SFW	LR4-D01N-SFW	LR-4U-T01N-SFW	LR-4U-D01N-SFW
				IDR	IDR	IDR	IDR	IDR	IDR
Hardness	mg/L	D		194. :	-	-	172. :	-	191. :
Metals									
Aluminum	mg/L	T		-	0.374 :	-	-	<0.115 :	-
Aluminum	mg/L	D		<0.115 :	-	-	<0.0926 :	-	<0.0472 :
Antimony	mg/L	T		-	<0.00042 :	-	-	<0.00043 :	-
Antimony	mg/L	D		<0.0005 :	-	-	<0.00047 :	-	<0.00045 :
Arsenic	mg/L	T		-	<0.0002 :	-	-	<0.0002 :	-
Arsenic	mg/L	D		<0.0002 :	-	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		-	0.0409 :	-	-	0.0483 :	-
Barium	mg/L	D		0.041 :	-	-	0.0364 :	-	0.0456 :
Beryllium	mg/L	T		-	<0.0002 J	-	-	<0.0002 J	-
Beryllium	mg/L	D		<0.0004 :	-	-	<0.0002 J	-	<0.0002 J
Boron	mg/L	T		-	0.0306 :	-	-	0.0557 :	-
Boron	mg/L	D		0.0281 :	-	-	0.0312 :	-	0.0543 :
Cadmium	mg/L	T		-	<0.0002 :	-	-	<0.0002 :	-
Cadmium	mg/L	D		<0.0002 :	-	-	<0.0002 :	-	<0.0002 :
Calcium	mg/L	T		-	52.9 :	-	-	60.8 :	-
Calcium	mg/L	D		60.8 :	-	-	53.8 :	-	60.4 :
Chromium	mg/L	T		-	0.0011 :	-	-	<0.0008 :	-
Chromium	mg/L	D		<0.0011 :	-	-	<0.0008 :	-	<0.0008 :
Cobalt	mg/L	T		-	<0.0011 :	-	-	<0.0011 :	-
Cobalt	mg/L	D		<0.0029 :	-	-	<0.0011 :	-	<0.0011 :
Copper	mg/L	T		-	0.0025 :	-	-	0.00082 :	-
Copper	mg/L	D		0.002 :	-	-	<0.0008 :	-	<0.0008 :
Iron	mg/L	T		-	0.424 :	-	-	0.34 :	-
Iron	mg/L	D		0.221 :	-	-	<0.0455 :	-	<0.0489 :
Lead	mg/L	T		-	0.0013 :	-	-	0.00067 :	-
Lead	mg/L	D		0.00062 :	-	-	<0.0004 :	-	<0.0004 :
Magnesium	mg/L	T		-	9.05 :	-	-	9.73 :	-
Magnesium	mg/L	D		10.3 :	-	-	9.18 :	-	9.67 :
Manganese	mg/L	T		-	0.0351 :	-	-	0.033 :	-
Manganese	mg/L	D		0.0091 :	-	-	0.0248 :	-	0.0225 :
Mercury	mg/L	T		-	<0.0001 :	-	-	<0.0001 :	-
Mercury	mg/L	D		<0.0001 :	-	-	<0.0001 :	-	<0.0001 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-4	LR-4	LR-4	LR-4	LR-4U	LR-4U
			Sample Date	11/5/2003	5/6/2004	5/6/2004	5/6/2004	5/6/2004	5/6/2004
			Sample ID	LR-4-D01N-SFW	LR4-T01N-SFW	LR-4-T01N-SFW	LR4-D01N-SFW	LR-4U-T01N-SFW	LR-4U-D01N-SFW
				IDR	IDR	IDR	IDR	IDR	IDR
Molybdenum	mg/L	T		-	0.0094 :	-	-	0.0172 :	-
Molybdenum	mg/L	D		0.0063 :	-	-	0.0101 :	-	0.0178 :
Nickel	mg/L	T		-	0.0011 :	-	-	<0.0009 :	-
Nickel	mg/L	D		<0.0016 :	-	-	<0.0009 :	-	<0.0009 :
Potassium	mg/L	T		-	1.7 :	-	-	2.23 :	-
Potassium	mg/L	D		1.79 :	-	-	1.64 :	-	2.18 :
Selenium	mg/L	T		-	<0.0007 :	-	-	<0.0007 :	-
Selenium	mg/L	D		<0.0003 :	-	-	<0.0007 :	-	<0.0007 :
Silver	mg/L	T		-	<0.0001 :	-	-	<0.0001 :	-
Silver	mg/L	D		<0.0001 :	-	-	<0.0001 :	-	<0.0001 :
Sodium	mg/L	T		-	22.3 :	-	-	34.8 :	-
Sodium	mg/L	D		22. :	-	-	22.4 :	-	34.3 :
Thallium	mg/L	T		-	<0.0001 :	-	-	<0.0001 :	-
Thallium	mg/L	D		<0.0001 :	-	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T		-	0.00056 :	-	-	0.00031 :	-
Vanadium	mg/L	D		0.00026 :	-	-	0.00022 :	-	<0.0002 :
Zinc	mg/L	T		-	<0.012 :	-	-	<0.0079 :	-
Zinc	mg/L	D		0.0085 :	-	-	<0.0044 :	-	<0.0053 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-5	LR-5	LR-5	LR-5	LR-5	LR-5
			Sample Date	9/30/2002	9/30/2002	3/21/2003	3/21/2003	7/15/2003	7/15/2003
			Sample ID	LR-5-T01N-SFW	LR-5-D01N-SFW	LR-5-T01N-SFW	LR-5-D01N-SFW	LR-5-T01N-SFW	LR-5-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		9.7 :	-	10.01 :	-	9.02 :	-
Eh	millivolts	T		327.5 :	-	301.9 :	-	153.4 :	-
Flow	cfs	T		21.78 :	-	17.3 :	-	21.5 :	-
pH	SU	T		7.47 :	-	7.9 J	-	7.5 J	-
Specific Conductance	uS/cm	T		366. :	-	481. :	-	345. :	-
Temperature	Celsius	T		11.92 :	-	6.54 :	-	12.44 :	-
Turbidity	NTU	T		22.1 :	-	19.5 :	-	2.7 :	-
General Chemistry									
Ammonia	mg/L	T		<0.024 :	-	<0.14 J	-	0.069 :	-
Bicarbonate (as CaCO3)	mg/L	T		54. :	-	48.1 :	-	66.6 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.5 J	-	<1.5 J	-
Carbonate (as CaCO3)	mg/L	T		<2. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		4. :	-	7.3 :	-	3.8 :	-
Fluoride	mg/L	T		0.72 :	-	0.98 :	-	<0.83 J	-
Hydroxide (as CaCO3)	mg/L	T		<2. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.41 J	-	0.63 J	-	<1. J	-
Nitrite	mg/L	T		<0.005 J	-	0.0094 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	0.12 J	-	<0.01 J	-
Phosphorus	mg/L	T		<0.11 :	-	<0.033 J	-	0.013 :	-
Sulfate	mg/L	T		136. :	-	142. :	-	114. :	-
Total Alkalinity	mg/L	T		54. :	-	48.1 :	-	66.6 :	-
Total Dissolved Solids	mg/L	T		296. :	-	260. :	-	218. :	-
Total Kjeldahl Nitrogen	mg/L	T		0.36 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<1. :	-	<1. :	-	2.3 :	-
Total Suspended Solids	mg/L	T		36.3 :	-	12.6 :	-	3.2 :	-
Laboratory Parameters									
pH	SU	T		7.47 :	-	7.9 J	-	7.5 J	-
Specific Conductance	umhos/cm	T		-	-	367. J	-	377. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		187. :	-	216. :	-	166. :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	LR-5 9/30/2002 LR-5-T01N-SFW SWR	LR-5 9/30/2002 LR-5-D01N-SFW SWR	LR-5 3/21/2003 LR-5-T01N-SFW SWR	LR-5 3/21/2003 LR-5-D01N-SFW SWR	LR-5 7/15/2003 LR-5-T01N-SFW SWR	LR-5 7/15/2003 LR-5-D01N-SFW SWR
Hardness	mg/L	D	-	191. :	-	214. :	-	170. :
Metals								
Aluminum	mg/L	T	1.46 :	-	2.01 :	-	0.444 :	-
Aluminum	mg/L	D	-	0.1 :	-	0.07 :	-	0.142 :
Antimony	mg/L	T	<0.0002 :	-	0.00072 :	-	<0.0005 :	-
Antimony	mg/L	D	-	<0.0002 :	-	<0.0006 :	-	<0.0005 :
Arsenic	mg/L	T	<0.0002 :	-	<0.0004 :	-	<0.0002 :	-
Arsenic	mg/L	D	-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T	0.0344 :	-	0.0402 :	-	0.0377 :	-
Barium	mg/L	D	-	0.029 :	-	0.0346 :	-	0.036 :
Beryllium	mg/L	T	0.00033 :	-	<0.0003 :	-	<0.0002 J	-
Beryllium	mg/L	D	-	<0.0002 :	-	<0.0003 :	-	<0.0002 J
Boron	mg/L	T	<0.0088 :	-	0.0105 :	-	0.0106 :	-
Boron	mg/L	D	-	<0.006 :	-	0.0093 :	-	0.0107 :
Cadmium	mg/L	T	0.00042 :	-	<0.0005 :	-	0.00039 :	-
Cadmium	mg/L	D	-	0.00029 :	-	0.00049 :	-	0.00032 :
Calcium	mg/L	T	56. :	-	63.7 :	-	50.1 :	-
Calcium	mg/L	D	-	57.3 :	-	63.4 :	-	51.4 :
Chromium	mg/L	T	<0.0012 :	-	<0.001 :	-	<0.0014 :	-
Chromium	mg/L	D	-	<0.0012 :	-	<0.001 :	-	<0.0014 :
Chromium, Hexavalent	mg/L	D	<0.01 :	-	-	-	-	-
Cobalt	mg/L	T	0.0033 :	-	<0.0038 :	-	<0.002 :	-
Cobalt	mg/L	D	-	0.0029 :	-	<0.0038 :	-	<0.002 :
Copper	mg/L	T	0.0136 :	-	0.019 :	-	0.0056 :	-
Copper	mg/L	D	-	0.003 :	-	0.0056 :	-	0.0025 :
Iron	mg/L	T	0.594 :	-	0.451 :	-	0.145 :	-
Iron	mg/L	D	-	<0.046 :	-	<0.422 :	-	0.0461 :
Lead	mg/L	T	0.0013 :	-	0.00058 :	-	<0.00033 :	-
Lead	mg/L	D	-	<0.0001 :	-	<0.0002 :	-	<0.00015 :
Magnesium	mg/L	T	11.3 :	-	13.8 :	-	9.94 :	-
Magnesium	mg/L	D	-	11.6 :	-	13.7 :	-	10.2 :
Manganese	mg/L	T	0.342 :	-	0.385 :	-	0.139 :	-
Manganese	mg/L	D	-	0.327 :	-	0.374 :	-	0.14 :
Mercury	mg/L	T	<0.0001 :	-	<0.0001 J	-	0.00016 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-5	LR-5	LR-5	LR-5	LR-5	LR-5
			Sample Date	9/30/2002	9/30/2002	3/21/2003	3/21/2003	7/15/2003	7/15/2003
			Sample ID	LR-5-T01N-SFW	LR-5-D01N-SFW	LR-5-T01N-SFW	LR-5-D01N-SFW	LR-5-T01N-SFW	LR-5-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 J	-	0.00018 :
Molybdenum	mg/L	T		0.003 :	-	0.0042 :	-	0.0064 :	-
Molybdenum	mg/L	D		-	0.0042 :	-	0.003 :	-	0.0069 :
Nickel	mg/L	T		0.011 :	-	0.0186 :	-	0.0109 :	-
Nickel	mg/L	D		-	0.0093 :	-	0.0182 :	-	0.0114 :
Potassium	mg/L	T		1.73 :	-	1.76 :	-	1.52 :	-
Potassium	mg/L	D		-	1.68 :	-	1.61 :	-	1.78 :
Selenium	mg/L	T		<0.0002 :	-	<0.001 :	-	<0.0008 :	-
Selenium	mg/L	D		-	<0.0002 :	-	<0.001 :	-	<0.0008 :
Silver	mg/L	T		<0.0059 :	-	<0.0002 :	-	<0.0001 J	-
Silver	mg/L	D		-	<0.0059 :	-	<0.0002 :	-	<0.0001 J
Sodium	mg/L	T		7.15 :	-	17.6 :	-	7.67 :	-
Sodium	mg/L	D		-	7.27 :	-	14.4 :	-	7.78 :
Thallium	mg/L	T		<0.0001 :	-	<0.0002 :	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0001 :	-	<0.0002 :	-	<0.0001 :
Vanadium	mg/L	T		0.00039 :	-	0.0002 :	-	<0.0002 :	-
Vanadium	mg/L	D		-	<0.0001 :	-	<0.0002 :	-	<0.0002 :
Zinc	mg/L	T		0.0743 :	-	0.178 :	-	0.0893 :	-
Zinc	mg/L	D		-	0.0318 :	-	0.121 :	-	0.0718 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-5	LR-5	LR-6	LR-6	LR-6	LR-6
			Sample Date	9/23/2003	9/23/2003	9/21/2003	9/21/2003	11/5/2003	11/5/2003
			Sample ID	LR-5-T01N-SFW	LR-5-D01N-SFW	RD-1-T01N-SFW	RD-1-D01N-SFW	RD-1-T01N-SFW	LR-6-T01N-SFW
			Exposure Area	SWR	SWR	IDR	IDR	IDR	IDR
Field Measurements									
DO	mg/L	T		8.19 :	-	-	-	-	7.6 :
Eh	millivolts	T		49.2 :	-	-	-	-	17.5 :
Flow	cfs	T		21.8 :	-	0.4 :	-	0.1 :	-
pH	SU	T		7.7 J	-	7.2 J	-	-	7.2 J
Specific Conductance	uS/cm	T		407. :	-	-	-	-	625. :
Temperature	Celsius	T		13.64 :	-	-	-	-	11.5 :
Turbidity	NTU	T		5.5 :	-	-	-	-	0.7 :
General Chemistry									
Ammonia	mg/L	T		0.044 :	-	0.047 :	-	-	0.11 J
Bicarbonate (as CaCO3)	mg/L	T		64.1 :	-	95.3 :	-	-	134. :
Biochemical Oxygen Demand	mg/L	T		<1.4 :	-	<1.4 :	-	-	<1.4 :
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	-	<20. :
Chloride	mg/L	T		3.4 :	-	3.7 :	-	-	5.5 :
Fluoride	mg/L	T		0.79 :	-	0.82 :	-	-	0.84 :
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Nitrate	mg/L	T		0.35 :	-	<0.2 :	-	-	<0.2 J
Nitrite	mg/L	T		<0.005 :	-	<0.005 :	-	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	<0.026 :	-	-	0.03 J
Phosphorus	mg/L	T		0.039 :	-	0.039 :	-	-	0.035 :
Sulfate	mg/L	T		97.8 J	-	124. J	-	-	165. J
Total Alkalinity	mg/L	T		64.1 :	-	95.3 :	-	-	134. :
Total Dissolved Solids	mg/L	T		254. :	-	328. :	-	-	468. :
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	-	<0.24 :
Total Organic Carbon	mg/L	T		<1. :	-	<1. :	-	-	1.5 :
Total Suspended Solids	mg/L	T		16.6 :	-	1.8 :	-	-	1.3 :
Laboratory Parameters									
pH	SU	T		7.7 J	-	7.2 J	-	-	7.2 J
Specific Conductance	umhos/cm	T		328. J	-	435. J	-	-	696. J
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		153. :	-	223. :	-	-	280. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			LR-5 9/23/2003 LR-5-T01N-SFW	LR-5 9/23/2003 LR-5-D01N-SFW	LR-6 9/21/2003 RD-1-T01N-SFW	LR-6 9/21/2003 RD-1-D01N-SFW	LR-6 11/5/2003 RD-1-T01N-SFW	LR-6 11/5/2003 LR-6-T01N-SFW
			SWR	SWR	IDR	IDR	IDR	IDR
Hardness	mg/L	D	-	176. :	-	233. :	-	-
Metals								
Aluminum	mg/L	T	1.01 :	-	0.07 :	-	-	<0.0221 :
Aluminum	mg/L	D	-	0.146 :	-	<0.0029 :	-	-
Antimony	mg/L	T	<0.00011 :	-	0.0023 :	-	-	<0.0005 :
Antimony	mg/L	D	-	<0.0004 :	-	<0.00065 :	-	-
Arsenic	mg/L	T	<0.00038 :	-	<0.00038 :	-	-	0.0002 :
Arsenic	mg/L	D	-	<0.00038 :	-	<0.00038 :	-	-
Barium	mg/L	T	0.0401 :	-	0.0475 :	-	-	0.0606 :
Barium	mg/L	D	-	0.037 :	-	0.0477 :	-	-
Beryllium	mg/L	T	<0.00047 :	-	<0.00047 :	-	-	<0.0004 :
Beryllium	mg/L	D	-	<0.00047 :	-	<0.00047 :	-	-
Boron	mg/L	T	0.0058 :	-	0.0233 :	-	-	0.0266 :
Boron	mg/L	D	-	0.0068 :	-	0.0245 :	-	-
Cadmium	mg/L	T	0.0004 :	-	0.00009 :	-	-	<0.0002 :
Cadmium	mg/L	D	-	0.00038 :	-	<0.00008 :	-	-
Calcium	mg/L	T	45.8 :	-	69.7 :	-	-	87.2 :
Calcium	mg/L	D	-	53. :	-	73. :	-	-
Chromium	mg/L	T	<0.001 :	-	<0.001 :	-	-	<0.0011 :
Chromium	mg/L	D	-	<0.001 :	-	<0.001 :	-	-
Cobalt	mg/L	T	0.0023 :	-	<0.0011 :	-	-	<0.0029 :
Cobalt	mg/L	D	-	0.004 :	-	<0.0011 :	-	-
Copper	mg/L	T	0.0102 :	-	0.001 :	-	-	<0.0017 :
Copper	mg/L	D	-	<0.0029 :	-	0.00084 :	-	-
Iron	mg/L	T	0.661 :	-	0.189 :	-	-	<0.0642 :
Iron	mg/L	D	-	<0.044 :	-	<0.044 :	-	-
Lead	mg/L	T	0.0016 :	-	0.00039 :	-	-	<0.0002 :
Lead	mg/L	D	-	<0.00004 :	-	0.00011 :	-	-
Magnesium	mg/L	T	9.3 :	-	11.9 :	-	-	15.2 :
Magnesium	mg/L	D	-	10.6 :	-	12.4 :	-	-
Manganese	mg/L	T	0.195 :	-	0.0098 :	-	-	0.0094 :
Manganese	mg/L	D	-	0.208 :	-	<0.008 :	-	-
Mercury	mg/L	T	<0.00006 :	-	<0.00006 :	-	-	<0.0001 :
Mercury	mg/L	D	-	<0.00006 :	-	<0.00006 :	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-5	LR-5	LR-6	LR-6	LR-6	LR-6
			Sample Date	9/23/2003	9/23/2003	9/21/2003	9/21/2003	11/5/2003	11/5/2003
			Sample ID	LR-5-T01N-SFW	LR-5-D01N-SFW	RD-1-T01N-SFW	RD-1-D01N-SFW	RD-1-T01N-SFW	LR-6-T01N-SFW
			Exposure Area	SWR	SWR	IDR	IDR	IDR	IDR
Molybdenum	mg/L	T		0.0063 :	-	0.146 :	-	-	0.125 :
Molybdenum	mg/L	D		-	0.0047 :	-	0.139 :	-	-
Nickel	mg/L	T		0.0123 :	-	0.0023 :	-	-	<0.0016 :
Nickel	mg/L	D		-	0.0124 :	-	0.0023 :	-	-
Potassium	mg/L	T		1.45 :	-	1.61 :	-	-	2.12 :
Potassium	mg/L	D		-	1.49 :	-	1.64 :	-	-
Selenium	mg/L	T		<0.00073 :	-	<0.00073 :	-	-	<0.0003 :
Selenium	mg/L	D		-	<0.00073 :	-	<0.00073 :	-	-
Silver	mg/L	T		<0.0002 :	-	<0.0002 :	-	-	<0.0001 :
Silver	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	-
Sodium	mg/L	T		5.75 :	-	19.2 :	-	-	26.4 :
Sodium	mg/L	D		-	6.62 :	-	20.1 :	-	-
Thallium	mg/L	T		<0.00001 :	-	<0.00001 :	-	-	<0.0001 :
Thallium	mg/L	D		-	<0.00001 :	-	<0.00001 :	-	-
Vanadium	mg/L	T		0.00057 :	-	<0.00081 :	-	-	0.00032 :
Vanadium	mg/L	D		-	<0.00028 :	-	<0.00081 :	-	-
Zinc	mg/L	T		0.0783 :	-	<0.013 :	-	-	<0.0028 :
Zinc	mg/L	D		-	0.0462 :	-	<0.013 :	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-6	LR-6	LR-6	LR-6	LR-8A	LR-8A
			Sample Date	11/5/2003	5/6/2004	5/6/2004	5/6/2004	9/27/2002	9/27/2002
			Sample ID	LR-6-D01N-SFW	LR6-T01N-SFW	LR-6-T01N-SFW	LR6-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW
				IDR	IDR	IDR	IDR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	-	9.32 :	-	7.92 :	-
Eh	millivolts	T		-	-	169.9 :	-	234.7 :	-
Flow	cfs	T		-	-	-	-	18.06 :	-
Flow	gpm	T		-	-	63. :	-	-	-
pH	SU	T		-	7.8 J	6.79 :	-	6.22 :	-
Specific Conductance	uS/cm	T		-	-	1041. :	-	487. :	-
Temperature	Celsius	T		-	-	9.78 :	-	14.41 :	-
Turbidity	NTU	T		-	-	0.1 :	-	41.7 :	-
General Chemistry									
Ammonia	mg/L	T		-	<0.043 J	-	-	<0.024 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	143. :	-	-	64.3 :	-
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	-	<20. :	-
Chloride	mg/L	T		-	8.6 J	-	-	4.5 :	-
Fluoride	mg/L	T		-	0.65 :	-	-	0.8 :	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Nitrate	mg/L	T		-	0.21 J	-	-	<0.48 J	-
Nitrite	mg/L	T		-	<0.005 :	-	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		-	0.035 :	-	-	<0.01 J	-
Phosphorus	mg/L	T		-	0.05 :	-	-	<0.066 :	-
Sulfate	mg/L	T		-	433. :	-	-	168. :	-
Total Alkalinity	mg/L	T		-	143. :	-	-	64.3 :	-
Total Dissolved Solids	mg/L	T		-	790. :	-	-	361. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	0.3 :	-	-	<0.24 :	-
Total Organic Carbon	mg/L	T		-	3.2 :	-	-	1. :	-
Total Suspended Solids	mg/L	T		-	<2.2 J	-	-	14.8 :	-
Laboratory Parameters									
pH	SU	T		-	7.8 J	6.79 :	-	6.22 :	-
Specific Conductance	umhos/cm	T		-	949. J	-	-	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	-	<0.01 J	-
Physical Properties									

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-6	LR-6	LR-6	LR-6	LR-8A	LR-8A
			Sample Date	11/5/2003	5/6/2004	5/6/2004	5/6/2004	9/27/2002	9/27/2002
			Sample ID	LR-6-D01N-SFW	LR6-T01N-SFW	LR-6-T01N-SFW	LR6-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW
				IDR	IDR	IDR	IDR	SWR	SWR
Hardness	mg/L	T		-	471. :	-	-	230. :	-
Hardness	mg/L	D		277. :	-	-	468. :	-	233. :
Metals									
Aluminum	mg/L	T		-	<0.0673 :	-	-	1.17 :	-
Aluminum	mg/L	D		<0.0221 :	-	-	<0.042 :	-	<0.0824 :
Antimony	mg/L	T		-	<0.00055 :	-	-	<0.0002 :	-
Antimony	mg/L	D		<0.0005 :	-	-	<0.00047 :	-	<0.0002 :
Arsenic	mg/L	T		-	<0.0002 :	-	-	<0.0002 :	-
Arsenic	mg/L	D		<0.0002 :	-	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		-	0.0597 :	-	-	0.0436 :	-
Barium	mg/L	D		0.06 :	-	-	0.0585 :	-	0.0348 :
Beryllium	mg/L	T		-	<0.0002 J	-	-	0.00026 :	-
Beryllium	mg/L	D		<0.0004 :	-	-	<0.0002 J	-	<0.0002 :
Boron	mg/L	T		-	0.0293 :	-	-	<0.0121 :	-
Boron	mg/L	D		0.0262 :	-	-	0.0287 :	-	<0.0104 :
Cadmium	mg/L	T		-	<0.0002 :	-	-	0.00035 :	-
Cadmium	mg/L	D		<0.0002 :	-	-	<0.0002 :	-	0.00023 :
Calcium	mg/L	T		-	146. :	-	-	69.5 :	-
Calcium	mg/L	D		86.3 :	-	-	145. :	-	70.7 :
Chromium	mg/L	T		-	0.00098 :	-	-	0.0012 :	-
Chromium	mg/L	D		<0.0011 :	-	-	<0.0008 :	-	<0.0012 :
Chromium, Hexavalent	mg/L	D		-	-	-	-	<0.01 :	-
Cobalt	mg/L	T		-	<0.0011 :	-	-	0.0024 :	-
Cobalt	mg/L	D		<0.0029 :	-	-	<0.0011 :	-	0.0025 :
Copper	mg/L	T		-	<0.0008 :	-	-	0.0086 :	-
Copper	mg/L	D		<0.0017 :	-	-	<0.0008 :	-	0.0017 :
Iron	mg/L	T		-	<0.0858 :	-	-	0.779 :	-
Iron	mg/L	D		0.0374 :	-	-	<0.0468 :	-	<0.046 :
Lead	mg/L	T		-	<0.0004 :	-	-	0.00068 :	-
Lead	mg/L	D		<0.0002 :	-	-	<0.0004 :	-	<0.0001 :
Magnesium	mg/L	T		-	25.7 :	-	-	13.6 :	-
Magnesium	mg/L	D		15. :	-	-	25.5 :	-	13.7 :
Manganese	mg/L	T		-	0.0782 :	-	-	0.292 :	-
Manganese	mg/L	D		0.0082 :	-	-	0.0769 :	-	0.283 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-6	LR-6	LR-6	LR-6	LR-8A	LR-8A
			Sample Date	11/5/2003	5/6/2004	5/6/2004	5/6/2004	9/27/2002	9/27/2002
			Sample ID	LR-6-D01N-SFW	LR6-T01N-SFW	LR-6-T01N-SFW	LR6-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW
				IDR	IDR	IDR	IDR	SWR	SWR
Mercury	mg/L	T		-	<0.0001 :	-	-	<0.0001 :	-
Mercury	mg/L	D		<0.0001 :	-	-	<0.0001 :	-	<0.0001 :
Molybdenum	mg/L	T		-	0.199 :	-	-	0.049 :	-
Molybdenum	mg/L	D		0.129 :	-	-	0.197 :	-	0.0538 :
Nickel	mg/L	T		-	0.001 :	-	-	0.0083 :	-
Nickel	mg/L	D		<0.0016 :	-	-	0.00099 :	-	0.0071 :
Potassium	mg/L	T		-	2.8 :	-	-	2.04 :	-
Potassium	mg/L	D		2.01 :	-	-	2.76 :	-	1.87 :
Selenium	mg/L	T		-	<0.0007 :	-	-	0.0003 :	-
Selenium	mg/L	D		<0.0003 :	-	-	<0.0007 :	-	<0.0002 :
Silver	mg/L	T		-	<0.0001 :	-	-	<0.0059 :	-
Silver	mg/L	D		<0.0001 :	-	-	<0.0001 :	-	<0.0059 :
Sodium	mg/L	T		-	47.5 :	-	-	12. :	-
Sodium	mg/L	D		26.3 :	-	-	47. :	-	12.2 :
Thallium	mg/L	T		-	<0.0001 :	-	-	<0.0001 :	-
Thallium	mg/L	D		<0.0001 :	-	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T		-	0.00034 :	-	-	0.00027 :	-
Vanadium	mg/L	D		0.00026 :	-	-	0.00033 :	-	0.00013 :
Zinc	mg/L	T		-	<0.0099 :	-	-	0.0558 :	-
Zinc	mg/L	D		0.0048 :	-	-	<0.0046 :	-	0.03 :
Volatile Organics									
1,1,1-Trichloroethane	mg/L	T		-	-	-	-	<0.01 :	-
1,1,2,2-Tetrachloroethane	mg/L	T		-	-	-	-	<0.01 :	-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T		-	-	-	-	<0.01 :	-
1,1,2-Trichloroethane	mg/L	T		-	-	-	-	<0.01 :	-
1,1-Dichloroethane	mg/L	T		-	-	-	-	<0.01 :	-
1,1-Dichloroethene	mg/L	T		-	-	-	-	<0.01 :	-
1,2,4-Trichlorobenzene	mg/L	T		-	-	-	-	<0.01 :	-
1,2-Dibromo-3-chloropropane	mg/L	T		-	-	-	-	<0.01 :	-
1,2-Dichlorobenzene	mg/L	T		-	-	-	-	<0.01 :	-
1,2-Dichloroethane	mg/L	T		-	-	-	-	<0.01 :	-
1,2-Dichloroethene (total)	mg/L	T		-	-	-	-	<0.01 :	-
1,2-Dichloropropane	mg/L	T		-	-	-	-	<0.01 :	-
1,3-Dichlorobenzene	mg/L	T		-	-	-	-	<0.01 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-6	LR-6	LR-6	LR-6	LR-8A	LR-8A
			Sample Date	11/5/2003	5/6/2004	5/6/2004	5/6/2004	9/27/2002	9/27/2002
			Sample ID	LR-6-D01N-SFW	LR6-T01N-SFW	LR-6-T01N-SFW	LR6-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW
				IDR	IDR	IDR	IDR	SWR	SWR
1,4-Dichlorobenzene	mg/L	T		-	-	-	-	<0.01 :	-
2-Butanone	mg/L	T		-	-	-	-	<0.01 :	-
2-Hexanone	mg/L	T		-	-	-	-	<0.01 :	-
4-Methyl-2-pentanone	mg/L	T		-	-	-	-	<0.01 :	-
Acetone	mg/L	T		-	-	-	-	<0.01 :	-
Benzene	mg/L	T		-	-	-	-	<0.01 :	-
Bromodichloromethane	mg/L	T		-	-	-	-	<0.01 :	-
Bromoform	mg/L	T		-	-	-	-	<0.01 :	-
Bromomethane	mg/L	T		-	-	-	-	<0.01 :	-
Carbon disulfide	mg/L	T		-	-	-	-	<0.01 :	-
Carbon tetrachloride	mg/L	T		-	-	-	-	<0.01 :	-
Chlorobenzene	mg/L	T		-	-	-	-	<0.01 :	-
Chloroethane	mg/L	T		-	-	-	-	<0.01 :	-
Chloroform	mg/L	T		-	-	-	-	<0.01 :	-
Chloromethane	mg/L	T		-	-	-	-	<0.01 :	-
cis-1,2-Dichloroethene	mg/L	T		-	-	-	-	<0.01 :	-
cis-1,3-Dichloropropene	mg/L	T		-	-	-	-	<0.01 :	-
Dibromochloromethane	mg/L	T		-	-	-	-	<0.01 :	-
Dichlorodifluoromethane	mg/L	T		-	-	-	-	<0.01 :	-
Ethylbenzene	mg/L	T		-	-	-	-	<0.01 :	-
Methylene chloride	mg/L	T		-	-	-	-	<0.01 :	-
Styrene	mg/L	T		-	-	-	-	<0.01 :	-
Tetrachloroethene	mg/L	T		-	-	-	-	<0.01 :	-
Toluene	mg/L	T		-	-	-	-	<0.01 :	-
Total Xylene	mg/L	T		-	-	-	-	<0.01 :	-
trans-1,2-Dichloroethene	mg/L	T		-	-	-	-	<0.01 :	-
trans-1,3-Dichloropropene	mg/L	T		-	-	-	-	<0.01 :	-
Trichloroethene	mg/L	T		-	-	-	-	<0.01 :	-
Trichlorofluoromethane	mg/L	T		-	-	-	-	<0.01 :	-
Vinyl chloride	mg/L	T		-	-	-	-	<0.01 :	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		-	-	-	-	<0.01 :	-
2,4,5-Trichlorophenol	mg/L	T		-	-	-	-	<0.025 :	-
2,4,6-Trichlorophenol	mg/L	T		-	-	-	-	<0.01 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-6	LR-6	LR-6	LR-6	LR-8A	LR-8A
			Sample Date	11/5/2003	5/6/2004	5/6/2004	5/6/2004	9/27/2002	9/27/2002
			Sample ID	LR-6-D01N-SFW	LR6-T01N-SFW	LR-6-T01N-SFW	LR6-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW
				IDR	IDR	IDR	IDR	SWR	SWR
2,4-Dichlorophenol	mg/L	T		-	-	-	-	<0.01 :	-
2,4-Dimethylphenol	mg/L	T		-	-	-	-	<0.01 :	-
2,4-Dinitrophenol	mg/L	T		-	-	-	-	<0.025 :	-
2,4-Dinitrotoluene	mg/L	T		-	-	-	-	<0.01 :	-
2,6-Dinitrotoluene	mg/L	T		-	-	-	-	<0.01 :	-
2-Chloronaphthalene	mg/L	T		-	-	-	-	<0.01 :	-
2-Chlorophenol	mg/L	T		-	-	-	-	<0.01 :	-
2-Methylnaphthalene	mg/L	T		-	-	-	-	<0.01 :	-
2-Methylphenol	mg/L	T		-	-	-	-	<0.01 :	-
2-Nitroaniline	mg/L	T		-	-	-	-	<0.025 :	-
2-Nitrophenol	mg/L	T		-	-	-	-	<0.01 :	-
3,3-Dichlorobenzidine	mg/L	T		-	-	-	-	<0.01 :	-
3-Nitroaniline	mg/L	T		-	-	-	-	<0.025 :	-
4,6-Dinitro-2-methylphenol	mg/L	T		-	-	-	-	<0.025 :	-
4-Bromophenyl phenyl ether	mg/L	T		-	-	-	-	<0.01 :	-
4-Chloro-3-methylphenol	mg/L	T		-	-	-	-	<0.01 :	-
4-Chloroaniline	mg/L	T		-	-	-	-	<0.01 :	-
4-Chlorophenyl phenyl ether	mg/L	T		-	-	-	-	<0.01 :	-
4-Methylphenol	mg/L	T		-	-	-	-	<0.01 :	-
4-Nitroaniline	mg/L	T		-	-	-	-	<0.025 :	-
4-Nitrophenol	mg/L	T		-	-	-	-	<0.025 :	-
Acenaphthene	mg/L	T		-	-	-	-	<0.01 :	-
Acenaphthylene	mg/L	T		-	-	-	-	<0.01 :	-
Anthracene	mg/L	T		-	-	-	-	<0.01 :	-
Benzaldehyde	mg/L	T		-	-	-	-	<0.01 J	-
Benzo(a)anthracene	mg/L	T		-	-	-	-	<0.01 :	-
Benzo(a)pyrene	mg/L	T		-	-	-	-	<0.01 :	-
Benzo(b)fluoranthene	mg/L	T		-	-	-	-	<0.01 :	-
Benzo(g,h,i)perylene	mg/L	T		-	-	-	-	<0.01 :	-
Benzo(k)fluoranthene	mg/L	T		-	-	-	-	<0.01 :	-
Bis(2-chloroethoxy)methane	mg/L	T		-	-	-	-	<0.01 :	-
Bis(2-chloroethyl)ether	mg/L	T		-	-	-	-	<0.01 :	-
Bis(2-ethylhexyl)phthalate	mg/L	T		-	-	-	-	<0.01 :	-
Butyl benzyl phthalate	mg/L	T		-	-	-	-	<0.01 :	-

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-6	LR-6	LR-6	LR-6	LR-8A	LR-8A
			Sample Date	11/5/2003	5/6/2004	5/6/2004	5/6/2004	9/27/2002	9/27/2002
			Sample ID	LR-6-D01N-SFW	LR6-T01N-SFW	LR-6-T01N-SFW	LR6-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW
				IDR	IDR	IDR	IDR	SWR	SWR
Carbazole	mg/L	T		-	-	-	-	<0.01 :	-
Chrysene	mg/L	T		-	-	-	-	<0.01 :	-
Dibenz(a,h)anthracene	mg/L	T		-	-	-	-	<0.01 :	-
Dibenzofuran	mg/L	T		-	-	-	-	<0.01 :	-
Dichlorodiisopropyl ether	mg/L	T		-	-	-	-	<0.01 :	-
Diethylphthalate	mg/L	T		-	-	-	-	<0.01 :	-
Dimethylphthalate	mg/L	T		-	-	-	-	<0.01 :	-
Di-n-Butyl phthalate	mg/L	T		-	-	-	-	<0.01 :	-
Di-n-Octyl phthalate	mg/L	T		-	-	-	-	<0.01 :	-
Fluoranthene	mg/L	T		-	-	-	-	<0.01 :	-
Fluorene	mg/L	T		-	-	-	-	<0.01 :	-
Hexachlorobenzene	mg/L	T		-	-	-	-	<0.01 :	-
Hexachlorobutadiene	mg/L	T		-	-	-	-	<0.01 :	-
Hexachlorocyclopentadiene	mg/L	T		-	-	-	-	<0.01 :	-
Hexachloroethane	mg/L	T		-	-	-	-	<0.01 :	-
Indeno(1,2,3-cd)pyrene	mg/L	T		-	-	-	-	<0.01 :	-
Isophorone	mg/L	T		-	-	-	-	<0.01 :	-
Naphthalene	mg/L	T		-	-	-	-	<0.01 :	-
Nitrobenzene	mg/L	T		-	-	-	-	<0.01 :	-
N-Nitrosodi-n-propylamine	mg/L	T		-	-	-	-	<0.01 :	-
N-Nitrosodiphenylamine	mg/L	T		-	-	-	-	<0.01 :	-
Pentachlorophenol	mg/L	T		-	-	-	-	<0.025 J	-
Phenanthrene	mg/L	T		-	-	-	-	<0.01 :	-
Phenol	mg/L	T		-	-	-	-	<0.01 :	-
Pyrene	mg/L	T		-	-	-	-	<0.01 :	-
Explosives									
2,4,6-Trinitrotoluene	mg/L	T		-	-	-	-	<0.00025 :	-
2,6-Pyridinediamine,	mg/L	T		-	-	-	-	<0.00025 J	-
Cyclotetramethylenetetranitramine	mg/L	T		-	-	-	-	<0.00025 :	-
Cyclotrimethylenetrinitramine	mg/L	T		-	-	-	-	<0.00025 :	-
Pentaerythritol tetranitrate	mg/L	T		-	-	-	-	<0.01 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-8A	LR-8A	LR-8A	LR-8A	LR-8A	LR-8A
			Sample Date	3/23/2003	3/23/2003	7/15/2003	7/15/2003	9/23/2003	9/23/2003
			Sample ID	LR-8A-T01N-SFW	LR-8A-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		9.71 :	-	9.11 :	-	8.23 :	-
Eh	millivolts	T		298.8 :	-	177.9 :	-	81.7 :	-
Flow	cfs	T		17.1 :	-	19.7 :	-	22.9 :	-
pH	SU	T		7.4 J	-	7.8 J	-	7.6 J	-
Specific Conductance	uS/cm	T		141. :	-	358. :	-	423. :	-
Temperature	Celsius	T		9.25 :	-	12.33 :	-	13.24 :	-
Turbidity	NTU	T		89.5 :	-	2.3 :	-	6.9 :	-
General Chemistry									
Ammonia	mg/L	T		<0.065 J	-	0.13 :	-	0.041 :	-
Bicarbonate (as CaCO3)	mg/L	T		61.2 :	-	74.1 :	-	72.8 :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 J	-	<1.6 J	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		6.4 :	-	3.7 :	-	4.1 :	-
Fluoride	mg/L	T		1. :	-	<0.88 J	-	0.79 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.58 J	-	<1. J	-	0.32 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 J	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 J	-	<0.01 :	-
Phosphorus	mg/L	T		<0.031 :	-	0.012 :	-	0.028 :	-
Sulfate	mg/L	T		192. :	-	145. :	-	123. J	-
Total Alkalinity	mg/L	T		61.2 :	-	74.1 :	-	72.8 :	-
Total Dissolved Solids	mg/L	T		398. :	-	278. :	-	314. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		3. :	-	1.7 :	-	1.3 :	-
Total Suspended Solids	mg/L	T		15.2 :	-	3.4 :	-	10.3 :	-
Laboratory Parameters									
pH	SU	T		7.4 J	-	7.8 J	-	7.6 J	-
Specific Conductance	umhos/cm	T		472. J	-	422. J	-	399. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		260. :	-	204. :	-	202. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	LR-8A 3/23/2003 LR-8A-T01N-SFW SWR		LR-8A 3/23/2003 LR-8A-D01N-SFW SWR		LR-8A 7/15/2003 LR-8A-T01N-SFW SWR		LR-8A 7/15/2003 LR-8A-D01N-SFW SWR		LR-8A 9/23/2003 LR-8A-T01N-SFW SWR		LR-8A 9/23/2003 LR-8A-D01N-SFW SWR	
Hardness	mg/L	D	-		270.	:	-		201.	:	-		223.	:
Metals														
Aluminum	mg/L	T	1.56	:	-		0.395	:	-		0.86	:	-	
Aluminum	mg/L	D	-		<0.0846	:	-		<0.0631	:	-		0.119	:
Antimony	mg/L	T	<0.0006	:	-		<0.00066	:	-		<0.00011	:	-	
Antimony	mg/L	D	-		<0.0006	:	-		<0.0005	:	-		<0.00012	:
Arsenic	mg/L	T	<0.00059	:	-		<0.0002	:	-		<0.00038	:	-	
Arsenic	mg/L	D	-		<0.00043	:	-		<0.0002	:	-		<0.00038	:
Barium	mg/L	T	0.0411	:	-		0.0376	:	-		0.0413	:	-	
Barium	mg/L	D	-		0.035	:	-		0.0357	:	-		0.0397	:
Beryllium	mg/L	T	<0.0016	:	-		<0.0004	:	-		<0.00047	:	-	
Beryllium	mg/L	D	-		<0.001	:	-		<0.0004	:	-		<0.00047	:
Boron	mg/L	T	0.0151	:	-		0.0138	:	-		0.0097	:	-	
Boron	mg/L	D	-		0.0115	:	-		0.0137	:	-		0.0102	:
Cadmium	mg/L	T	<0.0005	:	-		0.00031	:	-		0.00044	:	-	
Cadmium	mg/L	D	-		<0.0005	:	-		0.0003	:	-		0.00036	:
Calcium	mg/L	T	77.9	:	-		61.8	:	-		61.3	:	-	
Calcium	mg/L	D	-		80.7	:	-		61.	:	-		67.7	:
Chromium	mg/L	T	<0.001	:	-		<0.0019	:	-		<0.001	:	-	
Chromium	mg/L	D	-		<0.001	:	-		<0.0019	:	-		<0.001	:
Cobalt	mg/L	T	<0.0038	:	-		<0.0037	:	-		0.0023	:	-	
Cobalt	mg/L	D	-		<0.0038	:	-		<0.0037	:	-		0.0046	:
Copper	mg/L	T	0.0154	:	-		0.0048	:	-		0.0089	:	-	
Copper	mg/L	D	-		0.0037	:	-		0.002	:	-		<0.0027	:
Iron	mg/L	T	<0.493	:	-		0.112	:	-		0.445	:	-	
Iron	mg/L	D	-		<0.422	:	-		<0.0667	:	-		<0.044	:
Lead	mg/L	T	0.0012	:	-		0.00021	:	-		0.00096	:	-	
Lead	mg/L	D	-		<0.0002	:	-		<0.0001	:	-		<0.00004	:
Magnesium	mg/L	T	16.	:	-		12.	:	-		11.9	:	-	
Magnesium	mg/L	D	-		16.6	:	-		11.9	:	-		13.1	:
Manganese	mg/L	T	0.375	:	-		0.156	:	-		0.221	:	-	
Manganese	mg/L	D	-		0.361	:	-		0.148	:	-		0.233	:
Mercury	mg/L	T	<0.0001	:	-		<0.00015	:	-		<0.00006	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.00015	:	-		<0.00006	:

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	LR-8A	LR-8A	LR-8A	LR-8A	LR-8A	LR-8A
			Sample Date	3/23/2003	3/23/2003	7/15/2003	7/15/2003	9/23/2003	9/23/2003
			Sample ID	LR-8A-T01N-SFW	LR-8A-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW	LR-8A-T01N-SFW	LR-8A-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Molybdenum	mg/L	T		0.0878 :	-	0.0544 :	-	0.0511 :	-
Molybdenum	mg/L	D		-	0.0911 :	-	0.0561 :	-	0.0545 :
Nickel	mg/L	T		0.0182 :	-	0.009 :	-	0.0122 :	-
Nickel	mg/L	D		-	0.0173 :	-	0.0084 :	-	0.0111 :
Potassium	mg/L	T		1.96 :	-	1.54 :	-	1.66 :	-
Potassium	mg/L	D		-	1.95 :	-	1.57 :	-	1.71 :
Selenium	mg/L	T		<0.004 :	-	<0.0008 :	-	<0.00073 :	-
Selenium	mg/L	D		-	<0.0045 :	-	<0.0008 :	-	<0.00073 :
Silver	mg/L	T		<0.0002 :	-	<0.0001 J	-	<0.0002 :	-
Silver	mg/L	D		-	<0.0002 :	-	<0.0001 J	-	<0.0002 :
Sodium	mg/L	T		<22.1 :	-	11.4 :	-	10.2 :	-
Sodium	mg/L	D		-	<18.7 :	-	11.4 :	-	11.2 :
Thallium	mg/L	T		<0.0002 :	-	<0.0001 :	-	<0.00001 :	-
Thallium	mg/L	D		-	<0.0002 :	-	<0.0001 :	-	<0.00001 :
Vanadium	mg/L	T		0.00047 :	-	<0.0002 :	-	0.00053 :	-
Vanadium	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.00028 :
Zinc	mg/L	T		0.144 :	-	0.066 :	-	0.0763 :	-
Zinc	mg/L	D		-	0.0928 :	-	0.0517 :	-	0.051 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ND-1	ND-1	ND-1	ND-1	ND-1	ND-1
			Sample Date	10/9/2002	10/9/2002	7/15/2003	7/15/2003	9/21/2003	9/21/2003
			Sample ID	ND-1-T01N-SFW	ND-1-D01N-SFW	ND-1-T01N-SFW	ND-1-D01N-SFW	ND-1-T01N-SFW	ND-1-D01N-SFW
				ID	ID	ID	ID	ID	ID
Field Measurements									
DO	mg/L	T		9.59 :	-	9.08 :	-	5.04 :	-
Eh	millivolts	T		287.2 :	-	164.6 :	-	109.3 :	-
Flow	cfs	T		3.51 :	-	11.2 :	-	3.9 :	-
pH	SU	T		6.52 :	-	7.7 J	-	7.7 J	-
Specific Conductance	uS/cm	T		404. :	-	335. :	-	327. :	-
Temperature	Celsius	T		7.67 :	-	12.12 :	-	7.82 :	-
Turbidity	NTU	T		16.2 :	-	2.3 :	-	20. :	-
General Chemistry									
Ammonia	mg/L	T		<0.04 :	-	0.054 :	-	0.059 :	-
Bicarbonate (as CaCO3)	mg/L	T		47.5 :	-	55.9 :	-	64. :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 J	-	<1.5 J	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		4. :	-	2.7 :	-	1.8 :	-
Fluoride	mg/L	T		0.68 :	-	<0.7 J	-	0.71 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.36 J	-	<0.41 J	-	0.27 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 J	-	<0.01 J	-
Phosphorus	mg/L	T		<0.038 :	-	0.022 :	-	0.032 :	-
Sulfate	mg/L	T		169. :	-	96.4 :	-	89.7 J	-
Total Alkalinity	mg/L	T		47.5 :	-	55.9 :	-	64. :	-
Total Dissolved Solids	mg/L	T		270. :	-	178. :	-	202. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.29 :	-
Total Organic Carbon	mg/L	T		<1. :	-	1.7 :	-	1. :	-
Total Suspended Solids	mg/L	T		28. :	-	10.2 :	-	31.4 :	-
Laboratory Parameters									
pH	SU	T		6.52 :	-	7.7 J	-	7.7 J	-
Specific Conductance	umhos/cm	T		-	-	291. J	-	300. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		200. :	-	152. :	-	168. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ND-1	ND-1	ND-1	ND-1	ND-1	ND-1
			Sample Date	10/9/2002	10/9/2002	7/15/2003	7/15/2003	9/21/2003	9/21/2003
			Sample ID	ND-1-T01N-SFW	ND-1-D01N-SFW	ND-1-T01N-SFW	ND-1-D01N-SFW	ND-1-T01N-SFW	ND-1-D01N-SFW
			ID	ID	ID	ID	ID	ID	ID
Hardness	mg/L	D		-	200. :	-	150. :	-	170. :
Metals									
Aluminum	mg/L	T		2.42 :	-	1.28 :	-	1.5 :	-
Aluminum	mg/L	D		-	0.144 :	-	0.272 :	-	0.23 :
Antimony	mg/L	T		<0.0002 :	-	<0.0005 :	-	<0.00011 :	-
Antimony	mg/L	D		-	<0.0002 :	-	<0.0005 :	-	<0.00018 :
Arsenic	mg/L	T		0.00026 :	-	<0.0002 :	-	<0.00038 :	-
Arsenic	mg/L	D		-	0.00022 :	-	<0.0002 :	-	<0.00038 :
Barium	mg/L	T		0.0362 :	-	0.0366 :	-	0.0438 :	-
Barium	mg/L	D		-	0.0322 :	-	0.0339 :	-	0.0374 :
Beryllium	mg/L	T		0.00056 :	-	<0.00052 :	-	<0.0005 :	-
Beryllium	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.00047 :
Boron	mg/L	T		<0.0072 :	-	0.0065 :	-	<0.0048 :	-
Boron	mg/L	D		-	<0.007 :	-	0.0058 :	-	<0.0048 :
Cadmium	mg/L	T		0.0007 :	-	0.00058 :	-	0.00057 :	-
Cadmium	mg/L	D		-	0.0005 :	-	0.00049 :	-	0.00047 :
Calcium	mg/L	T		59.4 :	-	44.9 :	-	50.2 :	-
Calcium	mg/L	D		-	59.2 :	-	44.5 :	-	50.8 :
Chromium	mg/L	T		<0.0046 :	-	<0.0014 :	-	<0.001 :	-
Chromium	mg/L	D		-	<0.0046 :	-	<0.0014 :	-	<0.001 :
Chromium, Hexavalent	mg/L	D		<0.01 :	-	-	-	-	-
Cobalt	mg/L	T		0.0047 :	-	<0.002 :	-	0.0033 :	-
Cobalt	mg/L	D		-	0.0047 :	-	0.0021 :	-	0.0047 :
Copper	mg/L	T		0.0279 J	-	0.0147 :	-	0.0143 :	-
Copper	mg/L	D		-	0.0047 J	-	0.0059 :	-	0.0033 :
Iron	mg/L	T		0.579 :	-	0.256 :	-	0.664 :	-
Iron	mg/L	D		-	0.0344 :	-	<0.0333 :	-	<0.044 :
Lead	mg/L	T		0.00055 :	-	0.00059 :	-	0.0016 :	-
Lead	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	0.00007 :
Magnesium	mg/L	T		12.6 :	-	9.59 :	-	10.3 :	-
Magnesium	mg/L	D		-	12.6 :	-	9.49 :	-	10.4 :
Manganese	mg/L	T		0.46 :	-	0.238 :	-	0.274 :	-
Manganese	mg/L	D		-	0.448 :	-	0.225 :	-	0.269 :
Mercury	mg/L	T		0.0002 :	-	<0.0001 :	-	<0.00006 :	-

J = Qualified as estimated during data validation
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / ID											
			ND-1 10/9/2002 ND-1-T01N-SFW		ND-1 10/9/2002 ND-1-D01N-SFW		ND-1 7/15/2003 ND-1-T01N-SFW		ND-1 7/15/2003 ND-1-D01N-SFW		ND-1 9/21/2003 ND-1-T01N-SFW		ND-1 9/21/2003 ND-1-D01N-SFW	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.00006	:
Molybdenum	mg/L	T	0.0028	:	-		0.0026	:	-		0.0027	:	-	
Molybdenum	mg/L	D	-		0.0028	:	-		0.002	:	-		0.0024	:
Nickel	mg/L	T	0.0217	J	-		0.0188	:	-		0.0173	:	-	
Nickel	mg/L	D	-		0.0195	J	-		0.0192	:	-		0.0161	:
Potassium	mg/L	T	1.63	:	-		1.18	:	-		1.47	:	-	
Potassium	mg/L	D	-		1.63	:	-		1.1	:	-		1.37	:
Selenium	mg/L	T	<0.00054	:	-		<0.0016	:	-		<0.00073	:	-	
Selenium	mg/L	D	-		<0.00062	:	-		<0.0016	:	-		<0.00073	:
Silver	mg/L	T	<0.0001	:	-		<0.0001	J	-		<0.0002	:	-	
Silver	mg/L	D	-		<0.0001	:	-		<0.0001	J	-		<0.0002	:
Sodium	mg/L	T	6.26	:	-		5.14	:	-		4.95	:	-	
Sodium	mg/L	D	-		6.38	:	-		5.11	:	-		5.16	:
Thallium	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.00001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.00001	:
Vanadium	mg/L	T	0.00022	J	-		<0.00067	:	-		<0.00086	:	-	
Vanadium	mg/L	D	-		<0.0001	:	-		<0.0004	:	-		<0.00051	:
Zinc	mg/L	T	0.138	:	-		0.148	:	-		0.121	:	-	
Zinc	mg/L	D	-		0.0843	:	-		0.0929	:	-		0.0694	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	ND-6	ND-6	ONFH	ONFH	RR-1	RR-1
			Sample Date	5/6/2004	5/6/2004	3/20/2003	3/20/2003	10/4/2002	10/4/2002
			Sample ID	GARDEN1-T01N-IRW	GARDEN1-D01N-IRW	ONFH-T01N-SFW	ONFH-D01N-SFW	RR-1-T01N-SFW	RR-1-D01N-SFW
				ID	ID	SWR	SWR	RURR	RURR
Field Measurements									
DO	mg/L	T		8.05 :	-	7.25 :	-	8.16 :	-
Eh	millivolts	T		282.1 :	-	-95.2 :	-	108.1 :	-
Flow	gpm	T		6. :	-	-	-	-	-
Flow	cfs	T		-	-	-	-	8.48 :	-
pH	SU	T		8.4 J	-	7. J	-	7.11 :	-
Specific Conductance	uS/cm	T		192. :	-	333. :	-	218. :	-
Temperature	Celsius	T		17.92 :	-	15.99 :	-	11.5 :	-
Turbidity	NTU	T		21.9 :	-	58.5 :	-	7.4 :	-
General Chemistry									
Ammonia	mg/L	T		<0.061 J	-	<0.25 J	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		51. :	-	84.2 :	-	91.8 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	1.8 J	-	<1.3 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		2. J	-	8.5 :	-	1.7 :	-
Fluoride	mg/L	T		0.38 :	-	0.96 :	-	<0.2 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<0.2 J	-	0.51 J	-	<0.5 J	-
Nitrite	mg/L	T		<0.005 :	-	0.0053 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		4. :	-	0.041 J	-	<0.01 J	-
Phosphorus	mg/L	T		0.075 :	-	0.085 :	-	<0.01 :	-
Sulfate	mg/L	T		42.1 :	-	62.3 :	-	21.5 :	-
Total Alkalinity	mg/L	T		51. :	-	84.2 :	-	91.8 :	-
Total Dissolved Solids	mg/L	T		190. :	-	216. :	-	124. :	-
Total Kjeldahl Nitrogen	mg/L	T		0.3 :	-	0.47 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<3.3 :	-	1.3 :	-	<1. :	-
Total Suspended Solids	mg/L	T		21. J	-	<2. :	-	<1.9 :	-
Laboratory Parameters									
pH	SU	T		8.4 J	-	7. J	-	7.11 :	-
Specific Conductance	umhos/cm	T		172. J	-	275. J	-	-	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 J	-
Physical Properties									

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	ND-6 5/6/2004 GARDEN1-T01N-IRW ID		ND-6 5/6/2004 GARDEN1-D01N-IRW ID		ONFH 3/20/2003 ONFH-T01N-SFW SWR		ONFH 3/20/2003 ONFH-D01N-SFW SWR		RR-1 10/4/2002 RR-1-T01N-SFW RURR		RR-1 10/4/2002 RR-1-D01N-SFW RURR	
Hardness	mg/L	T	81.1	:	-		112.	:	-		108.	:	-	
Hardness	mg/L	D	-		79.7	:	-		108.	:	-		112.	:
Metals														
Aluminum	mg/L	T	0.832	:	-		<0.503	:	-		0.0415	:	-	
Aluminum	mg/L	D	-		<0.213	:	-		<0.0631	:	-		<0.0064	:
Antimony	mg/L	T	<0.00041	:	-		<0.00067	:	-		<0.0002	:	-	
Antimony	mg/L	D	-		<0.00049	:	-		<0.0006	:	-		<0.0002	:
Arsenic	mg/L	T	0.00034	:	-		<0.0013	J	-		<0.0002	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		0.0014	:	-		<0.0002	:
Barium	mg/L	T	0.0317	:	-		0.0256	:	-		0.0474	:	-	
Barium	mg/L	D	-		0.0203	:	-		0.0251	:	-		0.0484	:
Beryllium	mg/L	T	<0.0002	J	-		<0.0003	J	-		<0.0002	:	-	
Beryllium	mg/L	D	-		<0.0002	J	-		<0.0003	J	-		<0.0002	:
Boron	mg/L	T	<0.0049	:	-		0.045	:	-		<0.0048	:	-	
Boron	mg/L	D	-		<0.0046	:	-		0.0454	:	-		<0.0048	:
Cadmium	mg/L	T	<0.0002	:	-		<0.0005	:	-		<0.0001	:	-	
Cadmium	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0001	:
Calcium	mg/L	T	25.1	:	-		31.1	:	-		35.	:	-	
Calcium	mg/L	D	-		24.7	:	-		30.	:	-		36.2	:
Chromium	mg/L	T	0.0012	:	-		<0.0028	:	-		<0.0046	:	-	
Chromium	mg/L	D	-		<0.0008	:	-		<0.0025	:	-		<0.0046	:
Cobalt	mg/L	T	<0.0011	:	-		<0.0038	:	-		<0.0022	:	-	
Cobalt	mg/L	D	-		0.0015	:	-		<0.0038	:	-		<0.0022	:
Copper	mg/L	T	0.0062	:	-		<0.0015	:	-		<0.00058	:	-	
Copper	mg/L	D	-		0.0019	:	-		<0.0015	:	-		0.0054	:
Iron	mg/L	T	0.858	:	-		<0.311	:	-		<0.0226	:	-	
Iron	mg/L	D	-		<0.0732	:	-		<0.311	:	-		<0.0226	:
Lead	mg/L	T	0.0059	:	-		<0.0002	:	-		<0.00011	:	-	
Lead	mg/L	D	-		<0.0004	:	-		0.00081	J	-		<0.0001	:
Magnesium	mg/L	T	4.48	:	-		8.45	:	-		5.02	:	-	
Magnesium	mg/L	D	-		4.35	:	-		8.1	:	-		5.17	:
Manganese	mg/L	T	0.04	:	-		<0.01	:	-		<0.0027	:	-	
Manganese	mg/L	D	-		<0.0172	:	-		<0.01	:	-		<0.0025	:
Mercury	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	

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Appendix A-2
Surface Water
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	
			ND-6	5/6/2004	GARDEN1-T01N-IRW	ID	ND-6	5/6/2004	GARDEN1-D01N-IRW	ID	ONFH	3/20/2003	ONFH-T01N-SFW	SWR	ONFH	3/20/2003	ONFH-D01N-SFW	SWR
Mercury	mg/L	D	-				<0.0001			:	-				<0.0001			:
Molybdenum	mg/L	T	0.0027			:	-				0.041			:	-			
Molybdenum	mg/L	D	-				<0.002			:	-				0.04			:
Nickel	mg/L	T	0.0021			:	-				<0.003			:	-			
Nickel	mg/L	D	-				<0.0009			:	-				<0.003			:
Potassium	mg/L	T	1.29			:	-				3.1			:	-			
Potassium	mg/L	D	-				1.05			:	-				3.1			:
Selenium	mg/L	T	<0.0007			:	-				<0.001			:	-			
Selenium	mg/L	D	-				<0.0007			:	-				<0.0014			:
Silver	mg/L	T	<0.0001			:	-				<0.0002			:	-			
Silver	mg/L	D	-				<0.0001			:	-				<0.0002			:
Sodium	mg/L	T	4.64			:	-				26.9			:	-			
Sodium	mg/L	D	-				4.55			:	-				25.4			:
Thallium	mg/L	T	<0.0001			:	-				<0.0002			:	-			
Thallium	mg/L	D	-				<0.0001			:	-				<0.0002			:
Vanadium	mg/L	T	0.0017			:	-				0.007			:	-			
Vanadium	mg/L	D	-				0.00033			:	-				0.0068			:
Zinc	mg/L	T	0.0178			:	-				<0.0173			:	-			
Zinc	mg/L	D	-				<0.0068			:	-				<0.0204			:

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID		Site ID	Sample Date	Sample ID	
			RR-1	10/4/2002	RR-1-T01N-SFW	RURR	RR-1	10/4/2002	RR-1-D01N-SFW	RURR
Mercury	mg/L	D	-				<0.0001			:
Molybdenum	mg/L	T	0.00093			:	-			
Molybdenum	mg/L	D	-				0.0009			:
Nickel	mg/L	T	<0.0002			:	-			
Nickel	mg/L	D	-				<0.0002			:
Potassium	mg/L	T	1.01			:	-			
Potassium	mg/L	D	-				0.977			:
Selenium	mg/L	T	<0.0002			:	-			
Selenium	mg/L	D	-				<0.0002			:
Silver	mg/L	T	<0.0001			:	-			
Silver	mg/L	D	-				<0.0001			:
Sodium	mg/L	T	3.08			:	-			
Sodium	mg/L	D	-				3.01			:
Thallium	mg/L	T	<0.0001			:	-			
Thallium	mg/L	D	-				<0.0001			:
Vanadium	mg/L	T	0.00036			:	-			
Vanadium	mg/L	D	-				0.00032			:
Zinc	mg/L	T	<0.0069			:	-			
Zinc	mg/L	D	-				<0.0069			:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-1	RR-1	RR-1	RR-1	RR-1	RR-1
			Sample Date	3/21/2003	3/21/2003	7/16/2003	7/16/2003	9/21/2003	9/25/2003
			Sample ID	RR-1-T01N-SFW	RR-1-D01N-SFW	RR-1-T01N-SFW	RR-1-D01N-SFW	RR-1-T01N-SFW	RR-1-T01N-SFW
			Exposure Area	RURR	RURR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		9.25 :	-	8.69 :	-	8.71 :	-
Eh	millivolts	T		131.8 :	-	114.3 :	-	329.4 :	-
Flow	cfs	T		4.8 :	-	12.9 :	-	-	12.4 :
pH	SU	T		7.9 J	-	8.2 J	-	5.82 :	8.1 J
Specific Conductance	uS/cm	T		218. :	-	176. :	-	461. :	-
Temperature	Celsius	T		2.8 :	-	14.56 :	-	14.11 :	-
Turbidity	NTU	T		46.3 :	-	0. :	-	2.7 :	-
General Chemistry									
Ammonia	mg/L	T		<0.095 J	-	<0.04 :	-	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		91.9 :	-	78.5 :	-	-	84.1 :
Biochemical Oxygen Demand	mg/L	T		<1.5 J	-	<1.5 J	-	-	1.7 J
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	-	<20. :
Chloride	mg/L	T		4. :	-	<1.3 :	-	-	2.9 :
Fluoride	mg/L	T		<0.1 :	-	<0.1 J	-	-	<0.1 :
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Nitrate	mg/L	T		<0.4 J	-	<1. J	-	-	0.52 J
Nitrite	mg/L	T		<0.005 J	-	<0.005 J	-	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		0.13 J	-	<0.01 J	-	-	<0.01 :
Phosphorus	mg/L	T		<0.01 J	-	<0.01 :	-	-	0.011 :
Sulfate	mg/L	T		15.6 :	-	18.2 :	-	-	19.6 J
Total Alkalinity	mg/L	T		91.9 :	-	78.5 :	-	-	84.1 :
Total Dissolved Solids	mg/L	T		<106. :	-	<74. J	-	-	134. :
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	-	<0.24 :
Total Organic Carbon	mg/L	T		1.2 :	-	1.1 :	-	-	1.6 :
Total Suspended Solids	mg/L	T		<1.4 :	-	5.6 :	-	-	1.8 :
Laboratory Parameters									
pH	SU	T		7.9 J	-	8.2 J	-	5.82 :	8.1 J
Specific Conductance	umhos/cm	T		194. J	-	168. J	-	-	176. J
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		115. :	-	87.4 :	-	-	102. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-1	RR-1	RR-1	RR-1	RR-1	RR-1
			Sample Date	3/21/2003	3/21/2003	7/16/2003	7/16/2003	9/21/2003	9/25/2003
			Sample ID	RR-1-T01N-SFW	RR-1-D01N-SFW	RR-1-T01N-SFW	RR-1-D01N-SFW	RR-1-T01N-SFW	RR-1-T01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Hardness	mg/L	D		-	111. :	-	91.1 :	-	-
Metals									
Aluminum	mg/L	T		<0.426 :	-	<0.0711 :	-	-	<0.0505 :
Aluminum	mg/L	D		-	<0.0631 :	-	<0.0311 :	-	-
Antimony	mg/L	T		<0.0006 :	-	<0.0005 :	-	-	0.0016 :
Antimony	mg/L	D		-	<0.0006 :	-	<0.0005 :	-	-
Arsenic	mg/L	T		<0.0004 J	-	<0.0002 :	-	-	<0.00038 :
Arsenic	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	-
Barium	mg/L	T		0.0539 :	-	0.0377 :	-	-	0.0436 :
Barium	mg/L	D		-	0.0522 :	-	0.0363 :	-	-
Beryllium	mg/L	T		<0.0003 :	-	<0.0002 :	-	-	<0.00047 :
Beryllium	mg/L	D		-	<0.0003 :	-	<0.0002 :	-	-
Boron	mg/L	T		<0.0084 :	-	<0.0048 :	-	-	<0.0048 :
Boron	mg/L	D		-	<0.0084 :	-	<0.0048 :	-	-
Cadmium	mg/L	T		<0.0005 J	-	<0.0002 :	-	-	<0.00008 :
Cadmium	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	-
Calcium	mg/L	T		36.7 :	-	28.5 :	-	-	33. :
Calcium	mg/L	D		-	35.7 :	-	29.8 :	-	-
Chromium	mg/L	T		<0.001 :	-	<0.0014 :	-	-	<0.001 :
Chromium	mg/L	D		-	<0.001 :	-	<0.0014 :	-	-
Cobalt	mg/L	T		<0.0038 :	-	<0.002 :	-	-	<0.0011 :
Cobalt	mg/L	D		-	<0.0038 :	-	<0.002 :	-	-
Copper	mg/L	T		<0.0015 :	-	<0.0024 :	-	-	<0.00045 :
Copper	mg/L	D		-	<0.0015 :	-	0.0047 :	-	-
Iron	mg/L	T		<0.422 :	-	0.108 :	-	-	<0.0766 :
Iron	mg/L	D		-	<0.422 :	-	<0.0333 :	-	-
Lead	mg/L	T		<0.0002 :	-	0.00034 :	-	-	<0.00014 :
Lead	mg/L	D		-	<0.0002 :	-	<0.0001 :	-	-
Magnesium	mg/L	T		5.59 :	-	3.93 :	-	-	4.66 :
Magnesium	mg/L	D		-	5.38 :	-	4.08 :	-	-
Manganese	mg/L	T		<0.013 :	-	0.0069 :	-	-	<0.0045 :
Manganese	mg/L	D		-	<0.013 :	-	0.0039 :	-	-
Mercury	mg/L	T		<0.0001 J	-	<0.00015 :	-	-	<0.00006 :
Mercury	mg/L	D		-	<0.0001 J	-	<0.0002 :	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-1 3/21/2003 RR-1-T01N-SFW RURR		RR-1 3/21/2003 RR-1-D01N-SFW RURR		RR-1 7/16/2003 RR-1-T01N-SFW RURR		RR-1 7/16/2003 RR-1-D01N-SFW RURR		RR-1 9/21/2003 RR-1-T01N-SFW RURR	RR-1 9/25/2003 RR-1-T01N-SFW RURR	
Molybdenum	mg/L	T	<0.0023	:	-		<0.0017	:	-		-	<0.0019	:
Molybdenum	mg/L	D	-		<0.0023	:	-		<0.0017	:	-	-	
Nickel	mg/L	T	<0.003	:	-		<0.0021	:	-		-	<0.001	:
Nickel	mg/L	D	-		<0.003	:	-		<0.0021	:	-	-	
Potassium	mg/L	T	0.869	:	-		1.28	:	-		-	<0.939	:
Potassium	mg/L	D	-		0.807	:	-		0.968	:	-	-	
Selenium	mg/L	T	<0.0013	J	-		<0.0008	:	-		-	<0.00073	:
Selenium	mg/L	D	-		<0.001	J	-		<0.0008	:	-	-	
Silver	mg/L	T	<0.0002	:	-		<0.0001	J	-		-	<0.0002	:
Silver	mg/L	D	-		<0.0002	:	-		<0.0001	J	-	-	
Sodium	mg/L	T	<9.16	:	-		2.71	:	-		-	2.35	:
Sodium	mg/L	D	-		<9.16	:	-		2.57	:	-	-	
Thallium	mg/L	T	<0.0002	:	-		<0.0001	:	-		-	<0.00001	:
Thallium	mg/L	D	-		<0.0002	:	-		<0.0001	:	-	-	
Vanadium	mg/L	T	0.00027	:	-		0.00038	:	-		-	0.00059	:
Vanadium	mg/L	D	-		<0.0002	:	-		0.00027	:	-	-	
Zinc	mg/L	T	<0.039	:	-		<0.0055	:	-		-	<0.013	:
Zinc	mg/L	D	-		<0.039	:	-		<0.0043	:	-	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-1	RR-10	RR-10	RR-10	RR-10	RR-10
			Sample Date	9/25/2003	10/3/2002	10/3/2002	3/20/2003	3/20/2003	7/15/2003
			Sample ID	RR-1-D01N-SFW	RR-10-T01N-SFW	RR-10-D01N-SFW	RR-10-T01N-SFW	RR-10-D01N-SFW	RR-10-T01N-SFW
				RURR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	11.01 :	-	10.23 :	-	8.67 :
Eh	millivolts	T		-	368.5 :	-	257.9 :	-	155.1 :
Flow	cfs	T		-	11.77 :	-	8.8 :	-	19.3 :
pH	SU	T		-	7.09 :	-	7.6 J	-	8.2 J
Specific Conductance	uS/cm	T		-	316. :	-	380. :	-	247. :
Temperature	Celsius	T		-	7.98 :	-	4.46 :	-	12.03 :
Turbidity	NTU	T		-	36.3 :	-	43.4 :	-	0. :
General Chemistry									
Ammonia	mg/L	T		-	<0.03 :	-	<0.15 J	-	0.047 :
Bicarbonate (as CaCO3)	mg/L	T		-	66.9 :	-	59.6 :	-	62.5 :
Biochemical Oxygen Demand	mg/L	T		-	1.7 :	-	1.2 J	-	<1.6 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.3 :	-	5.8 :	-	2.7 :
Fluoride	mg/L	T		-	0.45 :	-	0.47 :	-	<0.31 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.47 :	-	0.77 J	-	<1. J
Nitrite	mg/L	T		-	0.006 :	-	0.023 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	0.072 J	-	0.011 J
Phosphorus	mg/L	T		-	0.22 :	-	0.13 :	-	0.03 :
Sulfate	mg/L	T		-	94.3 :	-	109. :	-	60.4 :
Total Alkalinity	mg/L	T		-	66.9 :	-	59.6 :	-	62.5 :
Total Dissolved Solids	mg/L	T		-	223. :	-	210. :	-	158. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	0.28 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.3 :	-	1.7 :	-	<1. :
Total Suspended Solids	mg/L	T		-	49.3 :	-	17.6 :	-	4.7 :
Laboratory Parameters									
pH	SU	T		-	7.09 :	-	7.6 J	-	8.2 J
Specific Conductance	umhos/cm	T		-	-	-	292. :	-	240. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	152. :	-	170. :	-	121. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-1	RR-10	RR-10	RR-10	RR-10	RR-10
			Sample Date	9/25/2003	10/3/2002	10/3/2002	3/20/2003	3/20/2003	7/15/2003
			Sample ID	RR-1-D01N-SFW	RR-10-T01N-SFW	RR-10-D01N-SFW	RR-10-T01N-SFW	RR-10-D01N-SFW	RR-10-T01N-SFW
				RURR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		104. :	-	151. :	-	162. :	-
Metals									
Aluminum	mg/L	T		-	1.92 :	-	<1.57 :	-	0.519 :
Aluminum	mg/L	D		<0.0036 :	-	0.11 :	-	0.142 :	-
Antimony	mg/L	T		-	<0.0002 :	-	<0.0006 :	-	<0.0005 :
Antimony	mg/L	D		<0.0016 :	-	<0.0002 :	-	<0.0006 :	-
Arsenic	mg/L	T		-	0.00035 :	-	<0.0004 :	-	<0.0002 :
Arsenic	mg/L	D		<0.00038 :	-	<0.0002 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0603 :	-	0.0449 :	-	0.0343 :
Barium	mg/L	D		0.0438 :	-	0.0278 :	-	0.0352 :	-
Beryllium	mg/L	T		-	0.00021 :	-	<0.0003 J	-	<0.0004 :
Beryllium	mg/L	D		<0.00047 :	-	<0.0002 :	-	<0.0003 J	-
Boron	mg/L	T		-	<0.0048 :	-	<0.0084 :	-	0.0071 :
Boron	mg/L	D		<0.0048 :	-	<0.0048 :	-	0.0087 :	-
Cadmium	mg/L	T		-	0.00026 :	-	<0.0005 :	-	<0.0002 :
Cadmium	mg/L	D		<0.00008 :	-	0.00017 :	-	<0.0002 :	-
Calcium	mg/L	T		-	44.8 :	-	48.7 :	-	36.2 :
Calcium	mg/L	D		33.7 :	-	44.8 :	-	46.6 :	-
Chromium	mg/L	T		-	<0.0046 :	-	<0.001 :	-	<0.0019 :
Chromium	mg/L	D		<0.001 :	-	<0.0046 :	-	<0.001 :	-
Cobalt	mg/L	T		-	<0.0022 :	-	0.0039 :	-	<0.0037 :
Cobalt	mg/L	D		<0.0011 :	-	<0.0022 :	-	<0.0038 :	-
Copper	mg/L	T		-	0.0139 :	-	0.0217 :	-	0.0071 :
Copper	mg/L	D		<0.00055 :	-	0.0024 :	-	0.0051 :	-
Iron	mg/L	T		-	2.3 :	-	0.74 :	-	0.223 :
Iron	mg/L	D		<0.044 :	-	<0.0226 :	-	<0.422 :	-
Lead	mg/L	T		-	0.0025 :	-	0.001 :	-	0.00058 :
Lead	mg/L	D		<0.00005 :	-	<0.0001 :	-	<0.0002 :	-
Magnesium	mg/L	T		-	9.64 :	-	11.8 :	-	7.53 :
Magnesium	mg/L	D		4.76 :	-	9.37 :	-	11.2 :	-
Manganese	mg/L	T		-	0.209 :	-	0.266 :	-	0.0985 :
Manganese	mg/L	D		<0.0022 :	-	0.164 :	-	0.215 :	-
Mercury	mg/L	T		-	<0.0001 :	-	<0.0001 :	-	<0.00017 :
Mercury	mg/L	D		<0.00006 :	-	<0.0001 :	-	<0.0001 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-1	RR-10	RR-10	RR-10	RR-10	RR-10
			Sample Date	9/25/2003	10/3/2002	10/3/2002	3/20/2003	3/20/2003	7/15/2003
			Sample ID	RR-1-D01N-SFW	RR-10-T01N-SFW	RR-10-D01N-SFW	RR-10-T01N-SFW	RR-10-D01N-SFW	RR-10-T01N-SFW
				RURR	SWR	SWR	SWR	SWR	SWR
Molybdenum	mg/L	T		-	<0.00094 :	-	<0.0023 :	-	0.0011 :
Molybdenum	mg/L	D		<0.0019 :	-	0.0014 :	-	<0.0023 :	-
Nickel	mg/L	T		-	0.0069 :	-	0.0096 :	-	0.0048 :
Nickel	mg/L	D		<0.001 :	-	0.0042 :	-	0.0083 :	-
Potassium	mg/L	T		-	2.22 :	-	1.9 :	-	1.16 :
Potassium	mg/L	D		<0.939 :	-	1.54 :	-	1.83 :	-
Selenium	mg/L	T		-	0.00033 :	-	<0.001 :	-	<0.0008 :
Selenium	mg/L	D		<0.00073 :	-	<0.0002 :	-	<0.001 :	-
Silver	mg/L	T		-	<0.0001 :	-	<0.0002 :	-	<0.0001 J
Silver	mg/L	D		<0.0002 :	-	<0.0001 :	-	<0.0002 :	-
Sodium	mg/L	T		-	5.18 :	-	10.3 :	-	4.85 :
Sodium	mg/L	D		2.41 :	-	5.28 :	-	13.4 :	-
Thallium	mg/L	T		-	<0.0001 :	-	<0.0002 :	-	<0.0001 :
Thallium	mg/L	D		<0.00001 :	-	<0.0001 :	-	<0.0002 :	-
Vanadium	mg/L	T		-	0.00075 :	-	0.00027 :	-	0.00026 :
Vanadium	mg/L	D		<0.00037 :	-	0.00014 :	-	<0.0002 :	-
Zinc	mg/L	T		-	0.0388 :	-	0.0807 :	-	<0.03 :
Zinc	mg/L	D		<0.013 :	-	<0.0069 :	-	<0.039 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-10	RR-10	RR-10	RR-10A1	RR-10A1	RR-10A1
			Sample Date	7/15/2003	9/24/2003	9/24/2003	10/3/2002	10/3/2002	3/20/2003
			Sample ID	RR-10-D01N-SFW	RR-10-T01N-SFW	RR-10-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.34 :	-	10.9 :	-	12.91 :
Eh	millivolts	T		-	172.9 :	-	336.4 :	-	268.8 :
Flow	cfs	T		-	14.5 :	-	13.4 :	-	5. :
pH	SU	T		-	7.9 J	-	7.35 :	-	7.4 J
Specific Conductance	uS/cm	T		-	327. :	-	285. :	-	354. :
Temperature	Celsius	T		-	11.35 :	-	8.48 :	-	5.13 :
Turbidity	NTU	T		-	5.3 :	-	14. :	-	30. :
General Chemistry									
Ammonia	mg/L	T		-	<0.04 :	-	<0.024 :	-	<0.12 J
Bicarbonate (as CaCO3)	mg/L	T		-	66.7 :	-	64.9 :	-	61.5 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	1.5 :	-	<1.4 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	2.7 :	-	2.8 :	-	5.4 :
Fluoride	mg/L	T		-	0.32 :	-	<0.27 :	-	0.44 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.33 J	-	0.43 :	-	0.82 J
Nitrite	mg/L	T		-	<0.005 J	-	0.006 J	-	0.017 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	<0.01 :	-	0.025 J
Phosphorus	mg/L	T		-	0.033 :	-	<0.062 :	-	0.096 :
Sulfate	mg/L	T		-	76.8 J	-	75.5 :	-	84.7 :
Total Alkalinity	mg/L	T		-	66.7 :	-	64.9 :	-	61.5 :
Total Dissolved Solids	mg/L	T		-	188. :	-	206. :	-	190. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	<1. :	-	<1. :	-	2. :
Total Suspended Solids	mg/L	T		-	11. :	-	23.2 :	-	13.9 :
Laboratory Parameters									
pH	SU	T		-	7.9 J	-	7.35 :	-	7.4 J
Specific Conductance	umhos/cm	T		-	271. J	-	-	-	285. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	136. :	-	139. :	-	146. :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-10	RR-10	RR-10	RR-10A1	RR-10A1	RR-10A1
			Sample Date	7/15/2003	9/24/2003	9/24/2003	10/3/2002	10/3/2002	3/20/2003
			Sample ID	RR-10-D01N-SFW	RR-10-T01N-SFW	RR-10-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		122. :	-	133. :	-	139. :	-
Metals									
Aluminum	mg/L	T		-	0.61 :	-	1.16 :	-	<1.38 :
Aluminum	mg/L	D		0.197 :	-	0.179 :	-	0.629 :	-
Antimony	mg/L	T		-	<0.00011 :	-	<0.0002 :	-	<0.0006 :
Antimony	mg/L	D		<0.0005 :	-	<0.00095 :	-	<0.0002 :	-
Arsenic	mg/L	T		-	<0.00038 :	-	0.0002 :	-	<0.0004 J
Arsenic	mg/L	D		<0.0002 :	-	<0.00038 :	-	0.00026 :	-
Barium	mg/L	T		-	0.0403 :	-	0.0486 :	-	0.0423 :
Barium	mg/L	D		0.0306 :	-	0.035 :	-	0.0404 :	-
Beryllium	mg/L	T		-	<0.00047 :	-	<0.0002 :	-	<0.0003 J
Beryllium	mg/L	D		<0.0004 :	-	<0.00047 :	-	<0.0002 :	-
Boron	mg/L	T		-	<0.0055 :	-	<0.0048 :	-	<0.0084 :
Boron	mg/L	D		0.007 :	-	<0.0072 :	-	<0.0048 :	-
Cadmium	mg/L	T		-	0.00024 :	-	0.00019 :	-	<0.0005 :
Cadmium	mg/L	D		<0.0002 :	-	0.0002 :	-	0.00013 :	-
Calcium	mg/L	T		-	41. :	-	41.7 :	-	42.5 :
Calcium	mg/L	D		36.5 :	-	40.2 :	-	41.8 :	-
Chromium	mg/L	T		-	<0.001 :	-	<0.0046 :	-	<0.001 :
Chromium	mg/L	D		<0.0019 :	-	<0.001 :	-	<0.0046 :	-
Cobalt	mg/L	T		-	0.0018 :	-	<0.0022 :	-	<0.0038 :
Cobalt	mg/L	D		<0.0037 :	-	0.0019 :	-	<0.0022 :	-
Copper	mg/L	T		-	0.0075 :	-	0.0089 :	-	0.0163 :
Copper	mg/L	D		0.0034 :	-	0.0025 :	-	0.0055 :	-
Iron	mg/L	T		-	0.399 :	-	1.25 :	-	<0.311 :
Iron	mg/L	D		<0.0667 :	-	<0.044 :	-	0.561 :	-
Lead	mg/L	T		-	0.00086 :	-	0.002 :	-	0.0008 :
Lead	mg/L	D		<0.0001 :	-	<0.00004 :	-	<0.0014 :	-
Magnesium	mg/L	T		-	8.08 :	-	8.42 :	-	9.79 :
Magnesium	mg/L	D		7.56 :	-	7.93 :	-	8.33 :	-
Manganese	mg/L	T		-	0.134 :	-	0.161 :	-	0.193 :
Manganese	mg/L	D		0.0784 :	-	0.119 :	-	0.147 :	-
Mercury	mg/L	T		-	<0.00006 :	-	<0.0001 :	-	<0.0001 :
Mercury	mg/L	D		<0.00018 :	-	<0.00006 :	-	<0.0001 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / SWR											
			RR-10		RR-10		RR-10		RR-10A1		RR-10A1		RR-10A1	
			7/15/2003		9/24/2003		9/24/2003		10/3/2002		10/3/2002		3/20/2003	
			RR-10-D01N-SFW		RR-10-T01N-SFW		RR-10-D01N-SFW		RR-10A1-T01N-SFW		RR-10A1-D01N-SFW		RR-10A1-T01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Molybdenum	mg/L	T	-		<0.0013	:	-		0.0014	:	-		<0.0023	:
Molybdenum	mg/L	D	0.0012	:	-		<0.0019	:	-		0.0015	:	-	
Nickel	mg/L	T	-		0.007	:	-		0.0047	:	-		0.0085	:
Nickel	mg/L	D	0.0039	:	-		0.0063	:	-		0.0041	:	-	
Potassium	mg/L	T	-		1.24	J	-		1.84	:	-		1.59	:
Potassium	mg/L	D	1.	:	-		1.17	J	-		1.63	:	-	
Selenium	mg/L	T	-		<0.00073	:	-		0.00024	:	-		<0.001	:
Selenium	mg/L	D	<0.0008	:	-		<0.00073	:	-		<0.0002	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.0002	:
Silver	mg/L	D	<0.0001	J	-		<0.0002	:	-		<0.0001	:	-	
Sodium	mg/L	T	-		4.09	:	-		5.02	:	-		6.43	:
Sodium	mg/L	D	4.1	:	-		4.04	:	-		4.72	:	-	
Thallium	mg/L	T	-		<0.00001	:	-		<0.0001	:	-		<0.0002	:
Thallium	mg/L	D	<0.0001	:	-		<0.00001	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		0.00061	:	-		0.00048	:	-		0.00046	:
Vanadium	mg/L	D	<0.0002	:	-		<0.00028	:	-		0.00046	:	-	
Zinc	mg/L	T	-		0.0335	:	-		0.0244	:	-		<0.0597	:
Zinc	mg/L	D	<0.0095	:	-		0.0132	:	-		0.014	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-11A1
			Sample Date	3/20/2003	7/15/2003	7/15/2003	9/24/2003	9/24/2003	10/3/2002
			Sample ID	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-11A1-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	8.94 :	-	9.35 :	-	11.04 :
Eh	millivolts	T		-	156.2 :	-	152.3 :	-	327.4 :
Flow	cfs	T		-	25. :	-	17.5 :	-	14.15 :
pH	SU	T		-	8.1 J	-	8.2 J	-	7.75 :
Specific Conductance	uS/cm	T		-	228. :	-	304. :	-	284. :
Temperature	Celsius	T		-	11.08 :	-	-	-	8.02 :
Turbidity	NTU	T		-	0. :	-	4.1 :	-	20.6 :
General Chemistry									
Ammonia	mg/L	T		-	0.12 :	-	<0.04 :	-	<0.042 :
Bicarbonate (as CaCO3)	mg/L	T		-	63.9 :	-	69.8 :	-	75.3 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.4 J	-	<1.4 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	2.3 :	-	2.4 :	-	2.9 :
Fluoride	mg/L	T		-	<0.28 J	-	0.31 :	-	<0.25 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<1. J	-	0.33 J	-	0.45 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	0.006 J
Phosphate, Ortho As P	mg/L	T		-	0.022 J	-	<0.012 J	-	<0.01 J
Phosphorus	mg/L	T		-	0.031 :	-	0.022 :	-	0.4 :
Sulfate	mg/L	T		-	51.8 :	-	69.3 J	-	73.8 :
Total Alkalinity	mg/L	T		-	63.9 :	-	69.8 :	-	75.3 :
Total Dissolved Solids	mg/L	T		-	122. :	-	172. :	-	200. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.3 :	-	1.4 :	-	1.1 :
Total Suspended Solids	mg/L	T		-	2.6 :	-	6.7 :	-	27.4 :
Laboratory Parameters									
pH	SU	T		-	8.1 J	-	8.2 J	-	7.75 :
Specific Conductance	umhos/cm	T		-	220. J	-	253. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	110. :	-	130. :	-	139. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-11A1
			Sample Date	3/20/2003	7/15/2003	7/15/2003	9/24/2003	9/24/2003	10/3/2002
			Sample ID	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-11A1-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		145. :	-	112. :	-	127. :	-
Metals									
Aluminum	mg/L	T		-	0.304 :	-	0.52 :	-	0.792 :
Aluminum	mg/L	D		<0.598 :	-	0.149 :	-	0.141 :	-
Antimony	mg/L	T		-	<0.0005 :	-	<0.00011 :	-	<0.0002 :
Antimony	mg/L	D		<0.0006 :	-	<0.0005 :	-	<0.00015 :	-
Arsenic	mg/L	T		-	<0.0002 :	-	<0.00038 :	-	0.00029 :
Arsenic	mg/L	D		<0.0004 J	-	<0.0002 :	-	<0.00038 :	-
Barium	mg/L	T		-	0.0348 :	-	0.0436 :	-	0.0439 :
Barium	mg/L	D		0.0387 :	-	0.0342 :	-	0.0376 :	-
Beryllium	mg/L	T		-	<0.0004 :	-	<0.00047 :	-	<0.0002 :
Beryllium	mg/L	D		<0.0003 J	-	<0.0004 :	-	<0.00047 :	-
Boron	mg/L	T		-	0.0075 :	-	<0.0125 :	-	<0.0048 :
Boron	mg/L	D		<0.0084 :	-	0.0078 :	-	<0.007 :	-
Cadmium	mg/L	T		-	<0.0002 :	-	0.00021 :	-	0.00021 :
Cadmium	mg/L	D		<0.0005 :	-	<0.0002 :	-	0.00016 :	-
Calcium	mg/L	T		-	33.7 :	-	40. :	-	41.8 :
Calcium	mg/L	D		42.1 :	-	34.1 :	-	39. :	-
Chromium	mg/L	T		-	<0.0019 :	-	<0.001 :	-	<0.0046 :
Chromium	mg/L	D		<0.001 :	-	<0.0019 :	-	<0.001 :	-
Cobalt	mg/L	T		-	<0.0037 :	-	0.0017 :	-	<0.0022 :
Cobalt	mg/L	D		<0.0038 :	-	<0.0037 :	-	0.0032 :	-
Copper	mg/L	T		-	0.005 :	-	0.0065 :	-	0.0105 :
Copper	mg/L	D		0.0068 :	-	0.0033 :	-	0.0021 :	-
Iron	mg/L	T		-	0.0727 :	-	0.377 :	-	0.834 :
Iron	mg/L	D		<0.311 :	-	<0.0667 :	-	<0.044 :	-
Lead	mg/L	T		-	0.00021 :	-	0.00081 :	-	<0.0014 :
Lead	mg/L	D		<0.0002 :	-	<0.0001 :	-	<0.00004 :	-
Magnesium	mg/L	T		-	6.42 :	-	7.43 :	-	8.35 :
Magnesium	mg/L	D		9.77 :	-	6.5 :	-	7.21 :	-
Manganese	mg/L	T		-	0.0662 :	-	0.122 :	-	0.163 :
Manganese	mg/L	D		0.174 :	-	0.0638 :	-	0.108 :	-
Mercury	mg/L	T		-	<0.00013 :	-	<0.00006 :	-	<0.0001 :
Mercury	mg/L	D		<0.0001 :	-	<0.00018 :	-	0.00008 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-11A1
			Sample Date	3/20/2003	7/15/2003	7/15/2003	9/24/2003	9/24/2003	10/3/2002
			Sample ID	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-11A1-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Molybdenum	mg/L	T		-	0.0018 :	-	<0.0013 :	-	0.0012 :
Molybdenum	mg/L	D		0.0023 :	-	0.0016 :	-	<0.0013 :	-
Nickel	mg/L	T		-	0.0037 :	-	0.0061 :	-	0.0052 :
Nickel	mg/L	D		0.009 :	-	0.0034 :	-	0.0053 :	-
Potassium	mg/L	T		-	0.941 :	-	1.21 J	-	1.55 :
Potassium	mg/L	D		1.67 :	-	1.1 :	-	1.13 J	-
Selenium	mg/L	T		-	<0.0008 :	-	<0.00073 :	-	<0.0002 :
Selenium	mg/L	D		<0.0016 J	-	<0.0008 :	-	<0.00073 :	-
Silver	mg/L	T		-	<0.0001 J	-	<0.0002 :	-	<0.0001 :
Silver	mg/L	D		<0.0002 :	-	<0.0001 J	-	<0.0002 :	-
Sodium	mg/L	T		-	3.95 :	-	3.94 :	-	4.85 :
Sodium	mg/L	D		6.03 :	-	3.95 :	-	3.98 :	-
Thallium	mg/L	T		-	<0.0001 :	-	<0.00001 :	-	<0.0001 :
Thallium	mg/L	D		<0.0002 :	-	<0.0001 :	-	<0.00001 :	-
Vanadium	mg/L	T		-	0.00038 :	-	0.00062 :	-	0.00053 :
Vanadium	mg/L	D		<0.0002 :	-	0.00022 :	-	<0.00028 :	-
Zinc	mg/L	T		-	<0.019 :	-	0.0306 :	-	0.0252 :
Zinc	mg/L	D		<0.0268 :	-	<0.0091 :	-	0.0145 :	-
Volatile Organics									
1,1,1-Trichloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1,2,2-Tetrachloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1,2-Trichloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1-Dichloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,1-Dichloroethene	mg/L	T		-	-	-	-	-	<0.01 :
1,2,4-Trichlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dibromo-3-chloropropane	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dichlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dichloroethane	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dichloroethene (total)	mg/L	T		-	-	-	-	-	<0.01 :
1,2-Dichloropropane	mg/L	T		-	-	-	-	-	<0.01 :
1,3-Dichlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
1,4-Dichlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
2-Butanone	mg/L	T		-	-	-	-	-	<0.01 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-11A1
			Sample Date	3/20/2003	7/15/2003	7/15/2003	9/24/2003	9/24/2003	10/3/2002
			Sample ID	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-11A1-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2-Hexanone	mg/L	T		-	-	-	-	-	<0.01 :
4-Methyl-2-pentanone	mg/L	T		-	-	-	-	-	<0.01 :
Acetone	mg/L	T		-	-	-	-	-	<0.01 :
Benzene	mg/L	T		-	-	-	-	-	<0.01 :
Bromodichloromethane	mg/L	T		-	-	-	-	-	<0.01 :
Bromoform	mg/L	T		-	-	-	-	-	<0.01 :
Bromomethane	mg/L	T		-	-	-	-	-	<0.01 :
Carbon disulfide	mg/L	T		-	-	-	-	-	<0.01 :
Carbon tetrachloride	mg/L	T		-	-	-	-	-	<0.01 :
Chlorobenzene	mg/L	T		-	-	-	-	-	<0.01 :
Chloroethane	mg/L	T		-	-	-	-	-	<0.01 :
Chloroform	mg/L	T		-	-	-	-	-	<0.01 :
Chloromethane	mg/L	T		-	-	-	-	-	<0.01 :
cis-1,2-Dichloroethene	mg/L	T		-	-	-	-	-	<0.01 :
cis-1,3-Dichloropropene	mg/L	T		-	-	-	-	-	<0.01 :
Dibromochloromethane	mg/L	T		-	-	-	-	-	<0.01 :
Dichlorodifluoromethane	mg/L	T		-	-	-	-	-	<0.01 :
Ethylbenzene	mg/L	T		-	-	-	-	-	<0.01 :
Methylene chloride	mg/L	T		-	-	-	-	-	<0.01 :
Styrene	mg/L	T		-	-	-	-	-	<0.01 :
Tetrachloroethene	mg/L	T		-	-	-	-	-	<0.01 :
Toluene	mg/L	T		-	-	-	-	-	<0.01 :
Total Xylene	mg/L	T		-	-	-	-	-	<0.01 :
trans-1,2-Dichloroethene	mg/L	T		-	-	-	-	-	<0.01 :
trans-1,3-Dichloropropene	mg/L	T		-	-	-	-	-	<0.01 :
Trichloroethene	mg/L	T		-	-	-	-	-	<0.01 :
Trichlorofluoromethane	mg/L	T		-	-	-	-	-	<0.01 :
Vinyl chloride	mg/L	T		-	-	-	-	-	<0.01 :
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		-	-	-	-	-	<0.01 :
2,4,5-Trichlorophenol	mg/L	T		-	-	-	-	-	<0.026 :
2,4,6-Trichlorophenol	mg/L	T		-	-	-	-	-	<0.01 :
2,4-Dichlorophenol	mg/L	T		-	-	-	-	-	<0.01 :
2,4-Dimethylphenol	mg/L	T		-	-	-	-	-	<0.01 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-11A1	
			Sample Date	3/20/2003	7/15/2003	7/15/2003	9/24/2003	9/24/2003	10/3/2002	
			Sample ID	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-11A1-T01N-SFW	
				SWR	SWR	SWR	SWR	SWR	SWR	
2,4-Dinitrophenol	mg/L	T		-	-	-	-	-	<0.026	:
2,4-Dinitrotoluene	mg/L	T		-	-	-	-	-	<0.01	:
2,6-Dinitrotoluene	mg/L	T		-	-	-	-	-	<0.01	:
2-Chloronaphthalene	mg/L	T		-	-	-	-	-	<0.01	:
2-Chlorophenol	mg/L	T		-	-	-	-	-	<0.01	:
2-Methylnaphthalene	mg/L	T		-	-	-	-	-	<0.01	:
2-Methylphenol	mg/L	T		-	-	-	-	-	<0.01	:
2-Nitroaniline	mg/L	T		-	-	-	-	-	<0.026	:
2-Nitrophenol	mg/L	T		-	-	-	-	-	<0.01	:
3,3-Dichlorobenzidine	mg/L	T		-	-	-	-	-	<0.01	J
3-Nitroaniline	mg/L	T		-	-	-	-	-	<0.026	:
4,6-Dinitro-2-methylphenol	mg/L	T		-	-	-	-	-	<0.026	:
4-Bromophenyl phenyl ether	mg/L	T		-	-	-	-	-	<0.01	:
4-Chloro-3-methylphenol	mg/L	T		-	-	-	-	-	<0.01	:
4-Chloroaniline	mg/L	T		-	-	-	-	-	<0.01	:
4-Chlorophenyl phenyl ether	mg/L	T		-	-	-	-	-	<0.01	:
4-Methylphenol	mg/L	T		-	-	-	-	-	<0.01	:
4-Nitroaniline	mg/L	T		-	-	-	-	-	<0.026	J
4-Nitrophenol	mg/L	T		-	-	-	-	-	<0.026	:
Acenaphthene	mg/L	T		-	-	-	-	-	<0.01	:
Acenaphthylene	mg/L	T		-	-	-	-	-	<0.01	:
Anthracene	mg/L	T		-	-	-	-	-	<0.01	:
Benzaldehyde	mg/L	T		-	-	-	-	-	<0.01	J
Benzo(a)anthracene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(a)pyrene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(b)fluoranthene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(g,h,i)perylene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(k)fluoranthene	mg/L	T		-	-	-	-	-	<0.01	:
Bis(2-chloroethoxy)methane	mg/L	T		-	-	-	-	-	<0.01	:
Bis(2-chloroethyl)ether	mg/L	T		-	-	-	-	-	<0.01	:
Bis(2-ethylhexyl)phthalate	mg/L	T		-	-	-	-	-	<0.01	:
Butyl benzyl phthalate	mg/L	T		-	-	-	-	-	<0.01	:
Carbazole	mg/L	T		-	-	-	-	-	<0.01	:
Chrysene	mg/L	T		-	-	-	-	-	<0.01	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-10A1	RR-11A1	
			Sample Date	3/20/2003	7/15/2003	7/15/2003	9/24/2003	9/24/2003	10/3/2002	
			Sample ID	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-10A1-T01N-SFW	RR-10A1-D01N-SFW	RR-11A1-T01N-SFW	
				SWR	SWR	SWR	SWR	SWR	SWR	
Dibenz(a,h)anthracene	mg/L	T		-	-	-	-	-	<0.01	:
Dibenzofuran	mg/L	T		-	-	-	-	-	<0.01	:
Dichlorodiisopropyl ether	mg/L	T		-	-	-	-	-	<0.01	:
Diethylphthalate	mg/L	T		-	-	-	-	-	<0.01	:
Dimethylphthalate	mg/L	T		-	-	-	-	-	<0.01	:
Di-n-Butyl phthalate	mg/L	T		-	-	-	-	-	<0.01	:
Di-n-Octyl phthalate	mg/L	T		-	-	-	-	-	<0.01	J
Fluoranthene	mg/L	T		-	-	-	-	-	<0.01	:
Fluorene	mg/L	T		-	-	-	-	-	<0.01	:
Hexachlorobenzene	mg/L	T		-	-	-	-	-	<0.01	:
Hexachlorobutadiene	mg/L	T		-	-	-	-	-	<0.01	:
Hexachlorocyclopentadiene	mg/L	T		-	-	-	-	-	<0.01	:
Hexachloroethane	mg/L	T		-	-	-	-	-	<0.01	:
Indeno(1,2,3-cd)pyrene	mg/L	T		-	-	-	-	-	<0.01	:
Isophorone	mg/L	T		-	-	-	-	-	<0.01	:
Naphthalene	mg/L	T		-	-	-	-	-	<0.01	:
Nitrobenzene	mg/L	T		-	-	-	-	-	<0.01	:
N-Nitrosodi-n-propylamine	mg/L	T		-	-	-	-	-	<0.01	:
N-Nitrosodiphenylamine	mg/L	T		-	-	-	-	-	<0.01	:
Pentachlorophenol	mg/L	T		-	-	-	-	-	<0.026	:
Phenanthrene	mg/L	T		-	-	-	-	-	<0.01	:
Phenol	mg/L	T		-	-	-	-	-	<0.01	:
Pyrene	mg/L	T		-	-	-	-	-	<0.01	:
Explosives										
2,4,6-Trinitrotoluene	mg/L	T		-	-	-	-	-	<0.00025	:
2,6-Pyridinediamine,	mg/L	T		-	-	-	-	-	<0.00025	J
Cyclotetramethylenetetranitramine	mg/L	T		-	-	-	-	-	<0.00025	:
Cyclotrimethylenetrinitramine	mg/L	T		-	-	-	-	-	<0.00025	:
Pentaerythritol tetranitrate	mg/L	T		-	-	-	-	-	<0.01	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-11A1	RR-11A1	RR-11A1	RR-11A1	RR-11A1	RR-11A1
			Sample Date	10/3/2002	3/21/2003	3/21/2003	7/15/2003	7/15/2003	9/24/2003
			Sample ID	RR-11A1-D01N-SFW	RR-11A1-T01N-SFW	RR-11A1-D01N-SFW	RR-11A1-T01N-SFW	RR-11A1-D01N-SFW	RR-11A1-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.94 :	-	8.91 :	-	9.71 :
Eh	millivolts	T		-	227.5 :	-	167. :	-	161.6 :
Flow	cfs	T		-	4.2 :	-	23.8 :	-	19.3 :
pH	SU	T		-	7.2 J	-	8. J	-	8.1 J
Specific Conductance	uS/cm	T		-	333. :	-	233. :	-	305. :
Temperature	Celsius	T		-	1.14 :	-	10.27 :	-	8.05 :
Turbidity	NTU	T		-	76.7 :	-	0. :	-	6.2 :
General Chemistry									
Ammonia	mg/L	T		-	<0.073 :	-	0.11 :	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		-	58.9 :	-	64.9 :	-	68.4 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 :	-	<1.5 J	-	<1.4 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	6.9 :	-	2.6 :	-	2.5 :
Fluoride	mg/L	T		-	0.39 :	-	<0.34 J	-	0.31 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.62 J	-	<1. J	-	0.34 J
Nitrite	mg/L	T		-	0.012 :	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	0.14 J	-	0.29 J	-	<0.02 J
Phosphorus	mg/L	T		-	0.07 J	-	0.03 J	-	0.022 :
Sulfate	mg/L	T		-	80.3 :	-	54.1 :	-	51.5 J
Total Alkalinity	mg/L	T		-	58.9 :	-	64.9 :	-	68.4 :
Total Dissolved Solids	mg/L	T		-	210. :	-	118. :	-	174. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	2.2 :	-	<1. :	-	<1. :
Total Suspended Solids	mg/L	T		-	17.8 :	-	6.2 :	-	8.5 :
Laboratory Parameters									
pH	SU	T		-	7.2 J	-	8. J	-	8.1 J
Specific Conductance	umhos/cm	T		-	266. J	-	224. J	-	242. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	132. :	-	112. :	-	128. :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-11A1	RR-11A1	RR-11A1	RR-11A1	RR-11A1	RR-11A1
			Sample Date	10/3/2002	3/21/2003	3/21/2003	7/15/2003	7/15/2003	9/24/2003
			Sample ID	RR-11A1-D01N-SFW	RR-11A1-T01N-SFW	RR-11A1-D01N-SFW	RR-11A1-T01N-SFW	RR-11A1-D01N-SFW	RR-11A1-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		135. :	-	134. :	-	112. :	-
Metals									
Aluminum	mg/L	T		-	<1.57 :	-	0.407 :	-	0.513 :
Aluminum	mg/L	D		0.102 :	-	0.0919 :	-	0.185 :	-
Antimony	mg/L	T		-	<0.0006 :	-	<0.0005 :	-	<0.00039 :
Antimony	mg/L	D		<0.0002 :	-	<0.0006 :	-	<0.0005 :	-
Arsenic	mg/L	T		-	<0.0004 J	-	<0.0002 :	-	<0.00038 :
Arsenic	mg/L	D		<0.0002 :	-	<0.0002 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0493 :	-	0.0355 :	-	0.0429 :
Barium	mg/L	D		0.0298 :	-	0.035 :	-	0.0337 :	-
Beryllium	mg/L	T		-	<0.0003 J	-	<0.0004 :	-	<0.00047 :
Beryllium	mg/L	D		<0.0002 :	-	<0.0003 J	-	<0.0004 :	-
Boron	mg/L	T		-	<0.0084 :	-	0.007 :	-	<0.0067 :
Boron	mg/L	D		<0.0048 :	-	<0.0084 :	-	0.0061 :	-
Cadmium	mg/L	T		-	<0.0005 :	-	<0.0002 :	-	0.00022 :
Cadmium	mg/L	D		<0.0001 :	-	0.00021 :	-	<0.0002 :	-
Calcium	mg/L	T		-	38.5 :	-	34. :	-	39.3 :
Calcium	mg/L	D		40.7 :	-	39.2 :	-	34. :	-
Chromium	mg/L	T		-	<0.0015 :	-	<0.0019 :	-	<0.001 :
Chromium	mg/L	D		<0.0046 :	-	<0.001 :	-	<0.0019 :	-
Cobalt	mg/L	T		-	<0.0038 :	-	<0.0037 :	-	0.0018 :
Cobalt	mg/L	D		<0.0022 :	-	<0.0038 :	-	<0.0037 :	-
Copper	mg/L	T		-	0.018 :	-	0.0062 :	-	0.0067 :
Copper	mg/L	D		0.0022 :	-	0.0038 :	-	0.004 :	-
Iron	mg/L	T		-	0.888 :	-	0.0876 :	-	0.377 :
Iron	mg/L	D		<0.0226 :	-	<0.311 :	-	<0.0667 :	-
Lead	mg/L	T		-	0.0025 :	-	0.00027 :	-	0.0009 :
Lead	mg/L	D		<0.0001 :	-	<0.0002 :	-	<0.0001 :	-
Magnesium	mg/L	T		-	8.78 :	-	6.64 :	-	7.28 :
Magnesium	mg/L	D		8.06 :	-	8.85 :	-	6.66 :	-
Manganese	mg/L	T		-	0.219 :	-	0.121 :	-	0.119 :
Manganese	mg/L	D		0.13 :	-	0.194 :	-	0.113 :	-
Mercury	mg/L	T		-	<0.0001 :	-	<0.00021 :	-	<0.00006 :
Mercury	mg/L	D		<0.0001 :	-	<0.0001 :	-	<0.00017 :	-

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / SWR											
			RR-11A1 10/3/2002 RR-11A1-D01N-SFW SWR		RR-11A1 3/21/2003 RR-11A1-T01N-SFW SWR		RR-11A1 3/21/2003 RR-11A1-D01N-SFW SWR		RR-11A1 7/15/2003 RR-11A1-T01N-SFW SWR		RR-11A1 7/15/2003 RR-11A1-D01N-SFW SWR		RR-11A1 9/24/2003 RR-11A1-T01N-SFW SWR	
Molybdenum	mg/L	T	-		<0.0023	:	-		0.0014	:	-		<0.0015	:
Molybdenum	mg/L	D	0.0015	:	-		0.0023	:	-		0.0015	:	-	
Nickel	mg/L	T	-		0.0104	:	-		0.005	:	-		0.0061	:
Nickel	mg/L	D	0.0034	:	-		0.0075	:	-		0.0046	:	-	
Potassium	mg/L	T	-		1.68	:	-		1.	:	-		1.22	:
Potassium	mg/L	D	1.43	:	-		1.37	:	-		1.1	:	-	
Selenium	mg/L	T	-		<0.001	:	-		<0.0008	:	-		<0.00073	:
Selenium	mg/L	D	<0.0002	:	-		<0.0034	J	-		<0.0008	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Silver	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Sodium	mg/L	T	-		7.65	:	-		3.99	:	-		3.91	:
Sodium	mg/L	D	4.73	:	-		6.47	:	-		3.94	:	-	
Thallium	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Thallium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		0.0011	:	-		<0.0002	:	-		0.00038	:
Vanadium	mg/L	D	0.00015	:	-		<0.0002	:	-		0.00035	:	-	
Zinc	mg/L	T	-		0.0696	:	-		0.0403	:	-		0.0321	:
Zinc	mg/L	D	<0.0069	:	-		<0.0358	:	-		<0.0204	:	-	

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-11A1	RR-11B	RR-11B	RR-11B	RR-11B	RR-11B
			Sample Date	9/24/2003	10/3/2002	10/3/2002	3/20/2003	3/20/2003	7/15/2003
			Sample ID	RR-11A1-D01N-SFW	RR-11B-T01N-SFW	RR-11B-D01N-SFW	RR-11B-T01N-SFW	RR-11B-D01N-SFW	RR-11B-T01N-SFW
			Exposure Area	SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	10.15 :	-	9.8 :	-	6.56 :
Eh	millivolts	T		-	347.1 :	-	260.1 :	-	168. :
Flow	cfs	T		-	13.04 :	-	11.5 :	-	28.9 :
pH	SU	T		-	7.22 :	-	7.6 J	-	7.6 J
Specific Conductance	uS/cm	T		-	289. :	-	390. :	-	276. :
Temperature	Celsius	T		-	7.86 :	-	5.45 :	-	15.44 :
Turbidity	NTU	T		-	18.2 :	-	17.1 :	-	28.9 :
General Chemistry									
Ammonia	mg/L	T		-	<0.024 :	-	<0.31 J	-	0.066 :
Bicarbonate (as CaCO3)	mg/L	T		-	50.4 :	-	58.7 :	-	59.6 :
Biochemical Oxygen Demand	mg/L	T		-	1.8 J	-	<1.5 J	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	2.9 :	-	5.7 :	-	2.5 J
Fluoride	mg/L	T		-	0.5 :	-	0.78 :	-	<0.3 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.41 J	-	0.71 J	-	<0.41 J
Nitrite	mg/L	T		-	0.006 J	-	0.015 J	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	0.044 J	-	<0.01 :
Phosphorus	mg/L	T		-	0.19 :	-	0.086 :	-	0.029 :
Sulfate	mg/L	T		-	79.2 :	-	102. :	-	72.9 :
Total Alkalinity	mg/L	T		-	50.4 :	-	58.7 :	-	59.6 :
Total Dissolved Solids	mg/L	T		-	182. :	-	216. :	-	134. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.2 :	-	2.5 :	-	1.6 :
Total Suspended Solids	mg/L	T		-	29.4 :	-	8.8 :	-	3.9 :
Laboratory Parameters									
pH	SU	T		-	7.22 :	-	7.6 J	-	7.6 J
Specific Conductance	umhos/cm	T		-	-	-	308. :	-	285. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	137. :	-	173. :	-	130. :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-11A1	RR-11B	RR-11B	RR-11B	RR-11B	RR-11B
			Sample Date	9/24/2003	10/3/2002	10/3/2002	3/20/2003	3/20/2003	7/15/2003
			Sample ID	RR-11A1-D01N-SFW	RR-11B-T01N-SFW	RR-11B-D01N-SFW	RR-11B-T01N-SFW	RR-11B-D01N-SFW	RR-11B-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		132. :	-	144. :	-	206. :	-
Metals									
Aluminum	mg/L	T		-	0.709 :	-	<1.08 :	-	0.593 :
Aluminum	mg/L	D		0.13 :	-	0.117 :	-	0.157 :	-
Antimony	mg/L	T		-	<0.0002 :	-	<0.0018 :	-	<0.0005 :
Antimony	mg/L	D		<0.00028 :	-	<0.0002 :	-	<0.0006 :	-
Arsenic	mg/L	T		-	0.0002 :	-	<0.0004 :	-	<0.0002 :
Arsenic	mg/L	D		<0.00038 :	-	<0.0002 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0403 :	-	0.0412 :	-	0.0357 :
Barium	mg/L	D		0.0387 :	-	0.0303 :	-	0.0338 :	-
Beryllium	mg/L	T		-	<0.0002 :	-	<0.0003 J	-	<0.00041 :
Beryllium	mg/L	D		<0.00047 :	-	<0.0002 :	-	<0.0003 J	-
Boron	mg/L	T		-	<0.0048 :	-	0.0101 :	-	0.0058 :
Boron	mg/L	D		<0.0069 :	-	<0.0048 :	-	<0.0084 :	-
Cadmium	mg/L	T		-	0.00017 :	-	<0.0005 :	-	0.00063 :
Cadmium	mg/L	D		0.00014 :	-	<0.0001 :	-	0.00047 :	-
Calcium	mg/L	T		-	41.2 :	-	49.6 :	-	38.6 :
Calcium	mg/L	D		40.4 :	-	43.2 :	-	59.9 :	-
Chromium	mg/L	T		-	<0.0046 :	-	<0.001 :	-	<0.0014 :
Chromium	mg/L	D		<0.001 :	-	<0.0046 :	-	<0.001 :	-
Cobalt	mg/L	T		-	<0.0022 :	-	<0.0038 :	-	<0.002 :
Cobalt	mg/L	D		0.0037 :	-	<0.0022 :	-	<0.0038 :	-
Copper	mg/L	T		-	0.0098 :	-	0.0139 :	-	0.0079 :
Copper	mg/L	D		0.0022 :	-	0.0048 :	-	0.0052 :	-
Iron	mg/L	T		-	0.685 :	-	0.511 :	-	0.0966 :
Iron	mg/L	D		<0.044 :	-	<0.0226 :	-	<0.422 :	-
Lead	mg/L	T		-	<0.0013 :	-	0.00036 :	-	0.00015 :
Lead	mg/L	D		0.00006 :	-	<0.0001 :	-	<0.0002 :	-
Magnesium	mg/L	T		-	8.33 :	-	12.1 :	-	8.3 :
Magnesium	mg/L	D		7.45 :	-	8.69 :	-	13.8 :	-
Manganese	mg/L	T		-	0.151 :	-	0.182 :	-	0.109 :
Manganese	mg/L	D		0.112 :	-	0.13 :	-	0.241 :	-
Mercury	mg/L	T		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Mercury	mg/L	D		<0.00006 :	-	<0.0001 :	-	<0.0001 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-11A1	RR-11B	RR-11B	RR-11B	RR-11B	RR-11B
			Sample Date	9/24/2003	10/3/2002	10/3/2002	3/20/2003	3/20/2003	7/15/2003
			Sample ID	RR-11A1-D01N-SFW	RR-11B-T01N-SFW	RR-11B-D01N-SFW	RR-11B-T01N-SFW	RR-11B-D01N-SFW	RR-11B-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Molybdenum	mg/L	T		-	0.0011 :	-	0.0029 :	-	<0.0017 :
Molybdenum	mg/L	D		<0.0014 :	-	0.0015 :	-	0.0029 :	-
Nickel	mg/L	T		-	0.0061 :	-	0.0216 :	-	0.017 :
Nickel	mg/L	D		0.0054 :	-	0.0047 :	-	0.0205 :	-
Potassium	mg/L	T		-	1.44 :	-	1.75 :	-	1.19 :
Potassium	mg/L	D		1.18 :	-	1.47 :	-	1.44 :	-
Selenium	mg/L	T		-	<0.0002 :	-	<0.001 :	-	<0.0016 :
Selenium	mg/L	D		<0.00073 :	-	<0.0002 :	-	<0.0012 :	-
Silver	mg/L	T		-	<0.0001 :	-	<0.0002 :	-	<0.0001 J
Silver	mg/L	D		<0.0002 :	-	<0.0001 :	-	<0.0002 :	-
Sodium	mg/L	T		-	4.75 :	-	12.7 :	-	4.88 :
Sodium	mg/L	D		4.11 :	-	5.07 :	-	10.1 :	-
Thallium	mg/L	T		-	<0.0001 :	-	<0.0002 :	-	<0.0001 :
Thallium	mg/L	D		<0.00001 :	-	<0.0001 :	-	<0.0002 :	-
Vanadium	mg/L	T		-	0.00045 :	-	0.00025 :	-	<0.00021 :
Vanadium	mg/L	D		<0.00028 :	-	0.00014 :	-	<0.0002 :	-
Zinc	mg/L	T		-	0.0359 :	-	0.168 :	-	0.13 :
Zinc	mg/L	D		0.0149 :	-	0.0128 :	-	0.104 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-11B	RR-11B	RR-11B	RR-11C	RR-11C	RR-11C
			Sample Date	7/15/2003	9/24/2003	9/24/2003	10/1/2002	10/1/2002	3/20/2003
			Sample ID	RR-11B-D01N-SFW	RR-11B-T01N-SFW	RR-11B-D01N-SFW	RR-11C-T01N-SFW	RR-11C-D01N-SFW	RR-11C-T01N-SFW
			Exposure Area	SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.52 :	-	8.96 :	-	11.89 :
Eh	millivolts	T		-	192. :	-	325. :	-	280.1 :
Flow	cfs	T		-	19.3 :	-	16.38 :	-	8.8 :
pH	SU	T		-	7.7 J	-	7.12 :	-	7.5 J
Specific Conductance	uS/cm	T		-	328. :	-	356. :	-	439. :
Temperature	Celsius	T		-	7.97 :	-	12.01 :	-	6.88 :
Turbidity	NTU	T		-	6.6 :	-	13.8 :	-	2.4 :
General Chemistry									
Ammonia	mg/L	T		-	0.041 :	-	<0.038 :	-	<0.07 J
Bicarbonate (as CaCO3)	mg/L	T		-	67.6 :	-	53.5 :	-	58.9 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	<1.4 :	-	<1.4 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	2.9 :	-	3.3 :	-	5.1 :
Fluoride	mg/L	T		-	0.49 :	-	0.48 :	-	0.87 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.33 J	-	0.23 :	-	0.52 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 :	-	0.0085 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 J
Phosphorus	mg/L	T		-	0.024 :	-	0.068 :	-	0.04 :
Sulfate	mg/L	T		-	73.4 J	-	121. :	-	139. :
Total Alkalinity	mg/L	T		-	67.6 :	-	53.5 :	-	58.9 :
Total Dissolved Solids	mg/L	T		-	198. :	-	213. :	-	280. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.3 :	-	1.1 :	-	1.4 :
Total Suspended Solids	mg/L	T		-	8.1 :	-	24. :	-	10.2 :
Laboratory Parameters									
pH	SU	T		-	7.7 J	-	7.12 :	-	7.5 J
Specific Conductance	umhos/cm	T		-	262. J	-	-	-	351. :
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	130. :	-	174. :	-	213. :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-11B	RR-11B	RR-11B	RR-11C	RR-11C	RR-11C
			Sample Date	7/15/2003	9/24/2003	9/24/2003	10/1/2002	10/1/2002	3/20/2003
			Sample ID	RR-11B-D01N-SFW	RR-11B-T01N-SFW	RR-11B-D01N-SFW	RR-11C-T01N-SFW	RR-11C-D01N-SFW	RR-11C-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		127. :	-	136. :	-	175. :	-
Metals									
Aluminum	mg/L	T		-	0.682 :	-	0.759 :	-	<1.17 :
Aluminum	mg/L	D		0.36 :	-	0.196 :	-	0.112 :	-
Antimony	mg/L	T		-	<0.00014 :	-	<0.0002 :	-	<0.0006 :
Antimony	mg/L	D		<0.0005 :	-	<0.00018 :	-	<0.0002 :	-
Arsenic	mg/L	T		-	<0.00038 :	-	0.00023 :	-	<0.0004 :
Arsenic	mg/L	D		<0.0002 :	-	<0.00038 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0441 :	-	0.037 :	-	0.0398 :
Barium	mg/L	D		0.0334 :	-	0.0369 :	-	0.0312 :	-
Beryllium	mg/L	T		-	<0.00047 :	-	<0.0002 :	-	0.00034 J
Beryllium	mg/L	D		<0.00034 :	-	<0.00047 :	-	<0.0002 :	-
Boron	mg/L	T		-	<0.0055 :	-	<0.0059 :	-	<0.0084 :
Boron	mg/L	D		0.0057 :	-	<0.0064 :	-	<0.0054 :	-
Cadmium	mg/L	T		-	0.00036 :	-	0.00026 :	-	<0.0005 :
Cadmium	mg/L	D		0.00047 :	-	0.00029 :	-	0.00022 :	-
Calcium	mg/L	T		-	39.4 :	-	51.9 :	-	61.7 :
Calcium	mg/L	D		37.6 :	-	41.1 :	-	52.3 :	-
Chromium	mg/L	T		-	<0.001 :	-	<0.0046 :	-	<0.001 :
Chromium	mg/L	D		<0.0014 :	-	<0.001 :	-	<0.0046 :	-
Cobalt	mg/L	T		-	0.0016 :	-	<0.0022 :	-	<0.0038 :
Cobalt	mg/L	D		<0.002 :	-	0.0027 :	-	<0.0022 :	-
Copper	mg/L	T		-	0.007 :	-	0.0083 :	-	0.0108 :
Copper	mg/L	D		0.0045 :	-	0.0025 :	-	0.0024 :	-
Iron	mg/L	T		-	0.538 :	-	0.453 :	-	<0.422 :
Iron	mg/L	D		<0.0333 :	-	<0.044 :	-	<0.0226 :	-
Lead	mg/L	T		-	0.0016 :	-	0.001 :	-	0.00053 :
Lead	mg/L	D		<0.0001 :	-	<0.00004 :	-	<0.0001 :	-
Magnesium	mg/L	T		-	7.79 :	-	10.7 :	-	14.2 :
Magnesium	mg/L	D		8.08 :	-	8.09 :	-	10.7 :	-
Manganese	mg/L	T		-	0.113 :	-	0.156 :	-	0.175 :
Manganese	mg/L	D		0.099 :	-	0.103 :	-	0.138 :	-
Mercury	mg/L	T		-	<0.00006 :	-	<0.0001 :	-	<0.0001 :
Mercury	mg/L	D		<0.0001 :	-	<0.00006 :	-	<0.0001 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / SWR											
			RR-11B 7/15/2003 RR-11B-D01N-SFW SWR		RR-11B 9/24/2003 RR-11B-T01N-SFW SWR		RR-11B 9/24/2003 RR-11B-D01N-SFW SWR		RR-11C 10/1/2002 RR-11C-T01N-SFW SWR		RR-11C 10/1/2002 RR-11C-D01N-SFW SWR		RR-11C 3/20/2003 RR-11C-T01N-SFW SWR	
Molybdenum	mg/L	T	-		<0.0016	:	-		0.0016	:	-		<0.0023	:
Molybdenum	mg/L	D	0.002	:	-		<0.0015	:	-		0.0021	:	-	
Nickel	mg/L	T	-		0.0134	:	-		0.0082	:	-		0.0211	:
Nickel	mg/L	D	0.017	:	-		0.0128	:	-		0.0072	:	-	
Potassium	mg/L	T	-		1.22	:	-		1.53	:	-		1.44	:
Potassium	mg/L	D	1.1	:	-		1.16	:	-		1.53	:	-	
Selenium	mg/L	T	-		<0.00073	:	-		0.00034	:	-		<0.001	:
Selenium	mg/L	D	<0.0016	:	-		<0.00073	:	-		0.00021	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.0002	:
Silver	mg/L	D	<0.0001	J	-		<0.0002	:	-		<0.0001	:	-	
Sodium	mg/L	T	-		3.84	:	-		5.4	:	-		<9.16	:
Sodium	mg/L	D	4.83	:	-		4.16	:	-		5.35	:	-	
Thallium	mg/L	T	-		<0.00001	:	-		<0.0001	:	-		<0.0002	:
Thallium	mg/L	D	<0.0001	:	-		<0.00001	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		0.00056	:	-		0.00039	:	-		0.0002	:
Vanadium	mg/L	D	<0.00045	:	-		<0.00041	:	-		0.00013	:	-	
Zinc	mg/L	T	-		0.083	:	-		0.0524	:	-		0.157	:
Zinc	mg/L	D	0.112	:	-		0.0684	:	-		0.0335	:	-	

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-11C	RR-11C	RR-11C	RR-11C	RR-11C	RR-11C
			Sample Date	3/20/2003	7/15/2003	7/15/2003	9/24/2003	9/25/2003	9/25/2003
			Sample ID	RR-11C-D01N-SFW	RR-11C-T01N-SFW	RR-11C-D01N-SFW	RR-11C-T01N-SFW	RR-11C-T01N-SFW	RR-11C-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	1.19 :	-	9.46 :	-	-
Eh	millivolts	T		-	297.4 :	-	166. :	-	-
Flow	cfs	T		-	32.8 :	-	21. :	-	-
pH	SU	T		-	7.4 J	-	7.27 :	7.5 J	-
Specific Conductance	uS/cm	T		-	314. :	-	382. :	-	-
Temperature	Celsius	T		-	13.77 :	-	7.1 :	-	-
Turbidity	NTU	T		-	28.6 :	-	6.8 :	-	-
General Chemistry									
Ammonia	mg/L	T		-	0.077 :	-	-	0.05 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	59.8 :	-	-	66.1 :	-
Biochemical Oxygen Demand	mg/L	T		-	<1.6 J	-	-	<1.4 :	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	-	<20. :	-
Chloride	mg/L	T		-	2.7 :	-	-	3. :	-
Fluoride	mg/L	T		-	<0.71 J	-	-	0.58 :	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Nitrate	mg/L	T		-	<1. J	-	-	0.41 :	-
Nitrite	mg/L	T		-	<0.005 J	-	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		-	0.46 J	-	-	<0.01 J	-
Phosphorus	mg/L	T		-	0.011 J	-	-	0.027 :	-
Sulfate	mg/L	T		-	99.6 :	-	-	87.1 J	-
Total Alkalinity	mg/L	T		-	59.8 :	-	-	66.1 :	-
Total Dissolved Solids	mg/L	T		-	194. :	-	-	190. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	-	<0.28 :	-
Total Organic Carbon	mg/L	T		-	2.1 :	-	-	1.3 :	-
Total Suspended Solids	mg/L	T		-	4.5 :	-	-	9.1 J	-
Laboratory Parameters									
pH	SU	T		-	7.4 J	-	7.27 :	7.5 J	-
Specific Conductance	umhos/cm	T		-	304. J	-	-	311. J	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		-	148. :	-	-	160. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-11C		RR-11C		RR-11C		RR-11C		RR-11C		RR-11C	
			3/20/2003		7/15/2003		7/15/2003		9/24/2003		9/25/2003		9/25/2003	
			RR-11C-D01N-SFW		RR-11C-T01N-SFW		RR-11C-D01N-SFW		RR-11C-T01N-SFW		RR-11C-T01N-SFW		RR-11C-D01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Hardness	mg/L	D	228.	:	-		147.	:	-		-		155.	:
Metals														
Aluminum	mg/L	T	-		0.541	:	-		-		0.59	:	-	
Aluminum	mg/L	D	0.17	:	-		0.22	:	-		-		0.146	:
Antimony	mg/L	T	-		<0.0005	:	-		-		<0.0013	:	-	
Antimony	mg/L	D	<0.0006	:	-		<0.0005	:	-		-		<0.00052	:
Arsenic	mg/L	T	-		<0.0002	:	-		-		<0.00038	:	-	
Arsenic	mg/L	D	<0.0002	:	-		<0.0002	:	-		-		<0.00038	:
Barium	mg/L	T	-		0.036	:	-		-		0.0437	:	-	
Barium	mg/L	D	0.0378	:	-		0.0342	:	-		-		0.0366	:
Beryllium	mg/L	T	-		<0.0004	:	-		-		<0.00047	:	-	
Beryllium	mg/L	D	<0.0003	J	-		<0.0004	:	-		-		<0.00047	:
Boron	mg/L	T	-		0.0063	:	-		-		<0.0105	:	-	
Boron	mg/L	D	<0.0084	:	-		0.0058	:	-		-		<0.0091	:
Cadmium	mg/L	T	-		0.00053	:	-		-		0.00039	:	-	
Cadmium	mg/L	D	0.00043	:	-		0.00049	:	-		-		0.00038	:
Calcium	mg/L	T	-		43.6	:	-		-		48.4	:	-	
Calcium	mg/L	D	66.3	:	-		43.3	:	-		-		46.8	:
Chromium	mg/L	T	-		<0.0019	:	-		-		<0.001	:	-	
Chromium	mg/L	D	<0.001	:	-		<0.0019	:	-		-		<0.001	:
Cobalt	mg/L	T	-		<0.0037	:	-		-		0.0019	:	-	
Cobalt	mg/L	D	<0.0038	:	-		<0.0037	:	-		-		0.0014	:
Copper	mg/L	T	-		0.0062	:	-		-		<0.0062	:	-	
Copper	mg/L	D	0.0044	:	-		0.0035	:	-		-		<0.0028	:
Iron	mg/L	T	-		0.0925	:	-		-		0.468	:	-	
Iron	mg/L	D	<0.422	:	-		0.0774	:	-		-		<0.101	:
Lead	mg/L	T	-		0.00023	:	-		-		0.00097	:	-	
Lead	mg/L	D	<0.0002	:	-		<0.0001	:	-		-		<0.00004	:
Magnesium	mg/L	T	-		9.38	:	-		-		9.58	:	-	
Magnesium	mg/L	D	15.2	:	-		9.33	:	-		-		9.2	:
Manganese	mg/L	T	-		0.104	:	-		-		0.119	:	-	
Manganese	mg/L	D	0.186	:	-		0.0971	:	-		-		0.106	:
Mercury	mg/L	T	-		<0.00018	:	-		-		<0.00006	:	-	
Mercury	mg/L	D	<0.0001	:	-		<0.00018	:	-		-		<0.00006	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / SWR											
			RR-11C 3/20/2003 RR-11C-D01N-SFW SWR		RR-11C 7/15/2003 RR-11C-T01N-SFW SWR		RR-11C 7/15/2003 RR-11C-D01N-SFW SWR		RR-11C 9/24/2003 RR-11C-T01N-SFW SWR		RR-11C 9/25/2003 RR-11C-T01N-SFW SWR		RR-11C 9/25/2003 RR-11C-D01N-SFW SWR	
Molybdenum	mg/L	T	-		0.0019	:	-		-		0.0027	:	-	
Molybdenum	mg/L	D	<0.0023	:	-		0.002	:	-		-		0.0022	:
Nickel	mg/L	T	-		0.0165	:	-		-		0.0145	:	-	
Nickel	mg/L	D	0.0207	:	-		0.0162	:	-		-		0.015	:
Potassium	mg/L	T	-		1.24	:	-		-		1.3	:	-	
Potassium	mg/L	D	1.49	:	-		1.38	:	-		-		1.17	:
Selenium	mg/L	T	-		<0.0008	:	-		-		<0.00073	:	-	
Selenium	mg/L	D	<0.001	:	-		<0.0008	:	-		-		<0.00073	:
Silver	mg/L	T	-		<0.0001	J	-		-		<0.0002	:	-	
Silver	mg/L	D	<0.0002	:	-		<0.0001	J	-		-		<0.0002	:
Sodium	mg/L	T	-		4.61	:	-		-		4.57	:	-	
Sodium	mg/L	D	10.6	:	-		4.68	:	-		-		4.38	:
Thallium	mg/L	T	-		<0.0001	:	-		-		<0.00001	:	-	
Thallium	mg/L	D	<0.0002	:	-		<0.0001	:	-		-		<0.00001	:
Vanadium	mg/L	T	-		0.00027	:	-		-		<0.00043	:	-	
Vanadium	mg/L	D	<0.0002	:	-		0.00032	:	-		-		<0.00028	:
Zinc	mg/L	T	-		0.119	:	-		-		0.0916	:	-	
Zinc	mg/L	D	0.141	:	-		0.0995	:	-		-		0.0853	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-12	RR-12	RR-12	RR-12	RR-12	RR-12
			Sample Date	10/3/2002	10/3/2002	3/20/2003	3/20/2003	7/15/2003	7/15/2003
			Sample ID	RR-12-T01N-SFW	RR-12-D01N-SFW	RR-12-T01N-SFW	RR-12-D01N-SFW	RR-12-T01N-SFW	RR-12-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		10.5 :	-	10.35 :	-	2.09 :	-
Eh	millivolts	T		316.5 :	-	257.8 :	-	250.6 :	-
Flow	cfs	T		16.47 :	-	10.5 :	-	33.8 :	-
pH	SU	T		6.63 :	-	7.1 J	-	7.6 J	-
Specific Conductance	uS/cm	T		351. :	-	458. :	-	311. :	-
Temperature	Celsius	T		8.18 :	-	5.35 :	-	12.78 :	-
Turbidity	NTU	T		18.9 :	-	1. :	-	32.5 :	-
General Chemistry									
Ammonia	mg/L	T		<0.025 :	-	<0.079 J	-	0.081 :	-
Bicarbonate (as CaCO3)	mg/L	T		50.6 :	-	56.4 :	-	60.4 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.4 J	-	<1.6 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		3.4 :	-	5.3 :	-	2.8 :	-
Fluoride	mg/L	T		<0.25 :	-	0.83 :	-	<0.7 J	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.45 J	-	0.65 J	-	<1. J	-
Nitrite	mg/L	T		0.005 J	-	0.0086 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	0.36 J	-	<0.01 J	-
Phosphorus	mg/L	T		<0.11 :	-	<0.032 J	-	0.019 :	-
Sulfate	mg/L	T		119. :	-	138. :	-	86.9 :	-
Total Alkalinity	mg/L	T		50.6 :	-	56.4 :	-	60.4 :	-
Total Dissolved Solids	mg/L	T		255. :	-	260. :	-	200. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		1.3 :	-	1.2 :	-	2.2 :	-
Total Suspended Solids	mg/L	T		31.3 :	-	7. :	-	4.1 :	-
Laboratory Parameters									
pH	SU	T		6.63 :	-	7.1 J	-	7.6 J	-
Specific Conductance	umhos/cm	T		-	-	351. J	-	299. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		175. :	-	198. :	-	143. :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-12	10/3/2002	RR-12-T01N-SFW	RR-12	10/3/2002	RR-12-D01N-SFW	RR-12	3/20/2003	RR-12-T01N-SFW	RR-12	3/20/2003	RR-12-D01N-SFW	RR-12	7/15/2003	RR-12-T01N-SFW	RR-12	7/15/2003	RR-12-D01N-SFW
			SWR			SWR			SWR			SWR			SWR			SWR		
Hardness	mg/L	D	-			172.			-			203.			-			146.		
Metals																				
Aluminum	mg/L	T	1.28			-			<1.05			-			0.528			-		
Aluminum	mg/L	D	-			0.121			-			0.421			-			0.204		
Antimony	mg/L	T	<0.0002			-			<0.0006			-			<0.0005			-		
Antimony	mg/L	D	-			0.00023			-			<0.0006			-			<0.0005		
Arsenic	mg/L	T	0.0003			-			<0.0004	J		-			<0.0002			-		
Arsenic	mg/L	D	-			0.00021			-			<0.0002			-			<0.0002		
Barium	mg/L	T	0.0474			-			0.0382			-			0.0342			-		
Barium	mg/L	D	-			0.0299			-			0.0383			-			0.0335		
Beryllium	mg/L	T	<0.0002			-			<0.0003	J		-			<0.0004			-		
Beryllium	mg/L	D	-			<0.0002			-			<0.0003	J		-			<0.0004		
Boron	mg/L	T	<0.0048			-			<0.0084			-			0.0063			-		
Boron	mg/L	D	-			<0.0052			-			<0.0084			-			0.0071		
Cadmium	mg/L	T	0.00032			-			<0.0005			-			0.0005			-		
Cadmium	mg/L	D	-			0.00024			-			0.00043			-			0.00047		
Calcium	mg/L	T	52.4			-			57.6			-			42.2			-		
Calcium	mg/L	D	-			51.6			-			58.9			-			43.3		
Chromium	mg/L	T	<0.0046			-			<0.001			-			<0.0019			-		
Chromium	mg/L	D	-			<0.0046			-			<0.001			-			<0.0019		
Cobalt	mg/L	T	<0.0022			-			<0.0038			-			<0.0037			-		
Cobalt	mg/L	D	-			<0.0022			-			<0.0038			-			<0.0037		
Copper	mg/L	T	0.0099			-			0.0111			-			0.0064			-		
Copper	mg/L	D	-			0.0032			-			0.0073			-			0.0034		
Iron	mg/L	T	1.29			-			<0.311			-			0.0839			-		
Iron	mg/L	D	-			<0.0226			-			<0.311			-			<0.0667		
Lead	mg/L	T	0.0023			-			0.00026			-			0.00024			-		
Lead	mg/L	D	-			<0.0001			-			<0.0002			-			<0.0001		
Magnesium	mg/L	T	10.8			-			13.2			-			9.05			-		
Magnesium	mg/L	D	-			10.6			-			13.6			-			9.29		
Manganese	mg/L	T	0.167			-			0.182			-			0.106			-		
Manganese	mg/L	D	-			0.143			-			0.18			-			0.102		
Mercury	mg/L	T	<0.0001			-			<0.0001			-			<0.00018			-		
Mercury	mg/L	D	-			<0.0001			-			<0.0001			-			<0.00019		

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-12		RR-12		RR-12		RR-12		RR-12		RR-12	
			10/3/2002		10/3/2002		3/20/2003		3/20/2003		7/15/2003		7/15/2003	
			RR-12-T01N-SFW		RR-12-D01N-SFW		RR-12-T01N-SFW		RR-12-D01N-SFW		RR-12-T01N-SFW		RR-12-D01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Molybdenum	mg/L	T	0.0017	:	-		<0.0023	:	-		0.0019	:	-	
Molybdenum	mg/L	D	-		0.0022	:	-		<0.0023	:	-		0.002	:
Nickel	mg/L	T	0.0091	:	-		0.0211	:	-		0.0159	:	-	
Nickel	mg/L	D	-		0.0095	:	-		0.0223	:	-		0.0158	:
Potassium	mg/L	T	1.84	:	-		1.41	:	-		1.26	:	-	
Potassium	mg/L	D	-		1.48	:	-		1.46	:	-		1.11	:
Selenium	mg/L	T	<0.0002	:	-		<0.001	:	-		<0.0008	:	-	
Selenium	mg/L	D	-		<0.0002	:	-		<0.001	:	-		<0.0008	:
Silver	mg/L	T	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Silver	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0001	J
Sodium	mg/L	T	5.54	:	-		6.51	:	-		4.73	:	-	
Sodium	mg/L	D	-		5.44	:	-		6.32	:	-		4.48	:
Thallium	mg/L	T	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0001	:
Vanadium	mg/L	T	0.00059	:	-		0.00022	:	-		0.00023	:	-	
Vanadium	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		0.00023	:
Zinc	mg/L	T	0.0498	:	-		0.152	:	-		0.115	:	-	
Zinc	mg/L	D	-		0.026	:	-		0.125	:	-		0.0871	:
Volatile Organics														
1,1,1-Trichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2,2-Tetrachloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2-Trichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1-Dichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1-Dichloroethene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2,4-Trichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dibromo-3-chloropropane	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloroethene (total)	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloropropane	mg/L	T	<0.01	:	-		-		-		-		-	
1,3-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,4-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
2-Butanone	mg/L	T	<0.01	:	-		-		-		-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-12	RR-12	RR-12	RR-12	RR-12	RR-12
			Sample Date	10/3/2002	10/3/2002	3/20/2003	3/20/2003	7/15/2003	7/15/2003
			Sample ID	RR-12-T01N-SFW	RR-12-D01N-SFW	RR-12-T01N-SFW	RR-12-D01N-SFW	RR-12-T01N-SFW	RR-12-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2-Hexanone	mg/L	T		<0.01 :	-	-	-	-	-
4-Methyl-2-pentanone	mg/L	T		<0.01 :	-	-	-	-	-
Acetone	mg/L	T		<0.01 :	-	-	-	-	-
Benzene	mg/L	T		<0.01 :	-	-	-	-	-
Bromodichloromethane	mg/L	T		<0.01 :	-	-	-	-	-
Bromoform	mg/L	T		<0.01 :	-	-	-	-	-
Bromomethane	mg/L	T		<0.01 :	-	-	-	-	-
Carbon disulfide	mg/L	T		<0.01 :	-	-	-	-	-
Carbon tetrachloride	mg/L	T		<0.01 :	-	-	-	-	-
Chlorobenzene	mg/L	T		<0.01 :	-	-	-	-	-
Chloroethane	mg/L	T		<0.01 :	-	-	-	-	-
Chloroform	mg/L	T		<0.01 :	-	-	-	-	-
Chloromethane	mg/L	T		<0.01 :	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	T		<0.01 :	-	-	-	-	-
Dibromochloromethane	mg/L	T		<0.01 :	-	-	-	-	-
Dichlorodifluoromethane	mg/L	T		<0.01 :	-	-	-	-	-
Ethylbenzene	mg/L	T		<0.01 :	-	-	-	-	-
Methylene chloride	mg/L	T		<0.01 :	-	-	-	-	-
Styrene	mg/L	T		<0.01 :	-	-	-	-	-
Tetrachloroethene	mg/L	T		<0.01 :	-	-	-	-	-
Toluene	mg/L	T		<0.01 :	-	-	-	-	-
Total Xylene	mg/L	T		<0.01 :	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	T		<0.01 :	-	-	-	-	-
Trichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
Trichlorofluoromethane	mg/L	T		<0.01 :	-	-	-	-	-
Vinyl chloride	mg/L	T		<0.01 :	-	-	-	-	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		<0.01 :	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	T		<0.026 :	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2,4-Dichlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2,4-Dimethylphenol	mg/L	T		<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	Exposure Area					
			RR-12	10/3/2002	RR-12-T01N-SFW	SWR	RR-12	10/3/2002	RR-12-D01N-SFW	SWR	
			RR-12	3/20/2003	RR-12-T01N-SFW	SWR	RR-12	3/20/2003	RR-12-D01N-SFW	SWR	
			RR-12	7/15/2003	RR-12-T01N-SFW	SWR	RR-12	7/15/2003	RR-12-D01N-SFW	SWR	
2,4-Dinitrophenol	mg/L	T	<0.026	:		-	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	T	<0.01	:		-	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	T	<0.01	:		-	-	-	-	-	-
2-Chloronaphthalene	mg/L	T	<0.01	:		-	-	-	-	-	-
2-Chlorophenol	mg/L	T	<0.01	:		-	-	-	-	-	-
2-Methylnaphthalene	mg/L	T	<0.01	:		-	-	-	-	-	-
2-Methylphenol	mg/L	T	<0.01	:		-	-	-	-	-	-
2-Nitroaniline	mg/L	T	<0.026	:		-	-	-	-	-	-
2-Nitrophenol	mg/L	T	<0.01	:		-	-	-	-	-	-
3,3-Dichlorobenzidine	mg/L	T	<0.01	J		-	-	-	-	-	-
3-Nitroaniline	mg/L	T	<0.026	:		-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	T	<0.026	:		-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	T	<0.01	:		-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	T	<0.01	:		-	-	-	-	-	-
4-Chloroaniline	mg/L	T	<0.01	:		-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	T	<0.01	:		-	-	-	-	-	-
4-Methylphenol	mg/L	T	<0.01	:		-	-	-	-	-	-
4-Nitroaniline	mg/L	T	<0.026	J		-	-	-	-	-	-
4-Nitrophenol	mg/L	T	<0.026	:		-	-	-	-	-	-
Acenaphthene	mg/L	T	<0.01	:		-	-	-	-	-	-
Acenaphthylene	mg/L	T	<0.01	:		-	-	-	-	-	-
Anthracene	mg/L	T	<0.01	:		-	-	-	-	-	-
Benzaldehyde	mg/L	T	<0.01	J		-	-	-	-	-	-
Benzo(a)anthracene	mg/L	T	<0.01	:		-	-	-	-	-	-
Benzo(a)pyrene	mg/L	T	<0.01	:		-	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	T	<0.01	:		-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	T	<0.01	:		-	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	T	<0.01	:		-	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/L	T	<0.01	:		-	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/L	T	<0.01	:		-	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T	<0.01	:		-	-	-	-	-	-
Butyl benzyl phthalate	mg/L	T	<0.01	:		-	-	-	-	-	-
Carbazole	mg/L	T	<0.01	:		-	-	-	-	-	-
Chrysene	mg/L	T	<0.01	:		-	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID						
			RR-12	RR-12	RR-12	RR-12	RR-12	RR-12
			10/3/2002	10/3/2002	3/20/2003	3/20/2003	7/15/2003	7/15/2003
			RR-12-T01N-SFW	RR-12-D01N-SFW	RR-12-T01N-SFW	RR-12-D01N-SFW	RR-12-T01N-SFW	RR-12-D01N-SFW
			SWR	SWR	SWR	SWR	SWR	SWR
Dibenz(a,h)anthracene	mg/L	T	<0.01 :	-	-	-	-	-
Dibenzofuran	mg/L	T	<0.01 :	-	-	-	-	-
Dichlorodiisopropyl ether	mg/L	T	<0.01 :	-	-	-	-	-
Diethylphthalate	mg/L	T	<0.01 :	-	-	-	-	-
Dimethylphthalate	mg/L	T	<0.01 :	-	-	-	-	-
Di-n-Butyl phthalate	mg/L	T	<0.01 :	-	-	-	-	-
Di-n-Octyl phthalate	mg/L	T	<0.01 J	-	-	-	-	-
Fluoranthene	mg/L	T	<0.01 :	-	-	-	-	-
Fluorene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachlorobenzene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachlorobutadiene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachloroethane	mg/L	T	<0.01 :	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T	<0.01 :	-	-	-	-	-
Isophorone	mg/L	T	<0.01 :	-	-	-	-	-
Naphthalene	mg/L	T	<0.01 :	-	-	-	-	-
Nitrobenzene	mg/L	T	<0.01 :	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/L	T	<0.01 :	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	T	<0.01 :	-	-	-	-	-
Pentachlorophenol	mg/L	T	<0.026 :	-	-	-	-	-
Phenanthrene	mg/L	T	<0.01 :	-	-	-	-	-
Phenol	mg/L	T	<0.01 :	-	-	-	-	-
Pyrene	mg/L	T	<0.01 :	-	-	-	-	-
Explosives								
2,4,6-Trinitrotoluene	mg/L	T	<0.00025 :	-	-	-	-	-
2,6-Pyridinediamine,	mg/L	T	<0.00025 J	-	-	-	-	-
Cyclotetramethylenetetranitramine	mg/L	T	<0.00025 :	-	-	-	-	-
Cyclotrimethylenetrinitramine	mg/L	T	<0.00025 :	-	-	-	-	-
Pentaerythritol tetranitrate	mg/L	T	<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-12	RR-12	RR-13	RR-13	RR-13	RR-13
			Sample Date	9/24/2003	9/24/2003	10/1/2002	10/1/2002	3/20/2003	3/20/2003
			Sample ID	RR-12-T01N-SFW	RR-12-D01N-SFW	RR-13-T01N-SFW	RR-13-D01N-SFW	RR-13-T01N-SFW	RR-13-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		9.82 :	-	9.16 :	-	9.63 :	-
Eh	millivolts	T		155. :	-	329.1 :	-	275.5 :	-
Flow	cfs	T		20.2 :	-	17.92 :	-	12.5 :	-
pH	SU	T		7.9 J	-	7.01 :	-	7.6 J	-
Specific Conductance	uS/cm	T		383. :	-	363. :	-	471. :	-
Temperature	Celsius	T		6.75 :	-	11.52 :	-	7.04 :	-
Turbidity	NTU	T		6.5 :	-	13.7 :	-	14.3 :	-
General Chemistry									
Ammonia	mg/L	T		<0.04 :	-	<0.047 :	-	<0.16 J	-
Bicarbonate (as CaCO3)	mg/L	T		64.2 :	-	58.3 :	-	52.7 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.4 :	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		3.1 :	-	3.5 :	-	5.3 :	-
Fluoride	mg/L	T		0.61 :	-	<0.36 :	-	0.93 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.39 J	-	0.29 :	-	0.54 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 :	-	0.008 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 J	-
Phosphorus	mg/L	T		0.03 :	-	0.12 :	-	<0.038 :	-
Sulfate	mg/L	T		95.1 J	-	126. :	-	145. :	-
Total Alkalinity	mg/L	T		64.2 :	-	58.3 :	-	52.7 :	-
Total Dissolved Solids	mg/L	T		220. :	-	240. :	-	262. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.25 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<1. :	-	<1. :	-	1.3 :	-
Total Suspended Solids	mg/L	T		9.5 :	-	30. :	-	9.6 :	-
Laboratory Parameters									
pH	SU	T		7.9 J	-	7.01 :	-	7.6 J	-
Specific Conductance	umhos/cm	T		321. J	-	-	-	361. :	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 J	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		149. :	-	176. :	-	214. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID	RR-12 9/24/2003 RR-12-T01N-SFW	RR-12 9/24/2003 RR-12-D01N-SFW	RR-13 10/1/2002 RR-13-T01N-SFW	RR-13 10/1/2002 RR-13-D01N-SFW	RR-13 3/20/2003 RR-13-T01N-SFW	RR-13 3/20/2003 RR-13-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		-	159. :	-	177. :	-	177. :
Metals									
Aluminum	mg/L	T		0.625 :	-	1.12 :	-	<1.36 :	-
Aluminum	mg/L	D		-	0.175 :	-	0.261 :	-	0.126 :
Antimony	mg/L	T		<0.00016 :	-	<0.0002 :	-	<0.00082 :	-
Antimony	mg/L	D		-	<0.00025 :	-	<0.0002 :	-	<0.0006 :
Arsenic	mg/L	T		<0.00038 :	-	<0.0002 :	-	<0.0004 :	-
Arsenic	mg/L	D		-	<0.00038 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		0.0418 :	-	0.0349 :	-	0.0374 :	-
Barium	mg/L	D		-	0.0376 :	-	0.0296 :	-	0.0381 :
Beryllium	mg/L	T		<0.00047 :	-	<0.0002 :	-	0.00044 J	-
Beryllium	mg/L	D		-	<0.00047 :	-	<0.0002 :	-	<0.0003 J
Boron	mg/L	T		<0.0078 :	-	<0.005 :	-	<0.0084 :	-
Boron	mg/L	D		-	<0.0077 :	-	<0.0053 :	-	<0.0084 :
Cadmium	mg/L	T		0.00042 :	-	0.00029 :	-	<0.0005 :	-
Cadmium	mg/L	D		-	0.00037 :	-	0.00022 :	-	0.00036 :
Calcium	mg/L	T		45.1 :	-	52.6 :	-	62. :	-
Calcium	mg/L	D		-	47.9 :	-	52.9 :	-	50.8 :
Chromium	mg/L	T		<0.001 :	-	<0.0046 :	-	<0.001 :	-
Chromium	mg/L	D		-	<0.001 :	-	<0.0046 :	-	<0.001 :
Chromium, Hexavalent	mg/L	D		-	-	<0.01 :	-	-	-
Cobalt	mg/L	T		0.0017 :	-	<0.0022 :	-	0.0039 :	-
Cobalt	mg/L	D		-	0.0016 :	-	<0.0022 :	-	<0.0038 :
Copper	mg/L	T		<0.0067 :	-	0.0129 :	-	0.0174 :	-
Copper	mg/L	D		-	<0.0029 :	-	0.0035 :	-	0.005 :
Iron	mg/L	T		0.381 :	-	0.452 :	-	<0.422 :	-
Iron	mg/L	D		-	<0.044 :	-	<0.0226 :	-	<0.422 :
Lead	mg/L	T		0.00096 :	-	0.00094 :	-	0.00038 :	-
Lead	mg/L	D		-	<0.00004 :	-	<0.0001 :	-	<0.0002 :
Magnesium	mg/L	T		8.95 :	-	10.8 :	-	14.3 :	-
Magnesium	mg/L	D		-	9.46 :	-	10.9 :	-	12.3 :
Manganese	mg/L	T		0.112 :	-	0.21 :	-	0.252 :	-
Manganese	mg/L	D		-	0.11 :	-	0.191 :	-	0.169 :
Mercury	mg/L	T		<0.00006 :	-	<0.0001 :	-	<0.0001 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-12	RR-12	RR-13	RR-13	RR-13	RR-13
			Sample Date	9/24/2003	9/24/2003	10/1/2002	10/1/2002	3/20/2003	3/20/2003
			Sample ID	RR-12-T01N-SFW	RR-12-D01N-SFW	RR-13-T01N-SFW	RR-13-D01N-SFW	RR-13-T01N-SFW	RR-13-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Mercury	mg/L	D		-	<0.00006 :	-	<0.0001 :	-	<0.0001 :
Molybdenum	mg/L	T		<0.002 :	-	0.0018 :	-	<0.0023 :	-
Molybdenum	mg/L	D		-	<0.002 :	-	0.0022 :	-	0.0027 :
Nickel	mg/L	T		0.0152 :	-	0.0092 :	-	0.0214 :	-
Nickel	mg/L	D		-	0.0149 :	-	0.0084 :	-	0.0206 :
Potassium	mg/L	T		1.2 :	-	1.51 :	-	1.42 :	-
Potassium	mg/L	D		-	1.21 :	-	1.5 :	-	1.71 :
Selenium	mg/L	T		<0.00073 :	-	0.0002 :	-	<0.001 :	-
Selenium	mg/L	D		-	<0.00073 :	-	0.00032 :	-	<0.001 :
Silver	mg/L	T		<0.0002 :	-	<0.0001 :	-	<0.0002 :	-
Silver	mg/L	D		-	<0.0002 :	-	<0.0001 :	-	<0.0002 :
Sodium	mg/L	T		4.19 :	-	5.65 :	-	11. :	-
Sodium	mg/L	D		-	4.54 :	-	5.62 :	-	<9.16 :
Thallium	mg/L	T		<0.00001 :	-	<0.0001 :	-	<0.0002 :	-
Thallium	mg/L	D		-	<0.00001 :	-	<0.0001 :	-	<0.0002 :
Vanadium	mg/L	T		<0.0007 :	-	0.00033 :	-	<0.0002 :	-
Vanadium	mg/L	D		-	<0.00052 :	-	0.00012 :	-	<0.0002 :
Zinc	mg/L	T		0.0866 :	-	0.0581 :	-	0.148 :	-
Zinc	mg/L	D		-	0.0767 :	-	0.035 :	-	0.12 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-13	RR-13	RR-13	RR-13	RR-13	RR-14
			Sample Date	7/15/2003	7/15/2003	9/24/2003	9/24/2003	9/25/2003	10/1/2002
			Sample ID	RR-13-T01N-SFW	RR-13-D01N-SFW	RR-13-T01N-SFW	RR-13-D01N-SFW	RR-13-D01N-SFW	RR-14-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		4.72 :	-	9.15 :	-	-	9.41 :
Eh	millivolts	T		224. :	-	232. :	-	-	249.2 :
Flow	cfs	T		33.8 :	-	21.1 :	-	-	18.43 :
pH	SU	T		6.8 J	-	7.8 J	-	-	6.93 :
Specific Conductance	uS/cm	T		316. :	-	335. :	-	-	371. :
Temperature	Celsius	T		12.1 :	-	11.51 :	-	-	11.65 :
Turbidity	NTU	T		29.2 :	-	21.4 :	-	-	17. :
General Chemistry									
Ammonia	mg/L	T		0.11 :	-	<0.04 :	-	-	<0.025 :
Bicarbonate (as CaCO3)	mg/L	T		58.7 :	-	60.6 :	-	-	61.7 :
Biochemical Oxygen Demand	mg/L	T		<1.6 J	-	<1.4 :	-	-	<1.4 :
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	-	<20. :
Chloride	mg/L	T		2.7 :	-	3. :	-	-	3.6 :
Fluoride	mg/L	T		<0.74 J	-	0.63 :	-	-	0.65 :
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Nitrate	mg/L	T		<1. J	-	0.36 J	-	-	0.27 :
Nitrite	mg/L	T		<0.005 J	-	<0.005 J	-	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		0.017 J	-	<0.1 :	-	-	<0.01 :
Phosphorus	mg/L	T		0.018 :	-	0.021 :	-	-	0.08 :
Sulfate	mg/L	T		94.8 :	-	88.4 J	-	-	133. :
Total Alkalinity	mg/L	T		58.7 :	-	60.6 :	-	-	61.7 :
Total Dissolved Solids	mg/L	T		196. :	-	230. :	-	-	256. :
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	-	<0.24 :
Total Organic Carbon	mg/L	T		1.9 :	-	1.2 :	-	-	<1. :
Total Suspended Solids	mg/L	T		4.2 :	-	9.2 :	-	-	30.3 :
Laboratory Parameters									
pH	SU	T		6.8 J	-	7.8 J	-	-	6.93 :
Specific Conductance	umhos/cm	T		305. J	-	311. J	-	-	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		151. :	-	168. :	-	-	180. :

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / SWR											
			RR-13		RR-13		RR-13		RR-13		RR-13		RR-14	
			7/15/2003		7/15/2003		9/24/2003		9/24/2003		9/25/2003		10/1/2002	
			RR-13-T01N-SFW		RR-13-D01N-SFW		RR-13-T01N-SFW		RR-13-D01N-SFW		RR-13-D01N-SFW		RR-14-T01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Hardness	mg/L	D	-		146.	:	-		158.	:	66.	:	-	
Metals														
Aluminum	mg/L	T	0.713	:	-		0.844	:	-		-		1.89	:
Aluminum	mg/L	D	-		0.318	:	-		0.298	:	<0.0177	:	-	
Antimony	mg/L	T	<0.0005	:	-		<0.00037	:	-		-		<0.0002	:
Antimony	mg/L	D	-		<0.0005	:	-		<0.00026	:	<0.00045	:	-	
Arsenic	mg/L	T	<0.0002	:	-		<0.00038	:	-		-		0.00021	:
Arsenic	mg/L	D	-		<0.0002	:	-		<0.00038	:	<0.00038	:	-	
Barium	mg/L	T	0.0357	:	-		0.0445	:	-		-		0.0345	:
Barium	mg/L	D	-		0.0333	:	-		0.0358	:	0.0128	:	-	
Beryllium	mg/L	T	<0.0004	:	-		<0.00047	:	-		-		<0.0002	:
Beryllium	mg/L	D	-		<0.0004	:	-		<0.00047	:	<0.00047	:	-	
Boron	mg/L	T	0.0061	:	-		<0.0083	:	-		-		<0.0048	:
Boron	mg/L	D	-		0.0064	:	-		<0.0059	:	0.0054	:	-	
Cadmium	mg/L	T	0.00057	:	-		0.00044	:	-		-		0.00043	:
Cadmium	mg/L	D	-		0.00052	:	-		0.00037	:	<0.00008	:	-	
Calcium	mg/L	T	44.6	:	-		50.6	:	-		-		53.9	:
Calcium	mg/L	D	-		43.1	:	-		47.7	:	21.2	:	-	
Chromium	mg/L	T	<0.0019	:	-		<0.001	:	-		-		<0.0046	:
Chromium	mg/L	D	-		<0.0019	:	-		<0.001	:	<0.001	:	-	
Chromium, Hexavalent	mg/L	D	-		-		-		-		-		<0.01	:
Cobalt	mg/L	T	<0.0037	:	-		0.0026	:	-		-		0.0037	:
Cobalt	mg/L	D	-		<0.0037	:	-		0.0026	:	<0.0011	:	-	
Copper	mg/L	T	0.0086	:	-		0.0096	:	-		-		0.0199	:
Copper	mg/L	D	-		0.0047	:	-		0.0037	:	<0.00038	:	-	
Iron	mg/L	T	0.1	:	-		0.426	:	-		-		0.612	:
Iron	mg/L	D	-		<0.0667	:	-		<0.044	:	<0.044	:	-	
Lead	mg/L	T	0.00023	:	-		0.00093	:	-		-		0.0011	:
Lead	mg/L	D	-		<0.0001	:	-		<0.00004	:	<0.00004	:	-	
Magnesium	mg/L	T	9.62	:	-		10.1	:	-		-		11.1	:
Magnesium	mg/L	D	-		9.3	:	-		9.48	:	3.18	:	-	
Manganese	mg/L	T	0.138	:	-		0.153	:	-		-		0.324	:
Manganese	mg/L	D	-		0.128	:	-		0.135	:	<0.0013	:	-	
Mercury	mg/L	T	<0.00015	:	-		<0.00006	:	-		-		<0.0001	:

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Site ID			RR-13		RR-13		RR-13		RR-13		RR-13		RR-14	
Sample Date			7/15/2003		7/15/2003		9/24/2003		9/24/2003		9/25/2003		10/1/2002	
Sample ID			RR-13-T01N-SFW		RR-13-D01N-SFW		RR-13-T01N-SFW		RR-13-D01N-SFW		RR-13-D01N-SFW		RR-14-T01N-SFW	
Exposure Area			SWR		SWR		SWR		SWR		SWR		SWR	
Parameter	**Units**	**Fraction**												
Mercury	mg/L	D	-		<0.00012	:	-		<0.00006	:	<0.00006	:	-	
Molybdenum	mg/L	T	0.0019	:	-		<0.0021	:	-		-		0.0019	:
Molybdenum	mg/L	D	-		0.0019	:	-		<0.002	:	<0.0009	:	-	
Nickel	mg/L	T	0.0168	:	-		0.0151	:	-		-		0.0121	:
Nickel	mg/L	D	-		0.0158	:	-		0.0145	:	<0.00091	:	-	
Potassium	mg/L	T	1.24	:	-		1.33	:	-		-		1.51	:
Potassium	mg/L	D	-		1.33	:	-		1.19	:	<0.896	:	-	
Selenium	mg/L	T	<0.0008	:	-		<0.00073	:	-		-		0.00038	:
Selenium	mg/L	D	-		<0.0008	:	-		<0.00073	:	<0.00073	:	-	
Silver	mg/L	T	<0.0001	J	-		<0.0002	:	-		-		<0.0001	:
Silver	mg/L	D	-		<0.0001	J	-		<0.0002	:	<0.0002	:	-	
Sodium	mg/L	T	4.81	:	-		4.69	:	-		-		5.64	:
Sodium	mg/L	D	-		4.76	:	-		4.34	:	3.02	:	-	
Thallium	mg/L	T	<0.0001	:	-		<0.00001	:	-		-		<0.0001	:
Thallium	mg/L	D	-		<0.0001	:	-		<0.00001	:	<0.00001	:	-	
Vanadium	mg/L	T	<0.0002	:	-		0.0005	:	-		-		0.00031	:
Vanadium	mg/L	D	-		<0.0002	:	-		<0.00029	:	<0.0005	:	-	
Zinc	mg/L	T	0.126	:	-		0.0932	:	-		-		0.0859	:
Zinc	mg/L	D	-		0.0936	:	-		0.062	:	<0.013	:	-	

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-14	RR-14	RR-14	RR-14	RR-14	RR-14
			Sample Date	10/1/2002	3/20/2003	3/20/2003	7/15/2003	7/15/2003	9/24/2003
			Sample ID	RR-14-D01N-SFW	RR-14-T01N-SFW	RR-14-D01N-SFW	RR-14-T01N-SFW	RR-14-D01N-SFW	RR-14-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	10.91 :	-	8.1 :	-	8.73 :
Eh	millivolts	T		-	267. :	-	300.5 :	-	323.1 :
Flow	cfs	T		-	12.2 :	-	33. :	-	27.5 :
pH	SU	T		-	7.7 J	-	7.7 J	-	7.7 J
Specific Conductance	uS/cm	T		-	476. :	-	321. :	-	337. :
Temperature	Celsius	T		-	3.42 :	-	11.67 :	-	11.12 :
Turbidity	NTU	T		-	4.7 :	-	29.7 :	-	27.3 :
General Chemistry									
Ammonia	mg/L	T		-	<0.082 J	-	0.055 :	-	0.053 :
Bicarbonate (as CaCO3)	mg/L	T		-	48.9 :	-	56.3 :	-	58.7 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.5 J	-	<1.4 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	6.5 :	-	2.8 :	-	3.1 :
Fluoride	mg/L	T		-	0.96 :	-	<0.3 J	-	0.69 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.69 J	-	<1. J	-	0.37 J
Nitrite	mg/L	T		-	0.012 J	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	0.66 J	-	<0.01 J	-	<0.01 :
Phosphorus	mg/L	T		-	<0.022 J	-	0.024 :	-	0.021 :
Sulfate	mg/L	T		-	162. :	-	104. :	-	93.7 J
Total Alkalinity	mg/L	T		-	48.9 :	-	56.3 :	-	58.7 :
Total Dissolved Solids	mg/L	T		-	262. :	-	202. :	-	232. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	2.1 :	-	1. :	-	<1. :
Total Suspended Solids	mg/L	T		-	13.8 :	-	7. :	-	11.2 :
Laboratory Parameters									
pH	SU	T		-	7.7 J	-	7.7 J	-	7.7 J
Specific Conductance	umhos/cm	T		-	387. J	-	329. J	-	317. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	209. :	-	150. :	-	168. :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-14		RR-14		RR-14		RR-14		RR-14		RR-14	
			10/1/2002		3/20/2003		3/20/2003		7/15/2003		7/15/2003		9/24/2003	
			RR-14-D01N-SFW		RR-14-T01N-SFW		RR-14-D01N-SFW		RR-14-T01N-SFW		RR-14-D01N-SFW		RR-14-T01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Hardness	mg/L	D	191.	:	-		214.	:	-		152.	:	-	
Metals														
Aluminum	mg/L	T	-		<2.15	:	-		1.13	:	-		1.27	:
Aluminum	mg/L	D	0.136	:	-		0.12	J	-		0.229	:	-	
Antimony	mg/L	T	-		<0.0006	:	-		<0.0005	:	-		<0.0011	:
Antimony	mg/L	D	0.00055	:	-		<0.0006	:	-		<0.0005	:	-	
Arsenic	mg/L	T	-		<0.0004	J	-		<0.0002	:	-		<0.00038	:
Arsenic	mg/L	D	<0.0002	:	-		<0.0002	:	-		<0.0002	:	-	
Barium	mg/L	T	-		0.0383	:	-		0.0359	:	-		0.0487	:
Barium	mg/L	D	0.0305	:	-		0.035	:	-		0.0352	:	-	
Beryllium	mg/L	T	-		<0.0003	:	-		<0.0002	J	-		<0.00047	:
Beryllium	mg/L	D	<0.0002	:	-		<0.0003	:	-		<0.0002	:	-	
Boron	mg/L	T	-		0.009	:	-		0.006	:	-		<0.0067	:
Boron	mg/L	D	<0.0052	:	-		0.01	:	-		0.0075	:	-	
Cadmium	mg/L	T	-		<0.0005	J	-		0.00067	:	-		0.00048	:
Cadmium	mg/L	D	0.00034	:	-		0.00056	:	-		0.00059	:	-	
Calcium	mg/L	T	-		60.9	:	-		44.5	:	-		50.5	:
Calcium	mg/L	D	56.9	:	-		62.5	:	-		45.1	:	-	
Chromium	mg/L	T	-		<0.001	:	-		<0.0014	:	-		<0.001	:
Chromium	mg/L	D	<0.0046	:	-		<0.001	:	-		<0.0014	:	-	
Cobalt	mg/L	T	-		0.0049	:	-		0.002	:	-		0.0032	:
Cobalt	mg/L	D	0.0032	:	-		<0.0038	:	-		0.0027	:	-	
Copper	mg/L	T	-		0.0262	:	-		0.0133	:	-		0.013	:
Copper	mg/L	D	0.0038	:	-		0.0074	:	-		0.0041	:	-	
Iron	mg/L	T	-		<0.422	:	-		0.225	:	-		0.647	:
Iron	mg/L	D	0.0542	:	-		<0.422	:	-		<0.0333	:	-	
Lead	mg/L	T	-		0.0004	:	-		<0.00043	:	-		0.0013	:
Lead	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.00012	:	-	
Magnesium	mg/L	T	-		13.8	:	-		9.47	:	-		10.2	:
Magnesium	mg/L	D	11.8	:	-		14.2	:	-		9.6	:	-	
Manganese	mg/L	T	-		0.374	:	-		0.188	:	-		0.225	:
Manganese	mg/L	D	0.323	:	-		0.376	:	-		0.185	:	-	
Mercury	mg/L	T	-		<0.0001	:	-		0.00017	:	-		<0.00006	:
Mercury	mg/L	D	<0.0001	:	-		<0.0001	:	-		0.00012	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / SWR											
			RR-14 10/1/2002 RR-14-D01N-SFW SWR		RR-14 3/20/2003 RR-14-T01N-SFW SWR		RR-14 3/20/2003 RR-14-D01N-SFW SWR		RR-14 7/15/2003 RR-14-T01N-SFW SWR		RR-14 7/15/2003 RR-14-D01N-SFW SWR		RR-14 9/24/2003 RR-14-T01N-SFW SWR	
Molybdenum	mg/L	T	-	:	0.0024	:	-		0.0023	:	-		0.0029	:
Molybdenum	mg/L	D	0.0025	:	-		<0.0023	:	-		0.0022	:	-	
Nickel	mg/L	T	-		0.0252	:	-		0.0212	:	-		0.0159	:
Nickel	mg/L	D	0.0108	:	-		0.0248	:	-		0.0187	:	-	
Potassium	mg/L	T	-		1.59	:	-		1.37	:	-		1.38	J
Potassium	mg/L	D	1.66	:	-		1.52	:	-		1.31	:	-	
Selenium	mg/L	T	-		<0.001	J	-		<0.0008	:	-		<0.00073	:
Selenium	mg/L	D	0.00027	:	-		<0.001	J	-		<0.0008	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Silver	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Sodium	mg/L	T	-		9.54	:	-		4.78	:	-		4.76	:
Sodium	mg/L	D	6.01	:	-		16.1	:	-		4.96	:	-	
Thallium	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Thallium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		<0.0002	:	-		0.00022	:	-		<0.00077	:
Vanadium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0002	:	-	
Zinc	mg/L	T	-		0.196	:	-		0.134	:	-		0.111	:
Zinc	mg/L	D	0.0517	:	-		0.158	:	-		0.0962	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-14	RR-15	RR-15	RR-15	RR-15	RR-15
			Sample Date	9/24/2003	10/1/2002	10/1/2002	3/21/2003	3/21/2003	7/15/2003
			Sample ID	RR-14-D01N-SFW	RR-15-T01N-SFW	RR-15-D01N-SFW	RR-15-T01N-SFW	RR-15-D01N-SFW	RR-15-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.58 :	-	11.19 :	-	4.94 :
Eh	millivolts	T		-	279.3 :	-	320.19 :	-	327.6 :
Flow	cfs	T		-	22.38 :	-	14.5 :	-	35.8 :
pH	SU	T		-	6.85 :	-	7.5 J	-	7.7 J
Specific Conductance	uS/cm	T		-	327. :	-	811. :	-	327. :
Temperature	Celsius	T		-	10.49 :	-	3.43 :	-	10.63 :
Turbidity	NTU	T		-	16.6 :	-	46.7 :	-	31.1 :
General Chemistry									
Ammonia	mg/L	T		-	<0.029 :	-	<0.098 :	-	0.051 :
Bicarbonate (as CaCO3)	mg/L	T		-	60.9 :	-	43.1 :	-	56.2 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 :	-	<1.4 :	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.6 :	-	6.6 :	-	2.8 J
Fluoride	mg/L	T		-	1.1 :	-	0.96 :	-	<0.8 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.27 :	-	0.63 J	-	<0.58 J
Nitrite	mg/L	T		-	<0.005 :	-	0.0079 :	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	0.017 :	-	<0.01 J
Phosphorus	mg/L	T		-	0.093 :	-	0.058 :	-	0.031 :
Sulfate	mg/L	T		-	135. :	-	146. :	-	104. :
Total Alkalinity	mg/L	T		-	60.9 :	-	43.1 :	-	56.2 :
Total Dissolved Solids	mg/L	T		-	225. :	-	266. :	-	186. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.1 :	-	1.8 :	-	1.8 :
Total Suspended Solids	mg/L	T		-	37.3 :	-	27.3 :	-	9.4 :
Laboratory Parameters									
pH	SU	T		-	6.85 :	-	7.5 J	-	7.7 J
Specific Conductance	umhos/cm	T		-	-	-	365. J	-	335. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	189. :	-	199. :	-	155. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area													
			RR-14	9/24/2003	RR-14-D01N-SFW	SWR	RR-15	10/1/2002	RR-15-T01N-SFW	SWR	RR-15	10/1/2002	RR-15-D01N-SFW	SWR	RR-15	3/21/2003	RR-15-T01N-SFW	SWR	RR-15	3/21/2003	RR-15-D01N-SFW	SWR	RR-15	7/15/2003	RR-15-T01N-SFW	SWR
Hardness	mg/L	D	158.	:			-				184.	:			-				189.	:			-			
Metals																										
Aluminum	mg/L	T	-				2.19	:			-				<3.47	:			-				1.21	:		
Aluminum	mg/L	D	0.189	:			-				0.172	:			-				0.11	:			-			
Antimony	mg/L	T	-				<0.0002	:			-				<0.0006	:			-				<0.0005	:		
Antimony	mg/L	D	<0.00054	:			-				<0.0002	:			-				<0.0006	:			-			
Arsenic	mg/L	T	-				<0.0002	:			-				<0.0004	J			-				<0.0002	:		
Arsenic	mg/L	D	<0.00038	:			-				<0.0002	:			-				<0.0002	:			-			
Barium	mg/L	T	-				0.0352	:			-				0.0445	:			-				0.0376	:		
Barium	mg/L	D	0.0351	:			-				0.0285	:			-				0.0331	:			-			
Beryllium	mg/L	T	-				0.00028	:			-				<0.0003	J			-				<0.00046	:		
Beryllium	mg/L	D	<0.00047	:			-				<0.0002	:			-				<0.0003	J			-			
Boron	mg/L	T	-				<0.0053	:			-				<0.0084	:			-				0.006	:		
Boron	mg/L	D	<0.0062	:			-				<0.0048	:			-				<0.0084	:			-			
Cadmium	mg/L	T	-				0.00046	:			-				0.00054	:			-				0.00066	:		
Cadmium	mg/L	D	0.00042	:			-				0.00031	:			-				0.00073	:			-			
Calcium	mg/L	T	-				56.3	:			-				57.6	:			-				45.8	:		
Calcium	mg/L	D	47.7	:			-				54.8	:			-				54.7	:			-			
Chromium	mg/L	T	-				<0.0046	:			-				<0.001	:			-				<0.0014	:		
Chromium	mg/L	D	<0.001	:			-				<0.0046	:			-				<0.001	:			-			
Chromium, Hexavalent	mg/L	D	-				<0.01	:			-				-				-				-			
Cobalt	mg/L	T	-				0.0041	:			-				0.0054	:			-				0.0022	:		
Cobalt	mg/L	D	0.0031	:			-				0.0036	:			-				0.0052	:			-			
Copper	mg/L	T	-				0.022	:			-				0.0344	:			-				0.0148	:		
Copper	mg/L	D	0.0034	:			-				0.0033	:			-				0.0064	:			-			
Iron	mg/L	T	-				0.638	:			-				0.828	:			-				0.2	:		
Iron	mg/L	D	<0.044	:			-				<0.0226	:			-				<0.311	:			-			
Lead	mg/L	T	-				0.00088	:			-				0.0014	:			-				0.00029	:		
Lead	mg/L	D	<0.00004	:			-				<0.0001	:			-				<0.0002	:			-			
Magnesium	mg/L	T	-				11.7	:			-				13.4	:			-				9.79	:		
Magnesium	mg/L	D	9.54	:			-				11.4	:			-				12.7	:			-			
Manganese	mg/L	T	-				0.408	:			-				0.466	:			-				0.24	:		
Manganese	mg/L	D	0.198	:			-				0.377	:			-				0.424	:			-			
Mercury	mg/L	T	-				<0.0001	:			-				<0.0001	:			-				<0.0001	:		

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID: RR-14 Sample Date: 9/24/2003 Sample ID: RR-14-D01N-SFW SWR	Site ID: RR-15 Sample Date: 10/1/2002 Sample ID: RR-15-T01N-SFW SWR	Site ID: RR-15 Sample Date: 10/1/2002 Sample ID: RR-15-D01N-SFW SWR	Site ID: RR-15 Sample Date: 3/21/2003 Sample ID: RR-15-T01N-SFW SWR	Site ID: RR-15 Sample Date: 3/21/2003 Sample ID: RR-15-D01N-SFW SWR	Site ID: RR-15 Sample Date: 7/15/2003 Sample ID: RR-15-T01N-SFW SWR
Mercury	mg/L	D	<0.00006 :	-	<0.0001 :	-	<0.0001 :	-
Molybdenum	mg/L	T	-	0.0018 :	-	<0.0023 :	-	0.0027 :
Molybdenum	mg/L	D	0.0024 :	-	0.0024 :	-	<0.0023 :	-
Nickel	mg/L	T	-	0.0135 :	-	0.0284 :	-	0.0208 :
Nickel	mg/L	D	0.0149 :	-	0.0116 :	-	0.0254 :	-
Potassium	mg/L	T	-	1.62 :	-	1.64 :	-	1.2 :
Potassium	mg/L	D	1.21 J	-	1.56 :	-	1.4 :	-
Selenium	mg/L	T	-	0.0003 :	-	<0.0025 J	-	<0.0016 :
Selenium	mg/L	D	<0.00073 :	-	<0.0002 :	-	<0.001 :	-
Silver	mg/L	T	-	<0.0001 :	-	<0.0002 :	-	<0.0001 J
Silver	mg/L	D	<0.0002 :	-	<0.0001 :	-	<0.0002 :	-
Sodium	mg/L	T	-	6.02 :	-	8.33 :	-	5.29 :
Sodium	mg/L	D	4.48 :	-	5.71 :	-	7.42 :	-
Thallium	mg/L	T	-	<0.0001 :	-	<0.0002 :	-	<0.0001 :
Thallium	mg/L	D	<0.00001 :	-	<0.0001 :	-	<0.0002 :	-
Vanadium	mg/L	T	-	0.00029 :	-	0.00057 :	-	<0.0007 :
Vanadium	mg/L	D	<0.00034 :	-	<0.0001 :	-	<0.0002 :	-
Zinc	mg/L	T	-	0.107 :	-	0.226 :	-	0.161 :
Zinc	mg/L	D	0.0699 :	-	0.0568 :	-	0.146 :	-
Volatile Organics								
1,1,1-Trichloroethane	mg/L	T	-	<0.01 :	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	T	-	<0.01 :	-	-	-	-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T	-	<0.01 :	-	-	-	-
1,1,2-Trichloroethane	mg/L	T	-	<0.01 :	-	-	-	-
1,1-Dichloroethane	mg/L	T	-	<0.01 :	-	-	-	-
1,1-Dichloroethene	mg/L	T	-	<0.01 :	-	-	-	-
1,2,4-Trichlorobenzene	mg/L	T	-	<0.01 :	-	-	-	-
1,2-Dibromo-3-chloropropane	mg/L	T	-	<0.01 :	-	-	-	-
1,2-Dichlorobenzene	mg/L	T	-	<0.01 :	-	-	-	-
1,2-Dichloroethane	mg/L	T	-	<0.01 :	-	-	-	-
1,2-Dichloroethene (total)	mg/L	T	-	<0.01 :	-	-	-	-
1,2-Dichloropropane	mg/L	T	-	<0.01 :	-	-	-	-
1,3-Dichlorobenzene	mg/L	T	-	<0.01 :	-	-	-	-
1,4-Dichlorobenzene	mg/L	T	-	<0.01 :	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-14	RR-15	RR-15	RR-15	RR-15	RR-15
			Sample Date	9/24/2003	10/1/2002	10/1/2002	3/21/2003	3/21/2003	7/15/2003
			Sample ID	RR-14-D01N-SFW	RR-15-T01N-SFW	RR-15-D01N-SFW	RR-15-T01N-SFW	RR-15-D01N-SFW	RR-15-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2-Butanone	mg/L	T		-	<0.01 :	-	-	-	-
2-Hexanone	mg/L	T		-	<0.01 :	-	-	-	-
4-Methyl-2-pentanone	mg/L	T		-	<0.01 :	-	-	-	-
Acetone	mg/L	T		-	<0.01 :	-	-	-	-
Benzene	mg/L	T		-	<0.01 :	-	-	-	-
Bromodichloromethane	mg/L	T		-	<0.01 :	-	-	-	-
Bromoform	mg/L	T		-	<0.01 :	-	-	-	-
Bromomethane	mg/L	T		-	<0.01 :	-	-	-	-
Carbon disulfide	mg/L	T		-	<0.01 :	-	-	-	-
Carbon tetrachloride	mg/L	T		-	<0.01 :	-	-	-	-
Chlorobenzene	mg/L	T		-	<0.01 :	-	-	-	-
Chloroethane	mg/L	T		-	<0.01 :	-	-	-	-
Chloroform	mg/L	T		-	<0.01 :	-	-	-	-
Chloromethane	mg/L	T		-	<0.01 :	-	-	-	-
cis-1,2-Dichloroethene	mg/L	T		-	<0.01 :	-	-	-	-
cis-1,3-Dichloropropene	mg/L	T		-	<0.01 :	-	-	-	-
Dibromochloromethane	mg/L	T		-	<0.01 :	-	-	-	-
Dichlorodifluoromethane	mg/L	T		-	<0.01 :	-	-	-	-
Ethylbenzene	mg/L	T		-	<0.01 :	-	-	-	-
Methylene chloride	mg/L	T		-	<0.01 :	-	-	-	-
Styrene	mg/L	T		-	<0.01 :	-	-	-	-
Tetrachloroethene	mg/L	T		-	<0.01 :	-	-	-	-
Toluene	mg/L	T		-	<0.01 :	-	-	-	-
Total Xylene	mg/L	T		-	<0.01 :	-	-	-	-
trans-1,2-Dichloroethene	mg/L	T		-	<0.01 :	-	-	-	-
trans-1,3-Dichloropropene	mg/L	T		-	<0.01 :	-	-	-	-
Trichloroethene	mg/L	T		-	<0.01 :	-	-	-	-
Trichlorofluoromethane	mg/L	T		-	<0.01 :	-	-	-	-
Vinyl chloride	mg/L	T		-	<0.01 :	-	-	-	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		-	<0.01 :	-	-	-	-
2,4,5-Trichlorophenol	mg/L	T		-	<0.026 :	-	-	-	-
2,4,6-Trichlorophenol	mg/L	T		-	<0.01 :	-	-	-	-
2,4-Dichlorophenol	mg/L	T		-	<0.01 :	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-14	RR-15	RR-15	RR-15	RR-15	RR-15
			Sample Date	9/24/2003	10/1/2002	10/1/2002	3/21/2003	3/21/2003	7/15/2003
			Sample ID	RR-14-D01N-SFW	RR-15-T01N-SFW	RR-15-D01N-SFW	RR-15-T01N-SFW	RR-15-D01N-SFW	RR-15-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2,4-Dimethylphenol	mg/L	T		-	<0.01 :	-	-	-	-
2,4-Dinitrophenol	mg/L	T		-	<0.026 J	-	-	-	-
2,4-Dinitrotoluene	mg/L	T		-	<0.01 :	-	-	-	-
2,6-Dinitrotoluene	mg/L	T		-	<0.01 :	-	-	-	-
2-Chloronaphthalene	mg/L	T		-	<0.01 :	-	-	-	-
2-Chlorophenol	mg/L	T		-	<0.01 :	-	-	-	-
2-Methylnaphthalene	mg/L	T		-	<0.01 :	-	-	-	-
2-Methylphenol	mg/L	T		-	<0.01 :	-	-	-	-
2-Nitroaniline	mg/L	T		-	<0.026 :	-	-	-	-
2-Nitrophenol	mg/L	T		-	<0.01 :	-	-	-	-
3,3-Dichlorobenzidine	mg/L	T		-	<0.01 :	-	-	-	-
3-Nitroaniline	mg/L	T		-	<0.026 :	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	T		-	<0.026 :	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	T		-	<0.01 :	-	-	-	-
4-Chloro-3-methylphenol	mg/L	T		-	<0.01 :	-	-	-	-
4-Chloroaniline	mg/L	T		-	<0.01 :	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	T		-	<0.01 :	-	-	-	-
4-Methylphenol	mg/L	T		-	<0.01 :	-	-	-	-
4-Nitroaniline	mg/L	T		-	<0.026 :	-	-	-	-
4-Nitrophenol	mg/L	T		-	<0.026 :	-	-	-	-
Acenaphthene	mg/L	T		-	<0.01 :	-	-	-	-
Acenaphthylene	mg/L	T		-	<0.01 :	-	-	-	-
Anthracene	mg/L	T		-	<0.01 :	-	-	-	-
Benzaldehyde	mg/L	T		-	<0.01 J	-	-	-	-
Benzo(a)anthracene	mg/L	T		-	<0.01 :	-	-	-	-
Benzo(a)pyrene	mg/L	T		-	<0.01 :	-	-	-	-
Benzo(b)fluoranthene	mg/L	T		-	<0.01 :	-	-	-	-
Benzo(g,h,i)perylene	mg/L	T		-	<0.01 :	-	-	-	-
Benzo(k)fluoranthene	mg/L	T		-	<0.01 :	-	-	-	-
Bis(2-chloroethoxy)methane	mg/L	T		-	<0.01 :	-	-	-	-
Bis(2-chloroethyl)ether	mg/L	T		-	<0.01 :	-	-	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T		-	<0.01 :	-	-	-	-
Butyl benzyl phthalate	mg/L	T		-	<0.01 :	-	-	-	-
Carbazole	mg/L	T		-	<0.01 :	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID: RR-14 Sample Date: 9/24/2003 Sample ID: RR-14-D01N-SFW SWR	Site ID: RR-15 Sample Date: 10/1/2002 Sample ID: RR-15-T01N-SFW SWR	Site ID: RR-15 Sample Date: 10/1/2002 Sample ID: RR-15-D01N-SFW SWR	Site ID: RR-15 Sample Date: 3/21/2003 Sample ID: RR-15-T01N-SFW SWR	Site ID: RR-15 Sample Date: 3/21/2003 Sample ID: RR-15-D01N-SFW SWR	Site ID: RR-15 Sample Date: 7/15/2003 Sample ID: RR-15-T01N-SFW SWR
Chrysene	mg/L	T	-	<0.01 :	-	-	-	-
Dibenz(a,h)anthracene	mg/L	T	-	<0.01 J	-	-	-	-
Dibenzofuran	mg/L	T	-	<0.01 :	-	-	-	-
Dichlorodiisopropyl ether	mg/L	T	-	<0.01 :	-	-	-	-
Diethylphthalate	mg/L	T	-	<0.01 :	-	-	-	-
Dimethylphthalate	mg/L	T	-	<0.01 :	-	-	-	-
Di-n-Butyl phthalate	mg/L	T	-	<0.01 :	-	-	-	-
Di-n-Octyl phthalate	mg/L	T	-	<0.01 :	-	-	-	-
Fluoranthene	mg/L	T	-	<0.01 :	-	-	-	-
Fluorene	mg/L	T	-	<0.01 :	-	-	-	-
Hexachlorobenzene	mg/L	T	-	<0.01 :	-	-	-	-
Hexachlorobutadiene	mg/L	T	-	<0.01 :	-	-	-	-
Hexachlorocyclopentadiene	mg/L	T	-	<0.01 :	-	-	-	-
Hexachloroethane	mg/L	T	-	<0.01 :	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T	-	<0.01 :	-	-	-	-
Isophorone	mg/L	T	-	<0.01 :	-	-	-	-
Naphthalene	mg/L	T	-	<0.01 :	-	-	-	-
Nitrobenzene	mg/L	T	-	<0.01 :	-	-	-	-
N-Nitrosodi-n-propylamine	mg/L	T	-	<0.01 :	-	-	-	-
N-Nitrosodiphenylamine	mg/L	T	-	<0.01 :	-	-	-	-
Pentachlorophenol	mg/L	T	-	<0.026 J	-	-	-	-
Phenanthrene	mg/L	T	-	<0.01 :	-	-	-	-
Phenol	mg/L	T	-	<0.01 :	-	-	-	-
Pyrene	mg/L	T	-	<0.01 :	-	-	-	-
Explosives								
2,4,6-Trinitrotoluene	mg/L	T	-	<0.00025 J	-	-	-	-
2,6-Pyridinediamine,	mg/L	T	-	<0.00025 J	-	-	-	-
Cyclotetramethylenetetranitramine	mg/L	T	-	<0.00025 J	-	-	-	-
Cyclotrimethylenetrinitramine	mg/L	T	-	<0.00025 J	-	-	-	-
Pentaerythritol tetranitrate	mg/L	T	-	<0.01 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-15	RR-15	RR-15	RR-16	RR-16	RR-16
			Sample Date	7/15/2003	9/24/2003	9/24/2003	10/1/2002	10/1/2002	3/19/2003
			Sample ID	RR-15-D01N-SFW	RR-15-T01N-SFW	RR-15-D01N-SFW	RR-16-T01N-SFW	RR-16-D01N-SFW	RR-16-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.44 :	-	9.53 :	-	-
Eh	millivolts	T		-	218. :	-	298.5 :	-	403.3 :
Flow	cfs	T		-	24. :	-	15.7 :	-	11.7 :
pH	SU	T		-	7.7 J	-	6.75 :	-	7.4 J
Specific Conductance	uS/cm	T		-	340. :	-	374. :	-	430. :
Temperature	Celsius	T		-	9.22 :	-	9.13 :	-	3.86 :
Turbidity	NTU	T		-	17.6 :	-	19.9 :	-	85.4 :
General Chemistry									
Ammonia	mg/L	T		-	0.049 :	-	<0.03 :	-	<0.17 J
Bicarbonate (as CaCO3)	mg/L	T		-	58.3 :	-	66.1 :	-	45.6 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	<1.4 :	-	<1.5 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.1 :	-	3.7 :	-	5.7 :
Fluoride	mg/L	T		-	0.69 :	-	0.73 :	-	1. :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.38 J	-	0.27 :	-	0.61 :
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 :	-	0.0083 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Phosphorus	mg/L	T		-	0.03 :	-	0.084 :	-	0.043 :
Sulfate	mg/L	T		-	97.8 J	-	143. :	-	148. :
Total Alkalinity	mg/L	T		-	58.3 :	-	66.1 :	-	45.6 :
Total Dissolved Solids	mg/L	T		-	216. :	-	241. :	-	269. J
Total Kjeldahl Nitrogen	mg/L	T		-	<0.27 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Total Suspended Solids	mg/L	T		-	13.3 :	-	38. :	-	15.8 :
Laboratory Parameters									
pH	SU	T		-	7.7 J	-	6.75 :	-	7.4 J
Specific Conductance	umhos/cm	T		-	331. J	-	-	-	364. :
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	150. :	-	188. :	-	201. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-15	RR-15	RR-15	RR-16	RR-16	RR-16
			Sample Date	7/15/2003	9/24/2003	9/24/2003	10/1/2002	10/1/2002	3/19/2003
			Sample ID	RR-15-D01N-SFW	RR-15-T01N-SFW	RR-15-D01N-SFW	RR-16-T01N-SFW	RR-16-D01N-SFW	RR-16-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		154. :	-	162. :	-	189. :	-
Metals									
Aluminum	mg/L	T		-	1.39 :	-	2.21 :	-	2.11 :
Aluminum	mg/L	D		0.217 :	-	0.243 :	-	0.179 :	-
Antimony	mg/L	T		-	<0.00038 :	-	<0.0002 :	-	<0.0006 :
Antimony	mg/L	D		<0.0005 :	-	<0.0012 :	-	<0.0002 :	-
Arsenic	mg/L	T		-	<0.00038 :	-	0.0002 :	-	<0.0004 :
Arsenic	mg/L	D		<0.0002 :	-	<0.00038 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0375 :	-	0.0345 :	-	0.0351 :
Barium	mg/L	D		0.0351 :	-	0.0356 :	-	0.0288 :	-
Beryllium	mg/L	T		-	<0.00047 :	-	0.00034 :	-	0.00054 :
Beryllium	mg/L	D		<0.0002 :	-	<0.00047 :	-	<0.0002 :	-
Boron	mg/L	T		-	<0.0067 :	-	<0.0052 :	-	<0.0084 :
Boron	mg/L	D		0.0056 :	-	<0.008 :	-	<0.0053 :	-
Cadmium	mg/L	T		-	0.0006 :	-	0.00048 :	-	0.00064 :
Cadmium	mg/L	D		0.0006 :	-	0.00048 :	-	0.00035 :	-
Calcium	mg/L	T		-	45.1 :	-	55.9 :	-	58.2 :
Calcium	mg/L	D		45.7 :	-	48.7 :	-	56.4 :	-
Chromium	mg/L	T		-	<0.001 :	-	<0.0046 :	-	0.001 :
Chromium	mg/L	D		<0.0014 :	-	<0.001 :	-	<0.0046 :	-
Chromium, Hexavalent	mg/L	D		-	-	-	<0.01 :	-	-
Cobalt	mg/L	T		-	0.0031 :	-	0.0045 :	-	0.0048 :
Cobalt	mg/L	D		0.0023 :	-	0.003 :	-	0.0041 :	-
Copper	mg/L	T		-	0.0147 :	-	0.0223 :	-	0.0266 :
Copper	mg/L	D		0.0053 :	-	<0.004 :	-	0.0033 :	-
Iron	mg/L	T		-	0.439 :	-	0.647 :	-	<0.422 :
Iron	mg/L	D		<0.0333 :	-	<0.044 :	-	<0.0226 :	-
Lead	mg/L	T		-	0.00098 :	-	0.00099 :	-	0.00034 :
Lead	mg/L	D		<0.0001 :	-	<0.00004 :	-	<0.0001 :	-
Magnesium	mg/L	T		-	9.04 :	-	11.7 :	-	13.5 :
Magnesium	mg/L	D		9.76 :	-	9.73 :	-	11.8 :	-
Manganese	mg/L	T		-	0.236 :	-	0.43 :	-	0.449 :
Manganese	mg/L	D		0.23 :	-	0.247 :	-	0.413 :	-
Mercury	mg/L	T		-	<0.00006 :	-	<0.0001 :	-	<0.0001 :

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-15	RR-15	RR-15	RR-16	RR-16	RR-16
			Sample Date	7/15/2003	9/24/2003	9/24/2003	10/1/2002	10/1/2002	3/19/2003
			Sample ID	RR-15-D01N-SFW	RR-15-T01N-SFW	RR-15-D01N-SFW	RR-16-T01N-SFW	RR-16-D01N-SFW	RR-16-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Mercury	mg/L	D		<0.0001 :	-	<0.00006 :	-	<0.0001 :	-
Molybdenum	mg/L	T		-	<0.0023 :	-	0.0018 :	-	<0.0023 :
Molybdenum	mg/L	D		0.0022 :	-	0.003 :	-	0.0024 :	-
Nickel	mg/L	T		-	0.0174 :	-	0.0141 :	-	0.0243 :
Nickel	mg/L	D		0.0188 :	-	0.0164 :	-	0.0124 :	-
Potassium	mg/L	T		-	1.22 :	-	1.55 :	-	1.51 :
Potassium	mg/L	D		1.19 :	-	1.21 :	-	1.6 :	-
Selenium	mg/L	T		-	<0.00073 :	-	0.00034 :	-	<0.0016 :
Selenium	mg/L	D		<0.0016 :	-	<0.00073 :	-	<0.0002 :	-
Silver	mg/L	T		-	<0.0002 :	-	<0.0001 :	-	<0.0002 :
Silver	mg/L	D		<0.0001 J	-	<0.0002 :	-	<0.0001 :	-
Sodium	mg/L	T		-	4.33 :	-	5.85 :	-	<12.7 :
Sodium	mg/L	D		5.22 :	-	4.58 :	-	6.04 :	-
Thallium	mg/L	T		-	<0.00001 :	-	<0.0001 :	-	<0.0002 :
Thallium	mg/L	D		<0.0001 :	-	<0.00001 :	-	<0.0001 :	-
Vanadium	mg/L	T		-	0.00044 :	-	0.00037 :	-	<0.0004 :
Vanadium	mg/L	D		<0.00027 :	-	<0.00028 :	-	<0.0001 :	-
Zinc	mg/L	T		-	0.109 :	-	0.113 :	-	0.207 :
Zinc	mg/L	D		0.111 :	-	0.0786 :	-	0.0597 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-16	RR-16	RR-16	RR-16	RR-16	RR-17
			Sample Date	3/19/2003	7/15/2003	7/15/2003	9/23/2003	9/23/2003	10/1/2002
			Sample ID	RR-16-D01N-SFW	RR-16-T01N-SFW	RR-16-D01N-SFW	RR-16-T01N-SFW	RR-16-D01N-SFW	RR-17-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.14 :	-	9.07 :	-	9.7 :
Eh	millivolts	T		-	179.6 :	-	321. :	-	365.4 :
Flow	cfs	T		-	23.8 :	-	18.4 :	-	15.23 :
pH	SU	T		-	7.8 J	-	7.7 J	-	6.59 :
Specific Conductance	uS/cm	T		-	337. :	-	298. :	-	381. :
Temperature	Celsius	T		-	11.18 :	-	12.08 :	-	9.08 :
Turbidity	NTU	T		-	1.3 :	-	10.8 :	-	21.3 :
General Chemistry									
Ammonia	mg/L	T		-	0.095 :	-	0.07 :	-	<0.064 :
Bicarbonate (as CaCO3)	mg/L	T		-	54.7 :	-	63.4 :	-	47.6 :
Biochemical Oxygen Demand	mg/L	T		-	<1.6 J	-	<1.4 :	-	<1.4 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	46.9 :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3. :	-	2.9 :	-	3.8 :
Fluoride	mg/L	T		-	<0.81 :	-	0.72 :	-	0.77 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<1. J	-	0.35 J	-	0.29 :
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 :	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Phosphorus	mg/L	T		-	0.025 :	-	0.031 :	-	0.1 :
Sulfate	mg/L	T		-	104. :	-	94.1 J	-	148. :
Total Alkalinity	mg/L	T		-	54.7 :	-	63.4 :	-	47.6 :
Total Dissolved Solids	mg/L	T		-	198. :	-	250. :	-	244. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.3 :	-	2. :	-	1.1 :
Total Suspended Solids	mg/L	T		-	8.8 :	-	14.8 :	-	31.3 :
Laboratory Parameters									
pH	SU	T		-	7.8 J	-	7.7 J	-	6.59 :
Specific Conductance	umhos/cm	T		-	312. J	-	318. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	149. :	-	159. :	-	186. :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			RR-16 3/19/2003 RR-16-D01N-SFW	RR-16 7/15/2003 RR-16-T01N-SFW	RR-16 7/15/2003 RR-16-D01N-SFW	RR-16 9/23/2003 RR-16-T01N-SFW	RR-16 9/23/2003 RR-16-D01N-SFW	RR-17 10/1/2002 RR-17-T01N-SFW
			SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D	208. :	-	156. :	-	168. :	-
Metals								
Aluminum	mg/L	T	-	1.28 :	-	1.41 :	-	1.86 :
Aluminum	mg/L	D	<0.114 :	-	0.294 :	-	0.267 :	-
Antimony	mg/L	T	-	<0.0005 :	-	<0.00051 :	-	<0.0002 :
Antimony	mg/L	D	<0.0006 :	-	<0.00061 :	-	<0.00029 :	-
Arsenic	mg/L	T	-	<0.0002 :	-	<0.00038 :	-	0.00024 :
Arsenic	mg/L	D	<0.0002 :	-	<0.0002 :	-	<0.00038 :	-
Barium	mg/L	T	-	0.0354 :	-	0.0371 :	-	0.0324 :
Barium	mg/L	D	0.0325 :	-	0.0346 :	-	0.0343 :	-
Beryllium	mg/L	T	-	0.00053 :	-	<0.00047 :	-	0.00031 :
Beryllium	mg/L	D	<0.0003 :	-	<0.0004 :	-	<0.00047 :	-
Boron	mg/L	T	-	0.006 :	-	<0.0048 :	-	<0.006 :
Boron	mg/L	D	<0.0084 :	-	0.007 :	-	<0.0048 :	-
Cadmium	mg/L	T	-	0.00065 :	-	0.00054 :	-	0.00058 :
Cadmium	mg/L	D	0.00058 :	-	0.00059 :	-	0.00043 :	-
Calcium	mg/L	T	-	44. :	-	47.7 :	-	55.3 :
Calcium	mg/L	D	60.2 :	-	46.1 :	-	50.2 :	-
Chromium	mg/L	T	-	<0.0019 :	-	<0.001 :	-	<0.0046 :
Chromium	mg/L	D	<0.001 :	-	<0.0019 :	-	<0.001 :	-
Chromium, Hexavalent	mg/L	D	-	-	-	-	-	<0.01 :
Cobalt	mg/L	T	-	<0.0037 :	-	0.0027 :	-	0.0044 :
Cobalt	mg/L	D	0.0041 :	-	<0.0037 :	-	0.0028 :	-
Copper	mg/L	T	-	0.0147 :	-	0.0141 :	-	0.0186 :
Copper	mg/L	D	0.0056 :	-	0.0052 :	-	<0.0034 :	-
Iron	mg/L	T	-	0.228 :	-	0.442 :	-	0.577 :
Iron	mg/L	D	<0.422 :	-	<0.0667 :	-	<0.044 :	-
Lead	mg/L	T	-	0.0004 :	-	0.00083 :	-	0.001 :
Lead	mg/L	D	<0.0002 :	-	<0.0001 :	-	<0.00004 :	-
Magnesium	mg/L	T	-	9.58 :	-	9.8 :	-	11.6 :
Magnesium	mg/L	D	14. :	-	10. :	-	10.3 :	-
Manganese	mg/L	T	-	0.244 :	-	0.255 :	-	0.459 :
Manganese	mg/L	D	0.449 :	-	0.238 :	-	0.257 :	-
Mercury	mg/L	T	-	<0.00015 :	-	<0.00006 :	-	<0.0001 :

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / SWR											
			RR-16 / 3/19/2003 / RR-16-D01N-SFW / SWR		RR-16 / 7/15/2003 / RR-16-T01N-SFW / SWR		RR-16 / 7/15/2003 / RR-16-D01N-SFW / SWR		RR-16 / 9/23/2003 / RR-16-T01N-SFW / SWR		RR-16 / 9/23/2003 / RR-16-D01N-SFW / SWR		RR-17 / 10/1/2002 / RR-17-T01N-SFW / SWR	
Mercury	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.00006	:	-	
Molybdenum	mg/L	T	-		0.002	:	-		<0.0022	:	-		0.0017	:
Molybdenum	mg/L	D	0.0023	:	-		0.0024	:	-		0.0022	:	-	
Nickel	mg/L	T	-		0.0203	:	-		0.0166	:	-		0.0159	:
Nickel	mg/L	D	0.0236	:	-		0.0195	:	-		0.0151	:	-	
Potassium	mg/L	T	-		1.31	:	-		1.32	:	-		1.57	:
Potassium	mg/L	D	1.47	:	-		1.16	:	-		1.33	:	-	
Selenium	mg/L	T	-		<0.0008	:	-		<0.00073	:	-		0.00044	:
Selenium	mg/L	D	<0.0016	:	-		<0.0008	:	-		<0.00073	:	-	
Silver	mg/L	T	-		<0.0001	J	-		<0.0002	:	-		<0.0001	:
Silver	mg/L	D	<0.0002	:	-		<0.0001	J	-		<0.0002	:	-	
Sodium	mg/L	T	-		4.69	:	-		4.57	:	-		5.9	:
Sodium	mg/L	D	<13.9	:	-		5.21	:	-		4.85	:	-	
Thallium	mg/L	T	-		<0.0001	:	-		<0.00001	:	-		<0.0001	:
Thallium	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.00001	:	-	
Vanadium	mg/L	T	-		0.00032	:	-		<0.00084	:	-		0.00035	:
Vanadium	mg/L	D	<0.0004	:	-		<0.0002	:	-		<0.00057	:	-	
Zinc	mg/L	T	-		0.158	:	-		0.11	:	-		0.115	:
Zinc	mg/L	D	0.152	:	-		0.108	:	-		0.0636	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-17	RR-17	RR-17	RR-17	RR-17	RR-17
			Sample Date	10/1/2002	3/19/2003	3/19/2003	7/15/2003	7/15/2003	9/23/2003
			Sample ID	RR-17-D01N-SFW	RR-17-T01N-SFW	RR-17-D01N-SFW	RR-17-T01N-SFW	RR-17-D01N-SFW	RR-17-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	-	-	8.68 :	-	9.78 :
Eh	millivolts	T		-	392. :	-	287.1 :	-	342.8 :
Flow	cfs	T		-	11.2 :	-	10.2 :	-	16.4 :
pH	SU	T		-	7.4 J	-	7.7 J	-	7.8 J
Specific Conductance	uS/cm	T		-	434. :	-	345. :	-	300. :
Temperature	Celsius	T		-	4.06 :	-	12.42 :	-	12.05 :
Turbidity	NTU	T		-	96.5 :	-	2.2 :	-	14.6 :
General Chemistry									
Ammonia	mg/L	T		-	<0.14 J	-	0.079 :	-	0.071 :
Bicarbonate (as CaCO3)	mg/L	T		-	42.7 :	-	53. :	-	57.1 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.6 J	-	<1.4 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	5.7 :	-	3. :	-	3.1 :
Fluoride	mg/L	T		-	1.1 :	-	<0.93 J	-	0.76 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.64 :	-	<1. J	-	0.36 J
Nitrite	mg/L	T		-	0.0084 :	-	<0.005 J	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 :
Phosphorus	mg/L	T		-	0.044 :	-	0.024 :	-	0.022 :
Sulfate	mg/L	T		-	151. :	-	114. :	-	97.8 J
Total Alkalinity	mg/L	T		-	42.7 :	-	53. :	-	57.1 :
Total Dissolved Solids	mg/L	T		-	258. :	-	204. :	-	232. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.54 :
Total Organic Carbon	mg/L	T		-	1.5 :	-	2.4 :	-	1.7 :
Total Suspended Solids	mg/L	T		-	16. :	-	10.1 :	-	12.6 :
Laboratory Parameters									
pH	SU	T		-	7.4 J	-	7.7 J	-	7.8 J
Specific Conductance	umhos/cm	T		-	365. J	-	316. J	-	333. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	203. :	-	159. :	-	170. :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			RR-17 10/1/2002 RR-17-D01N-SFW	RR-17 3/19/2003 RR-17-T01N-SFW	RR-17 3/19/2003 RR-17-D01N-SFW	RR-17 7/15/2003 RR-17-T01N-SFW	RR-17 7/15/2003 RR-17-D01N-SFW	RR-17 9/23/2003 RR-17-T01N-SFW
			SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D	199. :	-	204. :	-	158. :	-
Metals								
Aluminum	mg/L	T	-	2.01 :	-	1.11 :	-	1.38 :
Aluminum	mg/L	D	0.178 :	-	<0.12 :	-	0.225 :	-
Antimony	mg/L	T	-	<0.0006 :	-	<0.0005 :	-	0.0028 :
Antimony	mg/L	D	<0.0002 :	-	<0.0006 :	-	<0.0005 :	-
Arsenic	mg/L	T	-	<0.0004 :	-	<0.0002 :	-	<0.00038 :
Arsenic	mg/L	D	<0.0002 :	-	<0.0002 :	-	<0.0002 :	-
Barium	mg/L	T	-	0.0373 :	-	0.036 :	-	0.0393 :
Barium	mg/L	D	0.0286 :	-	0.034 :	-	0.0341 :	-
Beryllium	mg/L	T	-	0.00063 :	-	0.00047 :	-	<0.00047 :
Beryllium	mg/L	D	<0.0002 :	-	<0.0003 :	-	<0.0004 :	-
Boron	mg/L	T	-	<0.0084 :	-	0.0063 :	-	<0.0048 :
Boron	mg/L	D	<0.0056 :	-	<0.0084 :	-	0.0065 :	-
Cadmium	mg/L	T	-	0.00058 :	-	0.00072 :	-	0.00062 :
Cadmium	mg/L	D	0.00047 :	-	0.00068 :	-	0.00064 :	-
Calcium	mg/L	T	-	58.7 :	-	46.6 :	-	50.9 :
Calcium	mg/L	D	59.1 :	-	58.9 :	-	46.4 :	-
Chromium	mg/L	T	-	<0.001 :	-	<0.0019 :	-	<0.001 :
Chromium	mg/L	D	<0.0046 :	-	<0.001 :	-	<0.0019 :	-
Cobalt	mg/L	T	-	0.0041 :	-	<0.0037 :	-	0.0028 :
Cobalt	mg/L	D	0.0041 :	-	0.004 :	-	<0.0037 :	-
Copper	mg/L	T	-	0.0263 :	-	0.0113 :	-	0.0139 :
Copper	mg/L	D	0.0033 :	-	0.0057 :	-	0.004 :	-
Iron	mg/L	T	-	<0.422 :	-	0.156 :	-	0.423 :
Iron	mg/L	D	<0.0226 :	-	<0.435 :	-	<0.0667 :	-
Lead	mg/L	T	-	0.00049 :	-	0.00025 :	-	0.00069 :
Lead	mg/L	D	<0.0001 :	-	<0.0002 :	-	<0.0001 :	-
Magnesium	mg/L	T	-	13.6 :	-	10.3 :	-	10.5 :
Magnesium	mg/L	D	12.4 :	-	13.9 :	-	10.3 :	-
Manganese	mg/L	T	-	0.467 :	-	0.285 :	-	0.292 :
Manganese	mg/L	D	0.472 :	-	0.499 :	-	0.272 :	-
Mercury	mg/L	T	-	<0.0001 :	-	<0.00012 :	-	<0.00006 :
Mercury	mg/L	D	<0.0001 :	-	<0.0001 :	-	<0.00016 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / SWR											
			RR-17		RR-17		RR-17		RR-17		RR-17		RR-17	
			10/1/2002		3/19/2003		3/19/2003		7/15/2003		7/15/2003		9/23/2003	
			RR-17-D01N-SFW		RR-17-T01N-SFW		RR-17-D01N-SFW		RR-17-T01N-SFW		RR-17-D01N-SFW		RR-17-T01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Molybdenum	mg/L	T	-	:	<0.0023	:	-		0.002	:	-		0.0038	:
Molybdenum	mg/L	D	0.0024	:	-		<0.0023	:	-		0.0022	:	-	
Nickel	mg/L	T	-		0.0282	:	-		0.0211	:	-		0.0181	:
Nickel	mg/L	D	0.0146	:	-		0.0266	:	-		0.0203	:	-	
Potassium	mg/L	T	-		1.63	:	-		1.35	:	-		1.43	:
Potassium	mg/L	D	1.75	:	-		1.64	:	-		1.42	:	-	
Selenium	mg/L	T	-		<0.0016	:	-		<0.0008	:	-		<0.00073	:
Selenium	mg/L	D	0.00026	:	-		<0.0016	:	-		<0.0008	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Silver	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Sodium	mg/L	T	-		<9.16	:	-		5.19	:	-		5.05	:
Sodium	mg/L	D	6.29	:	-		<16.4	:	-		5.54	:	-	
Thallium	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Thallium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		<0.0004	:	-		<0.0002	:	-		<0.00068	:
Vanadium	mg/L	D	<0.0001	:	-		<0.0004	:	-		0.00024	:	-	
Zinc	mg/L	T	-		0.228	:	-		0.159	:	-		0.125	:
Zinc	mg/L	D	0.0744	:	-		0.173	:	-		0.113	:	-	

J = Qualified as estimated during data validation
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-17	RR-18A	RR-18A	RR-18A	RR-18A	RR-18A
			Sample Date	9/23/2003	10/1/2002	10/1/2002	3/19/2003	3/19/2003	7/16/2003
			Sample ID	RR-17-D01N-SFW	RR-18A-T01N-SFW	RR-18A-D01N-SFW	RR-18A-T01N-SFW	RR-18A-D01N-SFW	RR-18A-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.91 :	-	-	-	8.55 :
Eh	millivolts	T		-	393.4 :	-	399.6 :	-	301.5 :
Flow	cfs	T		-	14.58 :	-	9.4 :	-	12.1 :
pH	SU	T		-	6.25 :	-	7.4 J	-	7.8 J
Specific Conductance	uS/cm	T		-	380. :	-	435. :	-	347. :
Temperature	Celsius	T		-	8.93 :	-	3.94 :	-	13.33 :
Turbidity	NTU	T		-	30.4 :	-	86. :	-	2.6 :
General Chemistry									
Ammonia	mg/L	T		-	<0.033 :	-	<0.16 J	-	0.044 :
Bicarbonate (as CaCO3)	mg/L	T		-	46.4 :	-	43.1 :	-	59.6 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 :	-	<1.5 J	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	4.5 :	-	6. :	-	3.2 :
Fluoride	mg/L	T		-	0.72 :	-	1.1 :	-	<0.9 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.29 :	-	0.8 :	-	<1. J
Nitrite	mg/L	T		-	<0.005 :	-	0.01 :	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	0.16 J	-	<0.01 J
Phosphorus	mg/L	T		-	0.12 :	-	0.04 J	-	0.022 :
Sulfate	mg/L	T		-	157. :	-	152. :	-	112. :
Total Alkalinity	mg/L	T		-	46.4 :	-	43.1 :	-	59.6 :
Total Dissolved Solids	mg/L	T		-	267. :	-	250. :	-	200. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.1 :	-	1.3 :	-	1. :
Total Suspended Solids	mg/L	T		-	44.4 :	-	16.8 :	-	8.9 :
Laboratory Parameters									
pH	SU	T		-	6.25 :	-	7.4 J	-	7.8 J
Specific Conductance	umhos/cm	T		-	-	-	355. J	-	309. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	190. :	-	210. :	-	157. :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-17	RR-18A	RR-18A	RR-18A	RR-18A	RR-18A
			Sample Date	9/23/2003	10/1/2002	10/1/2002	3/19/2003	3/19/2003	7/16/2003
			Sample ID	RR-17-D01N-SFW	RR-18A-T01N-SFW	RR-18A-D01N-SFW	RR-18A-T01N-SFW	RR-18A-D01N-SFW	RR-18A-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		169. :	-	189. :	-	213. :	-
Metals									
Aluminum	mg/L	T		-	1.99 :	-	2.4 :	-	1.21 :
Aluminum	mg/L	D		0.279 :	-	0.148 :	-	<0.1 :	-
Antimony	mg/L	T		-	<0.0002 :	-	<0.0006 :	-	<0.0005 :
Antimony	mg/L	D		<0.0024 :	-	<0.0002 :	-	<0.0006 :	-
Arsenic	mg/L	T		-	0.00025 :	-	<0.0004 :	-	<0.0002 :
Arsenic	mg/L	D		<0.00038 :	-	<0.0002 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0343 :	-	0.039 :	-	0.0369 :
Barium	mg/L	D		0.0341 :	-	0.0264 :	-	0.0354 :	-
Beryllium	mg/L	T		-	0.0003 :	-	0.00086 :	-	0.00035 :
Beryllium	mg/L	D		<0.00047 :	-	<0.0002 :	-	0.0003 :	-
Boron	mg/L	T		-	<0.0053 :	-	0.0103 :	-	0.0056 :
Boron	mg/L	D		<0.0048 :	-	<0.0052 :	-	<0.0084 :	-
Cadmium	mg/L	T		-	0.0006 :	-	<0.0005 :	-	0.00071 :
Cadmium	mg/L	D		0.0005 :	-	0.00042 :	-	0.00075 :	-
Calcium	mg/L	T		-	56.6 :	-	60.6 :	-	46.2 :
Calcium	mg/L	D		50.6 :	-	56.2 :	-	61.5 :	-
Chromium	mg/L	T		-	<0.0046 :	-	<0.001 :	-	<0.0014 :
Chromium	mg/L	D		<0.001 :	-	<0.0046 :	-	<0.001 :	-
Cobalt	mg/L	T		-	0.0044 :	-	0.0038 :	-	0.0024 :
Cobalt	mg/L	D		0.0024 :	-	0.0038 :	-	0.0043 :	-
Copper	mg/L	T		-	0.0196 :	-	0.0282 :	-	0.0134 :
Copper	mg/L	D		<0.0036 :	-	0.0027 :	-	0.0064 :	-
Iron	mg/L	T		-	0.739 :	-	<0.976 :	-	0.258 :
Iron	mg/L	D		<0.044 :	-	<0.0226 :	-	<0.422 :	-
Lead	mg/L	T		-	0.0013 :	-	0.00082 :	-	0.0017 :
Lead	mg/L	D		<0.00004 :	-	<0.0001 :	-	<0.0002 :	-
Magnesium	mg/L	T		-	11.9 :	-	14.3 :	-	10. :
Magnesium	mg/L	D		10.4 :	-	11.8 :	-	14.4 :	-
Manganese	mg/L	T		-	0.471 :	-	0.533 :	-	0.269 :
Manganese	mg/L	D		0.278 :	-	0.444 :	-	0.51 :	-
Mercury	mg/L	T		-	<0.0001 :	-	<0.0001 :	-	<0.00017 :
Mercury	mg/L	D		<0.00006 :	-	<0.0001 :	-	0.00011 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-17		RR-18A		RR-18A		RR-18A		RR-18A		RR-18A	
			9/23/2003		10/1/2002		10/1/2002		3/19/2003		3/19/2003		7/16/2003	
			RR-17-D01N-SFW		RR-18A-T01N-SFW		RR-18A-D01N-SFW		RR-18A-T01N-SFW		RR-18A-D01N-SFW		RR-18A-T01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Molybdenum	mg/L	T	-		0.0016	J	-		<0.0023	:	-		0.0031	:
Molybdenum	mg/L	D	0.0037	:	-		0.0025	J	-		0.0027	:	-	
Nickel	mg/L	T	-		0.0157	:	-		0.028	:	-		0.0206	:
Nickel	mg/L	D	0.0165	:	-		0.0137	:	-		0.0281	:	-	
Potassium	mg/L	T	-		1.7	:	-		1.69	:	-		1.48	:
Potassium	mg/L	D	1.36	:	-		1.67	:	-		1.69	:	-	
Selenium	mg/L	T	-		0.00026	:	-		<0.0016	:	-		<0.0008	:
Selenium	mg/L	D	<0.00073	:	-		<0.0002	:	-		<0.0016	:	-	
Silver	mg/L	T	-		<0.0001	:	-		<0.0002	:	-		<0.0001	J
Silver	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.0002	:	-	
Sodium	mg/L	T	-		6.16	:	-		<14.4	:	-		5.39	:
Sodium	mg/L	D	5.01	:	-		6.04	:	-		<13.6	:	-	
Thallium	mg/L	T	-		<0.0001	:	-		<0.0002	:	-		<0.0001	:
Thallium	mg/L	D	<0.00001	:	-		<0.0001	:	-		<0.0002	:	-	
Vanadium	mg/L	T	-		0.00035	:	-		<0.0004	:	-		<0.0002	:
Vanadium	mg/L	D	<0.00055	:	-		<0.0001	:	-		<0.0004	:	-	
Zinc	mg/L	T	-		0.119	:	-		0.254	:	-		0.155	:
Zinc	mg/L	D	0.077	:	-		0.0588	:	-		0.179	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-18A	RR-18A	RR-18A	RR-18B	RR-18B	RR-18B
			Sample Date	7/16/2003	9/23/2003	9/23/2003	9/30/2002	9/30/2002	3/19/2003
			Sample ID	RR-18A-D01N-SFW	RR-18A-T01N-SFW	RR-18A-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-18B-T01N-SFW
			Exposure Area	SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.41 :	-	8.6 :	-	-
Eh	millivolts	T		-	280.3 :	-	341.2 :	-	297. :
Flow	cfs	T		-	19. :	-	14.36 :	-	13.4 :
pH	SU	T		-	7.9 J	-	7.65 :	-	7.4 J
Specific Conductance	uS/cm	T		-	299. :	-	354. :	-	439. :
Temperature	Celsius	T		-	11.91 :	-	15.1 :	-	2. :
Turbidity	NTU	T		-	101.3 :	-	21.6 :	-	84.6 :
General Chemistry									
Ammonia	mg/L	T		-	0.06 :	-	<0.024 :	-	<0.15 J
Bicarbonate (as CaCO3)	mg/L	T		-	57.1 :	-	52. :	-	47.6 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	<1.4 :	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<2. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.1 :	-	3.6 :	-	5.3 :
Fluoride	mg/L	T		-	0.76 :	-	0.76 :	-	1. :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<2. :	-	<1. :
Nitrate	mg/L	T		-	0.37 J	-	0.27 :	-	0.7 :
Nitrite	mg/L	T		-	<0.005 :	-	<0.005 :	-	0.01 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Phosphorus	mg/L	T		-	0.026 :	-	0.11 :	-	0.042 :
Sulfate	mg/L	T		-	100. J	-	132. :	-	162. :
Total Alkalinity	mg/L	T		-	57.1 :	-	52. :	-	47.6 :
Total Dissolved Solids	mg/L	T		-	254. :	-	293. :	-	269. J
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	0.26 :
Total Organic Carbon	mg/L	T		-	<1. :	-	1.1 :	-	1.3 :
Total Suspended Solids	mg/L	T		-	13.7 :	-	37. :	-	14. :
Laboratory Parameters									
pH	SU	T		-	7.9 J	-	7.65 :	-	7.4 J
Specific Conductance	umhos/cm	T		-	319. J	-	-	-	354. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	170. :	-	185. :	-	195. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-18A	RR-18A	RR-18A	RR-18B	RR-18B	RR-18B
			Sample Date	7/16/2003	9/23/2003	9/23/2003	9/30/2002	9/30/2002	3/19/2003
			Sample ID	RR-18A-D01N-SFW	RR-18A-T01N-SFW	RR-18A-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-18B-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		159. :	-	168. :	-	184. :	-
Metals									
Aluminum	mg/L	T		-	1.35 :	-	1.88 :	-	1.83 :
Aluminum	mg/L	D		0.244 :	-	0.256 :	-	0.204 :	-
Antimony	mg/L	T		-	<0.00083 :	-	<0.00024 :	-	<0.0006 :
Antimony	mg/L	D		<0.0005 :	-	<0.0004 :	-	<0.0002 :	-
Arsenic	mg/L	T		-	<0.00038 :	-	0.00021 :	-	<0.0004 :
Arsenic	mg/L	D		<0.0002 :	-	<0.00038 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0387 :	-	0.0332 :	-	0.036 :
Barium	mg/L	D		0.0335 :	-	0.0337 :	-	0.0259 :	-
Beryllium	mg/L	T		-	<0.00047 :	-	0.00033 :	-	0.00047 :
Beryllium	mg/L	D		<0.0002 :	-	<0.00047 :	-	<0.0002 :	-
Boron	mg/L	T		-	<0.0048 :	-	<0.0076 :	-	<0.0084 :
Boron	mg/L	D		0.0059 :	-	<0.0048 :	-	<0.0071 :	-
Cadmium	mg/L	T		-	0.00064 :	-	0.0005 :	-	<0.0005 :
Cadmium	mg/L	D		0.00062 :	-	0.00046 :	-	0.00037 :	-
Calcium	mg/L	T		-	50.9 :	-	55.4 :	-	56.7 :
Calcium	mg/L	D		46.9 :	-	50.2 :	-	55. :	-
Chromium	mg/L	T		-	<0.001 :	-	<0.0046 :	-	<0.001 :
Chromium	mg/L	D		<0.0014 :	-	<0.001 :	-	<0.0046 :	-
Chromium, Hexavalent	mg/L	D		-	-	-	<0.01 :	-	-
Cobalt	mg/L	T		-	0.0025 :	-	0.0039 :	-	<0.0038 :
Cobalt	mg/L	D		0.0022 :	-	0.0028 :	-	0.0032 :	-
Copper	mg/L	T		-	0.0139 :	-	0.0184 :	-	0.0226 :
Copper	mg/L	D		0.0043 :	-	<0.0034 :	-	0.0029 :	-
Iron	mg/L	T		-	0.414 :	-	0.652 :	-	<0.697 :
Iron	mg/L	D		<0.0333 :	-	<0.044 :	-	<0.0226 :	-
Lead	mg/L	T		-	0.00058 :	-	0.0011 :	-	0.0006 :
Lead	mg/L	D		<0.0001 :	-	<0.00004 :	-	<0.0001 :	-
Magnesium	mg/L	T		-	10.5 :	-	11.4 :	-	12.9 :
Magnesium	mg/L	D		10.2 :	-	10.4 :	-	11.4 :	-
Manganese	mg/L	T		-	0.291 :	-	0.434 :	-	0.44 :
Manganese	mg/L	D		0.26 :	-	0.276 :	-	0.407 :	-
Mercury	mg/L	T		-	<0.00006 :	-	<0.0001 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area													
			RR-18A 7/16/2003 RR-18A-D01N-SFW SWR		RR-18A 9/23/2003 RR-18A-T01N-SFW SWR		RR-18A 9/23/2003 RR-18A-D01N-SFW SWR		RR-18B 9/30/2002 RR-18B-T01N-SFW SWR		RR-18B 9/30/2002 RR-18B-D01N-SFW SWR		RR-18B 3/19/2003 RR-18B-T01N-SFW SWR	
Mercury	mg/L	D	<0.00012	:	-		<0.00006	:	-		<0.0001	:	-	
Molybdenum	mg/L	T	-		<0.0026	:	-		0.0017	:	-		<0.0023	:
Molybdenum	mg/L	D	0.0029	:	-		0.0023	:	-		0.0024	:	-	
Nickel	mg/L	T	-		0.0177	:	-		0.0144	:	-		0.023	:
Nickel	mg/L	D	0.0192	:	-		0.0158	:	-		0.0114	:	-	
Potassium	mg/L	T	-		1.4	:	-		1.64	:	-		1.67	:
Potassium	mg/L	D	1.52	:	-		1.34	:	-		1.65	:	-	
Selenium	mg/L	T	-		<0.00073	:	-		0.00038	:	-		<0.0016	:
Selenium	mg/L	D	<0.0008	:	-		<0.00073	:	-		<0.0002	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.0002	:
Silver	mg/L	D	<0.0001	J	-		<0.0002	:	-		<0.0001	:	-	
Sodium	mg/L	T	-		4.99	:	-		5.92	:	-		<16.4	:
Sodium	mg/L	D	5.47	:	-		4.98	:	-		5.89	:	-	
Thallium	mg/L	T	-		<0.00001	:	-		<0.0001	:	-		<0.0002	:
Thallium	mg/L	D	<0.0001	:	-		<0.00001	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		<0.00061	:	-		0.00035	:	-		<0.0004	:
Vanadium	mg/L	D	<0.0002	:	-		<0.00046	:	-		0.00011	:	-	
Zinc	mg/L	T	-		0.128	:	-		0.102	:	-		0.217	:
Zinc	mg/L	D	0.104	:	-		0.0725	:	-		0.0338	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-18B	RR-18B	RR-18B	RR-18B	RR-18B	RR-20
			Sample Date	3/19/2003	7/16/2003	7/16/2003	9/23/2003	9/23/2003	9/30/2002
			Sample ID	RR-18B-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-20-T01N-SFW
			Exposure Area	SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	8.71 :	-	9.45 :	-	9.02 :
Eh	millivolts	T		-	341.6 :	-	471.3 :	-	343.5 :
Flow	cfs	T		-	10.5 :	-	20. :	-	18.91 :
pH	SU	T		-	7.8 J	-	7.9 J	-	6.72 :
Specific Conductance	uS/cm	T		-	348. :	-	301. :	-	357. :
Temperature	Celsius	T		-	12.67 :	-	9.34 :	-	14.55 :
Turbidity	NTU	T		-	2.5 :	-	11.2 :	-	22.7 :
General Chemistry									
Ammonia	mg/L	T		-	<0.04 :	-	0.079 :	-	<0.024 :
Bicarbonate (as CaCO3)	mg/L	T		-	54.8 :	-	55.4 :	-	50. :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.4 J	-	<1.4 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<2. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.4 :	-	3.2 :	-	3.7 :
Fluoride	mg/L	T		-	<0.9 J	-	0.76 :	-	0.67 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<2. :
Nitrate	mg/L	T		-	<1. J	-	0.42 J	-	0.23 :
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 J	-	<0.01 :
Phosphorus	mg/L	T		-	0.025 :	-	0.037 :	-	<0.11 :
Sulfate	mg/L	T		-	109. :	-	104. J	-	133. :
Total Alkalinity	mg/L	T		-	54.8 :	-	55.4 :	-	50. :
Total Dissolved Solids	mg/L	T		-	220. :	-	246. :	-	289. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.6 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1. :	-	<1. :	-	<1. :
Total Suspended Solids	mg/L	T		-	8.4 :	-	12.4 :	-	41.7 :
Laboratory Parameters									
pH	SU	T		-	7.8 J	-	7.9 J	-	6.72 :
Specific Conductance	umhos/cm	T		-	314. J	-	310. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	161. :	-	170. :	-	196. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-18B	RR-18B	RR-18B	RR-18B	RR-18B	RR-20
			Sample Date	3/19/2003	7/16/2003	7/16/2003	9/23/2003	9/23/2003	9/30/2002
			Sample ID	RR-18B-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-20-T01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		202. :	-	160. :	-	172. :	-
Metals									
Aluminum	mg/L	T		-	1.18 :	-	1.33 :	-	2.75 :
Aluminum	mg/L	D		<0.195 :	-	0.222 :	-	0.343 :	-
Antimony	mg/L	T		-	<0.0005 :	-	<0.00011 :	-	<0.0002 :
Antimony	mg/L	D		<0.0006 :	-	<0.0005 :	-	<0.00011 :	-
Arsenic	mg/L	T		-	<0.0002 :	-	<0.00038 :	-	<0.0002 :
Arsenic	mg/L	D		<0.0002 :	-	<0.0002 :	-	<0.00038 :	-
Barium	mg/L	T		-	0.0367 :	-	0.0417 :	-	0.0595 :
Barium	mg/L	D		0.0325 :	-	0.034 :	-	0.0366 :	-
Beryllium	mg/L	T		-	0.0003 :	-	<0.00053 :	-	0.00051 :
Beryllium	mg/L	D		<0.0003 :	-	<0.0002 :	-	<0.00047 :	-
Boron	mg/L	T		-	0.0056 :	-	<0.0048 :	-	<0.005 :
Boron	mg/L	D		<0.0084 :	-	0.0062 :	-	<0.0048 :	-
Cadmium	mg/L	T		-	0.00071 :	-	0.00061 :	-	0.00048 :
Cadmium	mg/L	D		0.00063 :	-	0.00056 :	-	0.00055 :	-
Calcium	mg/L	T		-	47.5 :	-	50.8 :	-	58.5 :
Calcium	mg/L	D		58.8 :	-	47.2 :	-	51.2 :	-
Chromium	mg/L	T		-	<0.0014 :	-	<0.001 :	-	0.0022 :
Chromium	mg/L	D		<0.001 :	-	<0.0014 :	-	<0.001 :	-
Chromium, Hexavalent	mg/L	D		-	-	-	-	-	<0.01 :
Cobalt	mg/L	T		-	<0.002 :	-	0.0039 :	-	0.0038 :
Cobalt	mg/L	D		<0.0038 :	-	<0.002 :	-	0.0029 :	-
Copper	mg/L	T		-	0.0129 :	-	0.014 :	-	0.0166 :
Copper	mg/L	D		0.006 :	-	0.0044 :	-	<0.0048 :	-
Iron	mg/L	T		-	0.246 :	-	0.522 :	-	2.24 :
Iron	mg/L	D		<0.464 :	-	<0.0333 :	-	<0.044 :	-
Lead	mg/L	T		-	0.00031 :	-	0.00085 :	-	0.0012 :
Lead	mg/L	D		<0.0002 :	-	<0.0001 :	-	<0.00006 :	-
Magnesium	mg/L	T		-	10.2 :	-	10.6 :	-	12.2 :
Magnesium	mg/L	D		13.4 :	-	10.2 :	-	10.7 :	-
Manganese	mg/L	T		-	0.271 :	-	0.297 :	-	0.412 :
Manganese	mg/L	D		0.43 :	-	0.254 :	-	0.287 :	-
Mercury	mg/L	T		-	<0.00015 :	-	0.00007 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-18B 3/19/2003 RR-18B-D01N-SFW		RR-18B 7/16/2003 RR-18B-T01N-SFW		RR-18B 7/16/2003 RR-18B-D01N-SFW		RR-18B 9/23/2003 RR-18B-T01N-SFW		RR-18B 9/23/2003 RR-18B-D01N-SFW		RR-20 9/30/2002 RR-20-T01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Mercury	mg/L	D	<0.0001	:	-		<0.00015	:	-		<0.00006	:	-	
Molybdenum	mg/L	T	-		0.0026	:	-		<0.0022	:	-		0.0025	:
Molybdenum	mg/L	D	<0.0023	:	-		0.0026	:	-		0.0022	:	-	
Nickel	mg/L	T	-		0.0196	:	-		0.0177	:	-		0.013	:
Nickel	mg/L	D	0.023	:	-		0.0179	:	-		0.0169	:	-	
Potassium	mg/L	T	-		1.54	:	-		1.47	J	-		2.3	:
Potassium	mg/L	D	1.63	:	-		1.52	:	-		1.45	J	-	
Selenium	mg/L	T	-		<0.0008	:	-		<0.00073	J	-		0.00035	:
Selenium	mg/L	D	<0.0016	:	-		<0.0008	:	-		<0.00073	J	-	
Silver	mg/L	T	-		<0.0001	J	-		<0.0002	:	-		<0.0059	:
Silver	mg/L	D	<0.0002	:	-		<0.0001	J	-		<0.0002	:	-	
Sodium	mg/L	T	-		5.48	:	-		5.08	:	-		6.46	:
Sodium	mg/L	D	<14.	:	-		5.49	:	-		5.24	:	-	
Thallium	mg/L	T	-		<0.0001	:	-		<0.00001	:	-		<0.0001	:
Thallium	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.00001	:	-	
Vanadium	mg/L	T	-		<0.0002	:	-		0.00056	:	-		0.00038	:
Vanadium	mg/L	D	<0.0004	:	-		<0.0002	:	-		<0.0003	:	-	
Zinc	mg/L	T	-		0.157	:	-		0.132	:	-		0.0968	:
Zinc	mg/L	D	0.166	:	-		0.102	:	-		0.0791	:	-	
Volatile Organics														
1,1,1-Trichloroethane	mg/L	T	-		-		-		-		-		<0.01	:
1,1,2,2-Tetrachloroethane	mg/L	T	-		-		-		-		-		<0.01	:
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T	-		-		-		-		-		<0.01	:
1,1,2-Trichloroethane	mg/L	T	-		-		-		-		-		<0.01	:
1,1-Dichloroethane	mg/L	T	-		-		-		-		-		<0.01	:
1,1-Dichloroethene	mg/L	T	-		-		-		-		-		<0.01	:
1,2,4-Trichlorobenzene	mg/L	T	-		-		-		-		-		<0.01	:
1,2-Dibromo-3-chloropropane	mg/L	T	-		-		-		-		-		<0.01	:
1,2-Dichlorobenzene	mg/L	T	-		-		-		-		-		<0.01	:
1,2-Dichloroethane	mg/L	T	-		-		-		-		-		<0.01	:
1,2-Dichloroethene (total)	mg/L	T	-		-		-		-		-		<0.01	:
1,2-Dichloropropane	mg/L	T	-		-		-		-		-		<0.01	:
1,3-Dichlorobenzene	mg/L	T	-		-		-		-		-		<0.01	:
1,4-Dichlorobenzene	mg/L	T	-		-		-		-		-		<0.01	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-18B	RR-18B	RR-18B	RR-18B	RR-18B	RR-20	
			Sample Date	3/19/2003	7/16/2003	7/16/2003	9/23/2003	9/23/2003	9/30/2002	
			Sample ID	RR-18B-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-20-T01N-SFW	
				SWR	SWR	SWR	SWR	SWR	SWR	
2-Butanone	mg/L	T		-	-	-	-	-	<0.01	:
2-Hexanone	mg/L	T		-	-	-	-	-	<0.01	:
4-Methyl-2-pentanone	mg/L	T		-	-	-	-	-	<0.01	:
Acetone	mg/L	T		-	-	-	-	-	<0.01	:
Benzene	mg/L	T		-	-	-	-	-	<0.01	:
Bromodichloromethane	mg/L	T		-	-	-	-	-	<0.01	:
Bromoform	mg/L	T		-	-	-	-	-	<0.01	:
Bromomethane	mg/L	T		-	-	-	-	-	<0.01	:
Carbon disulfide	mg/L	T		-	-	-	-	-	<0.01	:
Carbon tetrachloride	mg/L	T		-	-	-	-	-	<0.01	:
Chlorobenzene	mg/L	T		-	-	-	-	-	<0.01	:
Chloroethane	mg/L	T		-	-	-	-	-	<0.01	:
Chloroform	mg/L	T		-	-	-	-	-	<0.01	:
Chloromethane	mg/L	T		-	-	-	-	-	<0.01	:
cis-1,2-Dichloroethene	mg/L	T		-	-	-	-	-	<0.01	:
cis-1,3-Dichloropropene	mg/L	T		-	-	-	-	-	<0.01	:
Dibromochloromethane	mg/L	T		-	-	-	-	-	<0.01	:
Dichlorodifluoromethane	mg/L	T		-	-	-	-	-	<0.01	:
Ethylbenzene	mg/L	T		-	-	-	-	-	<0.01	:
Methylene chloride	mg/L	T		-	-	-	-	-	<0.01	:
Styrene	mg/L	T		-	-	-	-	-	<0.01	:
Tetrachloroethene	mg/L	T		-	-	-	-	-	<0.01	:
Toluene	mg/L	T		-	-	-	-	-	<0.01	:
Total Xylene	mg/L	T		-	-	-	-	-	<0.01	:
trans-1,2-Dichloroethene	mg/L	T		-	-	-	-	-	<0.01	:
trans-1,3-Dichloropropene	mg/L	T		-	-	-	-	-	<0.01	:
Trichloroethene	mg/L	T		-	-	-	-	-	<0.01	:
Trichlorofluoromethane	mg/L	T		-	-	-	-	-	<0.01	:
Vinyl chloride	mg/L	T		-	-	-	-	-	<0.01	:
Semi-Volatile Organics										
1,1`-Biphenyl	mg/L	T		-	-	-	-	-	<0.01	:
2,4,5-Trichlorophenol	mg/L	T		-	-	-	-	-	<0.026	:
2,4,6-Trichlorophenol	mg/L	T		-	-	-	-	-	<0.01	:
2,4-Dichlorophenol	mg/L	T		-	-	-	-	-	<0.01	:

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-18B	RR-18B	RR-18B	RR-18B	RR-18B	RR-20	
			Sample Date	3/19/2003	7/16/2003	7/16/2003	9/23/2003	9/23/2003	9/30/2002	
			Sample ID	RR-18B-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-18B-T01N-SFW	RR-18B-D01N-SFW	RR-20-T01N-SFW	
				SWR	SWR	SWR	SWR	SWR	SWR	
2,4-Dimethylphenol	mg/L	T		-	-	-	-	-	<0.01	:
2,4-Dinitrophenol	mg/L	T		-	-	-	-	-	<0.026	:
2,4-Dinitrotoluene	mg/L	T		-	-	-	-	-	<0.01	:
2,6-Dinitrotoluene	mg/L	T		-	-	-	-	-	<0.01	:
2-Chloronaphthalene	mg/L	T		-	-	-	-	-	<0.01	:
2-Chlorophenol	mg/L	T		-	-	-	-	-	<0.01	:
2-Methylnaphthalene	mg/L	T		-	-	-	-	-	<0.01	:
2-Methylphenol	mg/L	T		-	-	-	-	-	<0.01	:
2-Nitroaniline	mg/L	T		-	-	-	-	-	<0.026	:
2-Nitrophenol	mg/L	T		-	-	-	-	-	<0.01	:
3,3-Dichlorobenzidine	mg/L	T		-	-	-	-	-	<0.01	:
3-Nitroaniline	mg/L	T		-	-	-	-	-	<0.026	:
4,6-Dinitro-2-methylphenol	mg/L	T		-	-	-	-	-	<0.026	:
4-Bromophenyl phenyl ether	mg/L	T		-	-	-	-	-	<0.01	:
4-Chloro-3-methylphenol	mg/L	T		-	-	-	-	-	<0.01	:
4-Chloroaniline	mg/L	T		-	-	-	-	-	<0.01	:
4-Chlorophenyl phenyl ether	mg/L	T		-	-	-	-	-	<0.01	:
4-Methylphenol	mg/L	T		-	-	-	-	-	<0.01	:
4-Nitroaniline	mg/L	T		-	-	-	-	-	<0.026	:
4-Nitrophenol	mg/L	T		-	-	-	-	-	<0.026	:
Acenaphthene	mg/L	T		-	-	-	-	-	<0.01	:
Acenaphthylene	mg/L	T		-	-	-	-	-	<0.01	:
Anthracene	mg/L	T		-	-	-	-	-	<0.01	:
Benzaldehyde	mg/L	T		-	-	-	-	-	<0.01	J
Benzo(a)anthracene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(a)pyrene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(b)fluoranthene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(g,h,i)perylene	mg/L	T		-	-	-	-	-	<0.01	:
Benzo(k)fluoranthene	mg/L	T		-	-	-	-	-	<0.01	:
Bis(2-chloroethoxy)methane	mg/L	T		-	-	-	-	-	<0.01	:
Bis(2-chloroethyl)ether	mg/L	T		-	-	-	-	-	<0.01	:
Bis(2-ethylhexyl)phthalate	mg/L	T		-	-	-	-	-	<0.01	:
Butyl benzyl phthalate	mg/L	T		-	-	-	-	-	<0.01	:
Carbazole	mg/L	T		-	-	-	-	-	<0.01	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			RR-18B 3/19/2003 RR-18B-D01N-SFW	RR-18B 7/16/2003 RR-18B-T01N-SFW	RR-18B 7/16/2003 RR-18B-D01N-SFW	RR-18B 9/23/2003 RR-18B-T01N-SFW	RR-18B 9/23/2003 RR-18B-D01N-SFW	RR-20 9/30/2002 RR-20-T01N-SFW
			SWR	SWR	SWR	SWR	SWR	SWR
Chrysene	mg/L	T	-	-	-	-	-	<0.01 :
Dibenz(a,h)anthracene	mg/L	T	-	-	-	-	-	<0.01 :
Dibenzofuran	mg/L	T	-	-	-	-	-	<0.01 :
Dichlorodiisopropyl ether	mg/L	T	-	-	-	-	-	<0.01 :
Diethylphthalate	mg/L	T	-	-	-	-	-	<0.01 :
Dimethylphthalate	mg/L	T	-	-	-	-	-	<0.01 :
Di-n-Butyl phthalate	mg/L	T	-	-	-	-	-	<0.01 :
Di-n-Octyl phthalate	mg/L	T	-	-	-	-	-	<0.01 :
Fluoranthene	mg/L	T	-	-	-	-	-	<0.01 :
Fluorene	mg/L	T	-	-	-	-	-	<0.01 :
Hexachlorobenzene	mg/L	T	-	-	-	-	-	<0.01 :
Hexachlorobutadiene	mg/L	T	-	-	-	-	-	<0.01 :
Hexachlorocyclopentadiene	mg/L	T	-	-	-	-	-	<0.01 :
Hexachloroethane	mg/L	T	-	-	-	-	-	<0.01 :
Indeno(1,2,3-cd)pyrene	mg/L	T	-	-	-	-	-	<0.01 :
Isophorone	mg/L	T	-	-	-	-	-	<0.01 :
Naphthalene	mg/L	T	-	-	-	-	-	<0.01 :
Nitrobenzene	mg/L	T	-	-	-	-	-	<0.01 :
N-Nitrosodi-n-propylamine	mg/L	T	-	-	-	-	-	<0.01 :
N-Nitrosodiphenylamine	mg/L	T	-	-	-	-	-	<0.01 :
Pentachlorophenol	mg/L	T	-	-	-	-	-	<0.026 J
Phenanthrene	mg/L	T	-	-	-	-	-	<0.01 :
Phenol	mg/L	T	-	-	-	-	-	<0.01 :
Pyrene	mg/L	T	-	-	-	-	-	<0.01 :
Explosives								
2,4,6-Trinitrotoluene	mg/L	T	-	-	-	-	-	<0.00025 :
2,6-Pyridinediamine,	mg/L	T	-	-	-	-	-	<0.00025 J
Cyclotetramethylenetetranitramine	mg/L	T	-	-	-	-	-	<0.00025 :
Cyclotrimethylenetrinitramine	mg/L	T	-	-	-	-	-	<0.00025 :
Pentaerythritol tetranitrate	mg/L	T	-	-	-	-	-	<0.01 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-20	RR-20	RR-20	RR-20	RR-20	RR-20
			Sample Date	9/30/2002	3/20/2003	3/21/2003	3/21/2003	7/15/2003	7/15/2003
			Sample ID	RR-20-D01N-SFW	RR-20-T01N-SFW	RR-20-T01N-SFW	RR-20-D01N-SFW	RR-20-T01N-SFW	RR-20-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		-	9.29 :	-	-	7.87 :	-
Eh	millivolts	T		-	250.6 :	-	-	216.5 :	-
Flow	cfs	T		-	15.4 :	-	-	15.3 :	-
pH	SU	T		-	7.14 :	7.4 J	-	7.4 J	-
Specific Conductance	uS/cm	T		-	472. :	-	-	332. :	-
Temperature	Celsius	T		-	8.75 :	-	-	16.76 :	-
Turbidity	NTU	T		-	17.6 :	-	-	2.9 :	-
General Chemistry									
Ammonia	mg/L	T		-	-	<0.064 J	-	0.054 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	-	44.4 :	-	60.4 :	-
Biochemical Oxygen Demand	mg/L	T		-	-	<1.4 :	-	<1.5 :	-
Carbonate (as CaCO3)	mg/L	T		-	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	-	<20. :	-	<20. :	-
Chloride	mg/L	T		-	-	5.8 :	-	3.3 J	-
Fluoride	mg/L	T		-	-	0.98 :	-	<0.83 J	-
Hydroxide (as CaCO3)	mg/L	T		-	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		-	-	0.69 J	-	<0.4 J	-
Nitrite	mg/L	T		-	-	0.0084 :	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		-	-	<0.01 :	-	<0.01 :	-
Phosphorus	mg/L	T		-	-	<0.034 :	-	0.017 :	-
Sulfate	mg/L	T		-	-	148. :	-	115. :	-
Total Alkalinity	mg/L	T		-	-	44.4 :	-	60.4 :	-
Total Dissolved Solids	mg/L	T		-	-	266. :	-	234. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		-	-	1.1 :	-	1.8 :	-
Total Suspended Solids	mg/L	T		-	-	12.4 :	-	5. :	-
Laboratory Parameters									
pH	SU	T		-	7.14 :	7.4 J	-	7.4 J	-
Specific Conductance	umhos/cm	T		-	-	375. J	-	362. J	-
Inorganics									
Cyanide	mg/L	T		-	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		-	-	206. :	-	164. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-20	RR-20	RR-20	RR-20	RR-20	RR-20
			Sample Date	9/30/2002	3/20/2003	3/21/2003	3/21/2003	7/15/2003	7/15/2003
			Sample ID	RR-20-D01N-SFW	RR-20-T01N-SFW	RR-20-T01N-SFW	RR-20-D01N-SFW	RR-20-T01N-SFW	RR-20-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		182. :	-	-	193. :	-	166. :
Metals									
Aluminum	mg/L	T		-	-	<2.37 :	-	0.5 :	-
Aluminum	mg/L	D		0.151 :	-	-	<0.535 :	-	0.0719 J
Antimony	mg/L	T		-	-	<0.0006 :	-	<0.0005 :	-
Antimony	mg/L	D		<0.0002 :	-	-	<0.00066 :	-	<0.0005 :
Arsenic	mg/L	T		-	-	<0.0004 J	-	<0.0002 :	-
Arsenic	mg/L	D		<0.0002 :	-	-	<0.0004 J	-	<0.0002 :
Barium	mg/L	T		-	-	0.0405 :	-	0.0356 :	-
Barium	mg/L	D		0.0262 :	-	-	0.0347 :	-	0.0349 :
Beryllium	mg/L	T		-	-	<0.0003 J	-	<0.00034 :	-
Beryllium	mg/L	D		<0.0002 :	-	-	<0.0003 J	-	<0.0002 :
Boron	mg/L	T		-	-	<0.0084 :	-	0.006 :	-
Boron	mg/L	D		<0.0073 :	-	-	<0.0084 :	-	0.0068 :
Cadmium	mg/L	T		-	-	0.00055 :	-	0.00037 :	-
Cadmium	mg/L	D		0.00032 :	-	-	0.00056 :	-	0.00035 :
Calcium	mg/L	T		-	-	60.4 :	-	49.2 :	-
Calcium	mg/L	D		54.5 :	-	-	56.5 :	-	49.9 :
Chromium	mg/L	T		-	-	<0.001 :	-	<0.0014 :	-
Chromium	mg/L	D		<0.0012 :	-	-	<0.001 :	-	<0.0014 :
Cobalt	mg/L	T		-	-	<0.0038 :	-	<0.002 :	-
Cobalt	mg/L	D		0.0025 :	-	-	0.004 :	-	<0.002 :
Copper	mg/L	T		-	-	0.0218 :	-	0.0065 :	-
Copper	mg/L	D		0.0022 :	-	-	0.0059 :	-	0.0026 :
Iron	mg/L	T		-	-	<0.311 :	-	0.131 :	-
Iron	mg/L	D		<0.046 :	-	-	<0.311 :	-	<0.0333 :
Lead	mg/L	T		-	-	0.00034 :	-	0.00024 :	-
Lead	mg/L	D		<0.0001 :	-	-	<0.0002 :	-	<0.0001 :
Magnesium	mg/L	T		-	-	13.4 :	-	9.91 :	-
Magnesium	mg/L	D		11.2 :	-	-	12.6 :	-	10. :
Manganese	mg/L	T		-	-	0.393 :	-	0.162 :	-
Manganese	mg/L	D		0.347 :	-	-	0.358 :	-	0.16 :
Mercury	mg/L	T		-	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		<0.0001 :	-	-	<0.0001 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / SWR											
			RR-20		RR-20		RR-20		RR-20		RR-20		RR-20	
			9/30/2002		3/20/2003		3/21/2003		3/21/2003		7/15/2003		7/15/2003	
			RR-20-D01N-SFW		RR-20-T01N-SFW		RR-20-T01N-SFW		RR-20-D01N-SFW		RR-20-T01N-SFW		RR-20-D01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Molybdenum	mg/L	T	-		-		0.0023	:	-		0.0052	:	-	
Molybdenum	mg/L	D	0.0035	:	-		-		<0.0023	:	-		0.0054	:
Nickel	mg/L	T	-		-		0.0233	:	-		0.0114	:	-	
Nickel	mg/L	D	0.0096	:	-		-		0.0212	:	-		0.0098	:
Potassium	mg/L	T	-		-		1.68	:	-		1.3	:	-	
Potassium	mg/L	D	1.54	:	-		-		1.51	:	-		1.32	:
Selenium	mg/L	T	-		-		<0.0027	:	-		<0.0016	:	-	
Selenium	mg/L	D	<0.0002	:	-		-		<0.0031	:	-		<0.0016	:
Silver	mg/L	T	-		-		<0.0002	:	-		<0.0001	J	-	
Silver	mg/L	D	<0.0059	:	-		-		<0.0002	:	-		<0.0001	J
Sodium	mg/L	T	-		-		8.62	:	-		6.31	:	-	
Sodium	mg/L	D	6.3	:	-		-		7.63	:	-		6.59	:
Thallium	mg/L	T	-		-		<0.0002	:	-		<0.0001	:	-	
Thallium	mg/L	D	<0.0001	:	-		-		<0.0002	:	-		<0.0001	:
Vanadium	mg/L	T	-		-		0.00023	:	-		<0.00052	:	-	
Vanadium	mg/L	D	<0.0001	:	-		-		<0.0002	:	-		<0.00076	:
Zinc	mg/L	T	-		-		0.168	:	-		0.0776	:	-	
Zinc	mg/L	D	0.0279	:	-		-		0.111	:	-		0.0582	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-20	RR-20	RR-3	RR-3	RR-3	RR-3
			Sample Date	9/23/2003	9/23/2003	10/3/2002	10/3/2002	3/21/2003	3/21/2003
			Sample ID	RR-20-T01N-SFW	RR-20-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW
			Exposure Area	SWR	SWR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		10.55 :	-	7.94 :	-	10.41 :	-
Eh	millivolts	T		349.7 :	-	109.7 :	-	136.5 :	-
Flow	cfs	T		22. :	-	9.93 :	-	6.9 :	-
pH	SU	T		7.6 J	-	6.92 :	-	7.7 J	-
Specific Conductance	uS/cm	T		312. :	-	244. :	-	267. :	-
Temperature	Celsius	T		8.73 :	-	8.55 :	-	2.95 :	-
Turbidity	NTU	T		15.7 :	-	6.6 :	-	76.3 :	-
General Chemistry									
Ammonia	mg/L	T		0.089 :	-	<0.033 :	-	<0.099 J	-
Bicarbonate (as CaCO3)	mg/L	T		63.2 :	-	79.2 :	-	75.9 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.4 :	-	<1.5 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		3.5 :	-	2.6 :	-	8.1 :	-
Fluoride	mg/L	T		0.76 :	-	<0.2 :	-	0.3 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.37 J	-	<0.2 :	-	<0.4 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 J	-
Phosphorus	mg/L	T		0.036 :	-	<0.012 :	-	0.12 :	-
Sulfate	mg/L	T		111. J	-	47.4 :	-	68.1 :	-
Total Alkalinity	mg/L	T		63.2 :	-	79.2 :	-	75.9 :	-
Total Dissolved Solids	mg/L	T		242. :	-	178. :	-	<142. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<1. :	-	1.2 :	-	1.6 :	-
Total Suspended Solids	mg/L	T		13.5 :	-	<3.6 :	-	56.4 :	-
Laboratory Parameters									
pH	SU	T		7.6 J	-	6.92 :	-	7.7 J	-
Specific Conductance	umhos/cm	T		329. J	-	-	-	236. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 J	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		163. :	-	124. :	-	128. :	-

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-20	RR-20	RR-3	RR-3	RR-3	RR-3
			Sample Date	9/23/2003	9/23/2003	10/3/2002	10/3/2002	3/21/2003	3/21/2003
			Sample ID	RR-20-T01N-SFW	RR-20-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW
				SWR	SWR	RURR	RURR	RURR	RURR
Hardness	mg/L	D		-	166. :	-	119. :	-	123. :
Metals									
Aluminum	mg/L	T		1.13 :	-	0.449 :	-	3.36 :	-
Aluminum	mg/L	D		-	0.11 :	-	0.129 :	-	<0.0631 :
Antimony	mg/L	T		<0.00011 :	-	<0.0002 :	-	<0.0006 :	-
Antimony	mg/L	D		-	<0.00011 :	-	<0.0002 :	-	<0.0006 :
Arsenic	mg/L	T		<0.00038 :	-	<0.0002 :	-	<0.0004 J	-
Arsenic	mg/L	D		-	<0.00038 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		0.0409 :	-	0.0474 :	-	0.075 :	-
Barium	mg/L	D		-	0.034 :	-	0.044 :	-	0.0443 :
Beryllium	mg/L	T		<0.00047 :	-	<0.0002 :	-	<0.0003 :	-
Beryllium	mg/L	D		-	<0.00047 :	-	<0.0002 :	-	<0.0003 :
Boron	mg/L	T		<0.0048 :	-	<0.0048 :	-	<0.0084 :	-
Boron	mg/L	D		-	<0.0051 :	-	<0.0048 :	-	<0.0084 :
Cadmium	mg/L	T		0.00049 :	-	0.00036 :	-	<0.0005 J	-
Cadmium	mg/L	D		-	0.0004 :	-	0.00044 :	-	0.00037 :
Calcium	mg/L	T		48.9 :	-	37.6 :	-	37. :	-
Calcium	mg/L	D		-	49.7 :	-	36.1 :	-	36.6 :
Chromium	mg/L	T		<0.001 J	-	<0.0046 :	-	0.0037 :	-
Chromium	mg/L	D		-	0.0039 J	-	<0.0046 :	-	0.0036 :
Cobalt	mg/L	T		0.0022 :	-	<0.0022 :	-	<0.0038 :	-
Cobalt	mg/L	D		-	0.0028 :	-	<0.0022 :	-	<0.0038 :
Copper	mg/L	T		0.0118 :	-	0.0163 :	-	0.034 :	-
Copper	mg/L	D		-	<0.0028 :	-	0.0082 :	-	0.0065 :
Iron	mg/L	T		0.672 :	-	0.217 :	-	2.87 J	-
Iron	mg/L	D		-	<0.044 :	-	0.0336 :	-	0.0422 J
Lead	mg/L	T		0.0017 :	-	0.0028 :	-	0.0059 :	-
Lead	mg/L	D		-	<0.00006 :	-	<0.0001 :	-	<0.0002 :
Magnesium	mg/L	T		10. :	-	7.31 :	-	8.58 :	-
Magnesium	mg/L	D		-	10.2 :	-	7. :	-	7.79 :
Manganese	mg/L	T		0.238 :	-	0.123 :	-	0.214 :	-
Manganese	mg/L	D		-	0.231 :	-	0.114 :	-	0.229 :
Mercury	mg/L	T		<0.00006 :	-	<0.0001 :	-	<0.0001 J	-
Mercury	mg/L	D		-	<0.00006 :	-	<0.0001 :	-	<0.0001 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-20	RR-20	RR-3	RR-3	RR-3	RR-3
			Sample Date	9/23/2003	9/23/2003	10/3/2002	10/3/2002	3/21/2003	3/21/2003
			Sample ID	RR-20-T01N-SFW	RR-20-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW
				SWR	SWR	RURR	RURR	RURR	RURR
Molybdenum	mg/L	T		0.0034 :	-	<0.00096 :	-	<0.0023 :	-
Molybdenum	mg/L	D		-	0.0031 :	-	0.0011 :	-	<0.0023 :
Nickel	mg/L	T		0.0147 :	-	0.0064 :	-	0.0077 :	-
Nickel	mg/L	D		-	0.0122 :	-	0.0062 :	-	0.0047 :
Potassium	mg/L	T		1.5 J	-	1.25 :	-	1.86 :	-
Potassium	mg/L	D		-	1.42 J	-	1.18 :	-	1.16 :
Selenium	mg/L	T		<0.00073 J	-	<0.0002 :	-	<0.001 J	-
Selenium	mg/L	D		-	<0.00073 J	-	<0.0002 :	-	<0.0022 J
Silver	mg/L	T		<0.0002 :	-	<0.0001 :	-	<0.0002 :	-
Silver	mg/L	D		-	<0.0002 :	-	<0.0001 :	-	<0.0002 :
Sodium	mg/L	T		5.59 :	-	4.23 :	-	11.4 :	-
Sodium	mg/L	D		-	5.31 :	-	4.03 :	-	14.2 :
Thallium	mg/L	T		<0.00001 :	-	<0.0001 :	-	<0.0002 :	-
Thallium	mg/L	D		-	<0.00001 :	-	<0.0001 :	-	<0.0002 :
Vanadium	mg/L	T		0.0005 :	-	0.00025 :	-	0.0047 :	-
Vanadium	mg/L	D		-	<0.00028 :	-	0.00023 :	-	<0.0002 :
Zinc	mg/L	T		0.105 :	-	0.0502 :	-	0.0824 :	-
Zinc	mg/L	D		-	0.0657 :	-	0.0412 :	-	<0.0604 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-3	RR-3	RR-3	RR-3	RR-4	RR-4
			Sample Date	7/16/2003	7/16/2003	9/25/2003	9/25/2003	10/4/2002	10/4/2002
			Sample ID	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-4-T01N-SFW	RR-4-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		8.39 :	-	10.3 :	-	8.94 :	-
Eh	millivolts	T		150. :	-	225.9 :	-	93.1 :	-
Flow	cfs	T		16.8 :	-	15.6 :	-	10.06 :	-
pH	SU	T		7. J	-	7.7 J	-	7.7 :	-
Specific Conductance	uS/cm	T		210. :	-	232. :	-	282. :	-
Temperature	Celsius	T		14.49 :	-	7.59 :	-	10.4 :	-
Turbidity	NTU	T		0. :	-	9.4 :	-	19.2 :	-
General Chemistry									
Ammonia	mg/L	T		0.044 :	-	<0.04 :	-	<0.025 :	-
Bicarbonate (as CaCO3)	mg/L	T		70.3 :	-	80.5 :	-	74.1 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.4 J	-	<1.3 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		2.3 :	-	2. :	-	2.6 :	-
Fluoride	mg/L	T		<0.2 J	-	0.2 :	-	<0.4 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<1. J	-	0.27 J	-	<0.5 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 J	-	0.012 J	-
Phosphorus	mg/L	T		<0.01 :	-	<0.01 :	-	<0.052 :	-
Sulfate	mg/L	T		40.1 :	-	40.6 J	-	62. :	-
Total Alkalinity	mg/L	T		70.3 :	-	80.5 :	-	74.1 :	-
Total Dissolved Solids	mg/L	T		128. :	-	160. :	-	171. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		1.1 :	-	1. :	-	<1. :	-
Total Suspended Solids	mg/L	T		3.9 :	-	2.5 :	-	17.3 :	-
Laboratory Parameters									
pH	SU	T		7. J	-	7.7 J	-	7.7 :	-
Specific Conductance	umhos/cm	T		201. J	-	207. J	-	-	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 J	-
Physical Properties									
Hardness	mg/L	T		108. :	-	112. :	-	133. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-3 7/16/2003 RR-3-T01N-SFW RURR		RR-3 7/16/2003 RR-3-D01N-SFW RURR		RR-3 9/25/2003 RR-3-T01N-SFW RURR		RR-3 9/25/2003 RR-3-D01N-SFW RURR		RR-4 10/4/2002 RR-4-T01N-SFW RURR		RR-4 10/4/2002 RR-4-D01N-SFW RURR	
Hardness	mg/L	D	-		109.	:	-		120.	:	-		131.	:
Metals														
Aluminum	mg/L	T	0.346	:	-		0.311	:	-		0.469	:	-	
Aluminum	mg/L	D	-		0.138	:	-		0.126	:	-		<0.0799	:
Antimony	mg/L	T	<0.0005	:	-		<0.00036	:	-		<0.0002	:	-	
Antimony	mg/L	D	-		<0.0005	:	-		<0.00021	:	-		<0.0002	:
Arsenic	mg/L	T	<0.0002	:	-		<0.00038	:	-		<0.0002	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.00038	:	-		<0.0002	:
Barium	mg/L	T	0.0397	:	-		0.0419	:	-		0.0514	:	-	
Barium	mg/L	D	-		0.039	:	-		0.0441	:	-		0.0439	:
Beryllium	mg/L	T	<0.0002	:	-		<0.00047	:	-		<0.0002	:	-	
Beryllium	mg/L	D	-		<0.0002	:	-		<0.00047	:	-		<0.0002	:
Boron	mg/L	T	<0.0048	:	-		<0.0048	:	-		<0.0048	:	-	
Boron	mg/L	D	-		<0.0048	:	-		<0.0048	:	-		<0.0048	:
Cadmium	mg/L	T	0.00028	:	-		0.00029	:	-		0.00027	:	-	
Cadmium	mg/L	D	-		0.00028	:	-		0.00028	:	-		0.0004	:
Calcium	mg/L	T	33.2	:	-		34.6	:	-		39.8	:	-	
Calcium	mg/L	D	-		33.5	:	-		37.	:	-		39.3	:
Chromium	mg/L	T	<0.0014	J	-		<0.001	:	-		<0.0046	:	-	
Chromium	mg/L	D	-		<0.0014	J	-		<0.001	:	-		<0.0046	:
Cobalt	mg/L	T	<0.002	:	-		0.0015	:	-		<0.0022	:	-	
Cobalt	mg/L	D	-		<0.002	:	-		0.0019	:	-		<0.0022	:
Copper	mg/L	T	0.0157	:	-		0.0113	:	-		0.0168	:	-	
Copper	mg/L	D	-		0.0085	:	-		<0.0066	:	-		0.003	:
Iron	mg/L	T	0.113	J	-		<0.134	:	-		0.62	:	-	
Iron	mg/L	D	-		<0.0333	J	-		<0.044	:	-		<0.0226	:
Lead	mg/L	T	0.00028	:	-		<0.00017	:	-		<0.0035	:	-	
Lead	mg/L	D	-		<0.0001	:	-		<0.00004	:	-		<0.0001	:
Magnesium	mg/L	T	6.18	:	-		6.29	:	-		8.21	:	-	
Magnesium	mg/L	D	-		6.24	:	-		6.69	:	-		8.05	:
Manganese	mg/L	T	0.099	:	-		0.0899	:	-		0.173	:	-	
Manganese	mg/L	D	-		0.0932	:	-		0.0925	:	-		0.161	:
Mercury	mg/L	T	<0.0001	:	-		<0.00006	:	-		<0.0001	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.00006	:	-		<0.0001	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-3		RR-3		RR-3		RR-3		RR-4		RR-4	
			7/16/2003		7/16/2003		9/25/2003		9/25/2003		10/4/2002		10/4/2002	
			RR-3-T01N-SFW		RR-3-D01N-SFW		RR-3-T01N-SFW		RR-3-D01N-SFW		RR-4-T01N-SFW		RR-4-D01N-SFW	
			RURR		RURR		RURR		RURR		RURR		RURR	
Molybdenum	mg/L	T	0.0008	:	-		<0.001	:	-		0.00096	:	-	
Molybdenum	mg/L	D	-		0.00094	:	-		<0.001	:	-		0.0012	:
Nickel	mg/L	T	0.0052	:	-		<0.0053	:	-		0.0075	:	-	
Nickel	mg/L	D	-		0.0051	:	-		<0.0051	:	-		0.0062	:
Potassium	mg/L	T	1.09	:	-		<1.04	J	-		1.33	:	-	
Potassium	mg/L	D	-		1.17	:	-		<1.09	J	-		1.23	:
Selenium	mg/L	T	<0.0008	:	-		<0.00073	J	-		0.00026	:	-	
Selenium	mg/L	D	-		<0.0008	:	-		<0.00073	J	-		<0.0002	:
Silver	mg/L	T	<0.0001	J	-		<0.0002	:	-		<0.0001	:	-	
Silver	mg/L	D	-		<0.0001	J	-		<0.0002	:	-		<0.0001	:
Sodium	mg/L	T	3.78	:	-		3.23	:	-		4.26	:	-	
Sodium	mg/L	D	-		3.85	:	-		3.62	:	-		4.25	:
Thallium	mg/L	T	<0.0001	:	-		<0.00001	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.00001	:	-		<0.0001	:
Vanadium	mg/L	T	0.00036	:	-		<0.00061	:	-		0.00048	:	-	
Vanadium	mg/L	D	-		0.00026	:	-		<0.00061	:	-		0.00013	:
Zinc	mg/L	T	0.0378	:	-		0.0374	:	-		0.0451	:	-	
Zinc	mg/L	D	-		0.0281	:	-		0.0341	:	-		0.0226	:
Volatile Organics														
1,1,1-Trichloroethane	mg/L	T	-		-		-		-		<0.01	:	-	
1,1,2,2-Tetrachloroethane	mg/L	T	-		-		-		-		<0.01	:	-	
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T	-		-		-		-		<0.01	:	-	
1,1,2-Trichloroethane	mg/L	T	-		-		-		-		<0.01	:	-	
1,1-Dichloroethane	mg/L	T	-		-		-		-		<0.01	:	-	
1,1-Dichloroethene	mg/L	T	-		-		-		-		<0.01	:	-	
1,2,4-Trichlorobenzene	mg/L	T	-		-		-		-		<0.01	:	-	
1,2-Dibromo-3-chloropropane	mg/L	T	-		-		-		-		<0.01	:	-	
1,2-Dichlorobenzene	mg/L	T	-		-		-		-		<0.01	:	-	
1,2-Dichloroethane	mg/L	T	-		-		-		-		<0.01	:	-	
1,2-Dichloroethene (total)	mg/L	T	-		-		-		-		<0.01	:	-	
1,2-Dichloropropane	mg/L	T	-		-		-		-		<0.01	:	-	
1,3-Dichlorobenzene	mg/L	T	-		-		-		-		<0.01	:	-	
1,4-Dichlorobenzene	mg/L	T	-		-		-		-		<0.01	:	-	
2-Butanone	mg/L	T	-		-		-		-		<0.01	J	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-3	RR-3	RR-3	RR-3	RR-4	RR-4
			Sample Date	7/16/2003	7/16/2003	9/25/2003	9/25/2003	10/4/2002	10/4/2002
			Sample ID	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-4-T01N-SFW	RR-4-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
2-Hexanone	mg/L	T		-	-	-	-	<0.01 J	-
4-Methyl-2-pentanone	mg/L	T		-	-	-	-	<0.01 :	-
Acetone	mg/L	T		-	-	-	-	0.004 J	-
Benzene	mg/L	T		-	-	-	-	<0.01 :	-
Bromodichloromethane	mg/L	T		-	-	-	-	<0.01 :	-
Bromoform	mg/L	T		-	-	-	-	<0.01 :	-
Bromomethane	mg/L	T		-	-	-	-	<0.01 :	-
Carbon disulfide	mg/L	T		-	-	-	-	<0.01 :	-
Carbon tetrachloride	mg/L	T		-	-	-	-	<0.01 :	-
Chlorobenzene	mg/L	T		-	-	-	-	<0.01 :	-
Chloroethane	mg/L	T		-	-	-	-	<0.01 J	-
Chloroform	mg/L	T		-	-	-	-	<0.01 :	-
Chloromethane	mg/L	T		-	-	-	-	<0.01 :	-
cis-1,2-Dichloroethene	mg/L	T		-	-	-	-	<0.01 :	-
cis-1,3-Dichloropropene	mg/L	T		-	-	-	-	<0.01 :	-
Dibromochloromethane	mg/L	T		-	-	-	-	<0.01 :	-
Dichlorodifluoromethane	mg/L	T		-	-	-	-	<0.01 :	-
Ethylbenzene	mg/L	T		-	-	-	-	<0.01 :	-
Methylene chloride	mg/L	T		-	-	-	-	<0.01 :	-
Styrene	mg/L	T		-	-	-	-	<0.01 :	-
Tetrachloroethene	mg/L	T		-	-	-	-	<0.01 :	-
Toluene	mg/L	T		-	-	-	-	<0.01 :	-
Total Xylene	mg/L	T		-	-	-	-	<0.01 :	-
trans-1,2-Dichloroethene	mg/L	T		-	-	-	-	<0.01 :	-
trans-1,3-Dichloropropene	mg/L	T		-	-	-	-	<0.01 :	-
Trichloroethene	mg/L	T		-	-	-	-	<0.01 :	-
Trichlorofluoromethane	mg/L	T		-	-	-	-	<0.01 :	-
Vinyl chloride	mg/L	T		-	-	-	-	<0.01 :	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		-	-	-	-	<0.01 :	-
2,4,5-Trichlorophenol	mg/L	T		-	-	-	-	<0.026 :	-
2,4,6-Trichlorophenol	mg/L	T		-	-	-	-	<0.01 :	-
2,4-Dichlorophenol	mg/L	T		-	-	-	-	<0.01 :	-
2,4-Dimethylphenol	mg/L	T		-	-	-	-	<0.01 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-3	RR-3	RR-3	RR-3	RR-4	RR-4
			Sample Date	7/16/2003	7/16/2003	9/25/2003	9/25/2003	10/4/2002	10/4/2002
			Sample ID	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-4-T01N-SFW	RR-4-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
2,4-Dinitrophenol	mg/L	T		-	-	-	-	<0.026 :	-
2,4-Dinitrotoluene	mg/L	T		-	-	-	-	<0.01 :	-
2,6-Dinitrotoluene	mg/L	T		-	-	-	-	<0.01 :	-
2-Chloronaphthalene	mg/L	T		-	-	-	-	<0.01 :	-
2-Chlorophenol	mg/L	T		-	-	-	-	<0.01 :	-
2-Methylnaphthalene	mg/L	T		-	-	-	-	<0.01 :	-
2-Methylphenol	mg/L	T		-	-	-	-	<0.01 :	-
2-Nitroaniline	mg/L	T		-	-	-	-	<0.026 :	-
2-Nitrophenol	mg/L	T		-	-	-	-	<0.01 :	-
3,3-Dichlorobenzidine	mg/L	T		-	-	-	-	<0.01 J	-
3-Nitroaniline	mg/L	T		-	-	-	-	<0.026 :	-
4,6-Dinitro-2-methylphenol	mg/L	T		-	-	-	-	<0.026 :	-
4-Bromophenyl phenyl ether	mg/L	T		-	-	-	-	<0.01 :	-
4-Chloro-3-methylphenol	mg/L	T		-	-	-	-	<0.01 :	-
4-Chloroaniline	mg/L	T		-	-	-	-	<0.01 :	-
4-Chlorophenyl phenyl ether	mg/L	T		-	-	-	-	<0.01 :	-
4-Methylphenol	mg/L	T		-	-	-	-	<0.01 :	-
4-Nitroaniline	mg/L	T		-	-	-	-	<0.026 J	-
4-Nitrophenol	mg/L	T		-	-	-	-	<0.026 :	-
Acenaphthene	mg/L	T		-	-	-	-	<0.01 :	-
Acenaphthylene	mg/L	T		-	-	-	-	<0.01 :	-
Anthracene	mg/L	T		-	-	-	-	<0.01 :	-
Benzaldehyde	mg/L	T		-	-	-	-	<0.01 J	-
Benzo(a)anthracene	mg/L	T		-	-	-	-	<0.01 :	-
Benzo(a)pyrene	mg/L	T		-	-	-	-	<0.01 :	-
Benzo(b)fluoranthene	mg/L	T		-	-	-	-	<0.01 :	-
Benzo(g,h,i)perylene	mg/L	T		-	-	-	-	<0.01 :	-
Benzo(k)fluoranthene	mg/L	T		-	-	-	-	<0.01 :	-
Bis(2-chloroethoxy)methane	mg/L	T		-	-	-	-	<0.01 :	-
Bis(2-chloroethyl)ether	mg/L	T		-	-	-	-	<0.01 :	-
Bis(2-ethylhexyl)phthalate	mg/L	T		-	-	-	-	0.0005 J	-
Butyl benzyl phthalate	mg/L	T		-	-	-	-	<0.01 :	-
Carbazole	mg/L	T		-	-	-	-	<0.01 :	-
Chrysene	mg/L	T		-	-	-	-	<0.01 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-3	RR-3	RR-3	RR-3	RR-4	RR-4
			Sample Date	7/16/2003	7/16/2003	9/25/2003	9/25/2003	10/4/2002	10/4/2002
			Sample ID	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-3-T01N-SFW	RR-3-D01N-SFW	RR-4-T01N-SFW	RR-4-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Dibenz(a,h)anthracene	mg/L	T		-	-	-	-	<0.01 :	-
Dibenzofuran	mg/L	T		-	-	-	-	<0.01 :	-
Dichlorodiisopropyl ether	mg/L	T		-	-	-	-	<0.01 :	-
Diethylphthalate	mg/L	T		-	-	-	-	<0.01 :	-
Dimethylphthalate	mg/L	T		-	-	-	-	<0.01 :	-
Di-n-Butyl phthalate	mg/L	T		-	-	-	-	<0.01 :	-
Di-n-Octyl phthalate	mg/L	T		-	-	-	-	<0.01 J	-
Fluoranthene	mg/L	T		-	-	-	-	<0.01 :	-
Fluorene	mg/L	T		-	-	-	-	<0.01 :	-
Hexachlorobenzene	mg/L	T		-	-	-	-	<0.01 :	-
Hexachlorobutadiene	mg/L	T		-	-	-	-	<0.01 :	-
Hexachlorocyclopentadiene	mg/L	T		-	-	-	-	<0.01 :	-
Hexachloroethane	mg/L	T		-	-	-	-	<0.01 :	-
Indeno(1,2,3-cd)pyrene	mg/L	T		-	-	-	-	<0.01 :	-
Isophorone	mg/L	T		-	-	-	-	<0.01 :	-
Naphthalene	mg/L	T		-	-	-	-	<0.01 :	-
Nitrobenzene	mg/L	T		-	-	-	-	<0.01 :	-
N-Nitrosodi-n-propylamine	mg/L	T		-	-	-	-	<0.01 :	-
N-Nitrosodiphenylamine	mg/L	T		-	-	-	-	<0.01 :	-
Pentachlorophenol	mg/L	T		-	-	-	-	<0.026 :	-
Phenanthrene	mg/L	T		-	-	-	-	<0.01 :	-
Phenol	mg/L	T		-	-	-	-	<0.01 :	-
Pyrene	mg/L	T		-	-	-	-	<0.01 :	-
Explosives									
2,4,6-Trinitrotoluene	mg/L	T		-	-	-	-	<0.00025 :	-
2,6-Pyridinediamine,	mg/L	T		-	-	-	-	<0.00025 J	-
Cyclotetramethylenetetranitramine	mg/L	T		-	-	-	-	<0.00025 :	-
Cyclotrimethylenetrinitramine	mg/L	T		-	-	-	-	<0.00025 :	-
Pentaerythritol tetranitrate	mg/L	T		-	-	-	-	<0.01 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-4	RR-4	RR-4	RR-4	RR-4	RR-4
			Sample Date	3/21/2003	3/21/2003	7/16/2003	7/16/2003	9/25/2003	9/25/2003
			Sample ID	RR-4-T01N-SFW	RR-4-D01N-SFW	RR-4-T01N-SFW	RR-4-D01N-SFW	RR-4-T01N-SFW	RR-4-D01N-SFW
			Exposure Area	RURR	RURR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		11.27 :	-	8.92 :	-	10.35 :	-
Eh	millivolts	T		153.7 :	-	130.6 :	-	276.4 :	-
Flow	cfs	T		8.1 :	-	19.9 :	-	14. :	-
pH	SU	T		7.2 J	-	8.1 J	-	7.9 J	-
Specific Conductance	uS/cm	T		294. :	-	222. :	-	249. :	-
Temperature	Celsius	T		0.9 :	-	12.74 :	-	6.07 :	-
Turbidity	NTU	T		50.2 :	-	0. :	-	21.5 :	-
General Chemistry									
Ammonia	mg/L	T		<0.05 J	-	0.049 :	-	0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		70.7 :	-	71.5 :	-	74.8 :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 :	-	<1.5 J	-	2. J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	32.2 :	-
Chloride	mg/L	T		5.2 :	-	2.5 :	-	2.3 :	-
Fluoride	mg/L	T		0.34 :	-	<0.25 J	-	0.22 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<0.4 J	-	<1. J	-	0.29 J	-
Nitrite	mg/L	T		<0.005 :	-	<0.005 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	<0.01 J	-	<0.01 J	-
Phosphorus	mg/L	T		<0.016 :	-	0.016 :	-	0.012 :	-
Sulfate	mg/L	T		65.6 :	-	46.8 :	-	46. J	-
Total Alkalinity	mg/L	T		70.7 :	-	71.5 :	-	74.8 :	-
Total Dissolved Solids	mg/L	T		198. :	-	146. :	-	120. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		1.4 :	-	1. :	-	1.7 :	-
Total Suspended Solids	mg/L	T		5.7 :	-	3.8 :	-	2.9 :	-
Laboratory Parameters									
pH	SU	T		7.2 J	-	8.1 J	-	7.9 J	-
Specific Conductance	umhos/cm	T		249. J	-	210. J	-	225. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		145. :	-	111. :	-	126. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-4	RR-4	RR-4	RR-4	RR-4	RR-4
			Sample Date	3/21/2003	3/21/2003	7/16/2003	7/16/2003	9/25/2003	9/25/2003
			Sample ID	RR-4-T01N-SFW	RR-4-D01N-SFW	RR-4-T01N-SFW	RR-4-D01N-SFW	RR-4-T01N-SFW	RR-4-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Hardness	mg/L	D		-	147. :	-	110. :	-	114. :
Metals									
Aluminum	mg/L	T		0.503 :	-	0.358 :	-	0.307 :	-
Aluminum	mg/L	D		-	<0.0503 :	-	<0.156 :	-	0.105 :
Antimony	mg/L	T		<0.0006 :	-	<0.0005 :	-	<0.00011 :	-
Antimony	mg/L	D		-	<0.0006 :	-	<0.0005 :	-	<0.00011 :
Arsenic	mg/L	T		<0.00057 :	-	<0.0002 :	-	<0.00038 :	-
Arsenic	mg/L	D		-	<0.00043 :	-	<0.0002 :	-	<0.00038 :
Barium	mg/L	T		0.0503 :	-	0.0399 :	-	0.0471 :	-
Barium	mg/L	D		-	0.0495 :	-	0.0375 :	-	0.0409 :
Beryllium	mg/L	T		<0.0003 :	-	<0.0002 :	-	<0.00047 :	-
Beryllium	mg/L	D		-	<0.0003 :	-	<0.0002 :	-	<0.00047 :
Boron	mg/L	T		<0.0084 :	-	0.0058 :	-	0.0051 :	-
Boron	mg/L	D		-	<0.0084 :	-	<0.0048 :	-	<0.0048 :
Cadmium	mg/L	T		<0.0005 :	-	0.00026 :	-	0.00026 :	-
Cadmium	mg/L	D		-	<0.00055 :	-	<0.0002 :	-	0.00025 :
Calcium	mg/L	T		41.5 :	-	33.8 :	-	38.5 :	-
Calcium	mg/L	D		-	42.4 :	-	33.4 :	-	34.6 :
Chromium	mg/L	T		<0.001 :	-	<0.0014 :	-	<0.001 :	-
Chromium	mg/L	D		-	<0.001 :	-	<0.0014 :	-	<0.001 :
Cobalt	mg/L	T		<0.0038 :	-	<0.002 :	-	0.0014 :	-
Cobalt	mg/L	D		-	<0.0038 :	-	<0.002 :	-	0.0015 :
Copper	mg/L	T		0.0206 :	-	0.0147 :	-	0.0098 :	-
Copper	mg/L	D		-	<0.0053 :	-	0.0055 :	-	<0.0042 :
Iron	mg/L	T		<0.435 :	-	0.286 :	-	0.282 :	-
Iron	mg/L	D		-	<0.422 :	-	0.0526 :	-	<0.044 :
Lead	mg/L	T		0.00031 :	-	0.00031 :	-	<0.00022 :	-
Lead	mg/L	D		-	<0.0002 :	-	<0.0001 :	-	<0.00004 :
Magnesium	mg/L	T		10. :	-	6.54 :	-	7.34 :	-
Magnesium	mg/L	D		-	10.1 :	-	6.45 :	-	6.61 :
Manganese	mg/L	T		0.207 :	-	0.105 :	-	0.122 :	-
Manganese	mg/L	D		-	0.2 :	-	0.0963 :	-	0.106 :
Mercury	mg/L	T		<0.0001 :	-	<0.00015 :	-	<0.00006 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.00015 :	-	<0.00006 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-4 3/21/2003 RR-4-T01N-SFW RURR		RR-4 3/21/2003 RR-4-D01N-SFW RURR		RR-4 7/16/2003 RR-4-T01N-SFW RURR		RR-4 7/16/2003 RR-4-D01N-SFW RURR		RR-4 9/25/2003 RR-4-T01N-SFW RURR		RR-4 9/25/2003 RR-4-D01N-SFW RURR	
Molybdenum	mg/L	T	<0.0022	J	-		0.0021	:	-		<0.00099	:	-	
Molybdenum	mg/L	D	-		<0.0022	J	-		0.002	:	-		<0.0011	:
Nickel	mg/L	T	0.0099	:	-		0.0033	:	-		0.0057	:	-	
Nickel	mg/L	D	-		0.0095	:	-		0.0038	:	-		0.0056	:
Potassium	mg/L	T	1.11	:	-		1.21	:	-		<1.23	J	-	
Potassium	mg/L	D	-		1.1	:	-		1.21	:	-		<1.11	J
Selenium	mg/L	T	<0.0026	:	-		<0.0008	:	-		<0.00073	J	-	
Selenium	mg/L	D	-		<0.0037	:	-		<0.0008	:	-		<0.00073	J
Silver	mg/L	T	<0.0002	:	-		<0.0001	J	-		<0.0002	:	-	
Silver	mg/L	D	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Sodium	mg/L	T	<9.16	:	-		3.76	:	-		3.99	:	-	
Sodium	mg/L	D	-		<9.16	:	-		3.79	:	-		3.66	:
Thallium	mg/L	T	<0.0002	:	-		<0.0001	:	-		<0.00001	:	-	
Thallium	mg/L	D	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Vanadium	mg/L	T	<0.0002	:	-		0.00032	:	-		0.00053	:	-	
Vanadium	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.00042	:
Zinc	mg/L	T	0.0758	:	-		0.0334	:	-		0.0389	:	-	
Zinc	mg/L	D	-		<0.0595	:	-		<0.0221	:	-		0.0299	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-5	RR-5	RR-5	RR-5	RR-5	RR-5
			Sample Date	10/3/2002	10/3/2002	3/21/2003	3/21/2003	7/16/2003	7/16/2003
			Sample ID	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		-	-	12.63 :	-	9.47 :	-
Eh	millivolts	T		130.8 :	-	342.5 :	-	129.7 :	-
Flow	cfs	T		12.36 :	-	9.6 :	-	13.7 :	-
pH	SU	T		7.45 :	-	7.6 J	-	7.8 J	-
Specific Conductance	uS/cm	T		282. :	-	591. :	-	234. :	-
Temperature	Celsius	T		7.78 :	-	2.19 :	-	11.85 :	-
Turbidity	NTU	T		15.8 :	-	36.6 :	-	0. :	-
General Chemistry									
Ammonia	mg/L	T		<0.1 :	-	<0.072 J	-	0.053 :	-
Bicarbonate (as CaCO3)	mg/L	T		66.2 :	-	66.5 :	-	69.6 :	-
Biochemical Oxygen Demand	mg/L	T		6.8 J	-	<1.4 :	-	1.5 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		3.2 :	-	6.4 :	-	2.9 :	-
Fluoride	mg/L	T		<0.34 :	-	0.36 :	-	<0.25 J	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.5 J	-	0.92 J	-	<1. J	-
Nitrite	mg/L	T		0.008 J	-	0.014 :	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		0.041 J	-	0.081 :	-	0.034 J	-
Phosphorus	mg/L	T		<0.072 :	-	0.14 :	-	0.071 :	-
Sulfate	mg/L	T		67.9 :	-	72.4 :	-	50.6 :	-
Total Alkalinity	mg/L	T		66.2 :	-	66.5 :	-	69.6 :	-
Total Dissolved Solids	mg/L	T		197. :	-	184. :	-	142. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	0.3 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		5.3 :	-	1.8 :	-	1.1 :	-
Total Suspended Solids	mg/L	T		<12.3 :	-	7.9 :	-	6.6 :	-
Laboratory Parameters									
pH	SU	T		7.45 :	-	7.6 J	-	7.8 J	-
Specific Conductance	umhos/cm	T		-	-	263. J	-	217. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		137. :	-	146. :	-	114. :	-

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-5	RR-5	RR-5	RR-5	RR-5	RR-5
			Sample Date	10/3/2002	10/3/2002	3/21/2003	3/21/2003	7/16/2003	7/16/2003
			Sample ID	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Hardness	mg/L	D		-	138. :	-	136. :	-	116. :
Metals									
Aluminum	mg/L	T		0.484 :	-	<0.893 :	-	0.273 :	-
Aluminum	mg/L	D		-	0.09 :	-	0.0638 :	-	<0.128 :
Antimony	mg/L	T		<0.00046 :	-	<0.0006 :	-	<0.0005 :	-
Antimony	mg/L	D		-	<0.0002 :	-	<0.0006 :	-	<0.0005 :
Arsenic	mg/L	T		0.00024 :	-	<0.0004 J	-	<0.0002 :	-
Arsenic	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		0.0477 :	-	0.0504 :	-	0.0379 :	-
Barium	mg/L	D		-	0.0395 :	-	0.0416 :	-	0.0356 :
Beryllium	mg/L	T		<0.0002 :	-	<0.0003 J	-	<0.0002 :	-
Beryllium	mg/L	D		-	<0.0002 :	-	<0.0003 J	-	<0.0002 :
Boron	mg/L	T		<0.0048 :	-	<0.0084 :	-	0.0074 :	-
Boron	mg/L	D		-	<0.0048 :	-	<0.0084 :	-	0.007 :
Cadmium	mg/L	T		0.00029 :	-	<0.0005 :	-	<0.0002 :	-
Cadmium	mg/L	D		-	0.00018 :	-	<0.0002 :	-	<0.0002 :
Calcium	mg/L	T		41.1 :	-	42. :	-	34.3 :	-
Calcium	mg/L	D		-	41.4 :	-	39.2 :	-	35. :
Chromium	mg/L	T		<0.0046 :	-	<0.0014 :	-	<0.0014 :	-
Chromium	mg/L	D		-	<0.0046 :	-	<0.001 :	-	<0.0014 :
Cobalt	mg/L	T		<0.0022 :	-	<0.0038 :	-	<0.002 :	-
Cobalt	mg/L	D		-	<0.0022 :	-	<0.0038 :	-	<0.002 :
Copper	mg/L	T		0.0153 :	-	0.0231 :	-	0.0104 :	-
Copper	mg/L	D		-	0.0036 :	-	0.0051 :	-	0.0056 :
Iron	mg/L	T		1.07 :	-	0.491 :	-	0.297 :	-
Iron	mg/L	D		-	<0.0226 :	-	<0.311 :	-	0.0664 :
Lead	mg/L	T		<0.0016 :	-	0.0009 :	-	0.0006 :	-
Lead	mg/L	D		-	<0.0001 :	-	<0.0002 :	-	<0.0001 :
Magnesium	mg/L	T		8.33 :	-	10.1 :	-	6.82 :	-
Magnesium	mg/L	D		-	8.35 :	-	9.35 :	-	6.92 :
Manganese	mg/L	T		0.142 :	-	0.201 :	-	0.0804 :	-
Manganese	mg/L	D		-	0.129 :	-	0.166 :	-	0.0725 :
Mercury	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.00012 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.00014 :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-5	RR-5	RR-5	RR-5	RR-5	RR-5
			Sample Date	10/3/2002	10/3/2002	3/21/2003	3/21/2003	7/16/2003	7/16/2003
			Sample ID	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Molybdenum	mg/L	T		0.0017 :	-	<0.0023 :	-	<0.0017 :	-
Molybdenum	mg/L	D		-	0.0014 :	-	<0.0023 :	-	<0.0017 :
Nickel	mg/L	T		0.0064 :	-	0.0073 :	-	0.0039 :	-
Nickel	mg/L	D		-	0.0045 :	-	0.005 :	-	0.0044 :
Potassium	mg/L	T		1.75 :	-	1.76 :	-	1.52 :	-
Potassium	mg/L	D		-	1.66 :	-	1.68 :	-	1.51 :
Selenium	mg/L	T		<0.0002 :	-	<0.001 :	-	<0.0008 :	-
Selenium	mg/L	D		-	<0.0002 :	-	<0.0012 J	-	<0.0008 :
Silver	mg/L	T		<0.0001 :	-	<0.0002 :	-	<0.0001 J	-
Silver	mg/L	D		-	<0.0001 :	-	<0.0002 :	-	<0.0001 J
Sodium	mg/L	T		5.27 :	-	7.33 :	-	4.65 :	-
Sodium	mg/L	D		-	5.11 :	-	8.38 :	-	4.74 :
Thallium	mg/L	T		<0.0001 :	-	<0.0002 :	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0001 :	-	<0.0002 :	-	<0.0001 :
Vanadium	mg/L	T		0.00092 :	-	0.00051 :	-	0.00026 :	-
Vanadium	mg/L	D		-	0.00017 :	-	<0.0002 :	-	<0.0002 :
Zinc	mg/L	T		0.0337 :	-	0.0778 :	-	<0.025 :	-
Zinc	mg/L	D		-	0.0136 :	-	<0.0308 :	-	<0.0205 :
Volatile Organics									
1,1,1-Trichloroethane	mg/L	T		<0.01 :	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	T		<0.01 :	-	-	-	-	-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T		<0.01 :	-	-	-	-	-
1,1,2-Trichloroethane	mg/L	T		<0.01 :	-	-	-	-	-
1,1-Dichloroethane	mg/L	T		<0.01 :	-	-	-	-	-
1,1-Dichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/L	T		<0.01 :	-	-	-	-	-
1,2-Dibromo-3-chloropropane	mg/L	T		<0.01 :	-	-	-	-	-
1,2-Dichlorobenzene	mg/L	T		<0.01 :	-	-	-	-	-
1,2-Dichloroethane	mg/L	T		<0.01 :	-	-	-	-	-
1,2-Dichloroethene (total)	mg/L	T		<0.01 :	-	-	-	-	-
1,2-Dichloropropane	mg/L	T		<0.01 :	-	-	-	-	-
1,3-Dichlorobenzene	mg/L	T		<0.01 :	-	-	-	-	-
1,4-Dichlorobenzene	mg/L	T		<0.01 :	-	-	-	-	-
2-Butanone	mg/L	T		<0.01 :	-	-	-	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-5	RR-5	RR-5	RR-5	RR-5	RR-5
			Sample Date	10/3/2002	10/3/2002	3/21/2003	3/21/2003	7/16/2003	7/16/2003
			Sample ID	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
2-Hexanone	mg/L	T		<0.01 :	-	-	-	-	-
4-Methyl-2-pentanone	mg/L	T		<0.01 :	-	-	-	-	-
Acetone	mg/L	T		<0.01 :	-	-	-	-	-
Benzene	mg/L	T		<0.01 :	-	-	-	-	-
Bromodichloromethane	mg/L	T		<0.01 :	-	-	-	-	-
Bromoform	mg/L	T		<0.01 :	-	-	-	-	-
Bromomethane	mg/L	T		<0.01 :	-	-	-	-	-
Carbon disulfide	mg/L	T		<0.01 :	-	-	-	-	-
Carbon tetrachloride	mg/L	T		<0.01 :	-	-	-	-	-
Chlorobenzene	mg/L	T		<0.01 :	-	-	-	-	-
Chloroethane	mg/L	T		<0.01 :	-	-	-	-	-
Chloroform	mg/L	T		<0.01 :	-	-	-	-	-
Chloromethane	mg/L	T		<0.01 :	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	T		<0.01 :	-	-	-	-	-
Dibromochloromethane	mg/L	T		<0.01 :	-	-	-	-	-
Dichlorodifluoromethane	mg/L	T		<0.01 :	-	-	-	-	-
Ethylbenzene	mg/L	T		<0.01 :	-	-	-	-	-
Methylene chloride	mg/L	T		<0.01 :	-	-	-	-	-
Styrene	mg/L	T		<0.01 :	-	-	-	-	-
Tetrachloroethene	mg/L	T		<0.01 :	-	-	-	-	-
Toluene	mg/L	T		<0.01 :	-	-	-	-	-
Total Xylene	mg/L	T		<0.01 :	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	T		<0.01 :	-	-	-	-	-
Trichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
Trichlorofluoromethane	mg/L	T		<0.01 :	-	-	-	-	-
Vinyl chloride	mg/L	T		<0.01 :	-	-	-	-	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		<0.01 :	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	T		<0.026 :	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2,4-Dichlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2,4-Dimethylphenol	mg/L	T		<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-5	RR-5	RR-5	RR-5	RR-5	RR-5
			Sample Date	10/3/2002	10/3/2002	3/21/2003	3/21/2003	7/16/2003	7/16/2003
			Sample ID	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
2,4-Dinitrophenol	mg/L	T		<0.026 :	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	T		<0.01 :	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	T		<0.01 :	-	-	-	-	-
2-Chloronaphthalene	mg/L	T		<0.01 :	-	-	-	-	-
2-Chlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2-Methylnaphthalene	mg/L	T		<0.01 :	-	-	-	-	-
2-Methylphenol	mg/L	T		<0.01 :	-	-	-	-	-
2-Nitroaniline	mg/L	T		<0.026 :	-	-	-	-	-
2-Nitrophenol	mg/L	T		<0.01 :	-	-	-	-	-
3,3-Dichlorobenzidine	mg/L	T		<0.01 J	-	-	-	-	-
3-Nitroaniline	mg/L	T		<0.026 :	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	T		<0.026 :	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	T		<0.01 :	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	T		<0.01 :	-	-	-	-	-
4-Chloroaniline	mg/L	T		<0.01 :	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	T		<0.01 :	-	-	-	-	-
4-Methylphenol	mg/L	T		<0.01 :	-	-	-	-	-
4-Nitroaniline	mg/L	T		<0.026 J	-	-	-	-	-
4-Nitrophenol	mg/L	T		<0.026 :	-	-	-	-	-
Acenaphthene	mg/L	T		<0.01 :	-	-	-	-	-
Acenaphthylene	mg/L	T		<0.01 :	-	-	-	-	-
Anthracene	mg/L	T		<0.01 :	-	-	-	-	-
Benzaldehyde	mg/L	T		<0.01 J	-	-	-	-	-
Benzo(a)anthracene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(a)pyrene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	T		<0.01 :	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/L	T		<0.01 :	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/L	T		<0.01 :	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T		<0.01 :	-	-	-	-	-
Butyl benzyl phthalate	mg/L	T		<0.01 :	-	-	-	-	-
Carbazole	mg/L	T		<0.01 :	-	-	-	-	-
Chrysene	mg/L	T		<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID						
			RR-5	RR-5	RR-5	RR-5	RR-5	RR-5
			10/3/2002	10/3/2002	3/21/2003	3/21/2003	7/16/2003	7/16/2003
			RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-5-T01N-SFW	RR-5-D01N-SFW
			RURR	RURR	RURR	RURR	RURR	RURR
Dibenz(a,h)anthracene	mg/L	T	<0.01 :	-	-	-	-	-
Dibenzofuran	mg/L	T	<0.01 :	-	-	-	-	-
Dichlorodiisopropyl ether	mg/L	T	<0.01 :	-	-	-	-	-
Diethylphthalate	mg/L	T	<0.01 :	-	-	-	-	-
Dimethylphthalate	mg/L	T	<0.01 :	-	-	-	-	-
Di-n-Butyl phthalate	mg/L	T	<0.01 :	-	-	-	-	-
Di-n-Octyl phthalate	mg/L	T	<0.01 J	-	-	-	-	-
Fluoranthene	mg/L	T	<0.01 :	-	-	-	-	-
Fluorene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachlorobenzene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachlorobutadiene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachloroethane	mg/L	T	<0.01 :	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T	<0.01 :	-	-	-	-	-
Isophorone	mg/L	T	<0.01 :	-	-	-	-	-
Naphthalene	mg/L	T	<0.01 :	-	-	-	-	-
Nitrobenzene	mg/L	T	<0.01 :	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/L	T	<0.01 :	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	T	<0.01 :	-	-	-	-	-
Pentachlorophenol	mg/L	T	<0.026 :	-	-	-	-	-
Phenanthrene	mg/L	T	<0.01 :	-	-	-	-	-
Phenol	mg/L	T	<0.01 :	-	-	-	-	-
Pyrene	mg/L	T	<0.01 :	-	-	-	-	-
Explosives								
2,4,6-Trinitrotoluene	mg/L	T	<0.00025 J	-	-	-	-	-
2,6-Pyridinediamine,	mg/L	T	<0.00025 J	-	-	-	-	-
Cyclotetramethylenetetranitramine	mg/L	T	<0.00025 J	-	-	-	-	-
Cyclotrimethylenetrinitramine	mg/L	T	<0.00025 J	-	-	-	-	-
Pentaerythritol tetranitrate	mg/L	T	<0.01 J	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-5	RR-5	RR-6	RR-6	RR-6	RR-6
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/20/2003	3/21/2003
			Sample ID	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-6-T01N-SFW	RR-6-D01N-SFW	RR-6-T01N-SFW	RR-6-T01N-SFW
			Exposure Area	RURR	RURR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		8.76 :	-	10.1 :	-	9.88 :	-
Eh	millivolts	T		242.1 :	-	190.6 :	-	111. :	-
Flow	cfs	T		12. :	-	12.05 :	-	9.7 :	-
pH	SU	T		8.2 J	-	6.79 :	-	8.01 :	7.8 J
Specific Conductance	uS/cm	T		256. :	-	330. :	-	340. :	-
Temperature	Celsius	T		13.02 :	-	5.64 :	-	4.4 :	-
Turbidity	NTU	T		7.9 :	-	17.4 :	-	98.6 :	-
General Chemistry									
Ammonia	mg/L	T		<0.04 :	-	0.075 :	-	-	<0.25 J
Bicarbonate (as CaCO3)	mg/L	T		76.9 :	-	65.5 :	-	-	61.7 :
Biochemical Oxygen Demand	mg/L	T		<1.4 :	-	<1.3 J	-	-	1.3 J
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	-	<20. :
Chloride	mg/L	T		2.5 :	-	3.2 :	-	-	6.4 :
Fluoride	mg/L	T		0.26 :	-	<0.37 :	-	-	0.46 :
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Nitrate	mg/L	T		0.41 J	-	<0.5 J	-	-	0.74 J
Nitrite	mg/L	T		0.0052 J	-	<0.005 J	-	-	0.031 J
Phosphate, Ortho As P	mg/L	T		<0.019 J	-	0.025 J	-	-	0.84 J
Phosphorus	mg/L	T		0.028 :	-	<0.065 :	-	-	0.14 J
Sulfate	mg/L	T		45.2 J	-	90.1 :	-	-	96.8 :
Total Alkalinity	mg/L	T		76.9 :	-	65.5 :	-	-	61.7 :
Total Dissolved Solids	mg/L	T		158. :	-	193. :	-	-	186. :
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	-	0.47 :
Total Organic Carbon	mg/L	T		<1. :	-	1.7 :	-	-	1.9 :
Total Suspended Solids	mg/L	T		3.8 :	-	17. :	-	-	23.7 :
Laboratory Parameters									
pH	SU	T		8.2 J	-	6.79 :	-	8.01 :	7.8 J
Specific Conductance	umhos/cm	T		231. J	-	-	-	-	296. J
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 J	-	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		121. :	-	144. :	-	-	172. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-5	RR-5	RR-6	RR-6	RR-6	RR-6
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/20/2003	3/21/2003
			Sample ID	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-6-T01N-SFW	RR-6-D01N-SFW	RR-6-T01N-SFW	RR-6-T01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Hardness	mg/L	D		-	114. :	-	149. :	-	-
Metals									
Aluminum	mg/L	T		0.27 :	-	0.882 :	-	-	1.36 :
Aluminum	mg/L	D		-	0.12 :	-	0.134 :	-	-
Antimony	mg/L	T		<0.00013 :	-	0.0043 :	-	-	<0.0006 :
Antimony	mg/L	D		-	<0.0012 :	-	<0.00023 :	-	-
Arsenic	mg/L	T		<0.00038 :	-	0.00075 :	-	-	<0.0004 :
Arsenic	mg/L	D		-	<0.00038 :	-	<0.0002 :	-	-
Barium	mg/L	T		0.0416 :	-	0.0534 :	-	-	0.0455 :
Barium	mg/L	D		-	0.0374 :	-	0.0354 :	-	-
Beryllium	mg/L	T		<0.00047 :	-	0.00051 :	-	-	<0.0003 :
Beryllium	mg/L	D		-	<0.00047 :	-	<0.0002 :	-	-
Boron	mg/L	T		<0.0059 :	-	<0.0048 :	-	-	<0.0084 :
Boron	mg/L	D		-	<0.0067 :	-	<0.0048 :	-	-
Cadmium	mg/L	T		0.00017 :	-	0.00074 :	-	-	<0.0005 :
Cadmium	mg/L	D		-	0.00014 :	-	0.00024 :	-	-
Calcium	mg/L	T		37. :	-	42.6 :	-	-	49.4 :
Calcium	mg/L	D		-	35. :	-	44.1 :	-	-
Chromium	mg/L	T		<0.001 :	-	<0.0046 :	-	-	<0.001 :
Chromium	mg/L	D		-	<0.001 :	-	<0.0046 :	-	-
Cobalt	mg/L	T		<0.0011 :	-	0.0061 :	-	-	<0.0038 :
Cobalt	mg/L	D		-	<0.0011 :	-	0.0024 :	-	-
Copper	mg/L	T		0.0077 :	-	0.0196 :	-	-	0.0212 :
Copper	mg/L	D		-	0.0038 :	-	0.0049 :	-	-
Iron	mg/L	T		0.281 :	-	0.512 :	-	-	<0.422 :
Iron	mg/L	D		-	<0.044 :	-	<0.0226 :	-	-
Lead	mg/L	T		0.00043 :	-	0.0051 :	-	-	0.00057 :
Lead	mg/L	D		-	0.0001 :	-	<0.0001 :	-	-
Magnesium	mg/L	T		6.83 :	-	9.1 :	-	-	11.7 :
Magnesium	mg/L	D		-	6.46 :	-	9.41 :	-	-
Manganese	mg/L	T		0.0848 :	-	0.223 :	-	-	0.296 :
Manganese	mg/L	D		-	0.0753 :	-	0.211 :	-	-
Mercury	mg/L	T		<0.00006 :	-	<0.0001 :	-	-	<0.0001 J
Mercury	mg/L	D		-	<0.00006 :	-	<0.0001 :	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			RR-5 9/24/2003 RR-5-T01N-SFW	RR-5 9/24/2003 RR-5-D01N-SFW	RR-6 10/4/2002 RR-6-T01N-SFW	RR-6 10/4/2002 RR-6-D01N-SFW	RR-6 3/20/2003 RR-6-T01N-SFW	RR-6 3/21/2003 RR-6-T01N-SFW
			RURR	RURR	RURR	RURR	RURR	RURR
Molybdenum	mg/L	T	<0.0011 :	-	0.0057 :	-	-	<0.0023 :
Molybdenum	mg/L	D	-	<0.002 :	-	0.0012 :	-	-
Nickel	mg/L	T	0.0045 :	-	0.0166 :	-	-	0.011 :
Nickel	mg/L	D	-	0.0045 :	-	0.0105 :	-	-
Potassium	mg/L	T	1.18 :	-	1.37 :	-	-	1.98 :
Potassium	mg/L	D	-	1.11 :	-	1.45 :	-	-
Selenium	mg/L	T	<0.00073 :	-	0.00037 :	-	-	<0.001 :
Selenium	mg/L	D	-	<0.00073 :	-	0.00029 :	-	-
Silver	mg/L	T	<0.0002 :	-	0.00048 :	-	-	<0.0002 :
Silver	mg/L	D	-	<0.0002 :	-	<0.0001 :	-	-
Sodium	mg/L	T	3.66 :	-	5.11 :	-	-	13.4 :
Sodium	mg/L	D	-	3.53 :	-	5.19 :	-	-
Thallium	mg/L	T	<0.00001 :	-	0.00047 :	-	-	<0.0002 :
Thallium	mg/L	D	-	<0.00001 :	-	<0.0001 :	-	-
Vanadium	mg/L	T	0.00034 :	-	0.0053 :	-	-	0.00025 :
Vanadium	mg/L	D	-	<0.00029 :	-	0.0001 :	-	-
Zinc	mg/L	T	0.0201 :	-	0.0589 :	-	-	0.0917 :
Zinc	mg/L	D	-	<0.013 :	-	<0.033 :	-	-
Volatile Organics								
1,1,1-Trichloroethane	mg/L	T	-	-	<0.01 :	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	T	-	-	<0.01 :	-	-	-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T	-	-	<0.01 :	-	-	-
1,1,2-Trichloroethane	mg/L	T	-	-	<0.01 :	-	-	-
1,1-Dichloroethane	mg/L	T	-	-	<0.01 :	-	-	-
1,1-Dichloroethene	mg/L	T	-	-	<0.01 :	-	-	-
1,2,4-Trichlorobenzene	mg/L	T	-	-	<0.01 :	-	-	-
1,2-Dibromo-3-chloropropane	mg/L	T	-	-	<0.01 :	-	-	-
1,2-Dichlorobenzene	mg/L	T	-	-	<0.01 :	-	-	-
1,2-Dichloroethane	mg/L	T	-	-	<0.01 :	-	-	-
1,2-Dichloroethene (total)	mg/L	T	-	-	<0.01 :	-	-	-
1,2-Dichloropropane	mg/L	T	-	-	<0.01 :	-	-	-
1,3-Dichlorobenzene	mg/L	T	-	-	<0.01 :	-	-	-
1,4-Dichlorobenzene	mg/L	T	-	-	<0.01 :	-	-	-
2-Butanone	mg/L	T	-	-	<0.01 :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID: RR-5 Sample Date: 9/24/2003 Sample ID: RR-5-T01N-SFW RURR	Site ID: RR-5 Sample Date: 9/24/2003 Sample ID: RR-5-D01N-SFW RURR	Site ID: RR-6 Sample Date: 10/4/2002 Sample ID: RR-6-T01N-SFW RURR	Site ID: RR-6 Sample Date: 10/4/2002 Sample ID: RR-6-D01N-SFW RURR	Site ID: RR-6 Sample Date: 3/20/2003 Sample ID: RR-6-T01N-SFW RURR	Site ID: RR-6 Sample Date: 3/21/2003 Sample ID: RR-6-T01N-SFW RURR
2-Hexanone	mg/L	T	-	-	<0.01 :	-	-	-
4-Methyl-2-pentanone	mg/L	T	-	-	<0.01 :	-	-	-
Acetone	mg/L	T	-	-	<0.01 :	-	-	-
Benzene	mg/L	T	-	-	<0.01 :	-	-	-
Bromodichloromethane	mg/L	T	-	-	<0.01 :	-	-	-
Bromoform	mg/L	T	-	-	<0.01 :	-	-	-
Bromomethane	mg/L	T	-	-	<0.01 :	-	-	-
Carbon disulfide	mg/L	T	-	-	<0.01 :	-	-	-
Carbon tetrachloride	mg/L	T	-	-	<0.01 :	-	-	-
Chlorobenzene	mg/L	T	-	-	<0.01 :	-	-	-
Chloroethane	mg/L	T	-	-	<0.01 :	-	-	-
Chloroform	mg/L	T	-	-	<0.01 :	-	-	-
Chloromethane	mg/L	T	-	-	<0.01 :	-	-	-
cis-1,2-Dichloroethene	mg/L	T	-	-	<0.01 :	-	-	-
cis-1,3-Dichloropropene	mg/L	T	-	-	<0.01 :	-	-	-
Dibromochloromethane	mg/L	T	-	-	<0.01 :	-	-	-
Dichlorodifluoromethane	mg/L	T	-	-	<0.01 :	-	-	-
Ethylbenzene	mg/L	T	-	-	<0.01 :	-	-	-
Methylene chloride	mg/L	T	-	-	<0.01 :	-	-	-
Styrene	mg/L	T	-	-	<0.01 :	-	-	-
Tetrachloroethene	mg/L	T	-	-	<0.01 :	-	-	-
Toluene	mg/L	T	-	-	<0.01 :	-	-	-
Total Xylene	mg/L	T	-	-	<0.01 :	-	-	-
trans-1,2-Dichloroethene	mg/L	T	-	-	<0.01 :	-	-	-
trans-1,3-Dichloropropene	mg/L	T	-	-	<0.01 :	-	-	-
Trichloroethene	mg/L	T	-	-	<0.01 :	-	-	-
Trichlorofluoromethane	mg/L	T	-	-	<0.01 :	-	-	-
Vinyl chloride	mg/L	T	-	-	<0.01 :	-	-	-
Semi-Volatile Organics								
1,1`-Biphenyl	mg/L	T	-	-	<0.01 :	-	-	-
2,4,5-Trichlorophenol	mg/L	T	-	-	<0.026 :	-	-	-
2,4,6-Trichlorophenol	mg/L	T	-	-	<0.01 :	-	-	-
2,4-Dichlorophenol	mg/L	T	-	-	<0.01 :	-	-	-
2,4-Dimethylphenol	mg/L	T	-	-	<0.01 :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-5	RR-5	RR-6	RR-6	RR-6	RR-6
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/20/2003	3/21/2003
			Sample ID	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-6-T01N-SFW	RR-6-D01N-SFW	RR-6-T01N-SFW	RR-6-T01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
2,4-Dinitrophenol	mg/L	T		-	-	<0.026 :	-	-	-
2,4-Dinitrotoluene	mg/L	T		-	-	<0.01 :	-	-	-
2,6-Dinitrotoluene	mg/L	T		-	-	<0.01 :	-	-	-
2-Chloronaphthalene	mg/L	T		-	-	<0.01 :	-	-	-
2-Chlorophenol	mg/L	T		-	-	<0.01 :	-	-	-
2-Methylnaphthalene	mg/L	T		-	-	<0.01 :	-	-	-
2-Methylphenol	mg/L	T		-	-	<0.01 :	-	-	-
2-Nitroaniline	mg/L	T		-	-	<0.026 :	-	-	-
2-Nitrophenol	mg/L	T		-	-	<0.01 :	-	-	-
3,3-Dichlorobenzidine	mg/L	T		-	-	<0.01 :	-	-	-
3-Nitroaniline	mg/L	T		-	-	<0.026 :	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	T		-	-	<0.026 :	-	-	-
4-Bromophenyl phenyl ether	mg/L	T		-	-	<0.01 :	-	-	-
4-Chloro-3-methylphenol	mg/L	T		-	-	<0.01 :	-	-	-
4-Chloroaniline	mg/L	T		-	-	<0.01 :	-	-	-
4-Chlorophenyl phenyl ether	mg/L	T		-	-	<0.01 :	-	-	-
4-Methylphenol	mg/L	T		-	-	<0.01 :	-	-	-
4-Nitroaniline	mg/L	T		-	-	<0.026 :	-	-	-
4-Nitrophenol	mg/L	T		-	-	<0.026 :	-	-	-
Acenaphthene	mg/L	T		-	-	<0.01 :	-	-	-
Acenaphthylene	mg/L	T		-	-	<0.01 :	-	-	-
Anthracene	mg/L	T		-	-	<0.01 :	-	-	-
Benzaldehyde	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(a)anthracene	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(a)pyrene	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(b)fluoranthene	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(g,h,i)perylene	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(k)fluoranthene	mg/L	T		-	-	<0.01 :	-	-	-
Bis(2-chloroethoxy)methane	mg/L	T		-	-	<0.01 :	-	-	-
Bis(2-chloroethyl)ether	mg/L	T		-	-	<0.01 :	-	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T		-	-	0.0005 J	-	-	-
Butyl benzyl phthalate	mg/L	T		-	-	<0.01 :	-	-	-
Carbazole	mg/L	T		-	-	<0.01 :	-	-	-
Chrysene	mg/L	T		-	-	<0.01 :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-5	RR-5	RR-6	RR-6	RR-6	RR-6
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/20/2003	3/21/2003
			Sample ID	RR-5-T01N-SFW	RR-5-D01N-SFW	RR-6-T01N-SFW	RR-6-D01N-SFW	RR-6-T01N-SFW	RR-6-T01N-SFW
			Exposure Area	RURR	RURR	RURR	RURR	RURR	RURR
Dibenz(a,h)anthracene	mg/L	T		-	-	<0.01 :	-	-	-
Dibenzofuran	mg/L	T		-	-	<0.01 :	-	-	-
Dichlorodiisopropyl ether	mg/L	T		-	-	<0.01 :	-	-	-
Diethylphthalate	mg/L	T		-	-	<0.01 :	-	-	-
Dimethylphthalate	mg/L	T		-	-	<0.01 :	-	-	-
Di-n-Butyl phthalate	mg/L	T		-	-	<0.01 :	-	-	-
Di-n-Octyl phthalate	mg/L	T		-	-	<0.01 :	-	-	-
Fluoranthene	mg/L	T		-	-	<0.01 :	-	-	-
Fluorene	mg/L	T		-	-	<0.01 :	-	-	-
Hexachlorobenzene	mg/L	T		-	-	<0.01 :	-	-	-
Hexachlorobutadiene	mg/L	T		-	-	<0.01 :	-	-	-
Hexachlorocyclopentadiene	mg/L	T		-	-	<0.01 :	-	-	-
Hexachloroethane	mg/L	T		-	-	<0.01 :	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T		-	-	<0.01 :	-	-	-
Isophorone	mg/L	T		-	-	<0.01 :	-	-	-
Naphthalene	mg/L	T		-	-	<0.01 :	-	-	-
Nitrobenzene	mg/L	T		-	-	<0.01 :	-	-	-
N-Nitrosodi-n-propylamine	mg/L	T		-	-	<0.01 :	-	-	-
N-Nitrosodiphenylamine	mg/L	T		-	-	<0.01 :	-	-	-
Pentachlorophenol	mg/L	T		-	-	<0.026 :	-	-	-
Phenanthrene	mg/L	T		-	-	<0.01 :	-	-	-
Phenol	mg/L	T		-	-	<0.01 :	-	-	-
Pyrene	mg/L	T		-	-	<0.01 :	-	-	-
Explosives									
2,4,6-Trinitrotoluene	mg/L	T		-	-	<0.00025 :	-	-	-
2,6-Pyridinediamine,	mg/L	T		-	-	<0.00025 J	-	-	-
Cyclotetramethylenetetranitramine	mg/L	T		-	-	<0.00025 :	-	-	-
Cyclotrimethylenetrinitramine	mg/L	T		-	-	<0.00025 :	-	-	-
Pentaerythritol tetranitrate	mg/L	T		-	-	<0.01 :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-6	RR-6	RR-6	RR-6	RR-6	RR-6
			Sample Date	3/21/2003	7/13/2003	7/16/2003	7/16/2003	9/24/2003	9/24/2003
			Sample ID	RR-6-D01N-SFW	RR-6-T01N-SFW	RR-6-T01N-SFW	RR-6-D01N-SFW	RR-6-T01N-SFW	RR-6-D01N-SFW
			Exposure Area	RURR	RURR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		-	7.98 :	8.14 :	-	8.96 :	-
Eh	millivolts	T		-	130.8 :	244.9 :	-	286.2 :	-
Flow	cfs	T		-	-	23.8 :	-	13. :	-
pH	SU	T		-	8.25 :	7.9 J	-	7.9 J	-
Specific Conductance	uS/cm	T		-	241. :	254. :	-	284. :	-
Temperature	Celsius	T		-	17.55 :	15.09 :	-	11.52 :	-
Turbidity	NTU	T		-	0. :	3.4 :	-	11.5 :	-
General Chemistry									
Ammonia	mg/L	T		-	-	0.044 :	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	-	65.4 :	-	69.5 :	-
Biochemical Oxygen Demand	mg/L	T		-	-	<1.4 J	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		-	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	-	<20. :	-	<20. :	-
Chloride	mg/L	T		-	-	2.9 :	-	2.6 :	-
Fluoride	mg/L	T		-	-	<0.31 J	-	0.32 :	-
Hydroxide (as CaCO3)	mg/L	T		-	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		-	-	<1. J	-	0.36 J	-
Nitrite	mg/L	T		-	-	<0.005 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		-	-	0.021 J	-	<0.01 :	-
Phosphorus	mg/L	T		-	-	0.063 :	-	0.035 :	-
Sulfate	mg/L	T		-	-	65.5 :	-	74.3 J	-
Total Alkalinity	mg/L	T		-	-	65.4 :	-	69.5 :	-
Total Dissolved Solids	mg/L	T		-	-	176. :	-	166. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	-	<0.24 :	-	<0.29 :	-
Total Organic Carbon	mg/L	T		-	-	1.4 :	-	1.2 :	-
Total Suspended Solids	mg/L	T		-	-	5.9 :	-	7.1 :	-
Laboratory Parameters									
pH	SU	T		-	8.25 :	7.9 J	-	7.9 J	-
Specific Conductance	umhos/cm	T		-	-	239. J	-	273. J	-
Inorganics									
Cyanide	mg/L	T		-	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		-	-	126. :	-	127. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-6		RR-6		RR-6		RR-6		RR-6		RR-6	
			3/21/2003		7/13/2003		7/16/2003		7/16/2003		9/24/2003		9/24/2003	
			RR-6-D01N-SFW		RR-6-T01N-SFW		RR-6-T01N-SFW		RR-6-D01N-SFW		RR-6-T01N-SFW		RR-6-D01N-SFW	
			RURR		RURR		RURR		RURR		RURR		RURR	
Hardness	mg/L	D	173.	:	-		-		127.	:	-		134.	:
Metals														
Aluminum	mg/L	T	-		-		0.618	:	-		0.655	:	-	
Aluminum	mg/L	D	0.113	:	-		-		0.264	:	-		0.191	:
Antimony	mg/L	T	-		-		<0.0005	:	-		<0.00039	:	-	
Antimony	mg/L	D	<0.0006	:	-		-		<0.0005	:	-		<0.00033	:
Arsenic	mg/L	T	-		-		<0.0002	:	-		<0.00038	:	-	
Arsenic	mg/L	D	<0.0002	:	-		-		<0.0002	:	-		<0.00038	:
Barium	mg/L	T	-		-		0.0372	:	-		0.0401	:	-	
Barium	mg/L	D	0.0395	:	-		-		0.0329	:	-		0.0374	:
Beryllium	mg/L	T	-		-		<0.0002	:	-		<0.00047	:	-	
Beryllium	mg/L	D	<0.0003	:	-		-		<0.0002	:	-		<0.00047	:
Boron	mg/L	T	-		-		0.0061	:	-		0.0378	:	-	
Boron	mg/L	D	0.0111	:	-		-		0.006	:	-		<0.0105	:
Cadmium	mg/L	T	-		-		<0.0002	:	-		0.00026	:	-	
Cadmium	mg/L	D	0.00031	:	-		-		<0.0002	:	-		0.00021	:
Calcium	mg/L	T	-		-		37.6	:	-		38.4	:	-	
Calcium	mg/L	D	49.7	:	-		-		37.9	:	-		40.7	:
Chromium	mg/L	T	-		-		<0.0014	J	-		<0.001	:	-	
Chromium	mg/L	D	<0.001	:	-		-		<0.0014	J	-		<0.001	:
Cobalt	mg/L	T	-		-		0.0021	:	-		0.0024	:	-	
Cobalt	mg/L	D	<0.0038	:	-		-		<0.002	:	-		0.0019	:
Copper	mg/L	T	-		-		0.0109	:	-		0.0084	:	-	
Copper	mg/L	D	0.0063	:	-		-		0.0051	:	-		<0.0027	:
Iron	mg/L	T	-		-		0.248	J	-		0.332	:	-	
Iron	mg/L	D	<0.422	:	-		-		0.0539	J	-		<0.044	:
Lead	mg/L	T	-		-		0.0008	:	-		0.00075	:	-	
Lead	mg/L	D	<0.0002	:	-		-		<0.0001	:	-		<0.00004	:
Magnesium	mg/L	T	-		-		7.83	:	-		7.49	:	-	
Magnesium	mg/L	D	11.8	:	-		-		7.88	:	-		7.92	:
Manganese	mg/L	T	-		-		0.116	:	-		0.143	:	-	
Manganese	mg/L	D	0.284	:	-		-		0.1	:	-		0.144	:
Mercury	mg/L	T	-		-		<0.0001	:	-		<0.00006	:	-	
Mercury	mg/L	D	<0.0001	J	-		-		<0.0001	:	-		<0.00006	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-6		RR-6		RR-6		RR-6		RR-6		RR-6	
			3/21/2003		7/13/2003		7/16/2003		7/16/2003		9/24/2003		9/24/2003	
			RR-6-D01N-SFW		RR-6-T01N-SFW		RR-6-T01N-SFW		RR-6-D01N-SFW		RR-6-T01N-SFW		RR-6-D01N-SFW	
			RURR		RURR		RURR		RURR		RURR		RURR	
Molybdenum	mg/L	T	-		-		0.0012	:	-		<0.0012	:	-	
Molybdenum	mg/L	D	<0.0023	:	-		-		0.0012	:	-		<0.0011	:
Nickel	mg/L	T	-		-		0.0066	:	-		0.0079	:	-	
Nickel	mg/L	D	0.0109	:	-		-		0.0059	:	-		0.0073	:
Potassium	mg/L	T	-		-		1.51	:	-		1.15	J	-	
Potassium	mg/L	D	1.88	:	-		-		1.49	:	-		1.17	J
Selenium	mg/L	T	-		-		<0.0008	:	-		<0.00073	J	-	
Selenium	mg/L	D	<0.001	:	-		-		<0.0008	:	-		<0.00073	J
Silver	mg/L	T	-		-		<0.0001	J	-		<0.0002	:	-	
Silver	mg/L	D	<0.0002	:	-		-		<0.0001	J	-		<0.0002	:
Sodium	mg/L	T	-		-		5.23	:	-		3.92	:	-	
Sodium	mg/L	D	13.5	:	-		-		5.14	:	-		4.23	:
Thallium	mg/L	T	-		-		<0.0001	:	-		<0.00001	:	-	
Thallium	mg/L	D	<0.0002	:	-		-		<0.0001	:	-		<0.00001	:
Vanadium	mg/L	T	-		-		0.00042	:	-		0.00047	:	-	
Vanadium	mg/L	D	<0.0002	:	-		-		<0.0002	:	-		<0.00038	:
Zinc	mg/L	T	-		-		0.0362	:	-		<0.0396	:	-	
Zinc	mg/L	D	<0.0525	:	-		-		0.0224	:	-		<0.0298	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-6A	RR-6A	RR-6A	RR-6A	RR-6A	RR-6A
			Sample Date	10/4/2002	10/4/2002	3/21/2003	3/21/2003	7/15/2003	7/15/2003
			Sample ID	RR-6A-T01N-SFW	RR-6A-D01N-SFW	RR-6A-T01N-SFW	RR-6A-D01N-SFW	RR-6A-T01N-SFW	RR-6A-D01N-SFW
			Exposure Area	RURR	RURR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		9.8 :	-	12.11 :	-	8.16 :	-
Eh	millivolts	T		332. :	-	281.8 :	-	133. :	-
Flow	cfs	T		12.09 :	-	9.2 :	-	17.7 :	-
pH	SU	T		6.78 :	-	7.8 J	-	7.9 J	-
Specific Conductance	uS/cm	T		320. :	-	639. :	-	244. :	-
Temperature	Celsius	T		11.03 :	-	1.49 :	-	14.73 :	-
Turbidity	NTU	T		7.5 :	-	26.8 :	-	0. :	-
General Chemistry									
Ammonia	mg/L	T		<0.042 :	-	<0.11 J	-	0.081 :	-
Bicarbonate (as CaCO3)	mg/L	T		65. :	-	59.5 :	-	63.2 :	-
Biochemical Oxygen Demand	mg/L	T		<1.3 J	-	<1.5 J	-	<1.5 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		3.1 :	-	6.5 :	-	2.4 :	-
Fluoride	mg/L	T		<0.36 :	-	0.42 :	-	<0.89 J	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<0.5 J	-	0.53 J	-	<1. J	-
Nitrite	mg/L	T		<0.005 J	-	0.013 J	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	0.31 J	-	<0.01 :	-
Phosphorus	mg/L	T		<0.071 :	-	0.073 J	-	0.024 :	-
Sulfate	mg/L	T		92.8 :	-	105. :	-	72.5 :	-
Total Alkalinity	mg/L	T		65. :	-	59.5 :	-	63.2 :	-
Total Dissolved Solids	mg/L	T		200. :	-	192. :	-	146. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	0.28 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<1. :	-	2.2 :	-	1.8 :	-
Total Suspended Solids	mg/L	T		17.1 :	-	11.1 :	-	5.4 :	-
Laboratory Parameters									
pH	SU	T		6.78 :	-	7.8 J	-	7.9 J	-
Specific Conductance	umhos/cm	T		-	-	286. J	-	262. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		149. :	-	166. :	-	121. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-6A 10/4/2002 RR-6A-T01N-SFW		RR-6A 10/4/2002 RR-6A-D01N-SFW		RR-6A 3/21/2003 RR-6A-T01N-SFW		RR-6A 3/21/2003 RR-6A-D01N-SFW		RR-6A 7/15/2003 RR-6A-T01N-SFW		RR-6A 7/15/2003 RR-6A-D01N-SFW	
			RURR		RURR		RURR		RURR		RURR		RURR	
Hardness	mg/L	D	-		146.	:	-		161.	:	-		117.	:
Metals														
Aluminum	mg/L	T	0.79	:	-		1.25	:	-		0.552	:	-	
Aluminum	mg/L	D	-		0.162	:	-		0.116	:	-		0.237	:
Antimony	mg/L	T	<0.0002	:	-		<0.0006	:	-		<0.0005	:	-	
Antimony	mg/L	D	-		<0.0002	:	-		<0.0006	:	-		<0.0005	:
Arsenic	mg/L	T	<0.0002	:	-		0.00047	:	-		<0.0002	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Barium	mg/L	T	0.0394	:	-		0.043	:	-		0.0352	:	-	
Barium	mg/L	D	-		0.0343	:	-		0.036	:	-		0.0324	:
Beryllium	mg/L	T	<0.0002	:	-		<0.0003	:	-		<0.0002	:	-	
Beryllium	mg/L	D	-		<0.0002	:	-		<0.0003	:	-		<0.0002	:
Boron	mg/L	T	<0.0048	:	-		0.0092	:	-		0.006	:	-	
Boron	mg/L	D	-		<0.0048	:	-		0.0089	:	-		0.0056	:
Cadmium	mg/L	T	0.00025	:	-		<0.0005	:	-		<0.0002	:	-	
Cadmium	mg/L	D	-		0.00017	:	-		0.00032	:	-		<0.0002	:
Calcium	mg/L	T	44.	:	-		47.6	:	-		36.2	:	-	
Calcium	mg/L	D	-		43.2	:	-		46.4	:	-		35.1	:
Chromium	mg/L	T	<0.0046	:	-		<0.001	:	-		<0.0014	:	-	
Chromium	mg/L	D	-		<0.0046	:	-		<0.001	:	-		<0.0014	:
Cobalt	mg/L	T	0.0024	:	-		<0.0038	:	-		<0.002	:	-	
Cobalt	mg/L	D	-		0.0024	:	-		<0.0038	:	-		<0.002	:
Copper	mg/L	T	0.0117	:	-		0.018	:	-		0.007	:	-	
Copper	mg/L	D	-		<0.003	:	-		0.0064	:	-		0.0037	:
Iron	mg/L	T	0.394	:	-		<0.422	:	-		0.153	:	-	
Iron	mg/L	D	-		<0.0226	:	-		<0.422	:	-		<0.0333	:
Lead	mg/L	T	0.0024	:	-		0.00075	:	-		<0.00039	:	-	
Lead	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.00014	:
Magnesium	mg/L	T	9.42	:	-		11.3	:	-		7.34	:	-	
Magnesium	mg/L	D	-		9.26	:	-		11.	:	-		7.1	:
Manganese	mg/L	T	0.207	:	-		0.29	:	-		0.105	:	-	
Manganese	mg/L	D	-		0.192	:	-		0.278	:	-		0.0978	:
Mercury	mg/L	T	<0.0001	:	-		<0.0001	J	-		0.00017	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	J	-		0.00017	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-6A		RR-6A		RR-6A		RR-6A		RR-6A		RR-6A	
			10/4/2002		10/4/2002		3/21/2003		3/21/2003		7/15/2003		7/15/2003	
			RR-6A-T01N-SFW		RR-6A-D01N-SFW		RR-6A-T01N-SFW		RR-6A-D01N-SFW		RR-6A-T01N-SFW		RR-6A-D01N-SFW	
			RURR		RURR		RURR		RURR		RURR		RURR	
Molybdenum	mg/L	T	0.0013	:	-		<0.0023	:	-		0.0011	:	-	
Molybdenum	mg/L	D	-		0.0013	:	-		<0.0023	:	-		0.0012	:
Nickel	mg/L	T	0.0086	:	-		0.0112	:	-		0.0059	:	-	
Nickel	mg/L	D	-		0.0079	:	-		0.0095	:	-		0.0061	:
Potassium	mg/L	T	1.46	:	-		1.6	:	-		1.32	:	-	
Potassium	mg/L	D	-		1.44	:	-		1.49	:	-		1.26	:
Selenium	mg/L	T	<0.0002	:	-		<0.0014	:	-		<0.0008	:	-	
Selenium	mg/L	D	-		0.0002	:	-		<0.001	:	-		<0.0008	:
Silver	mg/L	T	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Silver	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0001	J
Sodium	mg/L	T	4.96	:	-		9.46	:	-		4.38	:	-	
Sodium	mg/L	D	-		5.02	:	-		9.99	:	-		4.29	:
Thallium	mg/L	T	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0001	:
Vanadium	mg/L	T	0.00051	:	-		0.00041	:	-		<0.0002	:	-	
Vanadium	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0002	:
Zinc	mg/L	T	<0.0448	:	-		0.0879	:	-		0.034	:	-	
Zinc	mg/L	D	-		<0.0175	:	-		<0.0466	:	-		0.0177	:
Volatile Organics														
1,1,1-Trichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2,2-Tetrachloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2-Trichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1-Dichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1-Dichloroethene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2,4-Trichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dibromo-3-chloropropane	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloroethene (total)	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloropropane	mg/L	T	<0.01	:	-		-		-		-		-	
1,3-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,4-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
2-Butanone	mg/L	T	<0.01	:	-		-		-		-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-6A 10/4/2002 RR-6A-T01N-SFW RURR	RR-6A 10/4/2002 RR-6A-D01N-SFW RURR	RR-6A 3/21/2003 RR-6A-T01N-SFW RURR	RR-6A 3/21/2003 RR-6A-D01N-SFW RURR	RR-6A 7/15/2003 RR-6A-T01N-SFW RURR	RR-6A 7/15/2003 RR-6A-D01N-SFW RURR
2-Hexanone	mg/L	T	<0.01 :	-	-	-	-	-
4-Methyl-2-pentanone	mg/L	T	<0.01 :	-	-	-	-	-
Acetone	mg/L	T	<0.01 :	-	-	-	-	-
Benzene	mg/L	T	<0.01 :	-	-	-	-	-
Bromodichloromethane	mg/L	T	<0.01 :	-	-	-	-	-
Bromoform	mg/L	T	<0.01 :	-	-	-	-	-
Bromomethane	mg/L	T	<0.01 :	-	-	-	-	-
Carbon disulfide	mg/L	T	<0.01 :	-	-	-	-	-
Carbon tetrachloride	mg/L	T	<0.01 :	-	-	-	-	-
Chlorobenzene	mg/L	T	<0.01 :	-	-	-	-	-
Chloroethane	mg/L	T	<0.01 :	-	-	-	-	-
Chloroform	mg/L	T	<0.01 :	-	-	-	-	-
Chloromethane	mg/L	T	<0.01 :	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	T	<0.01 :	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	T	<0.01 :	-	-	-	-	-
Dibromochloromethane	mg/L	T	<0.01 :	-	-	-	-	-
Dichlorodifluoromethane	mg/L	T	<0.01 :	-	-	-	-	-
Ethylbenzene	mg/L	T	<0.01 :	-	-	-	-	-
Methylene chloride	mg/L	T	<0.01 :	-	-	-	-	-
Styrene	mg/L	T	<0.01 :	-	-	-	-	-
Tetrachloroethene	mg/L	T	<0.01 :	-	-	-	-	-
Toluene	mg/L	T	<0.01 :	-	-	-	-	-
Total Xylene	mg/L	T	<0.01 :	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	T	<0.01 :	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	T	<0.01 :	-	-	-	-	-
Trichloroethene	mg/L	T	<0.01 :	-	-	-	-	-
Trichlorofluoromethane	mg/L	T	<0.01 :	-	-	-	-	-
Vinyl chloride	mg/L	T	<0.01 :	-	-	-	-	-
Semi-Volatile Organics								
1,1`-Biphenyl	mg/L	T	<0.01 :	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	T	<0.026 :	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	T	<0.01 :	-	-	-	-	-
2,4-Dichlorophenol	mg/L	T	<0.01 :	-	-	-	-	-
2,4-Dimethylphenol	mg/L	T	<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID						
			RR-6A 10/4/2002 RR-6A-T01N-SFW	RR-6A 10/4/2002 RR-6A-D01N-SFW	RR-6A 3/21/2003 RR-6A-T01N-SFW	RR-6A 3/21/2003 RR-6A-D01N-SFW	RR-6A 7/15/2003 RR-6A-T01N-SFW	RR-6A 7/15/2003 RR-6A-D01N-SFW
			RURR	RURR	RURR	RURR	RURR	RURR
2,4-Dinitrophenol	mg/L	T	<0.026 :	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	T	<0.01 :	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	T	<0.01 :	-	-	-	-	-
2-Chloronaphthalene	mg/L	T	<0.01 :	-	-	-	-	-
2-Chlorophenol	mg/L	T	<0.01 :	-	-	-	-	-
2-Methylnaphthalene	mg/L	T	<0.01 :	-	-	-	-	-
2-Methylphenol	mg/L	T	<0.01 :	-	-	-	-	-
2-Nitroaniline	mg/L	T	<0.026 :	-	-	-	-	-
2-Nitrophenol	mg/L	T	<0.01 :	-	-	-	-	-
3,3-Dichlorobenzidine	mg/L	T	<0.01 :	-	-	-	-	-
3-Nitroaniline	mg/L	T	<0.026 :	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	T	<0.026 :	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	T	<0.01 :	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	T	<0.01 :	-	-	-	-	-
4-Chloroaniline	mg/L	T	<0.01 :	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	T	<0.01 :	-	-	-	-	-
4-Methylphenol	mg/L	T	<0.01 :	-	-	-	-	-
4-Nitroaniline	mg/L	T	<0.026 :	-	-	-	-	-
4-Nitrophenol	mg/L	T	<0.026 :	-	-	-	-	-
Acenaphthene	mg/L	T	<0.01 :	-	-	-	-	-
Acenaphthylene	mg/L	T	<0.01 :	-	-	-	-	-
Anthracene	mg/L	T	<0.01 :	-	-	-	-	-
Benzaldehyde	mg/L	T	<0.01 :	-	-	-	-	-
Benzo(a)anthracene	mg/L	T	<0.01 :	-	-	-	-	-
Benzo(a)pyrene	mg/L	T	<0.01 :	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	T	<0.01 :	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	T	<0.01 :	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	T	<0.01 :	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/L	T	<0.01 :	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/L	T	<0.01 :	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T	0.005 J	-	-	-	-	-
Butyl benzyl phthalate	mg/L	T	<0.01 :	-	-	-	-	-
Carbazole	mg/L	T	<0.01 :	-	-	-	-	-
Chrysene	mg/L	T	<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID		RR-6A 10/4/2002 RR-6A-T01N-SFW RURR		RR-6A 10/4/2002 RR-6A-D01N-SFW RURR	RR-6A 3/21/2003 RR-6A-T01N-SFW RURR	RR-6A 3/21/2003 RR-6A-D01N-SFW RURR	RR-6A 7/15/2003 RR-6A-T01N-SFW RURR	RR-6A 7/15/2003 RR-6A-D01N-SFW RURR
Dibenz(a,h)anthracene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Dibenzofuran	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Dichlorodiisopropyl ether	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Diethylphthalate	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Dimethylphthalate	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Di-n-Butyl phthalate	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Di-n-Octyl phthalate	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Fluoranthene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Fluorene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Hexachlorobenzene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Hexachloroethane	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Isophorone	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Naphthalene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Nitrobenzene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/L	T	<0.01	:	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Pentachlorophenol	mg/L	T	<0.026	:	-	-	-	-	-	-	-
Phenanthrene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Phenol	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Pyrene	mg/L	T	<0.01	:	-	-	-	-	-	-	-
Explosives											
2,4,6-Trinitrotoluene	mg/L	T	<0.00025	:	-	-	-	-	-	-	-
2,6-Pyridinediamine,	mg/L	T	<0.00025	J	-	-	-	-	-	-	-
Cyclotetramethylenetetranitramine	mg/L	T	<0.00025	:	-	-	-	-	-	-	-
Cyclotrimethylenetrinitramine	mg/L	T	<0.00025	:	-	-	-	-	-	-	-
Pentaerythritol tetranitrate	mg/L	T	<0.01	:	-	-	-	-	-	-	-

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-6A	RR-6A	RR-6V	RR-6V	RR-6V	RR-6V
			Sample Date	9/24/2003	9/24/2003	7/16/2003	7/16/2003	9/24/2003	9/24/2003
			Sample ID	RR-6A-T01N-SFW	RR-6A-D01N-SFW	RR-6V-T01N-SFW	RR-6V-D01N-SFW	RR-6V-T01N-SFW	RR-6V-D01N-SFW
			Exposure Area	RURR	RURR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		9.46 :	-	8.27 :	-	7.87 :	-
Eh	millivolts	T		309.6 :	-	257.2 :	-	409.2 :	-
Flow	cfs	T		14.2 :	-	17.9 :	-	16.3 :	-
pH	SU	T		7.8 J	-	7.7 J	-	8.2 J	-
Specific Conductance	uS/cm	T		283. :	-	254. :	-	272. :	-
Temperature	Celsius	T		10.53 :	-	16.87 :	-	12.61 :	-
Turbidity	NTU	T		19.3 :	-	0. :	-	17.4 :	-
General Chemistry									
Ammonia	mg/L	T		<0.04 :	-	0.054 :	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		65. :	-	66.5 :	-	72.9 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.4 J	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		2.7 :	-	2.8 :	-	2.5 :	-
Fluoride	mg/L	T		0.3 :	-	<0.26 J	-	0.27 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.37 J	-	<1. J	-	0.38 J	-
Nitrite	mg/L	T		<0.005 J	-	0.0092 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	0.037 J	-	0.69 J	-
Phosphorus	mg/L	T		0.033 :	-	0.062 :	-	0.029 J	-
Sulfate	mg/L	T		66.9 J	-	49.8 :	-	49.8 J	-
Total Alkalinity	mg/L	T		65. :	-	66.5 :	-	72.9 :	-
Total Dissolved Solids	mg/L	T		186. :	-	166. :	-	148. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.28 :	-	<0.24 :	-	<0.28 :	-
Total Organic Carbon	mg/L	T		1.6 :	-	1.3 :	-	1.5 :	-
Total Suspended Solids	mg/L	T		7.5 :	-	2. :	-	4.4 :	-
Laboratory Parameters									
pH	SU	T		7.8 J	-	7.7 J	-	8.2 J	-
Specific Conductance	umhos/cm	T		263. J	-	228. J	-	247. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		124. :	-	120. :	-	120. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-6A 9/24/2003 RR-6A-T01N-SFW RURR	RR-6A 9/24/2003 RR-6A-D01N-SFW RURR	RR-6V 7/16/2003 RR-6V-T01N-SFW RURR	RR-6V 7/16/2003 RR-6V-D01N-SFW RURR	RR-6V 9/24/2003 RR-6V-T01N-SFW RURR	RR-6V 9/24/2003 RR-6V-D01N-SFW RURR
Hardness	mg/L	D	-	124. :	-	116. :	-	113. :
Metals								
Aluminum	mg/L	T	0.601 :	-	0.221 :	-	0.264 :	-
Aluminum	mg/L	D	-	0.179 :	-	0.0909 :	-	0.106 :
Antimony	mg/L	T	<0.00029 :	-	<0.0005 :	-	<0.0016 :	-
Antimony	mg/L	D	-	<0.00022 :	-	<0.0005 :	-	<0.00069 :
Arsenic	mg/L	T	<0.00038 :	-	<0.0002 :	-	<0.00038 :	-
Arsenic	mg/L	D	-	<0.00038 :	-	<0.0002 :	-	<0.00038 :
Barium	mg/L	T	0.0377 :	-	0.0383 :	-	0.0409 :	-
Barium	mg/L	D	-	0.0346 :	-	0.0338 :	-	0.0355 :
Beryllium	mg/L	T	<0.00047 :	-	<0.0002 :	-	<0.00047 :	-
Beryllium	mg/L	D	-	<0.00047 :	-	<0.0002 :	-	<0.00047 :
Boron	mg/L	T	<0.0087 :	-	0.0059 :	-	<0.0084 :	-
Boron	mg/L	D	-	<0.016 :	-	0.0067 :	-	<0.0084 :
Cadmium	mg/L	T	0.00026 :	-	<0.0002 :	-	0.00016 :	-
Cadmium	mg/L	D	-	0.0002 :	-	<0.0002 :	-	0.00014 :
Calcium	mg/L	T	37.7 :	-	36.1 :	-	36.8 :	-
Calcium	mg/L	D	-	37.7 :	-	35. :	-	34.5 :
Chromium	mg/L	T	<0.001 :	-	<0.0014 J	-	<0.001 :	-
Chromium	mg/L	D	-	<0.001 :	-	<0.0014 J	-	<0.001 :
Cobalt	mg/L	T	0.0022 :	-	<0.002 :	-	0.0012 :	-
Cobalt	mg/L	D	-	0.0026 :	-	<0.002 :	-	0.0012 :
Copper	mg/L	T	0.0083 :	-	0.0197 :	-	<0.0069 :	-
Copper	mg/L	D	-	<0.0026 :	-	0.0236 :	-	<0.0032 :
Iron	mg/L	T	0.305 :	-	0.222 J	-	0.291 :	-
Iron	mg/L	D	-	<0.044 :	-	<0.0333 J	-	<0.044 :
Lead	mg/L	T	<0.00049 :	-	0.00092 :	-	0.0006 :	-
Lead	mg/L	D	-	<0.00004 :	-	<0.0001 :	-	<0.00006 :
Magnesium	mg/L	T	7.35 :	-	7.25 :	-	6.84 :	-
Magnesium	mg/L	D	-	7.34 :	-	7.02 :	-	6.4 :
Manganese	mg/L	T	0.142 :	-	0.0573 :	-	0.074 :	-
Manganese	mg/L	D	-	0.134 :	-	0.0451 :	-	0.063 :
Mercury	mg/L	T	<0.00006 :	-	<0.0001 :	-	<0.00006 :	-
Mercury	mg/L	D	-	<0.00006 :	-	<0.0001 :	-	<0.00006 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-6A	RR-6A	RR-6V	RR-6V	RR-6V	RR-6V
			Sample Date	9/24/2003	9/24/2003	7/16/2003	7/16/2003	9/24/2003	9/24/2003
			Sample ID	RR-6A-T01N-SFW	RR-6A-D01N-SFW	RR-6V-T01N-SFW	RR-6V-D01N-SFW	RR-6V-T01N-SFW	RR-6V-D01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Molybdenum	mg/L	T		<0.0012 :	-	0.001 :	-	<0.0022 :	-
Molybdenum	mg/L	D		-	<0.0011 :	-	0.0012 :	-	<0.0016 :
Nickel	mg/L	T		0.0078 :	-	0.0035 :	-	0.0043 :	-
Nickel	mg/L	D		-	0.0071 :	-	0.0029 :	-	0.0042 :
Potassium	mg/L	T		1.11 J	-	1.58 :	-	1.16 :	-
Potassium	mg/L	D		-	<1.09 J	-	1.52 :	-	1.08 J
Selenium	mg/L	T		<0.00073 J	-	<0.0008 :	-	<0.00073 :	-
Selenium	mg/L	D		-	<0.00073 J	-	<0.0008 :	-	<0.00073 J
Silver	mg/L	T		<0.0002 :	-	<0.0001 J	-	<0.0002 :	-
Silver	mg/L	D		-	<0.0002 :	-	<0.0001 J	-	<0.0002 :
Sodium	mg/L	T		3.88 :	-	5.11 :	-	3.77 :	-
Sodium	mg/L	D		-	3.8 :	-	5.36 :	-	3.63 :
Thallium	mg/L	T		<0.00001 :	-	<0.0001 :	-	<0.00001 :	-
Thallium	mg/L	D		-	<0.00001 :	-	<0.0001 :	-	<0.00001 :
Vanadium	mg/L	T		0.00059 :	-	0.0003 :	-	0.0005 :	-
Vanadium	mg/L	D		-	<0.00042 :	-	0.00025 :	-	<0.0004 :
Zinc	mg/L	T		<0.0459 :	-	0.0167 :	-	<0.02 :	-
Zinc	mg/L	D		-	<0.0241 :	-	0.0116 J	-	<0.013 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-7	RR-7	RR-7	RR-7	RR-7	RR-7
			Sample Date	10/4/2002	10/4/2002	3/21/2003	3/21/2003	7/15/2003	7/15/2003
			Sample ID	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-7-T01N-SFW	RR-7-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		9.45 :	-	11.86 :	-	8.61 :	-
Eh	millivolts	T		348.3 :	-	277. :	-	90.8 :	-
Flow	cfs	T		12.42 :	-	9.1 :	-	18. :	-
pH	SU	T		6.65 :	-	7.8 J	-	8.2 J	-
Specific Conductance	uS/cm	T		319. :	-	647. :	-	244. :	-
Temperature	Celsius	T		10.19 :	-	1.39 :	-	15.07 :	-
Turbidity	NTU	T		8.8 :	-	34.3 :	-	0. :	-
General Chemistry									
Ammonia	mg/L	T		<0.04 :	-	<0.074 J	-	0.072 :	-
Bicarbonate (as CaCO3)	mg/L	T		64.4 :	-	61.1 :	-	62.9 :	-
Biochemical Oxygen Demand	mg/L	T		<1.3 J	-	<1.5 J	-	<1.5 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		3.1 :	-	6.8 :	-	2.7 :	-
Fluoride	mg/L	T		<0.36 :	-	0.43 :	-	<0.88 J	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<0.5 J	-	0.55 J	-	<1. J	-
Nitrite	mg/L	T		<0.005 J	-	0.014 J	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		0.018 J	-	0.99 J	-	<0.01 :	-
Phosphorus	mg/L	T		<0.091 :	-	0.079 J	-	0.031 :	-
Sulfate	mg/L	T		91.9 :	-	99.4 :	-	77.9 :	-
Total Alkalinity	mg/L	T		64.4 :	-	61.1 :	-	62.9 :	-
Total Dissolved Solids	mg/L	T		198. :	-	192. :	-	140. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<1. :	-	1.6 :	-	1.5 :	-
Total Suspended Solids	mg/L	T		17.7 :	-	15.7 :	-	1.7 :	-
Laboratory Parameters									
pH	SU	T		6.65 :	-	7.8 J	-	8.2 J	-
Specific Conductance	umhos/cm	T		-	-	293. J	-	261. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		154. :	-	171. :	-	116. :	-

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID: RR-7 Sample Date: 10/4/2002 Sample ID: RR-7-T01N-SFW SWR		Site ID: RR-7 Sample Date: 10/4/2002 Sample ID: RR-7-D01N-SFW SWR		Site ID: RR-7 Sample Date: 3/21/2003 Sample ID: RR-7-T01N-SFW SWR		Site ID: RR-7 Sample Date: 3/21/2003 Sample ID: RR-7-D01N-SFW SWR		Site ID: RR-7 Sample Date: 7/15/2003 Sample ID: RR-7-T01N-SFW SWR		Site ID: RR-7 Sample Date: 7/15/2003 Sample ID: RR-7-D01N-SFW SWR	
Hardness	mg/L	D	-		147.	:	-		172.	:	-		124.	:
Metals														
Aluminum	mg/L	T	0.846	:	-		1.21	:	-		0.488	:	-	
Aluminum	mg/L	D	-		0.149	:	-		0.112	:	-		0.252	:
Antimony	mg/L	T	<0.0002	:	-		<0.0006	:	-		<0.0005	:	-	
Antimony	mg/L	D	-		<0.0002	:	-		<0.0006	:	-		<0.0005	:
Arsenic	mg/L	T	<0.0002	:	-		<0.0004	J	-		<0.0002	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Barium	mg/L	T	0.0411	:	-		0.0447	:	-		0.0322	:	-	
Barium	mg/L	D	-		0.034	:	-		0.0382	:	-		0.0325	:
Beryllium	mg/L	T	<0.0002	:	-		<0.0003	:	-		<0.0002	:	-	
Beryllium	mg/L	D	-		<0.0002	:	-		<0.0003	:	-		<0.0002	:
Boron	mg/L	T	<0.0048	:	-		<0.0084	:	-		0.006	:	-	
Boron	mg/L	D	-		<0.0048	:	-		0.0094	:	-		0.0067	:
Cadmium	mg/L	T	0.00025	:	-		<0.0005	J	-		<0.0002	:	-	
Cadmium	mg/L	D	-		0.00018	:	-		0.00026	:	-		<0.0002	:
Calcium	mg/L	T	45.5	:	-		49.2	:	-		34.9	:	-	
Calcium	mg/L	D	-		43.6	:	-		49.7	:	-		37.2	:
Chromium	mg/L	T	<0.0046	:	-		<0.001	:	-		<0.0014	:	-	
Chromium	mg/L	D	-		<0.0046	:	-		<0.001	:	-		<0.0014	:
Cobalt	mg/L	T	0.0025	:	-		<0.0038	:	-		<0.002	:	-	
Cobalt	mg/L	D	-		<0.0022	:	-		0.0038	:	-		<0.002	:
Copper	mg/L	T	0.0133	:	-		0.0181	:	-		0.0067	:	-	
Copper	mg/L	D	-		<0.0027	:	-		0.0048	:	-		0.0036	:
Iron	mg/L	T	0.504	:	-		<0.422	:	-		0.117	:	-	
Iron	mg/L	D	-		<0.0226	:	-		<0.422	:	-		<0.0333	:
Lead	mg/L	T	0.0011	:	-		0.0011	:	-		<0.00036	:	-	
Lead	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.00013	:
Magnesium	mg/L	T	9.69	:	-		11.7	:	-		7.08	:	-	
Magnesium	mg/L	D	-		9.29	:	-		11.7	:	-		7.53	:
Manganese	mg/L	T	0.224	:	-		0.309	:	-		0.0922	:	-	
Manganese	mg/L	D	-		0.201	:	-		0.3	:	-		0.0928	:
Mercury	mg/L	T	<0.0001	:	-		<0.0001	J	-		0.00019	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	J	-		0.00014	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-7		RR-7		RR-7		RR-7		RR-7		RR-7	
			10/4/2002		10/4/2002		3/21/2003		3/21/2003		7/15/2003		7/15/2003	
			RR-7-T01N-SFW		RR-7-D01N-SFW		RR-7-T01N-SFW		RR-7-D01N-SFW		RR-7-T01N-SFW		RR-7-D01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Molybdenum	mg/L	T	0.001	:	-		<0.0023	:	-		0.0011	:	-	
Molybdenum	mg/L	D	-		0.0011	:	-		<0.0023	:	-		0.0011	:
Nickel	mg/L	T	0.0088	:	-		0.0114	:	-		0.0054	:	-	
Nickel	mg/L	D	-		0.008	:	-		0.011	:	-		0.0051	:
Potassium	mg/L	T	1.52	:	-		1.67	:	-		1.23	:	-	
Potassium	mg/L	D	-		1.45	:	-		1.6	:	-		1.42	:
Selenium	mg/L	T	<0.0002	:	-		<0.001	J	-		<0.0008	:	-	
Selenium	mg/L	D	-		<0.0002	:	-		<0.0039	J	-		<0.0008	:
Silver	mg/L	T	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Silver	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0001	J
Sodium	mg/L	T	5.52	:	-		<9.16	:	-		4.49	:	-	
Sodium	mg/L	D	-		5.14	:	-		9.77	:	-		4.95	:
Thallium	mg/L	T	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0001	:
Vanadium	mg/L	T	0.00037	:	-		0.00046	:	-		<0.0002	:	-	
Vanadium	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0002	:
Zinc	mg/L	T	0.0491	:	-		0.0928	:	-		0.031	:	-	
Zinc	mg/L	D	-		<0.0195	:	-		<0.0489	:	-		0.0231	:
Volatile Organics														
1,1,1-Trichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2,2-Tetrachloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1,2-Trichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1-Dichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,1-Dichloroethene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2,4-Trichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dibromo-3-chloropropane	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloroethane	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloroethene (total)	mg/L	T	<0.01	:	-		-		-		-		-	
1,2-Dichloropropane	mg/L	T	<0.01	:	-		-		-		-		-	
1,3-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
1,4-Dichlorobenzene	mg/L	T	<0.01	:	-		-		-		-		-	
2-Butanone	mg/L	T	<0.01	:	-		-		-		-		-	

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-7	RR-7	RR-7	RR-7	RR-7	RR-7
			Sample Date	10/4/2002	10/4/2002	3/21/2003	3/21/2003	7/15/2003	7/15/2003
			Sample ID	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-7-T01N-SFW	RR-7-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2-Hexanone	mg/L	T		<0.01 :	-	-	-	-	-
4-Methyl-2-pentanone	mg/L	T		<0.01 :	-	-	-	-	-
Acetone	mg/L	T		<0.01 :	-	-	-	-	-
Benzene	mg/L	T		<0.01 :	-	-	-	-	-
Bromodichloromethane	mg/L	T		<0.01 :	-	-	-	-	-
Bromoform	mg/L	T		<0.01 :	-	-	-	-	-
Bromomethane	mg/L	T		<0.01 :	-	-	-	-	-
Carbon disulfide	mg/L	T		<0.01 :	-	-	-	-	-
Carbon tetrachloride	mg/L	T		<0.01 :	-	-	-	-	-
Chlorobenzene	mg/L	T		<0.01 :	-	-	-	-	-
Chloroethane	mg/L	T		<0.01 :	-	-	-	-	-
Chloroform	mg/L	T		<0.01 :	-	-	-	-	-
Chloromethane	mg/L	T		<0.01 :	-	-	-	-	-
cis-1,2-Dichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
cis-1,3-Dichloropropene	mg/L	T		<0.01 :	-	-	-	-	-
Dibromochloromethane	mg/L	T		<0.01 :	-	-	-	-	-
Dichlorodifluoromethane	mg/L	T		<0.01 :	-	-	-	-	-
Ethylbenzene	mg/L	T		<0.01 :	-	-	-	-	-
Methylene chloride	mg/L	T		<0.01 :	-	-	-	-	-
Styrene	mg/L	T		<0.01 :	-	-	-	-	-
Tetrachloroethene	mg/L	T		<0.01 :	-	-	-	-	-
Toluene	mg/L	T		<0.01 :	-	-	-	-	-
Total Xylene	mg/L	T		<0.01 :	-	-	-	-	-
trans-1,2-Dichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
trans-1,3-Dichloropropene	mg/L	T		<0.01 :	-	-	-	-	-
Trichloroethene	mg/L	T		<0.01 :	-	-	-	-	-
Trichlorofluoromethane	mg/L	T		<0.01 :	-	-	-	-	-
Vinyl chloride	mg/L	T		<0.01 :	-	-	-	-	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		<0.01 :	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	T		<0.026 :	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2,4-Dichlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2,4-Dimethylphenol	mg/L	T		<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-7	RR-7	RR-7	RR-7	RR-7	RR-7
			Sample Date	10/4/2002	10/4/2002	3/21/2003	3/21/2003	7/15/2003	7/15/2003
			Sample ID	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-7-T01N-SFW	RR-7-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2,4-Dinitrophenol	mg/L	T		<0.026 :	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	T		<0.01 :	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	T		<0.01 :	-	-	-	-	-
2-Chloronaphthalene	mg/L	T		<0.01 :	-	-	-	-	-
2-Chlorophenol	mg/L	T		<0.01 :	-	-	-	-	-
2-Methylnaphthalene	mg/L	T		<0.01 :	-	-	-	-	-
2-Methylphenol	mg/L	T		<0.01 :	-	-	-	-	-
2-Nitroaniline	mg/L	T		<0.026 :	-	-	-	-	-
2-Nitrophenol	mg/L	T		<0.01 :	-	-	-	-	-
3,3-Dichlorobenzidine	mg/L	T		<0.01 :	-	-	-	-	-
3-Nitroaniline	mg/L	T		<0.026 :	-	-	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	T		<0.026 :	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	T		<0.01 :	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	T		<0.01 :	-	-	-	-	-
4-Chloroaniline	mg/L	T		<0.01 :	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	T		<0.01 :	-	-	-	-	-
4-Methylphenol	mg/L	T		<0.01 :	-	-	-	-	-
4-Nitroaniline	mg/L	T		<0.026 :	-	-	-	-	-
4-Nitrophenol	mg/L	T		<0.026 :	-	-	-	-	-
Acenaphthene	mg/L	T		<0.01 :	-	-	-	-	-
Acenaphthylene	mg/L	T		<0.01 :	-	-	-	-	-
Anthracene	mg/L	T		<0.01 :	-	-	-	-	-
Benzaldehyde	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(a)anthracene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(a)pyrene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	T		<0.01 :	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	T		<0.01 :	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/L	T		<0.01 :	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/L	T		<0.01 :	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T		<0.01 :	-	-	-	-	-
Butyl benzyl phthalate	mg/L	T		<0.01 :	-	-	-	-	-
Carbazole	mg/L	T		<0.01 :	-	-	-	-	-
Chrysene	mg/L	T		<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID						
			RR-7 10/4/2002 RR-7-T01N-SFW	RR-7 10/4/2002 RR-7-D01N-SFW	RR-7 3/21/2003 RR-7-T01N-SFW	RR-7 3/21/2003 RR-7-D01N-SFW	RR-7 7/15/2003 RR-7-T01N-SFW	RR-7 7/15/2003 RR-7-D01N-SFW
			SWR	SWR	SWR	SWR	SWR	SWR
Dibenz(a,h)anthracene	mg/L	T	<0.01 :	-	-	-	-	-
Dibenzofuran	mg/L	T	<0.01 :	-	-	-	-	-
Dichlorodiisopropyl ether	mg/L	T	<0.01 :	-	-	-	-	-
Diethylphthalate	mg/L	T	<0.01 :	-	-	-	-	-
Dimethylphthalate	mg/L	T	<0.01 :	-	-	-	-	-
Di-n-Butyl phthalate	mg/L	T	<0.01 :	-	-	-	-	-
Di-n-Octyl phthalate	mg/L	T	<0.01 :	-	-	-	-	-
Fluoranthene	mg/L	T	<0.01 :	-	-	-	-	-
Fluorene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachlorobenzene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachlorobutadiene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	T	<0.01 :	-	-	-	-	-
Hexachloroethane	mg/L	T	<0.01 :	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T	<0.01 :	-	-	-	-	-
Isophorone	mg/L	T	<0.01 :	-	-	-	-	-
Naphthalene	mg/L	T	<0.01 :	-	-	-	-	-
Nitrobenzene	mg/L	T	<0.01 :	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/L	T	<0.01 :	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	T	<0.01 :	-	-	-	-	-
Pentachlorophenol	mg/L	T	<0.026 :	-	-	-	-	-
Phenanthrene	mg/L	T	<0.01 :	-	-	-	-	-
Phenol	mg/L	T	<0.01 :	-	-	-	-	-
Pyrene	mg/L	T	<0.01 :	-	-	-	-	-
Explosives								
2,4,6-Trinitrotoluene	mg/L	T	<0.00025 :	-	-	-	-	-
2,6-Pyridinediamine,	mg/L	T	<0.00025 J	-	-	-	-	-
Cyclotetramethylenetetranitramine	mg/L	T	<0.00025 :	-	-	-	-	-
Cyclotrimethylenetrinitramine	mg/L	T	<0.00025 :	-	-	-	-	-
Pentaerythritol tetranitrate	mg/L	T	<0.01 :	-	-	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-7	RR-7	RR-8	RR-8	RR-8	RR-8
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/21/2003	3/21/2003
			Sample ID	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW
			Exposure Area	SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		9.57 :	-	9.78 :	-	10.63 :	-
Eh	millivolts	T		317.1 :	-	310.3 :	-	259.9 :	-
Flow	cfs	T		15.9 :	-	13.12 :	-	6.8 :	-
pH	SU	T		8. J	-	7.53 :	-	7.6 :	-
Specific Conductance	uS/cm	T		281. :	-	316. :	-	337. :	-
Temperature	Celsius	T		8.43 :	-	8.92 :	-	1.44 :	-
Turbidity	NTU	T		7. :	-	11.5 :	-	78.9 :	-
General Chemistry									
Ammonia	mg/L	T		<0.04 :	-	<0.04 :	-	<0.06 J	-
Bicarbonate (as CaCO3)	mg/L	T		67.3 :	-	65.5 :	-	59. :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.3 J	-	<1.4 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		2.7 :	-	3.3 :	-	6.6 :	-
Fluoride	mg/L	T		0.31 :	-	<0.36 :	-	0.44 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.36 J	-	<0.5 J	-	0.54 :	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 J	-	0.014 :	-
Phosphate, Ortho As P	mg/L	T		26.7 J	-	0.018 J	-	<0.01 :	-
Phosphorus	mg/L	T		0.032 J	-	<0.096 :	-	0.098 :	-
Sulfate	mg/L	T		69.3 J	-	92.4 :	-	86.1 :	-
Total Alkalinity	mg/L	T		67.3 :	-	65.5 :	-	59. :	-
Total Dissolved Solids	mg/L	T		176. :	-	1650. :	-	200. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.32 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<1. :	-	<1. :	-	1.6 :	-
Total Suspended Solids	mg/L	T		7. :	-	29.6 :	-	17.8 :	-
Laboratory Parameters									
pH	SU	T		8. J	-	7.53 :	-	7.6 :	-
Specific Conductance	umhos/cm	T		273. J	-	-	-	278. :	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 J	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		130. :	-	149. :	-	159. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-7	RR-7	RR-8	RR-8	RR-8	RR-8
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/21/2003	3/21/2003
			Sample ID	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		-	131. :	-	153. :	-	174. :
Metals									
Aluminum	mg/L	T		0.556 :	-	0.811 :	-	<1.36 :	-
Aluminum	mg/L	D		-	0.178 :	-	0.13 :	-	0.126 :
Antimony	mg/L	T		<0.00011 :	-	<0.0002 :	-	<0.0006 :	-
Antimony	mg/L	D		-	<0.00011 :	-	<0.0002 :	-	<0.0006 :
Arsenic	mg/L	T		<0.00038 :	-	0.00031 :	-	<0.0004 :	-
Arsenic	mg/L	D		-	<0.00038 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		0.0383 :	-	0.0386 :	-	0.0437 :	-
Barium	mg/L	D		-	0.0356 :	-	0.032 :	-	0.0364 :
Beryllium	mg/L	T		<0.00047 :	-	<0.0002 :	-	<0.0003 J	-
Beryllium	mg/L	D		-	<0.00047 :	-	<0.0002 :	-	<0.0003 J
Boron	mg/L	T		<0.0075 :	-	<0.0048 :	-	<0.0084 :	-
Boron	mg/L	D		-	<0.0068 :	-	<0.0048 :	-	<0.0084 :
Cadmium	mg/L	T		0.00024 :	-	0.00026 :	-	<0.0005 :	-
Cadmium	mg/L	D		-	0.00023 :	-	0.00014 :	-	<0.0002 :
Calcium	mg/L	T		39.3 :	-	44.4 :	-	45.5 :	-
Calcium	mg/L	D		-	39.7 :	-	45.3 :	-	50.2 :
Chromium	mg/L	T		<0.001 :	-	<0.0046 :	-	<0.0011 :	-
Chromium	mg/L	D		-	0.0017 :	-	<0.0046 :	-	<0.001 :
Cobalt	mg/L	T		0.0021 :	-	<0.0022 :	-	<0.0038 :	-
Cobalt	mg/L	D		-	0.0026 :	-	<0.0022 :	-	0.0038 :
Copper	mg/L	T		0.0076 :	-	0.0134 :	-	0.0182 :	-
Copper	mg/L	D		-	<0.0027 :	-	<0.0031 :	-	0.0043 :
Iron	mg/L	T		0.303 :	-	0.536 :	-	0.635 :	-
Iron	mg/L	D		-	<0.044 :	-	<0.0226 :	-	<0.422 :
Lead	mg/L	T		<0.00047 :	-	0.0048 :	-	0.0015 :	-
Lead	mg/L	D		-	<0.00004 :	-	<0.0001 :	-	<0.0002 :
Magnesium	mg/L	T		7.66 :	-	9.39 :	-	11. :	-
Magnesium	mg/L	D		-	7.75 :	-	9.59 :	-	11.9 :
Manganese	mg/L	T		0.144 :	-	0.211 :	-	0.284 :	-
Manganese	mg/L	D		-	0.139 :	-	0.197 :	-	0.284 :
Mercury	mg/L	T		<0.00006 :	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.00006 :	-	<0.0001 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-7	RR-7	RR-8	RR-8	RR-8	RR-8
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/21/2003	3/21/2003
			Sample ID	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW
			Exposure Area	SWR	SWR	SWR	SWR	SWR	SWR
Molybdenum	mg/L	T		<0.00094 :	-	0.0017 :	-	<0.0023 :	-
Molybdenum	mg/L	D		-	<0.0011 :	-	0.0012 :	-	<0.0023 :
Nickel	mg/L	T		0.0075 :	-	0.0085 :	-	0.0103 :	-
Nickel	mg/L	D		-	0.0073 :	-	0.0064 :	-	0.0098 :
Potassium	mg/L	T		1.18 J	-	1.47 :	-	1.57 :	-
Potassium	mg/L	D		-	1.17 J	-	1.49 :	-	1.58 :
Selenium	mg/L	T		<0.00073 J	-	0.0002 :	-	<0.001 :	-
Selenium	mg/L	D		-	<0.00073 J	-	<0.0002 :	-	<0.001 :
Silver	mg/L	T		<0.0002 :	-	<0.0001 :	-	<0.0002 :	-
Silver	mg/L	D		-	<0.0002 :	-	<0.0001 :	-	<0.0002 :
Sodium	mg/L	T		3.97 :	-	5.28 :	-	13.7 :	-
Sodium	mg/L	D		-	4. :	-	5.31 :	-	<9.16 :
Thallium	mg/L	T		<0.00001 :	-	<0.0001 :	-	<0.0002 :	-
Thallium	mg/L	D		-	<0.00001 :	-	<0.0001 :	-	<0.0002 :
Vanadium	mg/L	T		0.00064 :	-	0.00096 :	-	0.00048 :	-
Vanadium	mg/L	D		-	<0.00045 :	-	<0.0001 :	-	<0.0002 :
Zinc	mg/L	T		<0.0441 :	-	<0.0423 :	-	0.0763 :	-
Zinc	mg/L	D		-	<0.0245 :	-	<0.0154 :	-	<0.039 :
Volatile Organics									
1,1,1-Trichloroethane	mg/L	T		-	-	<0.01 :	-	-	-
1,1,2,2-Tetrachloroethane	mg/L	T		-	-	<0.01 :	-	-	-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T		-	-	<0.01 :	-	-	-
1,1,2-Trichloroethane	mg/L	T		-	-	<0.01 :	-	-	-
1,1-Dichloroethane	mg/L	T		-	-	<0.01 :	-	-	-
1,1-Dichloroethene	mg/L	T		-	-	<0.01 :	-	-	-
1,2,4-Trichlorobenzene	mg/L	T		-	-	<0.01 :	-	-	-
1,2-Dibromo-3-chloropropane	mg/L	T		-	-	<0.01 :	-	-	-
1,2-Dichlorobenzene	mg/L	T		-	-	<0.01 :	-	-	-
1,2-Dichloroethane	mg/L	T		-	-	<0.01 :	-	-	-
1,2-Dichloroethene (total)	mg/L	T		-	-	<0.01 :	-	-	-
1,2-Dichloropropane	mg/L	T		-	-	<0.01 :	-	-	-
1,3-Dichlorobenzene	mg/L	T		-	-	<0.01 :	-	-	-
1,4-Dichlorobenzene	mg/L	T		-	-	<0.01 :	-	-	-
2-Butanone	mg/L	T		-	-	<0.01 :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-7	RR-7	RR-8	RR-8	RR-8	RR-8
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/21/2003	3/21/2003
			Sample ID	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2-Hexanone	mg/L	T		-	-	<0.01 :	-	-	-
4-Methyl-2-pentanone	mg/L	T		-	-	<0.01 :	-	-	-
Acetone	mg/L	T		-	-	<0.01 :	-	-	-
Benzene	mg/L	T		-	-	<0.01 :	-	-	-
Bromodichloromethane	mg/L	T		-	-	<0.01 :	-	-	-
Bromoform	mg/L	T		-	-	<0.01 :	-	-	-
Bromomethane	mg/L	T		-	-	<0.01 :	-	-	-
Carbon disulfide	mg/L	T		-	-	<0.01 :	-	-	-
Carbon tetrachloride	mg/L	T		-	-	<0.01 :	-	-	-
Chlorobenzene	mg/L	T		-	-	<0.01 :	-	-	-
Chloroethane	mg/L	T		-	-	<0.01 :	-	-	-
Chloroform	mg/L	T		-	-	<0.01 :	-	-	-
Chloromethane	mg/L	T		-	-	<0.01 :	-	-	-
cis-1,2-Dichloroethene	mg/L	T		-	-	<0.01 :	-	-	-
cis-1,3-Dichloropropene	mg/L	T		-	-	<0.01 :	-	-	-
Dibromochloromethane	mg/L	T		-	-	<0.01 :	-	-	-
Dichlorodifluoromethane	mg/L	T		-	-	<0.01 :	-	-	-
Ethylbenzene	mg/L	T		-	-	<0.01 :	-	-	-
Methylene chloride	mg/L	T		-	-	<0.01 :	-	-	-
Styrene	mg/L	T		-	-	<0.01 :	-	-	-
Tetrachloroethene	mg/L	T		-	-	<0.01 :	-	-	-
Toluene	mg/L	T		-	-	<0.01 :	-	-	-
Total Xylene	mg/L	T		-	-	<0.01 :	-	-	-
trans-1,2-Dichloroethene	mg/L	T		-	-	<0.01 :	-	-	-
trans-1,3-Dichloropropene	mg/L	T		-	-	<0.01 :	-	-	-
Trichloroethene	mg/L	T		-	-	<0.01 :	-	-	-
Trichlorofluoromethane	mg/L	T		-	-	<0.01 :	-	-	-
Vinyl chloride	mg/L	T		-	-	<0.01 :	-	-	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		-	-	<0.01 :	-	-	-
2,4,5-Trichlorophenol	mg/L	T		-	-	<0.026 :	-	-	-
2,4,6-Trichlorophenol	mg/L	T		-	-	<0.01 :	-	-	-
2,4-Dichlorophenol	mg/L	T		-	-	<0.01 :	-	-	-
2,4-Dimethylphenol	mg/L	T		-	-	<0.01 :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-7	RR-7	RR-8	RR-8	RR-8	RR-8
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/21/2003	3/21/2003
			Sample ID	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
2,4-Dinitrophenol	mg/L	T		-	-	<0.026 :	-	-	-
2,4-Dinitrotoluene	mg/L	T		-	-	<0.01 :	-	-	-
2,6-Dinitrotoluene	mg/L	T		-	-	<0.01 :	-	-	-
2-Chloronaphthalene	mg/L	T		-	-	<0.01 :	-	-	-
2-Chlorophenol	mg/L	T		-	-	<0.01 :	-	-	-
2-Methylnaphthalene	mg/L	T		-	-	<0.01 :	-	-	-
2-Methylphenol	mg/L	T		-	-	<0.01 :	-	-	-
2-Nitroaniline	mg/L	T		-	-	<0.026 :	-	-	-
2-Nitrophenol	mg/L	T		-	-	<0.01 :	-	-	-
3,3-Dichlorobenzidine	mg/L	T		-	-	<0.01 :	-	-	-
3-Nitroaniline	mg/L	T		-	-	<0.026 :	-	-	-
4,6-Dinitro-2-methylphenol	mg/L	T		-	-	<0.026 :	-	-	-
4-Bromophenyl phenyl ether	mg/L	T		-	-	<0.01 :	-	-	-
4-Chloro-3-methylphenol	mg/L	T		-	-	<0.01 :	-	-	-
4-Chloroaniline	mg/L	T		-	-	<0.01 :	-	-	-
4-Chlorophenyl phenyl ether	mg/L	T		-	-	<0.01 :	-	-	-
4-Methylphenol	mg/L	T		-	-	<0.01 :	-	-	-
4-Nitroaniline	mg/L	T		-	-	<0.026 :	-	-	-
4-Nitrophenol	mg/L	T		-	-	<0.026 :	-	-	-
Acenaphthene	mg/L	T		-	-	<0.01 :	-	-	-
Acenaphthylene	mg/L	T		-	-	<0.01 :	-	-	-
Anthracene	mg/L	T		-	-	<0.01 :	-	-	-
Benzaldehyde	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(a)anthracene	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(a)pyrene	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(b)fluoranthene	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(g,h,i)perylene	mg/L	T		-	-	<0.01 :	-	-	-
Benzo(k)fluoranthene	mg/L	T		-	-	<0.01 :	-	-	-
Bis(2-chloroethoxy)methane	mg/L	T		-	-	<0.01 :	-	-	-
Bis(2-chloroethyl)ether	mg/L	T		-	-	<0.01 :	-	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T		-	-	<0.01 :	-	-	-
Butyl benzyl phthalate	mg/L	T		-	-	<0.01 :	-	-	-
Carbazole	mg/L	T		-	-	<0.01 :	-	-	-
Chrysene	mg/L	T		-	-	<0.01 :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-7	RR-7	RR-8	RR-8	RR-8	RR-8
			Sample Date	9/24/2003	9/24/2003	10/4/2002	10/4/2002	3/21/2003	3/21/2003
			Sample ID	RR-7-T01N-SFW	RR-7-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Dibenz(a,h)anthracene	mg/L	T		-	-	<0.01 :	-	-	-
Dibenzofuran	mg/L	T		-	-	<0.01 :	-	-	-
Dichlorodiisopropyl ether	mg/L	T		-	-	<0.01 :	-	-	-
Diethylphthalate	mg/L	T		-	-	<0.01 :	-	-	-
Dimethylphthalate	mg/L	T		-	-	<0.01 :	-	-	-
Di-n-Butyl phthalate	mg/L	T		-	-	<0.01 :	-	-	-
Di-n-Octyl phthalate	mg/L	T		-	-	<0.01 :	-	-	-
Fluoranthene	mg/L	T		-	-	<0.01 :	-	-	-
Fluorene	mg/L	T		-	-	<0.01 :	-	-	-
Hexachlorobenzene	mg/L	T		-	-	<0.01 :	-	-	-
Hexachlorobutadiene	mg/L	T		-	-	<0.01 :	-	-	-
Hexachlorocyclopentadiene	mg/L	T		-	-	<0.01 :	-	-	-
Hexachloroethane	mg/L	T		-	-	<0.01 :	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T		-	-	<0.01 :	-	-	-
Isophorone	mg/L	T		-	-	<0.01 :	-	-	-
Naphthalene	mg/L	T		-	-	<0.01 :	-	-	-
Nitrobenzene	mg/L	T		-	-	<0.01 :	-	-	-
N-Nitrosodi-n-propylamine	mg/L	T		-	-	<0.01 :	-	-	-
N-Nitrosodiphenylamine	mg/L	T		-	-	<0.01 :	-	-	-
Pentachlorophenol	mg/L	T		-	-	<0.026 :	-	-	-
Phenanthrene	mg/L	T		-	-	<0.01 :	-	-	-
Phenol	mg/L	T		-	-	<0.01 :	-	-	-
Pyrene	mg/L	T		-	-	<0.01 :	-	-	-
Explosives									
2,4,6-Trinitrotoluene	mg/L	T		-	-	<0.00025 :	-	-	-
2,6-Pyridinediamine,	mg/L	T		-	-	<0.00025 J	-	-	-
Cyclotetramethylenetetranitramine	mg/L	T		-	-	<0.00025 :	-	-	-
Cyclotrimethylenetrinitramine	mg/L	T		-	-	<0.00025 :	-	-	-
Pentaerythritol tetranitrate	mg/L	T		-	-	<0.01 :	-	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-8	RR-8	RR-8	RR-8	RR-8A	RR-8A
			Sample Date	7/15/2003	7/15/2003	9/24/2003	9/24/2003	10/4/2002	10/4/2002
			Sample ID	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8A-T01N-SFW	RR-8A-D01N-SFW
			Exposure Area	SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		8.53 :	-	10.01 :	-	11.08 :	-
Eh	millivolts	T		100.2 :	-	330.4 :	-	345.8 :	-
Flow	cfs	T		17.1 :	-	14.1 :	-	11.44 :	-
pH	SU	T		8.3 J	-	8. J	-	6.69 :	-
Specific Conductance	uS/cm	T		245. :	-	285. :	-	321. :	-
Temperature	Celsius	T		14.59 :	-	7.08 :	-	5.01 :	-
Turbidity	NTU	T		0. :	-	10.2 :	-	16.5 :	-
General Chemistry									
Ammonia	mg/L	T		0.054 :	-	<0.04 :	-	<0.035 :	-
Bicarbonate (as CaCO3)	mg/L	T		61.3 :	-	65.5 :	-	65.5 :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 J	-	<1.4 J	-	<1.3 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		2.6 J	-	2.9 :	-	3.2 :	-
Fluoride	mg/L	T		<0.1 J	-	0.33 :	-	<0.39 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<0.4 J	-	0.36 J	-	<0.5 J	-
Nitrite	mg/L	T		0.0057 :	-	<0.005 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	<0.01 J	-	<0.01 J	-
Phosphorus	mg/L	T		0.033 :	-	0.028 :	-	<0.22 :	-
Sulfate	mg/L	T		61. :	-	73.7 J	-	92.8 :	-
Total Alkalinity	mg/L	T		61.3 :	-	65.5 :	-	65.5 :	-
Total Dissolved Solids	mg/L	T		124. :	-	192. :	-	217. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		1.6 :	-	1.3 :	-	1.2 :	-
Total Suspended Solids	mg/L	T		5.7 :	-	8.9 :	-	29.8 :	-
Laboratory Parameters									
pH	SU	T		8.3 J	-	8. J	-	6.69 :	-
Specific Conductance	umhos/cm	T		263. J	-	253. J	-	-	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 J	-
Physical Properties									
Hardness	mg/L	T		119. :	-	141. :	-	150. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-8	RR-8	RR-8	RR-8	RR-8A	RR-8A
			Sample Date	7/15/2003	7/15/2003	9/24/2003	9/24/2003	10/4/2002	10/4/2002
			Sample ID	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8-T01N-SFW	RR-8-D01N-SFW	RR-8A-T01N-SFW	RR-8A-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		-	118. :	-	132. :	-	156. :
Metals									
Aluminum	mg/L	T		0.436 :	-	0.592 :	-	0.956 :	-
Aluminum	mg/L	D		-	0.216 :	-	0.143 :	-	0.0927 :
Antimony	mg/L	T		<0.0005 :	-	<0.001 :	-	<0.0002 :	-
Antimony	mg/L	D		-	<0.0005 :	-	<0.00043 :	-	<0.0002 :
Arsenic	mg/L	T		<0.0002 :	-	<0.00038 :	-	0.00023 :	-
Arsenic	mg/L	D		-	<0.0002 :	-	<0.00038 :	-	<0.0002 :
Barium	mg/L	T		0.0327 :	-	0.042 :	-	0.0409 :	-
Barium	mg/L	D		-	0.0306 :	-	0.0354 :	-	0.0314 :
Beryllium	mg/L	T		<0.0002 :	-	<0.00047 :	-	<0.0003 :	-
Beryllium	mg/L	D		-	<0.0002 :	-	<0.00047 :	-	<0.0003 :
Boron	mg/L	T		0.0073 :	-	<0.0075 :	-	<0.005 :	-
Boron	mg/L	D		-	0.007 :	-	<0.0085 :	-	<0.005 :
Cadmium	mg/L	T		<0.0002 :	-	0.00025 :	-	0.00031 :	-
Cadmium	mg/L	D		-	<0.0002 :	-	0.00022 :	-	0.00018 :
Calcium	mg/L	T		35.6 :	-	42.7 :	-	44.2 :	-
Calcium	mg/L	D		-	35.3 :	-	40. :	-	45.8 :
Chromium	mg/L	T		<0.0014 :	-	<0.001 :	-	<0.00065 :	-
Chromium	mg/L	D		-	<0.0014 :	-	<0.001 :	-	<0.00034 :
Cobalt	mg/L	T		<0.002 :	-	0.0023 :	-	0.0027 :	-
Cobalt	mg/L	D		-	<0.002 :	-	0.0022 :	-	0.0021 :
Copper	mg/L	T		0.0075 :	-	0.0077 :	-	0.0132 :	-
Copper	mg/L	D		-	0.0042 :	-	0.0028 :	-	<0.0023 :
Iron	mg/L	T		0.143 :	-	0.396 :	-	0.816 :	-
Iron	mg/L	D		-	<0.0333 :	-	<0.044 :	-	<0.0378 :
Lead	mg/L	T		0.00039 :	-	0.00091 :	-	0.0011 :	-
Lead	mg/L	D		-	<0.0001 :	-	<0.00004 :	-	<0.0001 :
Magnesium	mg/L	T		7.28 :	-	8.38 :	-	9.74 :	-
Magnesium	mg/L	D		-	7.21 :	-	7.8 :	-	10.1 :
Manganese	mg/L	T		0.0856 :	-	0.151 :	-	0.217 :	-
Manganese	mg/L	D		-	0.0774 :	-	0.131 :	-	0.203 :
Mercury	mg/L	T		<0.0001 :	-	<0.00006 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.00006 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-8		RR-8		RR-8		RR-8		RR-8A		RR-8A	
			Sample Date	7/15/2003		7/15/2003		9/24/2003		9/24/2003		10/4/2002		10/4/2002	
			Sample ID	RR-8-T01N-SFW		RR-8-D01N-SFW		RR-8-T01N-SFW		RR-8-D01N-SFW		RR-8A-T01N-SFW		RR-8A-D01N-SFW	
				SWR		SWR		SWR		SWR		SWR		SWR	
Molybdenum	mg/L	T		0.0024	:	-		<0.002	:	-		0.00092	:	-	
Molybdenum	mg/L	D		-		<0.0017	:	-		<0.0015	:	-		0.0013	:
Nickel	mg/L	T		0.0047	:	-		0.0076	:	-		0.0081	:	-	
Nickel	mg/L	D		-		0.0033	:	-		0.0069	:	-		0.0067	:
Potassium	mg/L	T		1.23	:	-		1.3	:	-		1.35	:	-	
Potassium	mg/L	D		-		1.2	:	-		1.16	:	-		1.32	:
Selenium	mg/L	T		<0.0016	:	-		<0.00073	:	-		0.0003	:	-	
Selenium	mg/L	D		-		<0.0016	:	-		<0.00073	:	-		0.00049	:
Silver	mg/L	T		<0.0001	J	-		<0.0002	:	-		<0.0001	:	-	
Silver	mg/L	D		-		<0.0001	J	-		<0.0002	:	-		<0.0001	:
Sodium	mg/L	T		5.1	:	-		4.42	:	-		5.24	:	-	
Sodium	mg/L	D		-		4.82	:	-		4.18	:	-		5.67	:
Thallium	mg/L	T		<0.0001	:	-		<0.00001	:	-		<0.0001	:	-	
Thallium	mg/L	D		-		<0.0001	:	-		<0.00001	:	-		<0.0001	:
Vanadium	mg/L	T		<0.00055	:	-		0.00034	:	-		0.00037	:	-	
Vanadium	mg/L	D		-		<0.0007	:	-		<0.00028	:	-		<0.0001	:
Zinc	mg/L	T		0.0237	:	-		0.0414	:	-		0.0337	J	-	
Zinc	mg/L	D		-		<0.0093	:	-		0.0196	:	-		<0.0073	J

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-8A	RR-8A	RR-8A	RR-8A	RR-8A	RR-8A
			Sample Date	3/21/2003	3/21/2003	7/15/2003	7/15/2003	9/24/2003	9/24/2003
			Sample ID	RR-8A-T01N-SFW	RR-8A-D01N-SFW	RR-8A-T01N-SFW	RR-8A-D01N-SFW	RR-8A-T01N-SFW	RR-8A-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Field Measurements									
DO	mg/L	T		10.56 :	-	8.68 :	-	8.42 :	-
Eh	millivolts	T		257.3 :	-	111. :	-	157.9 :	-
Flow	cfs	T		6.7 :	-	18.7 :	-	16. :	-
pH	SU	T		7.7 :	-	8.4 J	-	8.2 J	-
Specific Conductance	uS/cm	T		350. :	-	245. :	-	326. :	-
Temperature	Celsius	T		1.08 :	-	13.61 :	-	12.77 :	-
Turbidity	NTU	T		76.1 :	-	0. :	-	4.8 :	-
General Chemistry									
Ammonia	mg/L	T		<0.077 J	-	0.09 :	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		58.8 :	-	62. :	-	64.8 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 :	-	<1.5 J	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		7. :	-	2.7 :	-	2.9 :	-
Fluoride	mg/L	T		0.42 :	-	<0.31 J	-	0.32 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.59 :	-	<1. J	-	0.35 J	-
Nitrite	mg/L	T		0.016 :	-	<0.005 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	<0.01 J	-	<0.01 :	-
Phosphorus	mg/L	T		0.11 :	-	0.036 :	-	0.026 :	-
Sulfate	mg/L	T		91.8 :	-	75. :	-	76.5 J	-
Total Alkalinity	mg/L	T		58.8 :	-	62. :	-	64.8 :	-
Total Dissolved Solids	mg/L	T		188. :	-	140. :	-	166. :	-
Total Kjeldahl Nitrogen	mg/L	T		0.32 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		1.1 :	-	1.2 :	-	1.2 :	-
Total Suspended Solids	mg/L	T		18.1 :	-	3.5 :	-	8.1 :	-
Laboratory Parameters									
pH	SU	T		7.7 :	-	8.4 J	-	8.2 J	-
Specific Conductance	umhos/cm	T		280. :	-	263. J	-	258. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		156. :	-	122. :	-	135. :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-8A	RR-8A	RR-8A	RR-8A	RR-8A	RR-8A
			Sample Date	3/21/2003	3/21/2003	7/15/2003	7/15/2003	9/24/2003	9/24/2003
			Sample ID	RR-8A-T01N-SFW	RR-8A-D01N-SFW	RR-8A-T01N-SFW	RR-8A-D01N-SFW	RR-8A-T01N-SFW	RR-8A-D01N-SFW
				SWR	SWR	SWR	SWR	SWR	SWR
Hardness	mg/L	D		-	155. :	-	119. :	-	132. :
Metals									
Aluminum	mg/L	T		<2.13 :	-	0.492 :	-	0.56 :	-
Aluminum	mg/L	D		-	<0.584 :	-	0.242 :	-	0.226 :
Antimony	mg/L	T		<0.0006 :	-	<0.0005 :	-	<0.00011 :	-
Antimony	mg/L	D		-	<0.0006 :	-	<0.0005 :	-	<0.00017 :
Arsenic	mg/L	T		<0.0004 :	-	<0.0002 :	-	<0.00038 :	-
Arsenic	mg/L	D		-	<0.0004 :	-	<0.0002 :	-	<0.00038 :
Barium	mg/L	T		0.0453 :	-	0.034 :	-	0.0393 :	-
Barium	mg/L	D		-	0.0345 :	-	0.0308 :	-	0.0351 :
Beryllium	mg/L	T		<0.0003 J	-	<0.0002 :	-	<0.00047 :	-
Beryllium	mg/L	D		-	<0.0003 J	-	<0.0002 :	-	<0.00047 :
Boron	mg/L	T		<0.0084 :	-	0.0069 :	-	<0.0063 :	-
Boron	mg/L	D		-	<0.0084 :	-	0.0064 :	-	<0.0079 :
Cadmium	mg/L	T		<0.0005 :	-	<0.0002 :	-	0.00021 :	-
Cadmium	mg/L	D		-	<0.0005 :	-	<0.0002 :	-	0.00018 :
Calcium	mg/L	T		44.8 :	-	36.4 :	-	40.8 :	-
Calcium	mg/L	D		-	44.6 :	-	35.6 :	-	39.9 :
Chromium	mg/L	T		<0.0012 :	-	<0.0014 :	-	<0.001 :	-
Chromium	mg/L	D		-	<0.0011 :	-	<0.0014 :	-	<0.001 :
Cobalt	mg/L	T		0.0044 :	-	<0.002 :	-	0.002 :	-
Cobalt	mg/L	D		-	<0.0038 :	-	<0.002 :	-	0.0021 :
Copper	mg/L	T		0.019 :	-	0.007 :	-	0.0072 :	-
Copper	mg/L	D		-	0.0036 :	-	0.0037 :	-	0.0029 :
Iron	mg/L	T		0.685 :	-	0.18 :	-	0.314 :	-
Iron	mg/L	D		-	<0.422 :	-	<0.0333 :	-	<0.044 :
Lead	mg/L	T		0.0011 :	-	0.00062 :	-	0.0006 :	-
Lead	mg/L	D		-	<0.0002 :	-	<0.00014 :	-	0.00006 :
Magnesium	mg/L	T		10.7 :	-	7.45 :	-	7.98 :	-
Magnesium	mg/L	D		-	10.6 :	-	7.28 :	-	7.77 :
Manganese	mg/L	T		0.296 :	-	0.0874 :	-	0.131 :	-
Manganese	mg/L	D		-	0.262 :	-	0.0732 :	-	0.119 :
Mercury	mg/L	T		<0.0001 :	-	0.00016 :	-	<0.00006 :	-
Mercury	mg/L	D		-	<0.0001 :	-	0.00015 :	-	<0.00006 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-8A		RR-8A		RR-8A		RR-8A		RR-8A		RR-8A	
			3/21/2003		3/21/2003		7/15/2003		7/15/2003		9/24/2003		9/24/2003	
			RR-8A-T01N-SFW		RR-8A-D01N-SFW		RR-8A-T01N-SFW		RR-8A-D01N-SFW		RR-8A-T01N-SFW		RR-8A-D01N-SFW	
			SWR		SWR		SWR		SWR		SWR		SWR	
Molybdenum	mg/L	T	<0.0023	:	-		0.0011	:	-		<0.0012	:	-	
Molybdenum	mg/L	D	-		<0.0023	:	-		0.0013	:	-		<0.0012	:
Nickel	mg/L	T	0.0119	:	-		0.0048	:	-		0.0067	:	-	
Nickel	mg/L	D	-		0.0091	:	-		0.0045	:	-		0.006	:
Potassium	mg/L	T	1.65	:	-		1.4	:	-		1.21	:	-	
Potassium	mg/L	D	-		1.48	:	-		1.29	:	-		1.14	J
Selenium	mg/L	T	<0.001	:	-		<0.0008	:	-		<0.00073	:	-	
Selenium	mg/L	D	-		<0.001	:	-		<0.0008	:	-		<0.00073	:
Silver	mg/L	T	<0.0002	:	-		<0.0001	J	-		<0.0002	:	-	
Silver	mg/L	D	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Sodium	mg/L	T	11.5	:	-		4.94	:	-		4.18	:	-	
Sodium	mg/L	D	-		<9.16	:	-		4.47	:	-		4.	:
Thallium	mg/L	T	<0.0002	:	-		<0.0001	:	-		<0.00001	:	-	
Thallium	mg/L	D	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Vanadium	mg/L	T	0.00047	:	-		0.00021	:	-		0.00048	:	-	
Vanadium	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.00029	:
Zinc	mg/L	T	0.0863	:	-		0.0285	:	-		0.0333	:	-	
Zinc	mg/L	D	-		<0.039	:	-		<0.0067	:	-		0.0151	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			2/2/2003	2/2/2003	2/9/2003	2/9/2003	2/9/2003	3/5/2003
			RR-DS-SPRING13-T01N-SFW UDS	RR-DS-SPRING13-D01N-SFW UDS	RR-DSSPRING13-T01N-SFW UDS	RR-DS-SPRING13-T01N-SFW UDS	RR-DSSPRING13-D01N-SFW UDS	RR-DS-SPRING13-T01N-SFW UDS
Field Measurements								
DO	mg/L	T	9.94 :	-	-	9.45 :	-	10.86 :
Eh	millivolts	T	362. :	-	-	225.1 :	-	327.8 :
Flow	cfs	T	4.46 :	-	-	3.92 :	-	9.37 :
pH	SU	T	6.55 :	-	-	6.15 :	-	7.17 :
Specific Conductance	uS/cm	T	481. :	-	-	466. :	-	474. :
Temperature	Celsius	T	16.8 :	-	-	1.87 :	-	2.29 :
Turbidity	NTU	T	17. :	-	-	0. :	-	46.6 :
General Chemistry								
Ammonia	mg/L	T	0.1 :	-	0.051 :	-	-	<0.052 J
Bicarbonate (as CaCO3)	mg/L	T	37.5 :	-	40.1 :	-	-	43. :
Biochemical Oxygen Demand	mg/L	T	<1.5 J	-	-	-	-	<1.6 J
Carbonate (as CaCO3)	mg/L	T	<1. :	-	<1. :	-	-	<1. :
Chemical Oxygen Demand	mg/L	T	<20. J	-	<20. J	-	-	<20. :
Chloride	mg/L	T	4.4 :	-	5. :	-	-	5.6 :
Fluoride	mg/L	T	1.2 J	-	1.1 J	-	-	1.1 :
Hydroxide (as CaCO3)	mg/L	T	<1. :	-	<1. :	-	-	<1. :
Nitrate	mg/L	T	0.84 :	-	1.1 J	-	-	0.77 :
Nitrite	mg/L	T	<0.005 J	-	<0.005 J	-	-	<0.005 :
Phosphate, Ortho As P	mg/L	T	<0.01 J	-	0.44 J	-	-	<0.01 :
Phosphorus	mg/L	T	0.035 :	-	0.073 J	-	-	0.025 :
Sulfate	mg/L	T	196. :	-	167. :	-	-	179. J
Total Alkalinity	mg/L	T	37.5 :	-	40.1 :	-	-	43. :
Total Dissolved Solids	mg/L	T	371. :	-	317. :	-	-	326. :
Total Kjeldahl Nitrogen	mg/L	T	<0.24 :	-	0.57 :	-	-	<0.24 :
Total Organic Carbon	mg/L	T	<1. :	-	<1. :	-	-	1.2 :
Total Suspended Solids	mg/L	T	13.6 :	-	15.1 :	-	-	11.4 :
Laboratory Parameters								
pH	SU	T	6.55 :	-	-	6.15 :	-	7.17 :
Inorganics								
Cyanide	mg/L	T	<0.01 :	-	<0.01 :	-	-	<0.01 :
Physical Properties								
Hardness	mg/L	T	238. :	-	249. :	-	-	239. :
Hardness	mg/L	D	-	235. :	-	-	235. :	-

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-DS-SPRING13 2/2/2003 RR-DS-SPRING13-T01N-SFW UDS T	RR-DS-SPRING13 2/2/2003 RR-DS-SPRING13-D01N-SFW UDS D	RR-DS-SPRING13 2/9/2003 RR-DSSPRING13-T01N-SFW UDS T	RR-DS-SPRING13 2/9/2003 RR-DS-SPRING13-T01N-SFW UDS D	RR-DS-SPRING13 2/9/2003 RR-DSSPRING13-D01N-SFW UDS D	RR-DS-SPRING13 3/5/2003 RR-DS-SPRING13-T01N-SFW UDS T
Metals								
Aluminum	mg/L	T	2.96 :	-	2.7 :	-	-	2.08 J
Aluminum	mg/L	D	-	0.279 J	-	-	<0.119 J	-
Antimony	mg/L	T	<0.0006 J	-	<0.0006 :	-	-	<0.0006 :
Antimony	mg/L	D	-	<0.0006 J	-	-	<0.0006 :	-
Arsenic	mg/L	T	<0.0004 :	-	<0.0004 :	-	-	<0.0004 J
Arsenic	mg/L	D	-	<0.0002 J	-	-	<0.0002 J	-
Barium	mg/L	T	0.0334 :	-	0.0344 :	-	-	0.037 :
Barium	mg/L	D	-	0.0318 :	-	-	0.0323 :	-
Beryllium	mg/L	T	0.00062 :	-	0.00046 :	-	-	0.0006 :
Beryllium	mg/L	D	-	<0.0002 :	-	-	<0.0002 :	-
Boron	mg/L	T	<0.006 :	-	<0.0074 :	-	-	<0.0075 :
Boron	mg/L	D	-	<0.0057 :	-	-	<0.0068 :	-
Cadmium	mg/L	T	0.00092 :	-	0.00088 :	-	-	0.00086 J
Cadmium	mg/L	D	-	0.00084 J	-	-	0.00075 J	-
Calcium	mg/L	T	67.8 :	-	72.1 :	-	-	69. :
Calcium	mg/L	D	-	67.1 :	-	-	68.3 :	-
Chromium	mg/L	T	<0.0037 :	-	<0.0037 :	-	-	<0.0037 :
Chromium	mg/L	D	-	<0.0037 :	-	-	<0.0037 :	-
Cobalt	mg/L	T	0.0061 :	-	0.0055 :	-	-	0.0059 :
Cobalt	mg/L	D	-	0.0061 :	-	-	0.0054 :	-
Copper	mg/L	T	0.0322 :	-	0.027 :	-	-	0.0283 :
Copper	mg/L	D	-	0.0079 :	-	-	0.0059 :	-
Iron	mg/L	T	<0.525 :	-	<0.489 :	-	-	<0.299 :
Iron	mg/L	D	-	<0.266 :	-	-	<0.489 :	-
Lead	mg/L	T	0.00025 :	-	0.00035 :	-	-	0.00023 :
Lead	mg/L	D	-	<0.0002 :	-	-	<0.0002 :	-
Magnesium	mg/L	T	16.6 :	-	16.8 :	-	-	16.1 :
Magnesium	mg/L	D	-	16.3 :	-	-	15.8 :	-
Manganese	mg/L	T	0.496 :	-	0.429 :	-	-	0.408 :
Manganese	mg/L	D	-	0.485 :	-	-	0.401 :	-
Mercury	mg/L	T	<0.0001 :	-	<0.0001 :	-	-	<0.0001 :
Mercury	mg/L	D	-	<0.0001 :	-	-	<0.0001 :	-
Molybdenum	mg/L	T	<0.0015 :	-	<0.0026 :	-	-	<0.0046 J

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			Sample Date	2/2/2003	2/2/2003	2/9/2003	2/9/2003	2/9/2003	3/5/2003
			Sample ID	RR-DS-SPRING13-T01N-SFW UDS	RR-DS-SPRING13-D01N-SFW UDS	RR-DSSPRING13-T01N-SFW UDS	RR-DS-SPRING13-T01N-SFW UDS	RR-DSSPRING13-D01N-SFW UDS	RR-DS-SPRING13-T01N-SFW UDS
Molybdenum	mg/L	D		-	<0.0025 :	-	-	<0.002 :	-
Nickel	mg/L	T		0.0346 :	-	0.0338 :	-	-	0.0344 :
Nickel	mg/L	D		-	0.0338 :	-	-	0.033 :	-
Potassium	mg/L	T		1.46 :	-	1.73 :	-	-	1.7 :
Potassium	mg/L	D		-	1.39 :	-	-	1.67 :	-
Selenium	mg/L	T		<0.0016 :	-	<0.0016 :	-	-	<0.0016 J
Selenium	mg/L	D		-	<0.0016 :	-	-	<0.0016 :	-
Silver	mg/L	T		<0.0002 :	-	<0.0002 :	-	-	<0.0002 :
Silver	mg/L	D		-	<0.0002 :	-	-	<0.0002 :	-
Sodium	mg/L	T		5.94 :	-	4.47 :	-	-	10.9 :
Sodium	mg/L	D		-	6.66 :	-	-	7.5 :	-
Thallium	mg/L	T		<0.0002 :	-	<0.0002 :	-	-	<0.0002 :
Thallium	mg/L	D		-	<0.0002 :	-	-	<0.0002 :	-
Vanadium	mg/L	T		<0.0004 :	-	<0.0004 :	-	-	<0.0004 :
Vanadium	mg/L	D		-	<0.0004 :	-	-	<0.0004 :	-
Zinc	mg/L	T		0.254 :	-	0.249 :	-	-	0.24 :
Zinc	mg/L	D		-	0.232 :	-	-	0.213 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			Sample Date	3/5/2003	4/1/2003	4/9/2003	4/9/2003	5/5/2003	5/5/2003
			Sample ID	RR-DS-SPRING13-D01N-SFW	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-D01N-SFW	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-D01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Field Measurements									
DO	mg/L	T		-	10.6 :	9.39 :	-	10.98 :	-
Eh	millivolts	T		-	408.2 :	359.3 :	-	139.1 :	-
Flow	cfs	T		-	15.8 :	-	-	-	-
pH	SU	T		-	6.22 :	7. J	-	7.5 J	-
Specific Conductance	uS/cm	T		-	403. :	381. :	-	248. :	-
Temperature	Celsius	T		-	2.01 :	10.15 :	-	2.45 :	-
Turbidity	NTU	T		-	10.8 :	0. :	-	235.6 :	-
General Chemistry									
Ammonia	mg/L	T		-	-	<0.084 :	-	<0.091 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	-	50.8 :	-	50.6 :	-
Biochemical Oxygen Demand	mg/L	T		-	-	<1.5 :	-	<1.5 :	-
Carbonate (as CaCO3)	mg/L	T		-	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	-	<20. :	-	24.8 :	-
Chloride	mg/L	T		-	-	5.1 :	-	2.8 :	-
Fluoride	mg/L	T		-	-	0.93 :	-	0.52 :	-
Hydroxide (as CaCO3)	mg/L	T		-	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		-	-	0.55 J	-	<0.4 J	-
Nitrite	mg/L	T		-	-	<0.005 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		-	-	0.027 J	-	0.01 J	-
Phosphorus	mg/L	T		-	-	0.019 :	-	0.16 :	-
Sulfate	mg/L	T		-	-	129. :	-	56.2 :	-
Total Alkalinity	mg/L	T		-	-	50.8 :	-	50.6 :	-
Total Dissolved Solids	mg/L	T		-	-	226. :	-	198. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		-	-	1.7 :	-	3. :	-
Total Suspended Solids	mg/L	T		-	-	9. :	-	76. :	-
Laboratory Parameters									
pH	SU	T		-	6.22 :	7. J	-	7.5 J	-
Specific Conductance	umhos/cm	T		-	-	381. J	-	221. J	-
Inorganics									
Cyanide	mg/L	T		-	-	<0.01 J	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		-	-	131. :	-	104. :	-

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-DS-SPRING13 3/5/2003 RR-DS-SPRING13-D01N-SFW UDS D	RR-DS-SPRING13 4/1/2003 RR-DS-SPRING13-T01N-SFW UDS T	RR-DS-SPRING13 4/9/2003 RR-DS-SPRING13-T01N-SFW UDS T	RR-DS-SPRING13 4/9/2003 RR-DS-SPRING13-D01N-SFW UDS D	RR-DS-SPRING13 5/5/2003 RR-DS-SPRING13-T01N-SFW UDS T	RR-DS-SPRING13 5/5/2003 RR-DS-SPRING13-D01N-SFW UDS D
Hardness	mg/L	D	239. :	-	-	133. :	-	99.3 :
Metals								
Aluminum	mg/L	T	-	-	1.86 :	-	1.09 :	-
Aluminum	mg/L	D	<0.0872 :	-	-	<0.107 :	-	<0.27 :
Antimony	mg/L	T	-	-	<0.072 :	-	<0.0003 :	-
Antimony	mg/L	D	<0.0006 :	-	-	<0.072 :	-	<0.0003 :
Arsenic	mg/L	T	-	-	0.00023 :	-	0.00029 :	-
Arsenic	mg/L	D	<0.0002 :	-	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T	-	-	<0.123 :	-	0.0495 :	-
Barium	mg/L	D	0.0365 :	-	-	<0.123 :	-	0.0262 :
Beryllium	mg/L	T	-	-	<0.003 J	-	0.0003 :	-
Beryllium	mg/L	D	<0.0002 :	-	-	<0.003 J	-	<0.0003 :
Boron	mg/L	T	-	-	<0.084 :	-	<0.0084 :	-
Boron	mg/L	D	0.0117 :	-	-	<0.084 :	-	<0.0084 :
Cadmium	mg/L	T	-	-	<0.05 :	-	0.0004 :	-
Cadmium	mg/L	D	0.00069 :	-	-	<0.05 :	-	0.00021 :
Calcium	mg/L	T	-	-	52.5 :	-	31. :	-
Calcium	mg/L	D	68.7 :	-	-	53.1 :	-	29.6 :
Chromium	mg/L	T	-	-	<0.1 :	-	<0.0017 :	-
Chromium	mg/L	D	<0.0037 :	-	-	<0.1 :	-	0.0011 :
Cobalt	mg/L	T	-	-	<0.38 :	-	<0.0038 :	-
Cobalt	mg/L	D	0.0058 :	-	-	<0.38 :	-	<0.0038 :
Copper	mg/L	T	-	-	<0.15 :	-	0.0121 J	-
Copper	mg/L	D	0.0085 J	-	-	<0.15 :	-	0.0024 J
Iron	mg/L	T	-	-	<3.11 :	-	0.797 J	-
Iron	mg/L	D	<0.299 :	-	-	<0.0422 :	-	<0.0899 J
Lead	mg/L	T	-	-	<0.0025 :	-	0.0021 :	-
Lead	mg/L	D	<0.0002 :	-	-	<0.0021 :	-	<0.0001 :
Magnesium	mg/L	T	-	-	<29. :	-	6.46 :	-
Magnesium	mg/L	D	16.4 :	-	-	12.1 :	-	6.13 :
Manganese	mg/L	T	-	-	0.302 :	-	0.17 :	-
Manganese	mg/L	D	0.41 :	-	-	0.256 :	-	0.115 :
Mercury	mg/L	T	-	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D	<0.0001 :	-	-	<0.0001 :	-	<0.0001 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			Sample Date	3/5/2003	4/1/2003	4/9/2003	4/9/2003	5/5/2003	5/5/2003
			Sample ID	RR-DS-SPRING13-D01N-SFW	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-D01N-SFW	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-D01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Molybdenum	mg/L	T		-	-	<0.023 :	-	<0.0023 :	-
Molybdenum	mg/L	D		<0.0072 J	-	-	<0.023 :	-	<0.0023 :
Nickel	mg/L	T		-	-	<0.3 :	-	0.0086 J	-
Nickel	mg/L	D		0.0356 :	-	-	<0.3 :	-	0.0058 J
Potassium	mg/L	T		-	-	<32.6 :	-	1.21 :	-
Potassium	mg/L	D		1.4 :	-	-	4.27 :	-	1.08 :
Selenium	mg/L	T		-	-	<0.005 J	-	<0.0005 :	-
Selenium	mg/L	D		<0.0016 :	-	-	<0.005 J	-	<0.0005 :
Silver	mg/L	T		-	-	<0.001 :	-	<0.0001 :	-
Silver	mg/L	D		<0.0002 :	-	-	<0.001 :	-	<0.0001 :
Sodium	mg/L	T		-	-	<35.2 :	-	3.9 :	-
Sodium	mg/L	D		10.2 :	-	-	6.33 :	-	3.78 :
Thallium	mg/L	T		-	-	<0.001 :	-	<0.0001 :	-
Thallium	mg/L	D		<0.0002 :	-	-	<0.001 :	-	<0.0001 :
Vanadium	mg/L	T		-	-	<0.001 :	-	0.00075 :	-
Vanadium	mg/L	D		<0.0004 :	-	-	<0.001 :	-	0.00015 :
Zinc	mg/L	T		-	-	<0.195 :	-	0.075 :	-
Zinc	mg/L	D		0.202 :	-	-	<0.185 :	-	0.0406 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			Sample Date	6/3/2003	6/3/2003	7/22/2003	7/22/2003	8/11/2003	8/11/2003
			Sample ID	RR-DS-SPRING13-T0 1N-SFW UDS	RR-DS-SPRING13-D 01N-SFW UDS	RR-DS-SPRING13-T 01N-SFW UDS	RR-DS-SPRING13-D0 1N-SFW UDS	RR-DS-SPRING13-T0 1N-SFW UDS	RR-DS-SPRING13-D0 1N-SFW UDS
Field Measurements									
DO	mg/L	T		10.41 :	-	7.76 :	-	8.39 :	-
Eh	millivolts	T		301.2 :	-	329.7 :	-	70.1 :	-
Flow	cfs	T		-	-	27.1 :	-	-	-
pH	SU	T		7.7 J	-	7.6 :	-	7.5 J	-
Specific Conductance	uS/cm	T		191. :	-	326. :	-	354. :	-
Temperature	Celsius	T		6.38 :	-	12.23 :	-	10.96 :	-
Turbidity	NTU	T		36.7 :	-	6.7 :	-	30.1 :	-
General Chemistry									
Ammonia	mg/L	T		<0.053 :	-	<0.04 :	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		56. :	-	59.7 :	-	58. :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 J	-	<1.5 :	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<2. :	-	<20. :	-	<20. J	-
Chloride	mg/L	T		10.3 :	-	3. :	-	3.1 :	-
Fluoride	mg/L	T		<0.36 :	-	<0.77 J	-	0.67 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<0.4 J	-	<0.48 J	-	0.39 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 :	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 J	-
Phosphorus	mg/L	T		0.085 :	-	0.039 :	-	<0.057 :	-
Sulfate	mg/L	T		38.4 :	-	103. :	-	97.1 J	-
Total Alkalinity	mg/L	T		56. :	-	59.7 :	-	58. :	-
Total Dissolved Solids	mg/L	T		<130. :	-	204. :	-	224. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		2.2 J	-	3.2 :	-	1.6 J	-
Total Suspended Solids	mg/L	T		25.5 :	-	11.6 :	-	16.6 :	-
Laboratory Parameters									
pH	SU	T		7.7 J	-	7.6 :	-	7.5 J	-
Specific Conductance	umhos/cm	T		189. J	-	324. :	-	332. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		87.9 :	-	155. :	-	161. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-DS-SPRING13 6/3/2003 RR-DS-SPRING13-T01N-SFW UDS T		RR-DS-SPRING13 6/3/2003 RR-DS-SPRING13-D01N-SFW UDS D		RR-DS-SPRING13 7/22/2003 RR-DS-SPRING13-T01N-SFW UDS T		RR-DS-SPRING13 7/22/2003 RR-DS-SPRING13-D01N-SFW UDS D		RR-DS-SPRING13 8/11/2003 RR-DS-SPRING13-T01N-SFW UDS T		RR-DS-SPRING13 8/11/2003 RR-DS-SPRING13-D01N-SFW UDS D	
Hardness	mg/L	D	-		89.3	:	-		158.	:	-		162.	:
Metals														
Aluminum	mg/L	T	0.862	:	-		0.985	:	-		1.19	:	-	
Aluminum	mg/L	D	-		0.285	:	-		0.0274	:	-		0.138	J
Antimony	mg/L	T	<0.0005	:	-		<0.0005	:	-		<0.0005	:	-	
Antimony	mg/L	D	-		<0.0005	:	-		<0.0005	:	-		<0.0005	:
Arsenic	mg/L	T	0.00038	:	-		<0.0002	:	-		0.00022	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Barium	mg/L	T	0.0419	:	-		0.0376	:	-		0.0384	:	-	
Barium	mg/L	D	-		0.0297	:	-		0.0339	:	-		0.033	:
Beryllium	mg/L	T	0.00055	:	-		0.0004	:	-		0.00028	:	-	
Beryllium	mg/L	D	-		<0.0003	:	-		<0.0002	:	-		<0.0002	:
Boron	mg/L	T	<0.0084	:	-		0.0062	:	-		0.008	:	-	
Boron	mg/L	D	-		<0.0084	:	-		0.0072	:	-		0.0076	:
Cadmium	mg/L	T	0.00033	:	-		0.00059	:	-		0.00041	:	-	
Cadmium	mg/L	D	-		0.00028	:	-		0.00057	:	-		0.00036	:
Calcium	mg/L	T	27.2	:	-		45.8	:	-		47.7	:	-	
Calcium	mg/L	D	-		27.8	:	-		46.7	:	-		48.	:
Chromium	mg/L	T	<0.001	:	-		0.00064	:	-		<0.0014	J	-	
Chromium	mg/L	D	-		<0.001	:	-		<0.0006	:	-		<0.0014	J
Cobalt	mg/L	T	<0.0038	:	-		0.0023	:	-		0.002	:	-	
Cobalt	mg/L	D	-		<0.0038	:	-		0.0041	:	-		<0.002	:
Copper	mg/L	T	0.0108	:	-		0.0147	:	-		0.0132	:	-	
Copper	mg/L	D	-		0.0047	:	-		0.0062	:	-		0.0047	:
Iron	mg/L	T	0.573	:	-		0.416	:	-		0.452	J	-	
Iron	mg/L	D	-		0.0696	:	-		0.0404	:	-		<0.0333	:
Lead	mg/L	T	0.0047	:	-		0.00093	:	-		0.00072	:	-	
Lead	mg/L	D	-		0.00011	:	-		0.00013	:	-		<0.0001	:
Magnesium	mg/L	T	4.82	:	-		9.86	:	-		10.1	:	-	
Magnesium	mg/L	D	-		4.86	:	-		10.	:	-		10.2	:
Manganese	mg/L	T	0.14	:	-		0.172	:	-		0.195	:	-	
Manganese	mg/L	D	-		0.106	:	-		0.163	:	-		0.183	:
Mercury	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-DS-SPRING13 6/3/2003 RR-DS-SPRING13-T01N-SFW UDS		RR-DS-SPRING13 6/3/2003 RR-DS-SPRING13-D01N-SFW UDS		RR-DS-SPRING13 7/22/2003 RR-DS-SPRING13-T01N-SFW UDS		RR-DS-SPRING13 7/22/2003 RR-DS-SPRING13-D01N-SFW UDS		RR-DS-SPRING13 8/11/2003 RR-DS-SPRING13-T01N-SFW UDS		RR-DS-SPRING13 8/11/2003 RR-DS-SPRING13-D01N-SFW UDS	
Molybdenum	mg/L	T	<0.0023	:	-		0.0023	:	-		0.0019	:	-	
Molybdenum	mg/L	D	-		<0.0023	:	-		0.0024	:	-		0.0024	:
Nickel	mg/L	T	0.0069	:	-		0.0193	:	-		0.015	:	-	
Nickel	mg/L	D	-		0.0054	:	-		0.0178	:	-		0.0137	:
Potassium	mg/L	T	1.05	:	-		1.75	:	-		1.51	:	-	
Potassium	mg/L	D	-		0.91	:	-		1.84	:	-		1.54	:
Selenium	mg/L	T	<0.0008	:	-		<0.0008	:	-		<0.0008	:	-	
Selenium	mg/L	D	-		<0.0008	:	-		<0.0008	:	-		<0.0008	:
Silver	mg/L	T	<0.00018	:	-		<0.0001	J	-		<0.0001	:	-	
Silver	mg/L	D	-		<0.00032	:	-		<0.0001	J	-		<0.0001	:
Sodium	mg/L	T	2.36	:	-		5.02	:	-		5.39	:	-	
Sodium	mg/L	D	-		2.46	:	-		5.26	:	-		5.41	:
Thallium	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:
Vanadium	mg/L	T	0.0017	:	-		<0.00026	:	-		0.00022	:	-	
Vanadium	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Zinc	mg/L	T	0.0589	:	-		0.122	:	-		0.0956	:	-	
Zinc	mg/L	D	-		0.0351	:	-		0.0754	:	-		0.0567	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			Sample Date	9/9/2003	9/9/2003	11/3/2003	11/3/2003	11/3/2003	11/3/2003
			Sample ID	RR-DS-SPRING13-T0	RR-DS-SPRING13-D	RRDS-SPRING39-T0	RRDS-SPRING13-T0	RR-DS-SPRING13-T0	RR-DS-SPRING13-D0
			Exposure Area	1N-SFW UDS	01N-SFW UDS	1N-SFW UDS	1N-SFW UDS	1N-SFW UDS	1N-SFW UDS
Field Measurements									
DO	mg/L	T		8. :	-	-	-	9.69 :	-
Eh	millivolts	T		222.8 :	-	-	-	333.9 :	-
Flow	cfs	T		25.1 :	-	17.1 :	17.6 :	-	-
pH	SU	T		6.5 J	-	-	-	7. J	-
Specific Conductance	uS/cm	T		347. :	-	-	-	391. J	-
Temperature	Celsius	T		10.95 :	-	-	-	6.25 :	-
Turbidity	NTU	T		19.7 :	-	-	-	5.9 :	-
General Chemistry									
Ammonia	mg/L	T		<0.051 :	-	-	-	0.057 J	-
Bicarbonate (as CaCO3)	mg/L	T		60.7 :	-	-	-	58.2 J	-
Biochemical Oxygen Demand	mg/L	T		<1.3 J	-	-	-	1.5 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	-	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	-	-	<20. :	-
Chloride	mg/L	T		3. :	-	-	-	3.3 :	-
Fluoride	mg/L	T		0.69 :	-	-	-	0.82 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	-	-	<1. :	-
Nitrate	mg/L	T		0.29 J	-	-	-	0.38 J	-
Nitrite	mg/L	T		<0.005 J	-	-	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	-	-	0.049 J	-
Phosphorus	mg/L	T		0.028 :	-	-	-	0.01 J	-
Sulfate	mg/L	T		109. :	-	-	-	119. J	-
Total Alkalinity	mg/L	T		60.7 :	-	-	-	58.2 J	-
Total Dissolved Solids	mg/L	T		262. :	-	-	-	338. :	-
Total Kjeldahl Nitrogen	mg/L	T		0.58 J	-	-	-	0.26 :	-
Total Organic Carbon	mg/L	T		1.4 :	-	-	-	<1. :	-
Total Suspended Solids	mg/L	T		20.3 :	-	-	-	10.8 J	-
Laboratory Parameters									
pH	SU	T		6.5 J	-	-	-	7. J	-
Specific Conductance	umhos/cm	T		301. J	-	-	-	563. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	-	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		162. :	-	-	-	174. :	-

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			Sample Date	9/9/2003	9/9/2003	11/3/2003	11/3/2003	11/3/2003	11/3/2003
			Sample ID	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-D01N-SFW	RRDS-SPRING39-T01N-SFW	RRDS-SPRING13-T01N-SFW	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-D01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Hardness	mg/L	D		-	158. :	-	-	-	177. :
Metals									
Aluminum	mg/L	T		1.43 :	-	-	-	1.43 :	-
Aluminum	mg/L	D		-	0.209 :	-	-	-	0.208 :
Antimony	mg/L	T		<0.0012 :	-	-	-	<0.001 :	-
Antimony	mg/L	D		-	<0.001 :	-	-	-	<0.0005 :
Arsenic	mg/L	T		0.0002 :	-	-	-	<0.0002 :	-
Arsenic	mg/L	D		-	<0.0002 :	-	-	-	<0.0002 :
Barium	mg/L	T		0.0423 :	-	-	-	0.0375 :	-
Barium	mg/L	D		-	0.0351 :	-	-	-	0.0368 :
Beryllium	mg/L	T		0.00053 :	-	-	-	<0.0004 :	-
Beryllium	mg/L	D		-	<0.0002 :	-	-	-	<0.0004 :
Boron	mg/L	T		0.0074 :	-	-	-	<0.0063 :	-
Boron	mg/L	D		-	0.0076 :	-	-	-	<0.0063 :
Cadmium	mg/L	T		0.00038 :	-	-	-	0.00054 :	-
Cadmium	mg/L	D		-	0.00038 :	-	-	-	0.00047 :
Calcium	mg/L	T		47.9 :	-	-	-	51.1 :	-
Calcium	mg/L	D		-	46.9 :	-	-	-	52.1 :
Chromium	mg/L	T		<0.0023 :	-	-	-	<0.0011 J	-
Chromium	mg/L	D		-	<0.0023 :	-	-	-	<0.0011 J
Cobalt	mg/L	T		<0.0032 :	-	-	-	<0.0029 :	-
Cobalt	mg/L	D		-	<0.0032 :	-	-	-	<0.0029 :
Copper	mg/L	T		0.0153 :	-	-	-	0.0156 :	-
Copper	mg/L	D		-	0.0043 :	-	-	-	0.0042 :
Iron	mg/L	T		0.61 :	-	-	-	<0.239 :	-
Iron	mg/L	D		-	<0.0455 :	-	-	-	0.334 J
Lead	mg/L	T		0.0022 :	-	-	-	<0.0002 :	-
Lead	mg/L	D		-	<0.0002 :	-	-	-	<0.0002 :
Magnesium	mg/L	T		10.2 :	-	-	-	11.2 :	-
Magnesium	mg/L	D		-	10. :	-	-	-	11.4 :
Manganese	mg/L	T		0.192 :	-	-	-	0.226 :	-
Manganese	mg/L	D		-	0.174 :	-	-	-	0.276 :
Mercury	mg/L	T		<0.0001 :	-	-	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	-	-	<0.0001 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			Sample Date	9/9/2003	9/9/2003	11/3/2003	11/3/2003	11/3/2003	11/3/2003
			Sample ID	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-D01N-SFW	RRDS-SPRING39-T01N-SFW	RRDS-SPRING13-T01N-SFW	RR-DS-SPRING13-T01N-SFW	RR-DS-SPRING13-D01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Molybdenum	mg/L	T		0.0025 :	-	-	-	<0.0031 :	-
Molybdenum	mg/L	D		-	0.0024 :	-	-	-	<0.0031 :
Nickel	mg/L	T		0.0167 :	-	-	-	0.0207 :	-
Nickel	mg/L	D		-	0.015 :	-	-	-	0.0202 :
Potassium	mg/L	T		1.44 :	-	-	-	1.17 J	-
Potassium	mg/L	D		-	1.31 :	-	-	-	1.22 J
Selenium	mg/L	T		0.00034 J	-	-	-	<0.0003 :	-
Selenium	mg/L	D		-	0.00034 J	-	-	-	<0.0003 :
Silver	mg/L	T		<0.0001 :	-	-	-	<0.0001 :	-
Silver	mg/L	D		-	<0.0001 :	-	-	-	<0.0001 :
Sodium	mg/L	T		5.09 :	-	-	-	5.86 :	-
Sodium	mg/L	D		-	4.96 :	-	-	-	5.84 :
Thallium	mg/L	T		<0.0001 :	-	-	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0001 :	-	-	-	<0.0001 :
Vanadium	mg/L	T		0.00055 :	-	-	-	0.00014 :	-
Vanadium	mg/L	D		-	0.00013 :	-	-	-	<0.0001 :
Zinc	mg/L	T		0.0952 :	-	-	-	0.136 :	-
Zinc	mg/L	D		-	0.0569 :	-	-	-	0.108 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13		RR-DS-SPRING13		RR-DS-SPRING13		RR-DS-SPRING13		RR-DS-SPRING13	
			Sample Date	12/11/2003		12/11/2003		1/13/2004		1/13/2004		4/13/2004	4/13/2004
			Sample ID	RR-DS-SPRING13-T0 1N-SFW UDS		RR-DS-SPRING13-D 01N-SFW UDS		RR-DS-SPRING13-T 01N-SFW UDS		RR-DS-SPRING13-D0 1N-SFW UDS		RR-DS-SPRING13-T0 1N-SFW UDS	RR-DS-SPRING13-D0 1N-SFW UDS
Field Measurements													
DO	mg/L	T		10.91	:	-		9.16	:	-		11.28	: -
Eh	millivolts	T		279.8	:	-		110.4	:	-		81.2	: -
Flow	cfs	T		-		-		-		-		30.27	: -
pH	SU	T		7.1	J	-		7.3	J	-		7.2	J -
Specific Conductance	uS/cm	T		514.	:	-		369.	:	-		285.	: -
Temperature	Celsius	T		1.23	:	-		0.61	:	-		2.56	: -
Turbidity	NTU	T		12.6	:	-		7.8	:	-		4.4	: -
General Chemistry													
Ammonia	mg/L	T		0.044	:	-		0.06	:	-		<0.09	: -
Bicarbonate (as CaCO3)	mg/L	T		38.7	:	-		55.4	J	-		61.4	: -
Biochemical Oxygen Demand	mg/L	T		<1.5	:	-		<1.4	:	-		<1.3	: -
Carbonate (as CaCO3)	mg/L	T		<1.	:	-		<1.	:	-		<1.	: -
Chemical Oxygen Demand	mg/L	T		<20.	:	-		<20.	:	-		<20.	: -
Chloride	mg/L	T		5.3	:	-		3.6	:	-		4.7	: -
Fluoride	mg/L	T		1.2	:	-		0.82	:	-		0.55	: -
Hydroxide (as CaCO3)	mg/L	T		<1.	:	-		<1.	:	-		<1.	: -
Nitrate	mg/L	T		0.46	:	-		0.64	J	-		0.38	J -
Nitrite	mg/L	T		<0.005	:	-		0.01	J	-		<0.005	J -
Phosphate, Ortho As P	mg/L	T		<0.01	:	-		<0.05	J	-		<0.01	J -
Phosphorus	mg/L	T		0.012	:	-		0.025	:	-		0.016	: -
Sulfate	mg/L	T		195.	:	-		126.	:	-		90.	: -
Total Alkalinity	mg/L	T		38.7	:	-		55.4	J	-		61.4	: -
Total Dissolved Solids	mg/L	T		306.	:	-		270.	:	-		206.	: -
Total Kjeldahl Nitrogen	mg/L	T		<0.24	J	-		<0.24	:	-		<0.24	: -
Total Organic Carbon	mg/L	T		<1.	:	-		<1.	:	-		<3.3	J -
Total Suspended Solids	mg/L	T		16.8	:	-		9.	:	-		10.1	: -
Laboratory Parameters													
pH	SU	T		7.1	J	-		7.3	J	-		7.2	J -
Specific Conductance	umhos/cm	T		422.	J	-		349.	J	-		272.	J -
Inorganics													
Cyanide	mg/L	T		<0.01	:	-		<0.01	:	-		<0.01	: -
Physical Properties													
Hardness	mg/L	T		242.	:	-		173.	:	-		140.	: -

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			Sample Date	12/11/2003	12/11/2003	1/13/2004	1/13/2004	4/13/2004	4/13/2004
			Sample ID	RR-DS-SPRING13-T0 1N-SFW UDS	RR-DS-SPRING13-D 01N-SFW UDS	RR-DS-SPRING13-T 01N-SFW UDS	RR-DS-SPRING13-D0 1N-SFW UDS	RR-DS-SPRING13-T0 1N-SFW UDS	RR-DS-SPRING13-D0 1N-SFW UDS
Hardness	mg/L	D		-	236. :	-	169. :	-	138. :
Metals									
Aluminum	mg/L	T		3.66 :	-	1.71 :	-	1.53 :	-
Aluminum	mg/L	D		-	3.52 :	-	0.134 :	-	<0.134 :
Antimony	mg/L	T		<0.0005 :	-	<0.0012 :	-	<0.0004 J	-
Antimony	mg/L	D		-	<0.0005 :	-	<0.0012 :	-	<0.0004 J
Arsenic	mg/L	T		<0.0002 :	-	<0.0002 :	-	<0.0002 :	-
Arsenic	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		0.0334 :	-	0.0325 :	-	0.0395 :	-
Barium	mg/L	D		-	0.0323 :	-	0.0316 :	-	0.0354 :
Beryllium	mg/L	T		0.0007 :	-	<0.0018 :	-	0.00037 :	-
Beryllium	mg/L	D		-	0.00072 :	-	<0.001 :	-	<0.0002 :
Boron	mg/L	T		<0.0064 :	-	<0.0117 :	-	<0.0055 :	-
Boron	mg/L	D		-	<0.0064 :	-	<0.0117 :	-	<0.0062 :
Cadmium	mg/L	T		0.001 :	-	0.00052 :	-	0.00023 :	-
Cadmium	mg/L	D		-	0.00092 :	-	0.00052 :	-	0.00021 :
Calcium	mg/L	T		71.4 :	-	50.8 :	-	41.8 :	-
Calcium	mg/L	D		-	69.6 :	-	49.9 :	-	41.2 :
Chromium	mg/L	T		<0.0011 :	-	<0.0057 :	-	<0.0008 :	-
Chromium	mg/L	D		-	<0.0011 :	-	<0.0057 :	-	<0.0008 :
Cobalt	mg/L	T		0.0072 :	-	<0.0037 :	-	0.0024 :	-
Cobalt	mg/L	D		-	0.007 :	-	0.0044 :	-	0.0048 :
Copper	mg/L	T		0.0409 :	-	0.0181 :	-	0.0176 :	-
Copper	mg/L	D		-	<0.0383 :	-	0.0042 :	-	0.0044 J
Iron	mg/L	T		0.448 :	-	0.224 :	-	0.418 :	-
Iron	mg/L	D		-	0.425 :	-	0.159 :	-	0.0756 :
Lead	mg/L	T		<0.0002 :	-	0.00019 :	-	0.00064 :	-
Lead	mg/L	D		-	<0.0002 :	-	<0.0001 :	-	<0.0004 :
Magnesium	mg/L	T		15.4 :	-	11.1 :	-	8.74 :	-
Magnesium	mg/L	D		-	15. :	-	10.9 :	-	8.57 :
Manganese	mg/L	T		0.554 :	-	0.298 :	-	0.218 :	-
Manganese	mg/L	D		-	0.541 :	-	0.289 :	-	0.202 :
Mercury	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13	RR-DS-SPRING13
			Sample Date	12/11/2003	12/11/2003	1/13/2004	1/13/2004	4/13/2004	4/13/2004
			Sample ID	RR-DS-SPRING13-T0	RR-DS-SPRING13-D	RR-DS-SPRING13-T	RR-DS-SPRING13-D0	RR-DS-SPRING13-T0	RR-DS-SPRING13-D0
				1N-SFW UDS	01N-SFW UDS	01N-SFW UDS	1N-SFW UDS	1N-SFW UDS	1N-SFW UDS
Molybdenum	mg/L	T		0.0042 :	-	0.0028 :	-	<0.0034 :	-
Molybdenum	mg/L	D		-	0.0043 :	-	0.0028 :	-	<0.0033 :
Nickel	mg/L	T		0.0303 J	-	0.0163 :	-	0.0128 :	-
Nickel	mg/L	D		-	0.0281 J	-	0.0163 :	-	0.0122 :
Potassium	mg/L	T		1.69 :	-	<1.1 J	-	1.23 :	-
Potassium	mg/L	D		-	1.33 :	-	2.34 J	-	1.16 :
Selenium	mg/L	T		0.00045 J	-	0.00058 J	-	<0.0007 :	-
Selenium	mg/L	D		-	<0.0003 J	-	0.00034 J	-	<0.0007 :
Silver	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Silver	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Sodium	mg/L	T		7.54 :	-	6.07 :	-	5.26 :	-
Sodium	mg/L	D		-	6.8 :	-	5.93 :	-	5.32 :
Thallium	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T		<0.0029 :	-	<0.0002 :	-	0.00056 :	-
Vanadium	mg/L	D		-	<0.0029 :	-	<0.0002 :	-	<0.0002 :
Zinc	mg/L	T		0.21 :	-	0.114 :	-	0.0777 :	-
Zinc	mg/L	D		-	0.203 :	-	0.0968 :	-	0.0531 :

J = Qualified as estimated during data validation
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39
			Sample Date	2/2/2003	2/2/2003	2/2/2003	2/9/2003	2/9/2003	2/9/2003
			Sample ID	RR-DS-SPRING39-T0 1N-SFWREP UDS	RR-DS-SPRING39-T 01N-SFW UDS	RR-DS-SPRING39-D 01N-SFW UDS	RR-DSSPRING39-T0 1N-SFW UDS	RR-DS-SPRING39-T0 1N-SFW UDS	RR-DSSPRING39-D0 1N-SFW UDS
Field Measurements									
DO	mg/L	T		-	9.36 :	-	-	4.79 :	-
Eh	millivolts	T		-	289.9 :	-	-	193.8 :	-
Flow	cfs	T		-	5.61 :	-	-	4.27 :	-
pH	SU	T		-	-	-	-	7.08 :	-
Specific Conductance	uS/cm	T		-	456. :	-	-	453. :	-
Temperature	Celsius	T		-	4.74 :	-	-	-	-
Turbidity	NTU	T		-	13.4 :	-	-	0. :	-
General Chemistry									
Ammonia	mg/L	T		-	0.11 :	-	0.054 :	-	-
Bicarbonate (as CaCO3)	mg/L	T		-	49.3 :	-	51.3 :	-	-
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	-	-	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	-
Chemical Oxygen Demand	mg/L	T		-	22.6 J	-	<20. J	-	-
Chloride	mg/L	T		-	4. :	-	5.3 :	-	-
Fluoride	mg/L	T		-	0.97 J	-	1. J	-	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	-
Nitrate	mg/L	T		-	0.82 :	-	1.1 J	-	-
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	-
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	0.45 J	-	-
Phosphorus	mg/L	T		-	0.027 :	-	0.027 J	-	-
Sulfate	mg/L	T		-	164. :	-	175. :	-	-
Total Alkalinity	mg/L	T		-	49.3 :	-	51.3 :	-	-
Total Dissolved Solids	mg/L	T		-	338. :	-	323. :	-	-
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	-
Total Organic Carbon	mg/L	T		<1. :	<1. :	-	<1. :	-	-
Total Suspended Solids	mg/L	T		-	6. :	-	5.2 :	-	-
Laboratory Parameters									
pH	SU	T		-	-	-	-	7.08 :	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	-
Physical Properties									
Hardness	mg/L	T		-	222. :	-	243. :	-	-
Hardness	mg/L	D		-	-	218. :	-	-	236. :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39
			Sample Date	2/2/2003	2/2/2003	2/2/2003	2/9/2003	2/9/2003	2/9/2003
			Sample ID	RR-DS-SPRING39-T01N-SFWREP	RR-DS-SPRING39-T01N-SFW	RR-DS-SPRING39-D01N-SFW	RR-DSSPRING39-T01N-SFW	RR-DS-SPRING39-T01N-SFW	RR-DSSPRING39-D01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Metals									
Aluminum	mg/L	T		-	<0.902 :	-	<0.849 :	-	-
Aluminum	mg/L	D		-	-	<0.11 J	-	-	<0.195 :
Antimony	mg/L	T		-	<0.0006 J	-	<0.0016 :	-	-
Antimony	mg/L	D		-	-	<0.0006 J	-	-	<0.0006 :
Arsenic	mg/L	T		-	<0.0004 :	-	<0.0004 :	-	-
Arsenic	mg/L	D		-	-	<0.0002 J	-	-	<0.0004 :
Barium	mg/L	T		-	0.0344 :	-	0.0373 :	-	-
Barium	mg/L	D		-	-	0.032 :	-	-	0.0342 :
Beryllium	mg/L	T		-	0.00037 :	-	0.0003 :	-	-
Beryllium	mg/L	D		-	-	0.0002 :	-	-	<0.0002 :
Boron	mg/L	T		-	<0.0058 :	-	<0.0094 :	-	-
Boron	mg/L	D		-	-	<0.0085 :	-	-	<0.008 :
Cadmium	mg/L	T		-	0.00053 :	-	0.00087 :	-	-
Cadmium	mg/L	D		-	-	0.0006 J	-	-	0.00061 :
Calcium	mg/L	T		-	63.4 :	-	70.7 :	-	-
Calcium	mg/L	D		-	-	62.2 :	-	-	68.6 :
Chromium	mg/L	T		-	<0.0037 :	-	<0.0037 :	-	-
Chromium	mg/L	D		-	-	<0.0037 :	-	-	<0.0037 :
Cobalt	mg/L	T		-	0.0021 :	-	0.0021 :	-	-
Cobalt	mg/L	D		-	-	0.0026 :	-	-	0.0017 :
Copper	mg/L	T		-	0.0097 :	-	0.0071 :	-	-
Copper	mg/L	D		-	-	0.0023 :	-	-	0.0027 :
Iron	mg/L	T		-	<0.266 :	-	<0.489 :	-	-
Iron	mg/L	D		-	-	<0.266 :	-	-	<0.489 :
Lead	mg/L	T		-	<0.0002 :	-	0.0003 :	-	-
Lead	mg/L	D		-	-	<0.0002 :	-	-	<0.0002 :
Magnesium	mg/L	T		-	15.5 :	-	16.2 :	-	-
Magnesium	mg/L	D		-	-	15.2 :	-	-	15.7 :
Manganese	mg/L	T		-	0.213 :	-	0.178 :	-	-
Manganese	mg/L	D		-	-	0.204 :	-	-	0.148 :
Mercury	mg/L	T		-	<0.0001 :	-	<0.0001 :	-	-
Mercury	mg/L	D		-	-	<0.0001 :	-	-	<0.0001 :
Molybdenum	mg/L	T		-	<0.002 :	-	<0.0037 :	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-DS-SPRING39 2/2/2003 RR-DS-SPRING39-T01N-SFWREP UDS	RR-DS-SPRING39 2/2/2003 RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39 2/2/2003 RR-DS-SPRING39-D01N-SFW UDS	RR-DS-SPRING39 2/9/2003 RR-DSSPRING39-T01N-SFW UDS	RR-DS-SPRING39 2/9/2003 RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39 2/9/2003 RR-DSSPRING39-D01N-SFW UDS
Molybdenum	mg/L	D	-	-	<0.002 J	-	-	<0.0021 :
Nickel	mg/L	T	-	0.0284 :	-	0.0314 :	-	-
Nickel	mg/L	D	-	-	0.0274 :	-	-	0.0309 :
Potassium	mg/L	T	-	1.24 :	-	1.85 :	-	-
Potassium	mg/L	D	-	-	1.14 J	-	-	1.75 :
Selenium	mg/L	T	-	<0.0016 :	-	<0.0016 :	-	-
Selenium	mg/L	D	-	-	<0.0016 :	-	-	<0.0016 :
Silver	mg/L	T	-	<0.0002 :	-	<0.0002 :	-	-
Silver	mg/L	D	-	-	<0.0002 :	-	-	<0.0002 :
Sodium	mg/L	T	-	7.18 :	-	4.35 :	-	-
Sodium	mg/L	D	-	-	8.25 :	-	-	6.03 :
Thallium	mg/L	T	-	<0.0002 :	-	<0.0002 :	-	-
Thallium	mg/L	D	-	-	<0.0002 :	-	-	<0.0002 :
Vanadium	mg/L	T	-	<0.0004 :	-	<0.0004 :	-	-
Vanadium	mg/L	D	-	-	<0.0004 :	-	-	<0.0004 :
Zinc	mg/L	T	-	0.193 :	-	0.297 :	-	-
Zinc	mg/L	D	-	-	0.177 :	-	-	0.213 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39
			Sample Date	3/5/2003	3/5/2003	4/1/2003	4/1/2003	5/5/2003	5/5/2003
			Sample ID	RR-DS-SPRING39-T01N-SFW	RR-DS-SPRING39-D01N-SFW	RR-DS-SPRING39-T01N-SFW	RR-DS-SPRING39-D01N-SFW	RR-DS-SPRING39-T01N-SFW	RR-DS-SPRING39-D01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Field Measurements									
DO	mg/L	T		14.35 :	-	9.97 :	-	10.24 :	-
Eh	millivolts	T		225.4 :	-	383.5 :	-	206.4 :	-
Flow	cfs	T		9.4 :	-	16.22 :	-	-	-
pH	SU	T		7.02 :	-	7.4 J	-	8. J	-
Specific Conductance	uS/cm	T		465. :	-	377. :	-	265. :	-
Temperature	Celsius	T		3.42 :	-	5.39 :	-	5.04 :	-
Turbidity	NTU	T		43.6 :	-	5.6 :	-	65.7 :	-
General Chemistry									
Ammonia	mg/L	T		<0.13 J	-	<0.2 :	-	<0.079 :	-
Bicarbonate (as CaCO3)	mg/L	T		52.3 :	-	61.4 :	-	54.2 :	-
Biochemical Oxygen Demand	mg/L	T		<1.6 J	-	<1.5 J	-	<1.5 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<35.6 :	-	<20. :	-
Chloride	mg/L	T		5.4 :	-	4.7 :	-	3.3 :	-
Fluoride	mg/L	T		0.91 :	-	0.75 :	-	0.46 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.71 :	-	<1.1 J	-	0.41 J	-
Nitrite	mg/L	T		<0.005 :	-	<0.005 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	<0.01 J	-	<0.01 J	-
Phosphorus	mg/L	T		0.019 :	-	0.039 :	-	0.13 :	-
Sulfate	mg/L	T		113. :	-	120. :	-	63.3 :	-
Total Alkalinity	mg/L	T		52.3 :	-	61.4 :	-	54.2 :	-
Total Dissolved Solids	mg/L	T		328. :	-	258. :	-	152. :	-
Total Kjeldahl Nitrogen	mg/L	T		0.25 :	-	<0.26 :	-	0.28 :	-
Total Organic Carbon	mg/L	T		1.1 :	-	1.7 :	-	3.8 :	-
Total Suspended Solids	mg/L	T		4.5 :	-	10.4 :	-	20.5 :	-
Laboratory Parameters									
pH	SU	T		7.02 :	-	7.4 J	-	8. J	-
Specific Conductance	umhos/cm	T		-	-	337. J	-	237. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		227. :	-	172. :	-	106. :	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-DS-SPRING39 3/5/2003 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 3/5/2003 RR-DS-SPRING39-D01N-SFW UDS		RR-DS-SPRING39 4/1/2003 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 4/1/2003 RR-DS-SPRING39-D01N-SFW UDS		RR-DS-SPRING39 5/5/2003 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 5/5/2003 RR-DS-SPRING39-D01N-SFW UDS	
Hardness	mg/L	D	-		238.	:	-		176.	:	-		110.	:
Metals														
Aluminum	mg/L	T	0.659	J	-		0.997	:	-		0.716	:	-	
Aluminum	mg/L	D	-		<0.0868	:	-		<0.0968	:	-		<0.236	:
Antimony	mg/L	T	<0.0006	:	-		<0.0006	:	-		<0.00063	:	-	
Antimony	mg/L	D	-		<0.0006	:	-		<0.0006	:	-		<0.0003	:
Arsenic	mg/L	T	<0.0004	J	-		<0.0004	:	-		0.00025	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Barium	mg/L	T	0.0374	:	-		0.0404	:	-		0.0434	:	-	
Barium	mg/L	D	-		0.0382	:	-		0.0361	:	-		0.0292	:
Beryllium	mg/L	T	0.00037	:	-		<0.00082	:	-		0.00039	:	-	
Beryllium	mg/L	D	-		<0.0002	:	-		<0.00057	:	-		<0.0003	:
Boron	mg/L	T	<0.0075	:	-		<0.0084	:	-		<0.0084	:	-	
Boron	mg/L	D	-		<0.0075	:	-		<0.0084	:	-		<0.0084	:
Cadmium	mg/L	T	0.00047	J	-		<0.0005	:	-		0.00026	:	-	
Cadmium	mg/L	D	-		0.00052	:	-		0.00039	:	-		0.00022	:
Calcium	mg/L	T	65.2	:	-		50.3	:	-		31.6	:	-	
Calcium	mg/L	D	-		63.4	:	-		51.5	:	-		32.7	:
Chromium	mg/L	T	<0.0037	:	-		0.0014	:	-		<0.0016	:	-	
Chromium	mg/L	D	-		<0.0037	:	-		<0.001	:	-		<0.001	:
Cobalt	mg/L	T	0.0023	:	-		<0.0038	:	-		<0.0038	:	-	
Cobalt	mg/L	D	-		0.0024	:	-		<0.0038	:	-		<0.0038	:
Copper	mg/L	T	0.0067	J	-		0.0084	:	-		0.0069	J	-	
Copper	mg/L	D	-		0.0029	J	-		0.0018	:	-		0.0016	J
Iron	mg/L	T	<0.299	:	-		<0.422	:	-		0.61	J	-	
Iron	mg/L	D	-		<0.299	:	-		<0.422	:	-		<0.0744	J
Lead	mg/L	T	<0.0002	:	-		0.00093	:	-		0.0017	:	-	
Lead	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0001	:
Magnesium	mg/L	T	15.6	:	-		11.3	:	-		6.66	:	-	
Magnesium	mg/L	D	-		14.5	:	-		11.6	:	-		6.83	:
Manganese	mg/L	T	0.184	:	-		0.147	:	-		0.105	:	-	
Manganese	mg/L	D	-		0.188	:	-		0.132	:	-		0.076	:
Mercury	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39
			Sample Date	3/5/2003	3/5/2003	4/1/2003	4/1/2003	5/5/2003	5/5/2003
			Sample ID	RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39-D01N-SFW UDS	RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39-D01N-SFW UDS	RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39-D01N-SFW UDS
Molybdenum	mg/L	T		<0.0049 :	-	<0.0023 :	-	<0.0023 :	-
Molybdenum	mg/L	D		-	<0.0061 :	-	0.0035 :	-	<0.0023 :
Nickel	mg/L	T		0.0296 :	-	0.0192 :	-	0.0088 J	-
Nickel	mg/L	D		-	0.0312 :	-	0.019 :	-	0.0053 J
Potassium	mg/L	T		1.35 :	-	1.38 :	-	1.16 :	-
Potassium	mg/L	D		-	1.69 :	-	1.36 :	-	1.18 :
Selenium	mg/L	T		<0.0016 J	-	<0.001 :	-	<0.0005 :	-
Selenium	mg/L	D		-	0.0024 :	-	0.0034 :	-	<0.0005 :
Silver	mg/L	T		<0.0002 :	-	<0.0002 :	-	<0.0001 :	-
Silver	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0001 :
Sodium	mg/L	T		7.8 :	-	<9.16 :	-	3.93 :	-
Sodium	mg/L	D		-	6.8 :	-	<9.16 :	-	4.03 :
Thallium	mg/L	T		<0.0002 :	-	<0.0002 :	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0001 :
Vanadium	mg/L	T		<0.0004 :	-	0.00041 :	-	0.00064 :	-
Vanadium	mg/L	D		-	<0.0004 :	-	<0.0002 :	-	0.0002 :
Zinc	mg/L	T		0.172 :	-	0.109 :	-	0.0638 :	-
Zinc	mg/L	D		-	0.169 :	-	0.0927 :	-	0.0442 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39
			Sample Date	6/3/2003	6/3/2003	7/22/2003	7/22/2003	8/11/2003	8/11/2003
			Sample ID	RR-DS-SPRING39-T0 1N-SFW UDS	RR-DS-SPRING39-D 01N-SFW UDS	RR-DS-SPRING39-T 01N-SFW UDS	RR-DS-SPRING39-D0 1N-SFW UDS	RR-DS-SPRING39-T0 1N-SFW UDS	RR-DS-SPRING39-D0 1N-SFW UDS
Field Measurements									
DO	mg/L	T		10.07 :	-	7.19 :	-	7.9 :	-
Eh	millivolts	T		332.7 :	-	369.8 :	-	211.5 :	-
Flow	cfs	T		-	-	26.2 :	-	-	-
pH	SU	T		7.5 J	-	7.5 :	-	7.5 J	-
Specific Conductance	uS/cm	T		198. :	-	319. :	-	335. :	-
Temperature	Celsius	T		7.27 :	-	14.34 :	-	13.64 :	-
Turbidity	NTU	T		27.2 :	-	3.3 :	-	26.5 :	-
General Chemistry									
Ammonia	mg/L	T		<0.064 :	-	0.061 :	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		57.8 :	-	69.8 :	-	63.4 :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 J	-	<1.5 :	-	<1.4 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<2. :	-	<20. :	-	34.3 J	-
Chloride	mg/L	T		10.6 :	-	2.7 :	-	2.8 :	-
Fluoride	mg/L	T		<0.33 :	-	<0.72 J	-	0.57 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<0.4 J	-	<0.44 J	-	0.35 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 :	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		0.024 J	-	<0.01 :	-	<0.01 J	-
Phosphorus	mg/L	T		0.1 :	-	0.021 :	-	<0.048 :	-
Sulfate	mg/L	T		38.8 :	-	89.1 :	-	80.6 J	-
Total Alkalinity	mg/L	T		57.8 :	-	69.8 :	-	63.4 :	-
Total Dissolved Solids	mg/L	T		<108. :	-	200. :	-	290. J	-
Total Kjeldahl Nitrogen	mg/L	T		-	-	0.27 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		2.6 J	-	1.9 :	-	<1. J	-
Total Suspended Solids	mg/L	T		29.4 :	-	7. :	-	8.1 :	-
Laboratory Parameters									
pH	SU	T		7.5 J	-	7.5 :	-	7.5 J	-
Specific Conductance	umhos/cm	T		190. J	-	310. :	-	313. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		90.4 :	-	280. :	-	151. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RR-DS-SPRING39 6/3/2003 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 6/3/2003 RR-DS-SPRING39-D01N-SFW UDS		RR-DS-SPRING39 7/22/2003 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 7/22/2003 RR-DS-SPRING39-D01N-SFW UDS		RR-DS-SPRING39 8/11/2003 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 8/11/2003 RR-DS-SPRING39-D01N-SFW UDS	
Hardness	mg/L	D	-		88.7	:	-		149.	:	-		152.	:
Metals														
Aluminum	mg/L	T	0.991	:	-		0.345	:	-		0.495	:	-	
Aluminum	mg/L	D	-		0.351	:	-		0.0287	:	-		0.165	J
Antimony	mg/L	T	<0.0005	:	-		<0.0005	:	-		<0.0005	:	-	
Antimony	mg/L	D	-		<0.0005	:	-		<0.0005	:	-		<0.0005	:
Arsenic	mg/L	T	0.00021	:	-		<0.0002	:	-		<0.0002	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Barium	mg/L	T	0.0475	:	-		0.0361	:	-		0.0508	:	-	
Barium	mg/L	D	-		0.0305	:	-		0.0343	:	-		0.0343	:
Beryllium	mg/L	T	0.00042	:	-		0.00025	:	-		<0.0002	:	-	
Beryllium	mg/L	D	-		<0.0003	:	-		<0.0002	:	-		<0.0002	:
Boron	mg/L	T	<0.0084	:	-		0.0074	:	-		0.0096	:	-	
Boron	mg/L	D	-		<0.0084	:	-		0.0073	:	-		0.0086	:
Cadmium	mg/L	T	0.00028	:	-		0.00058	:	-		0.00025	:	-	
Cadmium	mg/L	D	-		0.00021	:	-		0.00046	:	-		0.00026	:
Calcium	mg/L	T	28.2	:	-		81.7	:	-		44.9	:	-	
Calcium	mg/L	D	-		27.6	:	-		44.	:	-		45.4	:
Chromium	mg/L	T	0.0016	:	-		<0.0006	:	-		<0.0014	J	-	
Chromium	mg/L	D	-		<0.001	:	-		<0.0006	:	-		<0.0014	J
Cobalt	mg/L	T	<0.0038	:	-		<0.0018	:	-		<0.002	:	-	
Cobalt	mg/L	D	-		<0.0038	:	-		0.0026	:	-		0.0027	:
Copper	mg/L	T	0.0081	:	-		0.0058	:	-		0.0054	:	-	
Copper	mg/L	D	-		0.0043	:	-		0.0033	:	-		0.0025	:
Iron	mg/L	T	0.879	:	-		0.409	:	-		0.322	:	-	
Iron	mg/L	D	-		0.0945	:	-		0.0323	:	-		<0.0333	:
Lead	mg/L	T	0.0022	:	-		0.0007	:	-		0.00072	:	-	
Lead	mg/L	D	-		0.00013	:	-		<0.0001	:	-		<0.0001	:
Magnesium	mg/L	T	4.89	:	-		18.3	:	-		9.41	:	-	
Magnesium	mg/L	D	-		4.82	:	-		9.37	:	-		9.47	:
Manganese	mg/L	T	0.108	:	-		0.0668	:	-		0.0911	:	-	
Manganese	mg/L	D	-		0.0801	:	-		0.0723	:	-		0.0795	:
Mercury	mg/L	T	0.00012	:	-		<0.0001	:	-		<0.0001	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39
			Sample Date	6/3/2003	6/3/2003	7/22/2003	7/22/2003	8/11/2003	8/11/2003
			Sample ID	RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39-D01N-SFW UDS	RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39-D01N-SFW UDS	RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39-D01N-SFW UDS
Molybdenum	mg/L	T		<0.0023 :	-	0.0022 :	-	<0.0017 :	-
Molybdenum	mg/L	D		-	<0.0023 :	-	0.0023 :	-	0.0021 J
Nickel	mg/L	T		0.0079 :	-	0.0235 :	-	0.0125 :	-
Nickel	mg/L	D		-	0.0066 :	-	0.0164 :	-	0.0114 :
Potassium	mg/L	T		1.19 :	-	2.02 :	-	1.45 :	-
Potassium	mg/L	D		-	0.904 :	-	1.68 :	-	1.44 :
Selenium	mg/L	T		<0.0008 :	-	<0.0008 :	-	<0.0008 :	-
Selenium	mg/L	D		-	<0.0008 :	-	<0.0008 :	-	<0.0008 :
Silver	mg/L	T		<0.00041 :	-	<0.0001 J	-	<0.0001 :	-
Silver	mg/L	D		-	<0.00046 :	-	<0.0001 J	-	<0.0001 :
Sodium	mg/L	T		2.45 :	-	7.27 :	-	4.98 :	-
Sodium	mg/L	D		-	2.39 :	-	5.11 :	-	4.99 :
Thallium	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T		0.0008 :	-	<0.00026 :	-	0.00022 :	-
Vanadium	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Zinc	mg/L	T		0.0554 :	-	0.145 :	-	0.0726 :	-
Zinc	mg/L	D		-	0.0413 :	-	0.0881 :	-	0.0555 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39
			Sample Date	9/9/2003	9/9/2003	11/3/2003	11/3/2003	12/11/2003	12/11/2003
			Sample ID	RR-DS-SPRING39-T0 1N-SFW UDS	RR-DS-SPRING39-D 01N-SFW UDS	RR-DS-SPRING39-T 01N-SFW UDS	RR-DS-SPRING39-D0 1N-SFW UDS	RR-DS-SPRING39-T0 1N-SFW UDS	RR-DS-SPRING39-D0 1N-SFW UDS
Field Measurements									
DO	mg/L	T		7.64 :	-	9.12 :	-	12.23 :	-
Eh	millivolts	T		262.6 :	-	243.4 :	-	303.7 :	-
Flow	cfs	T		<26.9 :	-	-	-	-	-
pH	SU	T		7.6 J	-	7.4 J	-	7.1 J	-
Specific Conductance	uS/cm	T		324. :	-	385. :	-	477. :	-
Temperature	Celsius	T		12.3 :	-	6.92 :	-	2.26 :	-
Turbidity	NTU	T		18.7 :	-	4.8 :	-	2.4 :	-
General Chemistry									
Ammonia	mg/L	T		<0.048 :	-	0.054 J	-	0.042 :	-
Bicarbonate (as CaCO3)	mg/L	T		65.4 :	-	59.7 :	-	55.1 :	-
Biochemical Oxygen Demand	mg/L	T		<1.3 J	-	<1.4 :	-	<1.5 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		78.3 :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		2.8 :	-	3.1 :	-	4.2 :	-
Fluoride	mg/L	T		0.6 :	-	0.73 :	-	0.98 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.36 J	-	0.34 J	-	0.51 :	-
Nitrite	mg/L	T		<0.005 :	-	<0.005 J	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	<0.01 J	-	<0.01 :	-
Phosphorus	mg/L	T		0.03 :	-	<0.01 :	-	0.01 :	-
Sulfate	mg/L	T		98.7 :	-	107. J	-	169. :	-
Total Alkalinity	mg/L	T		65.4 :	-	59.7 :	-	55.1 :	-
Total Dissolved Solids	mg/L	T		200. :	-	340. :	-	322. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 J	-
Total Organic Carbon	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Total Suspended Solids	mg/L	T		14.5 :	-	3.5 :	-	4.2 :	-
Laboratory Parameters									
pH	SU	T		7.6 J	-	7.4 J	-	7.1 J	-
Specific Conductance	umhos/cm	T		289. J	-	349. J	-	395. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		152. :	-	165. :	-	223. :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-DS-SPRING39 9/9/2003 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 9/9/2003 RR-DS-SPRING39-D01N-SFW UDS		RR-DS-SPRING39 11/3/2003 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 11/3/2003 RR-DS-SPRING39-D01N-SFW UDS		RR-DS-SPRING39 12/11/2003 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 12/11/2003 RR-DS-SPRING39-D01N-SFW UDS	
Hardness	mg/L	D	-		159.	:	-		166.	:	-		228.	:
Metals														
Aluminum	mg/L	T	0.921	:	-		0.526	:	-		0.516	:	-	
Aluminum	mg/L	D	-		0.211	:	-		0.141	:	-		<0.176	:
Antimony	mg/L	T	<0.0005	:	-		<0.00099	:	-		<0.0008	:	-	
Antimony	mg/L	D	-		<0.0005	:	-		<0.0005	:	-		<0.0005	:
Arsenic	mg/L	T	0.00024	:	-		<0.0002	:	-		<0.0002	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Barium	mg/L	T	0.0467	:	-		0.0377	:	-		0.0345	:	-	
Barium	mg/L	D	-		0.0384	:	-		0.0362	:	-		0.0346	:
Beryllium	mg/L	T	<0.0002	:	-		<0.0004	:	-		<0.0004	:	-	
Beryllium	mg/L	D	-		<0.0002	:	-		<0.0004	:	-		<0.0004	:
Boron	mg/L	T	0.0067	:	-		<0.0063	:	-		<0.0064	:	-	
Boron	mg/L	D	-		<0.0064	:	-		<0.0063	:	-		<0.0064	:
Cadmium	mg/L	T	0.00033	:	-		0.00046	:	-		0.0004	:	-	
Cadmium	mg/L	D	-		0.00025	:	-		0.00034	:	-		0.00041	:
Calcium	mg/L	T	45.2	:	-		48.6	:	-		66.1	:	-	
Calcium	mg/L	D	-		47.4	:	-		48.9	:	-		67.9	:
Chromium	mg/L	T	<0.0023	:	-		<0.0011	J	-		<0.0011	:	-	
Chromium	mg/L	D	-		<0.0023	:	-		<0.0011	J	-		<0.0011	:
Cobalt	mg/L	T	<0.0032	:	-		<0.0029	:	-		<0.0029	:	-	
Cobalt	mg/L	D	-		<0.0032	:	-		<0.0029	:	-		0.0055	:
Copper	mg/L	T	0.0108	:	-		0.0056	:	-		0.0049	:	-	
Copper	mg/L	D	-		0.0062	:	-		0.0027	:	-		<0.0033	:
Iron	mg/L	T	0.721	J	-		<0.125	:	-		<0.0455	:	-	
Iron	mg/L	D	-		1.06	J	-		<0.0278	:	-		<0.0455	:
Lead	mg/L	T	0.0025	:	-		0.00021	:	-		<0.0002	:	-	
Lead	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Magnesium	mg/L	T	9.59	:	-		10.5	:	-		13.9	:	-	
Magnesium	mg/L	D	-		9.98	:	-		10.6	:	-		14.3	:
Manganese	mg/L	T	0.0946	:	-		0.0938	:	-		0.0915	:	-	
Manganese	mg/L	D	-		0.0858	:	-		0.0932	:	-		0.0982	:
Mercury	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39
			Sample Date	9/9/2003	9/9/2003	11/3/2003	11/3/2003	12/11/2003	12/11/2003
			Sample ID	RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39-D01N-SFW UDS	RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39-D01N-SFW UDS	RR-DS-SPRING39-T01N-SFW UDS	RR-DS-SPRING39-D01N-SFW UDS
Molybdenum	mg/L	T		0.0022 :	-	<0.0027 :	-	0.0038 :	-
Molybdenum	mg/L	D		-	0.0022 :	-	<0.0026 :	-	0.0039 :
Nickel	mg/L	T		0.0144 :	-	0.0172 :	-	0.0204 J	-
Nickel	mg/L	D		-	0.0132 :	-	0.017 :	-	0.02 J
Potassium	mg/L	T		1.54 :	-	1.1 J	-	1.35 :	-
Potassium	mg/L	D		-	1.46 :	-	1.27 J	-	1.43 :
Selenium	mg/L	T		0.00033 J	-	0.00032 :	-	0.00044 J	-
Selenium	mg/L	D		-	<0.0003 J	-	<0.0003 :	-	<0.0003 J
Silver	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Silver	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Sodium	mg/L	T		4.9 :	-	5.29 :	-	6.67 :	-
Sodium	mg/L	D		-	5.47 :	-	5.26 :	-	6.26 :
Thallium	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T		0.00056 :	-	0.00012 :	-	<0.0029 :	-
Vanadium	mg/L	D		-	0.00014 :	-	<0.0001 :	-	<0.0029 :
Zinc	mg/L	T		0.0758 :	-	0.0994 :	-	0.1 :	-
Zinc	mg/L	D		-	0.0628 :	-	0.0902 :	-	0.101 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RRS-12
			Sample Date	1/13/2004	1/13/2004	4/13/2004	4/13/2004	4/15/2004	10/7/2002
			Sample ID	RR-DS-SPRING39-T01N-SFW	RR-DS-SPRING39-D01N-SFW	RR-DS-SPRING39-T01N-SFW	RR-DS-SPRING39-D01N-SFW	RR-DS-SPRING39-T01N-SFW	RRS-12-T01N-SFW
				UDS	UDS	UDS	UDS	UDS	RUCCR
Field Measurements									
DO	mg/L	T		7.87 :	-	9.78 :	-	-	10.09 :
Eh	millivolts	T		188. :	-	162. :	-	-	335.5 :
Flow	cfs	T		9.7 :	-	-	-	25.13 :	2.88 :
pH	SU	T		6.9 J	-	7.6 J	-	-	6.42 :
Specific Conductance	uS/cm	T		373. :	-	310. :	-	-	203. :
Temperature	Celsius	T		1.37 :	-	7.64 :	-	-	5.13 :
Turbidity	NTU	T		6.7 :	-	2.9 :	-	-	9.9 :
General Chemistry									
Ammonia	mg/L	T		0.05 :	-	<0.1 :	-	-	<0.042 :
Bicarbonate (as CaCO3)	mg/L	T		56.4 J	-	68.6 :	-	-	35.6 :
Biochemical Oxygen Demand	mg/L	T		<1.4 :	-	<1.3 :	-	-	<1.3 J
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Chemical Oxygen Demand	mg/L	T		84.6 :	-	<20. :	-	-	<20. :
Chloride	mg/L	T		3.2 :	-	4.5 :	-	-	1.1 :
Fluoride	mg/L	T		0.75 :	-	0.44 :	-	-	0.47 :
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	-	<1. :
Nitrate	mg/L	T		0.64 J	-	0.38 J	-	-	<0.2 J
Nitrite	mg/L	T		0.007 :	-	<0.005 J	-	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		<0.05 J	-	<0.01 J	-	-	<0.01 J
Phosphorus	mg/L	T		0.018 :	-	0.017 :	-	-	<0.061 :
Sulfate	mg/L	T		116. :	-	75.6 :	-	-	65.1 :
Total Alkalinity	mg/L	T		56.4 J	-	68.6 :	-	-	35.6 :
Total Dissolved Solids	mg/L	T		268. :	-	190. :	-	-	151. :
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	-	<0.24 :
Total Organic Carbon	mg/L	T		0.5 J	-	<2.9 :	-	-	<1. :
Total Suspended Solids	mg/L	T		5.7 :	-	8.1 :	-	-	17.5 :
Laboratory Parameters									
pH	SU	T		6.9 J	-	7.6 J	-	-	6.42 :
Specific Conductance	umhos/cm	T		341. J	-	262. J	-	-	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		166. :	-	136. :	-	-	96.1 :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-DS-SPRING39 1/13/2004 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 1/13/2004 RR-DS-SPRING39-D01N-SFW UDS		RR-DS-SPRING39 4/13/2004 RR-DS-SPRING39-T01N-SFW UDS		RR-DS-SPRING39 4/13/2004 RR-DS-SPRING39-D01N-SFW UDS		RR-DS-SPRING39 4/15/2004 RR-DS-SPRING39-T01N-SFW UDS		RRS-12 10/7/2002 RRS-12-T01N-SFW RUCCR	
Hardness	mg/L	D	-		164.	:	-		132.	:	-		-	
Metals														
Aluminum	mg/L	T	0.562	:	-		0.552	:	-		-		0.17	:
Aluminum	mg/L	D	-		0.141	:	-		<0.134	:	-		-	
Antimony	mg/L	T	<0.0012	:	-		<0.0004	J	-		-		<0.0002	:
Antimony	mg/L	D	-		<0.0012	:	-		<0.0004	J	-		-	
Arsenic	mg/L	T	<0.0002	:	-		<0.0002	:	-		-		<0.0002	:
Arsenic	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		-	
Barium	mg/L	T	0.0356	:	-		0.0416	:	-		-		0.0251	:
Barium	mg/L	D	-		0.0336	:	-		0.0384	:	-		-	
Beryllium	mg/L	T	<0.001	:	-		<0.0002	:	-		-		<0.0003	:
Beryllium	mg/L	D	-		<0.0014	:	-		<0.0002	:	-		-	
Boron	mg/L	T	<0.0117	:	-		<0.0044	:	-		-		<0.005	:
Boron	mg/L	D	-		<0.0117	:	-		<0.0044	:	-		-	
Cadmium	mg/L	T	0.00029	:	-		<0.0002	:	-		-		<0.0001	:
Cadmium	mg/L	D	-		0.00025	:	-		<0.0002	:	-		-	
Calcium	mg/L	T	49.4	:	-		40.6	:	-		-		28.7	:
Calcium	mg/L	D	-		48.6	:	-		39.3	:	-		-	
Chromium	mg/L	T	<0.0057	:	-		<0.00089	:	-		-		<0.00034	:
Chromium	mg/L	D	-		<0.0057	:	-		<0.0008	:	-		-	
Chromium, Hexavalent	mg/L	D	-		-		-		-		-		0.0015	J
Cobalt	mg/L	T	<0.0037	:	-		<0.0011	:	-		-		<0.0001	:
Cobalt	mg/L	D	-		0.0079	:	-		0.002	:	-		-	
Copper	mg/L	T	0.0048	:	-		0.0079	:	-		-		<0.00078	:
Copper	mg/L	D	-		0.0022	:	-		0.0025	J	-		-	
Iron	mg/L	T	0.048	:	-		0.205	:	-		-		<0.0821	:
Iron	mg/L	D	-		<0.0423	:	-		<0.0192	:	-		-	
Lead	mg/L	T	0.00031	:	-		0.00043	:	-		-		<0.00012	:
Lead	mg/L	D	-		<0.0001	:	-		<0.0004	:	-		-	
Magnesium	mg/L	T	10.4	:	-		8.38	:	-		-		5.93	:
Magnesium	mg/L	D	-		10.3	:	-		8.1	:	-		-	
Manganese	mg/L	T	0.0982	:	-		0.101	:	-		-		0.0281	:
Manganese	mg/L	D	-		0.103	:	-		0.0859	:	-		-	
Mercury	mg/L	T	<0.0001	:	-		<0.0001	:	-		-		<0.0001	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RR-DS-SPRING39	RRS-12
			Sample Date	1/13/2004	1/13/2004	4/13/2004	4/13/2004	4/15/2004	10/7/2002
			Sample ID	RR-DS-SPRING39-T01N-SFW	RR-DS-SPRING39-D01N-SFW	RR-DS-SPRING39-T01N-SFW	RR-DS-SPRING39-D01N-SFW	RR-DS-SPRING39-T01N-SFW	RRS-12-T01N-SFW
				UDS	UDS	UDS	UDS	UDS	RUCCR
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	-
Molybdenum	mg/L	T		0.0027 :	-	<0.0027 :	-	-	0.00053 :
Molybdenum	mg/L	D		-	0.0028 :	-	<0.0028 :	-	-
Nickel	mg/L	T		0.0125 :	-	0.009 :	-	-	0.0012 :
Nickel	mg/L	D		-	0.0123 :	-	0.0085 :	-	-
Potassium	mg/L	T		1.75 J	-	1.11 :	-	-	1.33 :
Potassium	mg/L	D		-	<1.1 J	-	1.06 :	-	-
Selenium	mg/L	T		0.00064 J	-	<0.0007 :	-	-	0.00024 :
Selenium	mg/L	D		-	0.00033 J	-	<0.0007 :	-	-
Silver	mg/L	T		<0.0001 :	-	<0.0001 :	-	-	<0.0001 :
Silver	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	-
Sodium	mg/L	T		<5.69 :	-	5.14 :	-	-	5.07 :
Sodium	mg/L	D		-	<5.36 :	-	5. :	-	-
Thallium	mg/L	T		<0.0001 :	-	<0.0001 :	-	-	<0.0001 :
Thallium	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	-
Vanadium	mg/L	T		<0.0002 :	-	0.0004 :	-	-	0.00013 :
Vanadium	mg/L	D		-	<0.0002 :	-	0.0002 :	-	-
Zinc	mg/L	T		0.0771 :	-	0.0463 :	-	-	<0.0311 J
Zinc	mg/L	D		-	0.069 :	-	0.0323 :	-	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-12	RRS-12	RRS-12	RRS-12	RRS-12	RRS-12
			Sample Date	10/7/2002	3/23/2003	3/23/2003	7/16/2003	7/16/2003	9/25/2003
			Sample ID	RRS-12-D01N-SFW	RRS-12-T01N-SFW	RRS-12-D01N-SFW	RRS-12-T01N-SFW	RRS-12-D01N-SFW	RRS-12-T01N-SFW
				RUCCR	RUCCR	RUCCR	RUCCR	RUCCR	RUCCR
Field Measurements									
DO	mg/L	T		-	10.24 :	-	8.46 :	-	10.27 :
Eh	millivolts	T		-	168.6 :	-	264.9 :	-	338.7 :
Flow	cfs	T		-	2. :	-	1.1 :	-	1.4 :
pH	SU	T		-	7.5 J	-	7.6 J	-	7.6 J
Specific Conductance	uS/cm	T		-	206. :	-	205. :	-	231. :
Temperature	Celsius	T		-	2.75 :	-	16.13 :	-	10.39 :
Turbidity	NTU	T		-	64.6 :	-	1.7 :	-	4.2 :
General Chemistry									
Ammonia	mg/L	T		-	<0.083 J	-	0.041 :	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		-	44.5 :	-	41.1 :	-	48.3 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.4 J	-	1.6 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	0.89 :	-	<0.99 :	-	0.75 :
Fluoride	mg/L	T		-	0.47 :	-	<0.51 :	-	0.53 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<0.4 J	-	<1. J	-	<0.2 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 :	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.3 :
Phosphorus	mg/L	T		-	<0.012 :	-	<0.01 :	-	<0.01 :
Sulfate	mg/L	T		-	55. :	-	54.8 :	-	50.8 J
Total Alkalinity	mg/L	T		-	44.5 :	-	41.1 :	-	48.3 :
Total Dissolved Solids	mg/L	T		-	168. :	-	140. :	-	152. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	2.2 :	-	1.7 :	-	1.9 :
Total Suspended Solids	mg/L	T		-	<1.2 :	-	5.6 :	-	1. :
Laboratory Parameters									
pH	SU	T		-	7.5 J	-	7.6 J	-	7.6 J
Specific Conductance	umhos/cm	T		-	183. J	-	183. J	-	185. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	92.6 :	-	90.7 :	-	90.5 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR	
			RRS-12 10/7/2002 RRS-12-D01N-SFW RUCCR		RRS-12 3/23/2003 RRS-12-T01N-SFW RUCCR		RRS-12 3/23/2003 RRS-12-D01N-SFW RUCCR		RRS-12 7/16/2003 RRS-12-T01N-SFW RUCCR		RRS-12 7/16/2003 RRS-12-D01N-SFW RUCCR		RRS-12 9/25/2003 RRS-12-T01N-SFW RUCCR	
Hardness	mg/L	D	95.	:	-		91.4	:	-		90.6	:	-	
Metals														
Aluminum	mg/L	T	-		<0.168	:	-		0.104	:	-		0.147	:
Aluminum	mg/L	D	0.0891	:	-		<0.0799	:	-		0.0719	:	-	
Antimony	mg/L	T	-		<0.0006	:	-		<0.0005	:	-		<0.00011	:
Antimony	mg/L	D	<0.0002	:	-		<0.0006	:	-		<0.0005	:	-	
Arsenic	mg/L	T	-		<0.00046	:	-		<0.0002	:	-		<0.00038	:
Arsenic	mg/L	D	<0.0002	:	-		<0.00048	:	-		<0.0002	:	-	
Barium	mg/L	T	-		0.0232	:	-		0.0257	:	-		0.0253	:
Barium	mg/L	D	0.0245	:	-		0.0234	:	-		0.0251	:	-	
Beryllium	mg/L	T	-		<0.0015	:	-		<0.0002	:	-		<0.00047	:
Beryllium	mg/L	D	<0.0003	:	-		<0.00076	:	-		<0.0002	:	-	
Boron	mg/L	T	-		<0.0084	:	-		<0.0048	:	-		<0.0048	:
Boron	mg/L	D	<0.005	:	-		<0.0084	:	-		<0.0048	:	-	
Cadmium	mg/L	T	-		<0.0005	:	-		<0.0002	:	-		<0.00008	:
Cadmium	mg/L	D	<0.0001	:	-		<0.0005	:	-		<0.0002	:	-	
Calcium	mg/L	T	-		27.9	:	-		27.3	:	-		27.1	:
Calcium	mg/L	D	28.4	:	-		27.5	:	-		27.3	:	-	
Chromium	mg/L	T	-		<0.0013	:	-		<0.0014	J	-		<0.001	:
Chromium	mg/L	D	<0.00033	:	-		<0.001	:	-		<0.0014	J	-	
Cobalt	mg/L	T	-		<0.0038	:	-		<0.002	:	-		<0.0011	:
Cobalt	mg/L	D	<0.0001	:	-		<0.0038	:	-		<0.002	:	-	
Copper	mg/L	T	-		<0.0015	:	-		<0.0009	:	-		<0.00058	:
Copper	mg/L	D	<0.0012	:	-		<0.0015	:	-		<0.0009	:	-	
Iron	mg/L	T	-		<0.422	:	-		<0.0333	J	-		<0.0606	:
Iron	mg/L	D	0.0395	:	-		<0.422	:	-		<0.0333	J	-	
Lead	mg/L	T	-		<0.0002	:	-		0.00011	:	-		<0.00015	:
Lead	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Magnesium	mg/L	T	-		5.56	:	-		5.49	:	-		5.54	:
Magnesium	mg/L	D	5.86	:	-		5.51	:	-		5.48	:	-	
Manganese	mg/L	T	-		<0.013	:	-		0.0096	:	-		0.0091	:
Manganese	mg/L	D	0.0178	:	-		<0.013	:	-		0.0055	J	-	
Mercury	mg/L	T	-		<0.0001	:	-		<0.0001	:	-		<0.00006	:
Mercury	mg/L	D	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RRS-12 10/7/2002 RRS-12-D01N-SFW RUCCR		RRS-12 3/23/2003 RRS-12-T01N-SFW RUCCR		RRS-12 3/23/2003 RRS-12-D01N-SFW RUCCR		RRS-12 7/16/2003 RRS-12-T01N-SFW RUCCR		RRS-12 7/16/2003 RRS-12-D01N-SFW RUCCR		RRS-12 9/25/2003 RRS-12-T01N-SFW RUCCR	
Molybdenum	mg/L	T	-		<0.0023	:	-		0.00042	:	-		<0.0011	:
Molybdenum	mg/L	D	0.00051	:	-		<0.0023	:	-		0.00041	:	-	
Nickel	mg/L	T	-		<0.003	:	-		0.0016	:	-		<0.002	:
Nickel	mg/L	D	0.0016	:	-		<0.003	:	-		0.0014	:	-	
Potassium	mg/L	T	-		1.12	:	-		1.53	:	-		1.46	:
Potassium	mg/L	D	1.32	:	-		1.22	:	-		1.57	:	-	
Selenium	mg/L	T	-		<0.001	:	-		<0.0008	:	-		<0.00073	:
Selenium	mg/L	D	<0.0002	:	-		<0.0035	:	-		<0.0008	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Silver	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Sodium	mg/L	T	-		<10.7	:	-		5.32	:	-		4.79	:
Sodium	mg/L	D	5.21	:	-		<10.8	:	-		5.28	:	-	
Thallium	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Thallium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		<0.0002	:	-		0.00023	:	-		<0.00052	:
Vanadium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0002	:	-	
Zinc	mg/L	T	-		<0.0398	:	-		0.0195	:	-		0.023	:
Zinc	mg/L	D	0.0259	:	-		<0.039	:	-		0.016	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-12	RRS-13	RRS-13	RRS-13	RRS-13	RRS-13
			Sample Date	9/25/2003	10/6/2002	10/6/2002	3/23/2003	3/23/2003	7/16/2003
			Sample ID	RRS-12-D01N-SFW	RRS-13-T01N-SFW	RRS-13-D01N-SFW	RRS-13-T01N-SFW	RRS-13-D01N-SFW	RRS-13-T01N-SFW
				RUCCR	RUCCR	RUCCR	RUCCR	RUCCR	RUCCR
Field Measurements									
DO	mg/L	T		-	8.82 :	-	10.07 :	-	8.62 :
Eh	millivolts	T		-	339.3 :	-	108.6 :	-	430.2 :
Flow	cfs	T		-	5.05 :	-	3.4 :	-	7.5 :
pH	SU	T		-	6.52 :	-	7.6 J	-	7.6 J
Specific Conductance	uS/cm	T		-	165. :	-	159. :	-	131. :
Temperature	Celsius	T		-	9.9 :	-	2.97 :	-	13.35 :
Turbidity	NTU	T		-	0.3 :	-	63.6 :	-	1.6 :
General Chemistry									
Ammonia	mg/L	T		-	<0.025 :	-	<0.07 J	-	<0.04 J
Bicarbonate (as CaCO3)	mg/L	T		-	49.1 :	-	50.7 :	-	45. J
Biochemical Oxygen Demand	mg/L	T		-	<1.3 J	-	<1.5 J	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. J
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. J
Chloride	mg/L	T		-	1.4 :	-	0.7 :	-	<0.44 :
Fluoride	mg/L	T		-	0.53 :	-	0.32 :	-	<0.29 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. J
Nitrate	mg/L	T		-	<0.5 J	-	<0.4 J	-	<0.4 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	0.021 J	-	0.082 J	-	<0.01 J
Phosphorus	mg/L	T		-	<0.01 :	-	<0.01 J	-	0.013 :
Sulfate	mg/L	T		-	33.6 :	-	32. :	-	19.1 :
Total Alkalinity	mg/L	T		-	49.1 :	-	50.7 :	-	45. J
Total Dissolved Solids	mg/L	T		-	111. :	-	<132. :	-	174. J
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 J
Total Organic Carbon	mg/L	T		-	<1. :	-	<1. :	-	1.4 :
Total Suspended Solids	mg/L	T		-	<1.2 :	-	<0.5 :	-	<1.3 :
Laboratory Parameters									
pH	SU	T		-	6.52 :	-	7.6 J	-	7.6 J
Specific Conductance	umhos/cm	T		-	-	-	148. J	-	113. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	75.3 :	-	77.8 :	-	57.4 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-12	RRS-13	RRS-13	RRS-13	RRS-13	RRS-13
			Sample Date	9/25/2003	10/6/2002	10/6/2002	3/23/2003	3/23/2003	7/16/2003
			Sample ID	RRS-12-D01N-SFW	RRS-13-T01N-SFW	RRS-13-D01N-SFW	RRS-13-T01N-SFW	RRS-13-D01N-SFW	RRS-13-T01N-SFW
				RUCCR	RUCCR	RUCCR	RUCCR	RUCCR	RUCCR
Hardness	mg/L	D		90.4 :	-	74.9 :	-	75.7 :	-
Metals									
Aluminum	mg/L	T		-	0.0518 :	-	<0.0799 :	-	0.0354 :
Aluminum	mg/L	D		0.0789 :	-	<0.0375 :	-	<0.0503 :	-
Antimony	mg/L	T		-	<0.0002 :	-	<0.0006 :	-	<0.0005 :
Antimony	mg/L	D		<0.00021 :	-	<0.0002 :	-	<0.0006 :	-
Arsenic	mg/L	T		-	<0.0002 :	-	<0.00048 :	-	<0.0002 :
Arsenic	mg/L	D		<0.00038 :	-	<0.0002 :	-	<0.00059 :	-
Barium	mg/L	T		-	0.0158 :	-	0.0154 :	-	0.0111 :
Barium	mg/L	D		0.0248 :	-	0.0157 :	-	0.0148 :	-
Beryllium	mg/L	T		-	<0.0002 :	-	<0.0014 :	-	<0.0002 :
Beryllium	mg/L	D		<0.00047 :	-	<0.0002 :	-	<0.0014 :	-
Boron	mg/L	T		-	<0.0048 :	-	<0.0084 :	-	<0.0048 :
Boron	mg/L	D		0.0048 :	-	<0.0048 :	-	<0.0084 :	-
Cadmium	mg/L	T		-	0.00013 :	-	<0.0005 :	-	<0.0002 :
Cadmium	mg/L	D		<0.00008 :	-	<0.0001 :	-	<0.0005 :	-
Calcium	mg/L	T		-	23.9 :	-	24.6 :	-	18.7 :
Calcium	mg/L	D		27.1 :	-	23.8 :	-	23.9 :	-
Chromium	mg/L	T		-	<0.0046 :	-	<0.0011 :	-	<0.0014 J
Chromium	mg/L	D		<0.001 :	-	<0.0046 :	-	<0.001 :	-
Cobalt	mg/L	T		-	<0.0022 :	-	<0.0038 :	-	<0.002 :
Cobalt	mg/L	D		<0.0011 :	-	<0.0022 :	-	<0.0038 :	-
Copper	mg/L	T		-	0.00075 :	-	<0.0015 :	-	<0.0024 :
Copper	mg/L	D		<0.00056 :	-	0.0019 :	-	<0.0015 :	-
Iron	mg/L	T		-	<0.0226 :	-	<0.422 :	-	<0.0333 :
Iron	mg/L	D		<0.044 :	-	0.0232 :	-	<0.422 :	-
Lead	mg/L	T		-	<0.00018 :	-	<0.0002 :	-	<0.0001 :
Lead	mg/L	D		<0.00004 :	-	<0.0001 :	-	<0.0002 :	-
Magnesium	mg/L	T		-	3.77 :	-	4. :	-	2.63 :
Magnesium	mg/L	D		5.52 :	-	3.75 :	-	3.88 :	-
Manganese	mg/L	T		-	<0.0029 :	-	<0.013 :	-	0.00076 J
Manganese	mg/L	D		<0.007 :	-	0.0025 :	-	<0.013 :	-
Mercury	mg/L	T		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Mercury	mg/L	D		<0.00006 :	-	<0.0001 :	-	<0.0001 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR	
			RRS-12 9/25/2003 RRS-12-D01N-SFW RUCCR		RRS-13 10/6/2002 RRS-13-T01N-SFW RUCCR		RRS-13 10/6/2002 RRS-13-D01N-SFW RUCCR		RRS-13 3/23/2003 RRS-13-T01N-SFW RUCCR		RRS-13 3/23/2003 RRS-13-D01N-SFW RUCCR		RRS-13 7/16/2003 RRS-13-T01N-SFW RUCCR	
Molybdenum	mg/L	T	-		<0.00067	:	-		<0.0023	:	-		<0.0017	:
Molybdenum	mg/L	D	<0.00087	:	-		<0.0007	:	-		<0.0023	:	-	
Nickel	mg/L	T	-		0.00061	:	-		<0.003	:	-		<0.0021	J
Nickel	mg/L	D	<0.002	:	-		0.00096	:	-		<0.003	:	-	
Potassium	mg/L	T	-		0.979	:	-		0.8	:	-		0.805	:
Potassium	mg/L	D	1.44	J	-		0.973	:	-		0.792	:	-	
Selenium	mg/L	T	-		0.0004	:	-		<0.0021	:	-		<0.0008	:
Selenium	mg/L	D	<0.00073	J	-		<0.0002	:	-		<0.001	:	-	
Silver	mg/L	T	-		<0.0001	:	-		<0.0002	:	-		<0.0001	J
Silver	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.0002	:	-	
Sodium	mg/L	T	-		3.77	:	-		<9.94	:	-		3.17	:
Sodium	mg/L	D	4.77	:	-		3.64	:	-		<12.5	:	-	
Thallium	mg/L	T	-		<0.0001	:	-		<0.0002	:	-		<0.0001	:
Thallium	mg/L	D	<0.00001	:	-		<0.0001	:	-		<0.0002	:	-	
Vanadium	mg/L	T	-		0.0002	:	-		<0.0002	:	-		0.00033	:
Vanadium	mg/L	D	<0.00044	:	-		0.0002	:	-		<0.0002	:	-	
Zinc	mg/L	T	-		0.0102	:	-		<0.039	:	-		<0.0038	:
Zinc	mg/L	D	0.0216	:	-		0.0102	:	-		<0.039	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-13	RRS-13	RRS-13	RRS-15	RRS-15	RRS-15
			Sample Date	7/16/2003	9/25/2003	9/25/2003	10/6/2002	10/6/2002	3/23/2003
			Sample ID	RRS-13-D01N-SFW	RRS-13-T01N-SFW	RR-13-T01N-SFW	RRS-15-T01N-SFW	RRS-15-D01N-SFW	RRS-15-T01N-SFW
				RUCCR	RUCCR	RUCCR	RUCCR	RUCCR	RUCCR
Field Measurements									
DO	mg/L	T		-	8.97 :	-	9.63 :	-	10.73 :
Eh	millivolts	T		-	265.4 :	-	350.2 :	-	123.9 :
Flow	cfs	T		-	5.2 :	-	3.6 :	-	3.8 :
pH	SU	T		-	7.67 :	7.8 J	6.62 :	-	7.6 J
Specific Conductance	uS/cm	T		-	153. :	-	167. :	-	171. :
Temperature	Celsius	T		-	8.83 :	-	9.57 :	-	2.01 :
Turbidity	NTU	T		-	1.7 :	-	0.4 :	-	63.4 :
General Chemistry									
Ammonia	mg/L	T		-	-	<0.04 :	<0.024 :	-	<0.083 J
Bicarbonate (as CaCO3)	mg/L	T		-	-	48.1 :	50.7 :	-	48.6 :
Biochemical Oxygen Demand	mg/L	T		-	-	2.1 J	<1.3 J	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	-	<1. :	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	-	<20. :	<20. :	-	<20. :
Chloride	mg/L	T		-	-	<0.47 :	<1. :	-	0.9 :
Fluoride	mg/L	T		-	-	0.3 :	0.44 :	-	0.32 :
Hydroxide (as CaCO3)	mg/L	T		-	-	<1. :	<1. :	-	<1. :
Nitrate	mg/L	T		-	-	<0.2 J	<0.5 J	-	<0.4 J
Nitrite	mg/L	T		-	-	<0.005 J	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	-	<0.01 :	0.016 J	-	<0.01 J
Phosphorus	mg/L	T		-	-	<0.01 :	<0.011 :	-	<0.01 :
Sulfate	mg/L	T		-	-	20.5 J	36. :	-	32.7 :
Total Alkalinity	mg/L	T		-	-	48.1 :	50.7 :	-	48.6 :
Total Dissolved Solids	mg/L	T		-	-	110. :	107. :	-	<118. :
Total Kjeldahl Nitrogen	mg/L	T		-	-	<0.24 :	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	-	1.5 :	<1. :	-	1.4 :
Total Suspended Solids	mg/L	T		-	-	2.5 :	<1.4 :	-	<0.8 :
Laboratory Parameters									
pH	SU	T		-	7.67 :	7.8 J	6.62 :	-	7.6 J
Specific Conductance	umhos/cm	T		-	-	120. J	-	-	146. J
Inorganics									
Cyanide	mg/L	T		-	-	<0.01 :	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	-	64.2 :	78.6 :	-	79.6 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-13	RRS-13	RRS-13	RRS-15	RRS-15	RRS-15
			Sample Date	7/16/2003	9/25/2003	9/25/2003	10/6/2002	10/6/2002	3/23/2003
			Sample ID	RRS-13-D01N-SFW	RRS-13-T01N-SFW	RR-13-T01N-SFW	RRS-15-T01N-SFW	RRS-15-D01N-SFW	RRS-15-T01N-SFW
				RUCCR	RUCCR	RUCCR	RUCCR	RUCCR	RUCCR
Hardness	mg/L	D		56.5 :	-	-	-	77.2 :	-
Metals									
Aluminum	mg/L	T		-	-	0.0594 :	0.0411 :	-	<0.0566 :
Aluminum	mg/L	D		<0.0236 :	-	-	-	<0.0262 :	-
Antimony	mg/L	T		-	-	<0.00059 :	<0.0002 :	-	<0.00084 :
Antimony	mg/L	D		<0.0005 :	-	-	-	<0.0002 :	-
Arsenic	mg/L	T		-	-	<0.00038 :	<0.0002 :	-	<0.00051 :
Arsenic	mg/L	D		<0.0002 :	-	-	-	<0.0002 :	-
Barium	mg/L	T		-	-	0.0131 :	0.0159 :	-	0.016 :
Barium	mg/L	D		0.0106 :	-	-	-	0.0154 :	-
Beryllium	mg/L	T		-	-	<0.00047 :	<0.0002 :	-	<0.00047 :
Beryllium	mg/L	D		<0.0002 :	-	-	-	<0.0002 :	-
Boron	mg/L	T		-	-	<0.0048 :	<0.0048 :	-	<0.0084 :
Boron	mg/L	D		<0.0048 :	-	-	-	<0.0048 :	-
Cadmium	mg/L	T		-	-	<0.00008 :	<0.0001 :	-	<0.0005 :
Cadmium	mg/L	D		<0.0002 :	-	-	-	<0.0001 :	-
Calcium	mg/L	T		-	-	20.6 :	25. :	-	25.1 :
Calcium	mg/L	D		18.4 :	-	-	-	24.5 :	-
Chromium	mg/L	T		-	-	<0.001 :	<0.0046 :	-	<0.001 :
Chromium	mg/L	D		<0.0014 J	-	-	-	<0.0046 :	-
Cobalt	mg/L	T		-	-	<0.0011 :	<0.0022 :	-	<0.0038 :
Cobalt	mg/L	D		<0.002 :	-	-	-	<0.0022 :	-
Copper	mg/L	T		-	-	<0.00048 :	0.0003 :	-	<0.0015 :
Copper	mg/L	D		<0.0024 :	-	-	-	<0.0003 :	-
Iron	mg/L	T		-	-	<0.076 :	0.0314 :	-	<0.422 :
Iron	mg/L	D		<0.0333 :	-	-	-	<0.0226 :	-
Lead	mg/L	T		-	-	<0.00019 :	<0.00011 :	-	<0.0002 :
Lead	mg/L	D		<0.0001 :	-	-	-	<0.0001 :	-
Magnesium	mg/L	T		-	-	3.11 :	3.94 :	-	4.11 :
Magnesium	mg/L	D		2.58 :	-	-	-	3.88 :	-
Manganese	mg/L	T		-	-	<0.0041 :	<0.0025 :	-	<0.013 :
Manganese	mg/L	D		<0.0007 J	-	-	-	<0.0025 :	-
Mercury	mg/L	T		-	-	<0.00006 :	<0.0001 :	-	<0.0001 :
Mercury	mg/L	D		<0.0001 :	-	-	-	<0.0001 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR	
			RRS-13 7/16/2003 RRS-13-D01N-SFW RUCCR		RRS-13 9/25/2003 RRS-13-T01N-SFW RUCCR		RRS-13 9/25/2003 RR-13-T01N-SFW RUCCR		RRS-15 10/6/2002 RRS-15-T01N-SFW RUCCR		RRS-15 10/6/2002 RRS-15-D01N-SFW RUCCR		RRS-15 3/23/2003 RRS-15-T01N-SFW RUCCR	
Molybdenum	mg/L	T	-		-		<0.0011	:	<0.00081	:	-		<0.0023	:
Molybdenum	mg/L	D	<0.0017	:	-		-		-		<0.0007	:	-	
Nickel	mg/L	T	-		-		<0.00094	:	0.0004	:	-		<0.003	:
Nickel	mg/L	D	<0.0021	J	-		-		-		0.00043	:	-	
Potassium	mg/L	T	-		-		<0.917	:	1.02	:	-		0.8	:
Potassium	mg/L	D	0.759	:	-		-		-		1.02	:	-	
Selenium	mg/L	T	-		-		<0.00073	:	0.00028	:	-		<0.0018	:
Selenium	mg/L	D	<0.0008	:	-		-		-		<0.0002	:	-	
Silver	mg/L	T	-		-		<0.0002	:	<0.0001	:	-		<0.0002	:
Silver	mg/L	D	<0.0001	J	-		-		-		<0.0001	:	-	
Sodium	mg/L	T	-		-		3.14	:	3.7	:	-		<9.16	:
Sodium	mg/L	D	3.09	:	-		-		-		3.73	:	-	
Thallium	mg/L	T	-		-		<0.00001	:	<0.0001	:	-		<0.0002	:
Thallium	mg/L	D	<0.0001	:	-		-		-		<0.0001	:	-	
Vanadium	mg/L	T	-		-		0.00056	:	0.00026	:	-		<0.0002	:
Vanadium	mg/L	D	0.0003	:	-		-		-		0.00019	:	-	
Zinc	mg/L	T	-		-		<0.013	:	0.0086	:	-		<0.039	:
Zinc	mg/L	D	<0.0038	:	-		-		-		0.0078	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-15	RRS-15	RRS-15	RRS-15	RRS-15	RRS-18
			Sample Date	3/23/2003	7/16/2003	7/16/2003	9/25/2003	9/25/2003	10/6/2002
			Sample ID	RRS-15-D01N-SFW	RRS-15-T01N-SFW	RRS-15-D01N-SFW	RRS-15-T01N-SFW	RRS-15-D01N-SFW	RRS-18-T01N-SFW
				RUCCR	RUCCR	RUCCR	RUCCR	RUCCR	RLCCR
Field Measurements									
DO	mg/L	T		-	8.15 :	-	9.55 :	-	8.39 :
Eh	millivolts	T		-	344.7 :	-	194.9 :	-	312.6 :
Flow	cfs	T		-	6.9 :	-	5.1 :	-	0.01 :
pH	SU	T		-	7.9 J	-	8.1 J	-	6.98 :
Specific Conductance	uS/cm	T		-	135. :	-	156. :	-	215. :
Temperature	Celsius	T		-	14.37 :	-	9.17 :	-	10.2 :
Turbidity	NTU	T		-	1.9 :	-	1.7 :	-	0. :
General Chemistry									
Ammonia	mg/L	T		-	0.054 :	-	<0.04 :	-	<0.024 :
Bicarbonate (as CaCO3)	mg/L	T		-	46.9 :	-	48.9 :	-	62.2 :
Biochemical Oxygen Demand	mg/L	T		-	2.2 J	-	<1.4 J	-	<1.3 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	<0.78 :	-	1.1 :	-	<1. :
Fluoride	mg/L	T		-	<0.28 J	-	0.29 :	-	<0.31 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<1. J	-	0.35 J	-	<0.5 J
Nitrite	mg/L	T		-	<0.005 :	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	0.01 :	-	<0.01 :	-	0.031 J
Phosphorus	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.011 :
Sulfate	mg/L	T		-	19.8 :	-	26.9 J	-	48.1 :
Total Alkalinity	mg/L	T		-	46.9 :	-	48.9 :	-	62.2 :
Total Dissolved Solids	mg/L	T		-	<70. :	-	<48. J	-	133. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	2.2 :	-	<1. :	-	<1. :
Total Suspended Solids	mg/L	T		-	2. :	-	3.4 :	-	<0.56 :
Laboratory Parameters									
pH	SU	T		-	7.9 J	-	8.1 J	-	6.98 :
Specific Conductance	umhos/cm	T		-	122. J	-	123. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	58.5 :	-	63. :	-	109. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area Fraction	RRS-15 3/23/2003 RRS-15-D01N-SFW RUCCR		RRS-15 7/16/2003 RRS-15-T01N-SFW RUCCR		RRS-15 7/16/2003 RRS-15-D01N-SFW RUCCR		RRS-15 9/25/2003 RRS-15-T01N-SFW RUCCR		RRS-15 9/25/2003 RRS-15-D01N-SFW RUCCR		RRS-18 10/6/2002 RRS-18-T01N-SFW RLCCR	
Hardness	mg/L	D	80.	:	-		61.6	:	-		-		-	
Metals														
Aluminum	mg/L	T	-		<0.0236	:	-		0.135	:	-		<0.0133	:
Aluminum	mg/L	D	<0.0503	:	-		<0.0236	:	-		<0.0163	:	-	
Antimony	mg/L	T	-		<0.0005	:	-		<0.00073	:	-		<0.0002	:
Antimony	mg/L	D	<0.0006	:	-		<0.0005	:	-		<0.00054	:	-	
Arsenic	mg/L	T	-		<0.0002	:	-		<0.00038	:	-		<0.0002	:
Arsenic	mg/L	D	<0.00054	:	-		<0.0002	:	-		<0.00038	:	-	
Barium	mg/L	T	-		0.011	:	-		0.0143	:	-		0.025	:
Barium	mg/L	D	0.015	:	-		0.0114	:	-		0.0124	:	-	
Beryllium	mg/L	T	-		<0.0002	:	-		<0.00047	:	-		<0.0002	:
Beryllium	mg/L	D	0.00085	:	-		<0.0002	:	-		<0.00047	:	-	
Boron	mg/L	T	-		<0.0048	:	-		<0.0048	:	-		<0.0048	:
Boron	mg/L	D	<0.0084	:	-		<0.0048	:	-		<0.0048	:	-	
Cadmium	mg/L	T	-		<0.0002	:	-		<0.00008	:	-		<0.0001	:
Cadmium	mg/L	D	<0.0005	:	-		<0.0002	:	-		<0.00008	:	-	
Calcium	mg/L	T	-		18.9	:	-		21.3	:	-		34.3	:
Calcium	mg/L	D	25.1	:	-		19.9	:	-		20.2	:	-	
Chromium	mg/L	T	-		<0.0014	J	-		0.0011	:	-		<0.0046	:
Chromium	mg/L	D	<0.001	:	-		<0.0014	J	-		<0.001	:	-	
Cobalt	mg/L	T	-		<0.002	:	-		<0.0011	:	-		<0.0022	:
Cobalt	mg/L	D	<0.0038	:	-		<0.002	:	-		<0.0011	:	-	
Copper	mg/L	T	-		0.0011	:	-		<0.00065	:	-		<0.0003	:
Copper	mg/L	D	<0.0015	:	-		<0.0009	:	-		<0.00045	:	-	
Iron	mg/L	T	-		<0.0333	J	-		0.126	:	-		0.497	J
Iron	mg/L	D	<0.422	:	-		<0.0333	J	-		<0.044	:	-	
Lead	mg/L	T	-		<0.0001	:	-		<0.00039	:	-		<0.0001	:
Lead	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.00004	:	-	
Magnesium	mg/L	T	-		2.72	:	-		3.23	:	-		5.72	:
Magnesium	mg/L	D	4.21	:	-		2.86	:	-		3.04	:	-	
Manganese	mg/L	T	-		0.00091	J	-		0.0068	:	-		0.007	:
Manganese	mg/L	D	<0.013	:	-		<0.0007	J	-		<0.00073	:	-	
Mercury	mg/L	T	-		<0.0001	:	-		<0.00006	:	-		<0.0001	:
Mercury	mg/L	D	<0.0001	:	-		<0.0001	:	-		<0.00006	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID /											
			RRS-15 3/23/2003 RRS-15-D01N-SFW RUCCR		RRS-15 7/16/2003 RRS-15-T01N-SFW RUCCR		RRS-15 7/16/2003 RRS-15-D01N-SFW RUCCR		RRS-15 9/25/2003 RRS-15-T01N-SFW RUCCR		RRS-15 9/25/2003 RRS-15-D01N-SFW RUCCR		RRS-18 10/6/2002 RRS-18-T01N-SFW RLCCR	
Molybdenum	mg/L	T	-		0.0005	:	-		<0.0012	:	-		0.00082	:
Molybdenum	mg/L	D	<0.0023	:	-		0.00058	:	-		<0.00094	:	-	
Nickel	mg/L	T	-		<0.0006	:	-		<0.0011	:	-		0.00026	:
Nickel	mg/L	D	<0.003	:	-		<0.0006	:	-		<0.00085	:	-	
Potassium	mg/L	T	-		0.903	:	-		<0.956	:	-		1.04	:
Potassium	mg/L	D	0.724	:	-		0.964	:	-		<0.868	:	-	
Selenium	mg/L	T	-		<0.0008	:	-		<0.00073	:	-		<0.0002	:
Selenium	mg/L	D	<0.0038	:	-		<0.0008	:	-		<0.00073	:	-	
Silver	mg/L	T	-		<0.0001	J	-		<0.0002	:	-		<0.0001	:
Silver	mg/L	D	<0.0002	:	-		<0.0001	J	-		<0.0002	:	-	
Sodium	mg/L	T	-		3.24	:	-		3.45	:	-		4.66	:
Sodium	mg/L	D	<9.71	:	-		3.39	:	-		3.14	:	-	
Thallium	mg/L	T	-		<0.0001	:	-		<0.00001	:	-		<0.0001	:
Thallium	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.00001	:	-	
Vanadium	mg/L	T	-		0.00032	:	-		0.00059	:	-		0.00012	:
Vanadium	mg/L	D	<0.0002	:	-		0.00033	:	-		<0.00065	:	-	
Zinc	mg/L	T	-		<0.0069	J	-		<0.013	:	-		<0.0069	:
Zinc	mg/L	D	<0.039	:	-		<0.0033	J	-		<0.013	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-18	RRS-18	RRS-18	RRS-18	RRS-18	RRS-20
			Sample Date	10/6/2002	3/23/2003	3/23/2003	9/25/2003	9/25/2003	10/6/2002
			Sample ID	RRS-18-D01N-SFW	RRS-18-T01N-SFW	RRS-18-D01N-SFW	RRS-18-T01N-SFW	RRS-18-D01N-SFW	RRS-20-T01N-SFW
				RLCCR	RLCCR	RLCCR	RLCCR	RLCCR	RLCCR
Field Measurements									
DO	mg/L	T		-	6.75 :	-	9.16 :	-	8.47 :
Eh	millivolts	T		-	299.5 :	-	331. :	-	326.3 :
Flow	cfs	T		-	5.1 :	-	1.6 :	-	0.01 :
pH	SU	T		-	7.6 J	-	8.3 J	-	6.73 :
Specific Conductance	uS/cm	T		-	380. :	-	193. :	-	221. :
Temperature	Celsius	T		-	3.37 :	-	8.62 :	-	14.06 :
Turbidity	NTU	T		-	0. :	-	1.3 :	-	0.4 :
General Chemistry									
Ammonia	mg/L	T		-	<0.1 J	-	<0.04 :	-	<0.033 :
Bicarbonate (as CaCO3)	mg/L	T		-	55.7 :	-	55.4 :	-	62.7 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.4 J	-	<1.3 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	0.93 :	-	<0.57 :	-	<1. :
Fluoride	mg/L	T		-	0.36 :	-	0.32 :	-	<0.38 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<0.4 J	-	<0.2 :	-	<0.5 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 J	-	0.013 J
Phosphorus	mg/L	T		-	<0.011 :	-	<0.01 :	-	<0.017 :
Sulfate	mg/L	T		-	40.8 :	-	33.7 J	-	52.1 :
Total Alkalinity	mg/L	T		-	55.7 :	-	55.4 :	-	62.7 :
Total Dissolved Solids	mg/L	T		-	<108. :	-	84. :	-	157. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 J	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	5.4 :	-	1.8 :	-	1.6 :
Total Suspended Solids	mg/L	T		-	<0.6 :	-	0.9 :	-	<3.2 :
Laboratory Parameters									
pH	SU	T		-	7.6 J	-	8.3 J	-	6.73 :
Specific Conductance	umhos/cm	T		-	160. J	-	148. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	91.5 :	-	80.6 :	-	113. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RLCCR					
			RRS-18 / 10/6/2002 / RRS-18-D01N-SFW / RLCCR	RRS-18 / 3/23/2003 / RRS-18-T01N-SFW / RLCCR	RRS-18 / 3/23/2003 / RRS-18-D01N-SFW / RLCCR	RRS-18 / 9/25/2003 / RRS-18-T01N-SFW / RLCCR	RRS-18 / 9/25/2003 / RRS-18-D01N-SFW / RLCCR	RRS-20 / 10/6/2002 / RRS-20-T01N-SFW / RLCCR
Hardness	mg/L	D	105. :	-	89. :	-	-	-
Metals								
Aluminum	mg/L	T	-	<0.0503 :	-	0.0298 :	-	0.0214 :
Aluminum	mg/L	D	<0.003 :	-	<0.0503 :	-	<0.0053 :	-
Antimony	mg/L	T	-	<0.0006 :	-	0.0024 :	-	<0.0002 :
Antimony	mg/L	D	<0.0002 :	-	<0.0006 :	-	0.0028 :	-
Arsenic	mg/L	T	-	<0.00038 :	-	<0.00038 :	-	0.00023 :
Arsenic	mg/L	D	<0.0002 :	-	<0.00051 :	-	<0.00038 :	-
Barium	mg/L	T	-	0.02 :	-	0.0179 :	-	0.0263 :
Barium	mg/L	D	0.0239 :	-	0.0193 :	-	0.0183 :	-
Beryllium	mg/L	T	-	<0.0003 :	-	<0.00047 :	-	<0.0003 :
Beryllium	mg/L	D	<0.0002 :	-	<0.0003 :	-	<0.00047 :	-
Boron	mg/L	T	-	<0.0084 :	-	0.0052 :	-	<0.005 :
Boron	mg/L	D	<0.0048 :	-	<0.0084 :	-	<0.0048 :	-
Cadmium	mg/L	T	-	<0.0005 :	-	<0.00008 :	-	<0.0001 :
Cadmium	mg/L	D	<0.0001 :	-	<0.0005 :	-	<0.00008 :	-
Calcium	mg/L	T	-	28.7 :	-	26. :	-	35.8 :
Calcium	mg/L	D	33.1 :	-	28. :	-	25.5 :	-
Chromium	mg/L	T	-	<0.001 :	-	<0.001 :	-	<0.00032 :
Chromium	mg/L	D	<0.0046 :	-	<0.001 :	-	<0.001 :	-
Cobalt	mg/L	T	-	<0.0038 :	-	<0.0011 :	-	<0.0001 :
Cobalt	mg/L	D	<0.0022 :	-	<0.0038 :	-	<0.0011 :	-
Copper	mg/L	T	-	<0.004 :	-	<0.00041 :	-	<0.0005 :
Copper	mg/L	D	<0.0003 :	-	<0.0045 :	-	<0.00047 :	-
Iron	mg/L	T	-	<0.422 :	-	0.0683 :	-	<0.0537 :
Iron	mg/L	D	<0.0226 :	-	<0.422 :	-	<0.044 :	-
Lead	mg/L	T	-	<0.0002 :	-	<0.0001 :	-	<0.0001 :
Lead	mg/L	D	<0.0001 :	-	<0.0002 :	-	<0.00004 :	-
Magnesium	mg/L	T	-	4.8 :	-	4.16 :	-	5.82 :
Magnesium	mg/L	D	5.5 :	-	4.65 :	-	4.12 :	-
Manganese	mg/L	T	-	0.0175 :	-	0.0121 :	-	0.009 :
Manganese	mg/L	D	0.0055 :	-	<0.013 :	-	0.0099 :	-
Mercury	mg/L	T	-	<0.0001 :	-	<0.00006 :	-	<0.0001 :
Mercury	mg/L	D	<0.0001 :	-	<0.0001 :	-	<0.00006 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR	
			RRS-18 10/6/2002 RRS-18-D01N-SFW RLCCR		RRS-18 3/23/2003 RRS-18-T01N-SFW RLCCR		RRS-18 3/23/2003 RRS-18-D01N-SFW RLCCR		RRS-18 9/25/2003 RRS-18-T01N-SFW RLCCR		RRS-18 9/25/2003 RRS-18-D01N-SFW RLCCR		RRS-20 10/6/2002 RRS-20-T01N-SFW RLCCR	
Molybdenum	mg/L	T	-		<0.0022	:	-		<0.0023	:	-		0.00067	:
Molybdenum	mg/L	D	0.00077	:	-		<0.0022	:	-		0.0025	:	-	
Nickel	mg/L	T	-		<0.003	:	-		<0.0011	:	-		<0.0002	:
Nickel	mg/L	D	0.00021	:	-		<0.003	:	-		<0.001	:	-	
Potassium	mg/L	T	-		0.707	:	-		<0.924	:	-		1.56	:
Potassium	mg/L	D	0.943	:	-		0.7	:	-		<0.948	:	-	
Selenium	mg/L	T	-		<0.0031	:	-		<0.00073	:	-		0.00028	:
Selenium	mg/L	D	<0.0002	:	-		<0.001	:	-		<0.00073	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0002	:	-		<0.0001	:
Silver	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0002	:	-	
Sodium	mg/L	T	-		<9.16	:	-		3.89	:	-		4.67	:
Sodium	mg/L	D	4.38	:	-		<9.16	:	-		4.05	:	-	
Thallium	mg/L	T	-		<0.0002	:	-		<0.00001	:	-		<0.0001	:
Thallium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.00001	:	-	
Vanadium	mg/L	T	-		<0.0002	:	-		0.00038	:	-		0.00014	:
Vanadium	mg/L	D	0.00013	:	-		<0.0002	:	-		<0.00041	:	-	
Zinc	mg/L	T	-		<0.039	:	-		0.0167	:	-		<0.0048	J
Zinc	mg/L	D	<0.0069	:	-		<0.039	:	-		<0.013	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-20	RRS-20	RRS-20	RRS-20	RRS-20	RRS-20
			Sample Date	10/6/2002	3/23/2003	3/23/2003	7/16/2003	7/16/2003	9/25/2003
			Sample ID	RRS-20-D01N-SFW	RRS-20-T01N-SFW	RRS-20-D01N-SFW	RRS-20-T01N-SFW	RRS-20-D01N-SFW	RRS-20-T01N-SFW
				RLCCR	RLCCR	RLCCR	RLCCR	RLCCR	RLCCR
Field Measurements									
DO	mg/L	T		-	8.27 :	-	3.15 :	-	10.13 :
Eh	millivolts	T		-	293.9 :	-	261.3 :	-	250.3 :
Flow	cfs	T		-	2.2 :	-	0.02 :	-	1.54 :
pH	SU	T		-	7.5 J	-	7.2 J	-	7.7 J
Specific Conductance	uS/cm	T		-	379. :	-	211. :	-	171. :
Temperature	Celsius	T		-	2.65 :	-	14.01 :	-	12.81 :
Turbidity	NTU	T		-	0. :	-	5.4 :	-	27.3 :
General Chemistry									
Ammonia	mg/L	T		-	<0.069 J	-	0.089 :	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		-	51.7 :	-	64.8 :	-	54.8 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.5 J	-	<1.4 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	0.71 :	-	<1.1 :	-	1.6 :
Fluoride	mg/L	T		-	0.35 :	-	<0.35 J	-	0.34 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<0.4 J	-	<1. J	-	0.29 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 J	-	0.87 J
Phosphorus	mg/L	T		-	<0.01 :	-	0.038 :	-	<0.01 J
Sulfate	mg/L	T		-	39.9 :	-	38.2 :	-	26.7 J
Total Alkalinity	mg/L	T		-	51.7 :	-	64.8 :	-	54.8 :
Total Dissolved Solids	mg/L	T		-	148. :	-	110. :	-	94. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	<1. :	-	1.8 :	-	1.4 :
Total Suspended Solids	mg/L	T		-	<0.6 :	-	13.7 :	-	<0.5 :
Laboratory Parameters									
pH	SU	T		-	7.5 J	-	7.2 J	-	7.7 J
Specific Conductance	umhos/cm	T		-	170. J	-	169. J	-	152. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	90.9 :	-	86. :	-	83.3 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR	
			RRS-20 10/6/2002 RRS-20-D01N-SFW RLCCR		RRS-20 3/23/2003 RRS-20-T01N-SFW RLCCR		RRS-20 3/23/2003 RRS-20-D01N-SFW RLCCR		RRS-20 7/16/2003 RRS-20-T01N-SFW RLCCR		RRS-20 7/16/2003 RRS-20-D01N-SFW RLCCR		RRS-20 9/25/2003 RRS-20-T01N-SFW RLCCR	
Hardness	mg/L	D	111.	:	-		87.4	:	-		84.9	:	-	
Metals														
Aluminum	mg/L	T	-		<0.0503	:	-		<0.0811	:	-		<0.0168	:
Aluminum	mg/L	D	<0.0076	:	-		<0.0503	:	-		<0.0311	:	-	
Antimony	mg/L	T	-		<0.0006	:	-		<0.0005	:	-		<0.00021	:
Antimony	mg/L	D	<0.0002	:	-		<0.0006	:	-		<0.0005	:	-	
Arsenic	mg/L	T	-		<0.00044	:	-		0.00044	:	-		<0.00038	:
Arsenic	mg/L	D	<0.0002	:	-		<0.00043	:	-		0.00036	:	-	
Barium	mg/L	T	-		0.0179	:	-		0.0269	:	-		0.0187	:
Barium	mg/L	D	0.0252	:	-		0.0172	:	-		0.0256	:	-	
Beryllium	mg/L	T	-		<0.0013	:	-		<0.0002	:	-		<0.00047	:
Beryllium	mg/L	D	<0.0003	:	-		<0.001	:	-		<0.0002	:	-	
Boron	mg/L	T	-		<0.0084	:	-		<0.0048	:	-		0.0056	:
Boron	mg/L	D	<0.005	:	-		<0.0084	:	-		<0.0048	:	-	
Cadmium	mg/L	T	-		<0.0005	:	-		<0.0002	:	-		<0.00008	:
Cadmium	mg/L	D	<0.0001	:	-		<0.0005	:	-		<0.0002	:	-	
Calcium	mg/L	T	-		28.6	:	-		27.2	:	-		26.5	:
Calcium	mg/L	D	34.9	:	-		27.6	:	-		26.9	:	-	
Chromium	mg/L	T	-		<0.001	:	-		<0.0014	:	-		<0.001	:
Chromium	mg/L	D	<0.00032	:	-		<0.001	:	-		<0.0014	:	-	
Cobalt	mg/L	T	-		<0.0038	:	-		<0.002	:	-		<0.0011	:
Cobalt	mg/L	D	<0.0001	:	-		<0.0038	:	-		<0.002	:	-	
Copper	mg/L	T	-		<0.0015	J	-		<0.0024	:	-		<0.00046	:
Copper	mg/L	D	<0.00039	:	-		<0.0015	J	-		<0.0024	:	-	
Iron	mg/L	T	-		<0.422	:	-		0.458	:	-		0.0466	:
Iron	mg/L	D	<0.0378	:	-		<0.422	:	-		0.208	:	-	
Lead	mg/L	T	-		<0.0002	:	-		0.00038	:	-		<0.00006	:
Lead	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Magnesium	mg/L	T	-		4.74	:	-		4.36	:	-		4.17	:
Magnesium	mg/L	D	5.67	:	-		4.52	:	-		4.3	:	-	
Manganese	mg/L	T	-		<0.013	:	-		0.122	:	-		0.0068	:
Manganese	mg/L	D	0.0079	:	-		<0.013	:	-		0.103	:	-	
Mercury	mg/L	T	-		<0.0001	:	-		<0.00015	:	-		<0.00006	:
Mercury	mg/L	D	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RRS-20		RRS-20		RRS-20		RRS-20		RRS-20		RRS-20	
			10/6/2002		3/23/2003		3/23/2003		7/16/2003		7/16/2003		9/25/2003	
			RRS-20-D01N-SFW		RRS-20-T01N-SFW		RRS-20-D01N-SFW		RRS-20-T01N-SFW		RRS-20-D01N-SFW		RRS-20-T01N-SFW	
			RLCCR		RLCCR		RLCCR		RLCCR		RLCCR		RLCCR	
Molybdenum	mg/L	T	-		<0.0023	:	-		<0.0017	:	-		<0.00089	:
Molybdenum	mg/L	D	0.00066	:	-		<0.0023	:	-		<0.0017	:	-	
Nickel	mg/L	T	-		<0.003	:	-		<0.0021	:	-		<0.00084	:
Nickel	mg/L	D	<0.0002	:	-		<0.003	:	-		<0.0021	:	-	
Potassium	mg/L	T	-		0.828	:	-		1.26	:	-		<0.953	:
Potassium	mg/L	D	1.51	:	-		0.839	:	-		1.29	:	-	
Selenium	mg/L	T	-		<0.0015	:	-		<0.0008	:	-		<0.00073	:
Selenium	mg/L	D	<0.0002	:	-		<0.0035	:	-		<0.0008	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Silver	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Sodium	mg/L	T	-		<10.3	:	-		4.2	:	-		4.08	:
Sodium	mg/L	D	4.82	:	-		<9.16	:	-		4.71	:	-	
Thallium	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Thallium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		<0.0002	:	-		<0.0002	:	-		0.00037	:
Vanadium	mg/L	D	0.0002	:	-		0.00024	:	-		<0.0002	:	-	
Zinc	mg/L	T	-		<0.039	:	-		<0.0092	:	-		<0.013	:
Zinc	mg/L	D	<0.0021	J	-		<0.039	:	-		<0.0117	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RLCCR											
			RRS-20		RRS-23		RRS-23		RRS-23		RRS-23		RRS-23	
			9/25/2003		10/6/2002		10/6/2002		3/23/2003		3/23/2003		7/16/2003	
			RRS-20-D01N-SFW		RRS-23-T01N-SFW		RRS-23-D01N-SFW		RRS-23-T01N-SFW		RRS-23-D01N-SFW		RRS-23-T01N-SFW	
			RLCCR		RLCCR		RLCCR		RLCCR		RLCCR		RLCCR	
Field Measurements														
DO	mg/L	T	-		7.83	:	-		9.15	:	-		8.33	:
Eh	millivolts	T	-		352.3	:	-		296.2	:	-		229.3	:
Flow	cfs	T	-		0.01	:	-		2.1	:	-		0.1	:
pH	SU	T	-		6.51	:	-		7.6	J	-		7.4	J
Specific Conductance	uS/cm	T	-		212.	:	-		390.	:	-		256.	:
Temperature	Celsius	T	-		9.77	:	-		2.28	:	-		14.19	:
Turbidity	NTU	T	-		0.	:	-		0.	:	-		0.8	:
General Chemistry														
Ammonia	mg/L	T	-		<0.025	:	-		0.062	:	-		<0.04	:
Bicarbonate (as CaCO3)	mg/L	T	-		54.6	:	-		50.7	:	-		69.3	:
Biochemical Oxygen Demand	mg/L	T	-		<1.3	J	-		<1.5	J	-		<1.5	J
Carbonate (as CaCO3)	mg/L	T	-		<1.	:	-		<1.	:	-		<1.	:
Chemical Oxygen Demand	mg/L	T	-		<20.	:	-		<20.	:	-		<20.	:
Chloride	mg/L	T	-		<1.	:	-		1.3	:	-		<1.	:
Fluoride	mg/L	T	-		0.48	:	-		0.36	:	-		<0.5	J
Hydroxide (as CaCO3)	mg/L	T	-		<1.	:	-		<1.	:	-		<1.	:
Nitrate	mg/L	T	-		<0.5	J	-		<0.4	J	-		<1.	J
Nitrite	mg/L	T	-		<0.005	J	-		<0.005	J	-		<0.005	J
Phosphate, Ortho As P	mg/L	T	-		0.025	J	-		<0.01	J	-		<0.01	J
Phosphorus	mg/L	T	-		<0.01	:	-		0.016	:	-		<0.01	:
Sulfate	mg/L	T	-		55.8	:	-		41.9	:	-		54.	:
Total Alkalinity	mg/L	T	-		54.6	:	-		50.7	:	-		69.3	:
Total Dissolved Solids	mg/L	T	-		150.	:	-		<116.	:	-		144.	:
Total Kjeldahl Nitrogen	mg/L	T	-		<0.24	:	-		<0.24	J	-		<0.24	:
Total Organic Carbon	mg/L	T	-		1.1	:	-		1.1	:	-		1.7	:
Total Suspended Solids	mg/L	T	-		<1.2	:	-		<0.5	:	-		<1.4	:
Laboratory Parameters														
pH	SU	T	-		6.51	:	-		7.6	J	-		7.4	J
Specific Conductance	umhos/cm	T	-		-		-		169.	J	-		220.	J
Inorganics														
Cyanide	mg/L	T	-		<0.01	J	-		<0.01	:	-		<0.01	:
Physical Properties														
Hardness	mg/L	T	-		101.	:	-		92.	:	-		110.	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR	
			RRS-20 9/25/2003 RRS-20-D01N-SFW RLCCR		RRS-23 10/6/2002 RRS-23-T01N-SFW RLCCR		RRS-23 10/6/2002 RRS-23-D01N-SFW RLCCR		RRS-23 3/23/2003 RRS-23-T01N-SFW RLCCR		RRS-23 3/23/2003 RRS-23-D01N-SFW RLCCR		RRS-23 7/16/2003 RRS-23-T01N-SFW RLCCR	
Hardness	mg/L	D	81.5	:	-		99.6	:	-		95.2	:	-	
Metals														
Aluminum	mg/L	T	-		<0.0215	:	-		<0.0503	:	-		<0.0343	:
Aluminum	mg/L	D	<0.0082	:	-		<0.003	:	-		<0.0503	:	-	
Antimony	mg/L	T	-		<0.0002	:	-		<0.0006	:	-		<0.0005	:
Antimony	mg/L	D	<0.0002	:	-		<0.0002	:	-		<0.0006	:	-	
Arsenic	mg/L	T	-		<0.0002	:	-		<0.00049	:	-		<0.0002	:
Arsenic	mg/L	D	<0.00038	:	-		<0.0002	:	-		<0.00054	:	-	
Barium	mg/L	T	-		0.026	:	-		0.0218	:	-		0.0347	:
Barium	mg/L	D	0.0182	:	-		0.0256	:	-		0.0217	:	-	
Beryllium	mg/L	T	-		<0.0002	:	-		<0.0003	:	-		<0.0002	:
Beryllium	mg/L	D	<0.00047	:	-		<0.0002	:	-		<0.0003	:	-	
Boron	mg/L	T	-		<0.0048	:	-		<0.0084	:	-		0.0051	:
Boron	mg/L	D	0.005	:	-		<0.0048	:	-		<0.0084	:	-	
Cadmium	mg/L	T	-		<0.0001	:	-		<0.0005	:	-		<0.0002	:
Cadmium	mg/L	D	<0.00008	:	-		<0.0001	:	-		<0.0005	:	-	
Calcium	mg/L	T	-		32.1	:	-		28.8	:	-		34.6	:
Calcium	mg/L	D	25.8	:	-		31.7	:	-		29.8	:	-	
Chromium	mg/L	T	-		<0.0046	:	-		<0.001	:	-		<0.0014	:
Chromium	mg/L	D	<0.001	:	-		<0.0046	:	-		<0.001	:	-	
Cobalt	mg/L	T	-		<0.0022	:	-		<0.0038	:	-		<0.002	:
Cobalt	mg/L	D	<0.0011	:	-		<0.0022	:	-		<0.0038	:	-	
Copper	mg/L	T	-		0.0025	:	-		<0.0043	:	-		<0.0024	:
Copper	mg/L	D	<0.00065	:	-		0.0017	:	-		<0.004	:	-	
Iron	mg/L	T	-		<0.0226	:	-		<0.422	:	-		<0.067	:
Iron	mg/L	D	<0.044	:	-		0.0279	:	-		<0.422	:	-	
Lead	mg/L	T	-		<0.00016	:	-		<0.0002	:	-		<0.0001	:
Lead	mg/L	D	<0.00005	:	-		<0.0006	:	-		<0.0002	:	-	
Magnesium	mg/L	T	-		5.02	:	-		4.84	:	-		5.64	:
Magnesium	mg/L	D	4.15	:	-		4.96	:	-		5.03	:	-	
Manganese	mg/L	T	-		<0.0045	:	-		<0.013	:	-		0.0113	:
Manganese	mg/L	D	<0.0068	:	-		0.0046	:	-		<0.013	:	-	
Mercury	mg/L	T	-		<0.0001	:	-		<0.0001	:	-		<0.00016	:
Mercury	mg/L	D	<0.00006	:	-		<0.0001	:	-		<0.0001	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RRS-20 9/25/2003 RRS-20-D01N-SFW RLCCR		RRS-23 10/6/2002 RRS-23-T01N-SFW RLCCR		RRS-23 10/6/2002 RRS-23-D01N-SFW RLCCR		RRS-23 3/23/2003 RRS-23-T01N-SFW RLCCR		RRS-23 3/23/2003 RRS-23-D01N-SFW RLCCR		RRS-23 7/16/2003 RRS-23-T01N-SFW RLCCR	
Molybdenum	mg/L	T	-		<0.00071	:	-		<0.0022	:	-		<0.0017	:
Molybdenum	mg/L	D	<0.00088	:	-		<0.00067	:	-		<0.0022	:	-	
Nickel	mg/L	T	-		0.0011	:	-		<0.003	:	-		<0.0021	:
Nickel	mg/L	D	<0.0011	:	-		0.00025	:	-		<0.003	:	-	
Potassium	mg/L	T	-		1.45	:	-		0.814	:	-		2.34	:
Potassium	mg/L	D	<0.942	:	-		1.46	:	-		0.802	:	-	
Selenium	mg/L	T	-		<0.0002	:	-		<0.001	:	-		<0.0008	:
Selenium	mg/L	D	<0.00073	:	-		<0.0002	:	-		<0.001	:	-	
Silver	mg/L	T	-		<0.0001	:	-		<0.0002	:	-		<0.0001	J
Silver	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.0002	:	-	
Sodium	mg/L	T	-		4.63	:	-		<9.16	:	-		5.52	:
Sodium	mg/L	D	4.	:	-		4.66	:	-		<9.16	:	-	
Thallium	mg/L	T	-		<0.0001	:	-		<0.0002	:	-		<0.0001	:
Thallium	mg/L	D	<0.00001	:	-		<0.0001	:	-		<0.0002	:	-	
Vanadium	mg/L	T	-		0.00015	:	-		<0.0002	:	-		<0.0002	:
Vanadium	mg/L	D	<0.00048	:	-		0.00011	:	-		<0.0002	:	-	
Zinc	mg/L	T	-		0.0124	:	-		<0.039	:	-		<0.0051	:
Zinc	mg/L	D	<0.013	:	-		0.0139	:	-		<0.039	:	-	

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-23	RRS-23	RRS-23	RRS-27	RRS-27	RRS-27
			Sample Date	7/16/2003	9/25/2003	9/25/2003	10/6/2002	10/6/2002	3/23/2003
			Sample ID	RRS-23-D01N-SFW	RRS-23-T01N-SFW	RRS-23-D01N-SFW	RRS-27-T01N-SFW	RRS-27-D01N-SFW	RRS-27-T01N-SFW
				RLCCR	RLCCR	RLCCR	RLCCR	RLCCR	RLCCR
Field Measurements									
DO	mg/L	T		-	8.18 :	-	8.24 :	-	12.25 :
Eh	millivolts	T		-	501.7 :	-	343.2 :	-	276.8 :
Flow	cfs	T		-	1.1 :	-	0.01 :	-	4.6 :
pH	SU	T		-	7.5 J	-	6.66 :	-	7.5 J
Specific Conductance	uS/cm	T		-	177. :	-	331. :	-	444. :
Temperature	Celsius	T		-	15.37 :	-	13. :	-	2.31 :
Turbidity	NTU	T		-	6.6 :	-	0. :	-	0. :
General Chemistry									
Ammonia	mg/L	T		-	<0.04 :	-	<0.024 :	-	<0.058 J
Bicarbonate (as CaCO3)	mg/L	T		-	54.5 :	-	69.9 :	-	54.2 :
Biochemical Oxygen Demand	mg/L	T		-	1.4 :	-	<1.3 J	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	<0.62 :	-	1.6 :	-	1.5 :
Fluoride	mg/L	T		-	0.34 :	-	<0.24 :	-	0.36 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<0.2 J	-	<0.5 J	-	0.44 J
Nitrite	mg/L	T		-	<0.005 :	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	0.022 J	-	<0.01 J
Phosphorus	mg/L	T		-	<0.01 :	-	<0.02 :	-	<0.01 :
Sulfate	mg/L	T		-	34.5 J	-	98.3 :	-	52.2 :
Total Alkalinity	mg/L	T		-	54.5 :	-	69.9 :	-	54.2 :
Total Dissolved Solids	mg/L	T		-	132. :	-	225. :	-	170. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.34 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.5 :	-	<1. :	-	1.1 :
Total Suspended Solids	mg/L	T		-	0.7 :	-	<5.1 :	-	<1.3 :
Laboratory Parameters									
pH	SU	T		-	7.5 J	-	6.66 :	-	7.5 J
Specific Conductance	umhos/cm	T		-	146. J	-	-	-	201. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	78.3 :	-	158. :	-	102. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR	
			RRS-23 7/16/2003 RRS-23-D01N-SFW RLCCR		RRS-23 9/25/2003 RRS-23-T01N-SFW RLCCR		RRS-23 9/25/2003 RRS-23-D01N-SFW RLCCR		RRS-27 10/6/2002 RRS-27-T01N-SFW RLCCR		RRS-27 10/6/2002 RRS-27-D01N-SFW RLCCR		RRS-27 3/23/2003 RRS-27-T01N-SFW RLCCR	
Hardness	mg/L	D	111.	:	-		76.7	:	-		162.	:	-	
Metals														
Aluminum	mg/L	T	-		0.0184	:	-		<0.0246	:	-		<0.0503	:
Aluminum	mg/L	D	<0.0236	:	-		<0.0088	:	-		<0.003	:	-	
Antimony	mg/L	T	-		<0.0006	:	-		<0.0002	:	-		<0.0006	:
Antimony	mg/L	D	<0.0005	:	-		<0.00061	:	-		<0.0002	:	-	
Arsenic	mg/L	T	-		<0.00038	:	-		<0.0002	:	-		<0.00052	:
Arsenic	mg/L	D	<0.0002	:	-		<0.00038	:	-		<0.0002	:	-	
Barium	mg/L	T	-		0.0173	:	-		0.0549	:	-		0.0235	:
Barium	mg/L	D	0.0346	:	-		0.0168	:	-		0.0555	:	-	
Beryllium	mg/L	T	-		<0.00047	:	-		<0.0002	:	-		<0.0013	:
Beryllium	mg/L	D	<0.0002	:	-		<0.00047	:	-		<0.0002	:	-	
Boron	mg/L	T	-		<0.0048	:	-		<0.0048	:	-		<0.0084	:
Boron	mg/L	D	0.0048	:	-		<0.0048	:	-		<0.0048	:	-	
Cadmium	mg/L	T	-		<0.00008	:	-		<0.0001	:	-		<0.0005	:
Cadmium	mg/L	D	<0.0002	:	-		<0.00008	:	-		<0.0001	:	-	
Calcium	mg/L	T	-		24.9	:	-		49.9	:	-		32.1	:
Calcium	mg/L	D	35.	:	-		24.4	:	-		51.3	:	-	
Chromium	mg/L	T	-		<0.001	:	-		<0.0046	:	-		<0.001	:
Chromium	mg/L	D	<0.0014	:	-		<0.001	:	-		<0.0046	:	-	
Cobalt	mg/L	T	-		<0.0011	:	-		<0.0022	:	-		<0.0038	:
Cobalt	mg/L	D	<0.002	:	-		<0.0011	:	-		<0.0022	:	-	
Copper	mg/L	T	-		<0.0005	:	-		0.00066	:	-		<0.0015	J
Copper	mg/L	D	<0.0024	:	-		<0.00053	:	-		0.00046	:	-	
Iron	mg/L	T	-		<0.044	:	-		0.315	:	-		<0.422	:
Iron	mg/L	D	<0.039	:	-		<0.044	:	-		<0.0226	:	-	
Lead	mg/L	T	-		<0.00006	:	-		<0.00073	:	-		<0.0002	:
Lead	mg/L	D	<0.0001	:	-		<0.00004	:	-		<0.0001	:	-	
Magnesium	mg/L	T	-		3.92	:	-		8.	:	-		5.25	:
Magnesium	mg/L	D	5.68	:	-		3.84	:	-		8.23	:	-	
Manganese	mg/L	T	-		0.0014	:	-		0.0269	:	-		<0.013	:
Manganese	mg/L	D	0.0096	:	-		<0.0022	:	-		0.0146	:	-	
Mercury	mg/L	T	-		<0.00006	:	-		<0.0001	:	-		<0.0001	:
Mercury	mg/L	D	<0.00016	:	-		<0.00006	:	-		<0.0001	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR		Site ID / Sample Date / Sample ID / RLCCR	
			RRS-23 7/16/2003 RRS-23-D01N-SFW RLCCR		RRS-23 9/25/2003 RRS-23-T01N-SFW RLCCR		RRS-23 9/25/2003 RRS-23-D01N-SFW RLCCR		RRS-27 10/6/2002 RRS-27-T01N-SFW RLCCR		RRS-27 10/6/2002 RRS-27-D01N-SFW RLCCR		RRS-27 3/23/2003 RRS-27-T01N-SFW RLCCR	
Molybdenum	mg/L	T	-		<0.0011	:	-		<0.00064	:	-		<0.0023	:
Molybdenum	mg/L	D	<0.0017	:	-		<0.00097	:	-		<0.00075	:	-	
Nickel	mg/L	T	-		0.00097	:	-		0.00046	:	-		<0.003	:
Nickel	mg/L	D	<0.0021	:	-		0.0011	:	-		0.00032	:	-	
Potassium	mg/L	T	-		1.17	:	-		2.07	:	-		1.03	:
Potassium	mg/L	D	2.33	:	-		1.1	:	-		2.11	:	-	
Selenium	mg/L	T	-		<0.00073	:	-		0.00028	:	-		<0.001	:
Selenium	mg/L	D	<0.0008	:	-		<0.00073	:	-		<0.0002	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.0002	:
Silver	mg/L	D	<0.0001	J	-		<0.0002	:	-		<0.0001	:	-	
Sodium	mg/L	T	-		3.65	:	-		5.93	:	-		<15.	:
Sodium	mg/L	D	5.47	:	-		3.59	:	-		6.14	:	-	
Thallium	mg/L	T	-		<0.00001	:	-		<0.0001	:	-		<0.0002	:
Thallium	mg/L	D	<0.0001	:	-		<0.00001	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		<0.00061	:	-		0.00016	:	-		<0.0002	:
Vanadium	mg/L	D	<0.0002	:	-		<0.00064	:	-		<0.0001	:	-	
Zinc	mg/L	T	-		<0.013	:	-		0.0079	:	-		<0.039	:
Zinc	mg/L	D	<0.0066	:	-		<0.013	:	-		<0.0069	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-27	RRS-27	RRS-27	RRS-27	RRS-27	RRS-9
			Sample Date	3/23/2003	7/16/2003	7/16/2003	9/25/2003	9/25/2003	10/7/2002
			Sample ID	RRS-27-D01N-SFW	RRS-27-T01N-SFW	RRS-27-D01N-SFW	RRS-27-T01N-SFW	RRS-27-D01N-SFW	RRS-9-T01N-SFW
				RLCCR	RLCCR	RLCCR	RLCCR	RLCCR	RUCCR
Field Measurements									
DO	mg/L	T		-	10.75 :	-	8.64 :	-	9.31 :
Eh	millivolts	T		-	155.8 :	-	250.4 :	-	306. :
Flow	cfs	T		-	0.2 :	-	1. :	-	1.31 :
pH	SU	T		-	7.4 J	-	6.4 J	-	6.82 :
Specific Conductance	uS/cm	T		-	263. :	-	180. :	-	169. :
Temperature	Celsius	T		-	14.01 :	-	14.7 :	-	9.48 :
Turbidity	NTU	T		-	0.5 :	-	6.8 :	-	9. :
General Chemistry									
Ammonia	mg/L	T		-	0.069 :	-	0.075 :	-	<0.055 :
Bicarbonate (as CaCO3)	mg/L	T		-	66.5 :	-	55.8 :	-	64.6 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	1.5 :	-	2.8 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.5 :	-	<0.59 :	-	0.78 :
Fluoride	mg/L	T		-	<0.43 J	-	0.39 :	-	<0.23 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<1. J	-	<0.2 J	-	<0.2 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 :	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 J
Phosphorus	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.039 :
Sulfate	mg/L	T		-	55.7 :	-	35.9 J	-	26.1 :
Total Alkalinity	mg/L	T		-	66.5 :	-	55.8 :	-	64.6 :
Total Dissolved Solids	mg/L	T		-	150. :	-	138. :	-	116. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.6 :	-	2.4 :	-	1.3 :
Total Suspended Solids	mg/L	T		-	<1.2 :	-	<0.5 :	-	<0.89 :
Laboratory Parameters									
pH	SU	T		-	7.4 J	-	6.4 J	-	6.82 :
Specific Conductance	umhos/cm	T		-	229. J	-	154. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	115. :	-	83.2 :	-	81.4 :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-27	RRS-27	RRS-27	RRS-27	RRS-27	RRS-9
			Sample Date	3/23/2003	7/16/2003	7/16/2003	9/25/2003	9/25/2003	10/7/2002
			Sample ID	RRS-27-D01N-SFW	RRS-27-T01N-SFW	RRS-27-D01N-SFW	RRS-27-T01N-SFW	RRS-27-D01N-SFW	RRS-9-T01N-SFW
				RLCCR	RLCCR	RLCCR	RLCCR	RLCCR	RUCCR
Hardness	mg/L	D		102. :	-	112. :	-	84.4 :	-
Metals									
Aluminum	mg/L	T		-	<0.0496 :	-	<0.0155 :	-	0.0564 :
Aluminum	mg/L	D		<0.0503 :	-	<0.025 :	-	<0.0053 :	-
Antimony	mg/L	T		-	<0.0005 :	-	<0.00027 :	-	<0.00022 :
Antimony	mg/L	D		<0.0006 :	-	<0.0005 :	-	<0.00087 :	-
Arsenic	mg/L	T		-	0.00025 :	-	<0.00038 :	-	<0.0002 :
Arsenic	mg/L	D		<0.00059 :	-	<0.0002 :	-	<0.00038 :	-
Barium	mg/L	T		-	0.0365 :	-	0.0194 :	-	0.0301 :
Barium	mg/L	D		0.0226 :	-	0.035 :	-	0.0195 :	-
Beryllium	mg/L	T		-	<0.0002 :	-	<0.00047 :	-	<0.0003 J
Beryllium	mg/L	D		<0.0017 :	-	<0.0002 :	-	<0.00047 :	-
Boron	mg/L	T		-	0.0065 :	-	<0.0048 :	-	<0.005 J
Boron	mg/L	D		<0.0084 :	-	0.0066 :	-	<0.0048 :	-
Cadmium	mg/L	T		-	<0.0002 :	-	<0.00008 :	-	<0.0001 :
Cadmium	mg/L	D		<0.0005 :	-	<0.0002 :	-	<0.00008 :	-
Calcium	mg/L	T		-	36.2 :	-	26.5 :	-	24.8 :
Calcium	mg/L	D		32.3 :	-	35.5 :	-	26.9 :	-
Chromium	mg/L	T		-	<0.0014 :	-	<0.001 :	-	<0.0019 :
Chromium	mg/L	D		<0.0013 :	-	<0.0014 :	-	<0.001 :	-
Chromium, Hexavalent	mg/L	D		-	-	-	-	-	0.0015 J
Cobalt	mg/L	T		-	<0.002 :	-	<0.0011 :	-	<0.0034 :
Cobalt	mg/L	D		<0.0038 :	-	<0.002 :	-	<0.0011 :	-
Copper	mg/L	T		-	<0.0024 :	-	<0.00056 :	-	0.00077 :
Copper	mg/L	D		<0.0015 J	-	<0.0024 :	-	<0.00075 :	-
Iron	mg/L	T		-	0.176 :	-	<0.044 :	-	<0.0378 :
Iron	mg/L	D		<0.422 :	-	0.0782 :	-	<0.044 :	-
Lead	mg/L	T		-	0.00012 :	-	<0.00006 :	-	<0.0001 :
Lead	mg/L	D		<0.0002 :	-	0.0003 :	-	<0.00004 :	-
Magnesium	mg/L	T		-	5.86 :	-	4.13 :	-	4.7 :
Magnesium	mg/L	D		5.28 :	-	5.73 :	-	4.19 :	-
Manganese	mg/L	T		-	0.0425 :	-	0.0019 :	-	<0.0036 :
Manganese	mg/L	D		<0.013 :	-	0.0393 :	-	<0.0018 :	-
Mercury	mg/L	T		-	<0.00013 :	-	<0.00006 :	-	<0.0001 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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			RRS-27		RRS-27		RRS-27		RRS-27		RRS-27		RRS-9	
			3/23/2003		7/16/2003		7/16/2003		9/25/2003		9/25/2003		10/7/2002	
			RRS-27-D01N-SFW		RRS-27-T01N-SFW		RRS-27-D01N-SFW		RRS-27-T01N-SFW		RRS-27-D01N-SFW		RRS-9-T01N-SFW	
			RLCCR		RLCCR		RLCCR		RLCCR		RLCCR		RUCCR	
Mercury	mg/L	D	<0.0001	:	-		<0.00012	:	-		<0.00006	:	-	
Molybdenum	mg/L	T	-		<0.0017	:	-		<0.00088	:	-		0.00062	:
Molybdenum	mg/L	D	<0.0023	:	-		0.002	:	-		<0.00087	:	-	
Nickel	mg/L	T	-		<0.0021	:	-		0.00091	:	-		<0.0002	:
Nickel	mg/L	D	<0.003	:	-		<0.0021	:	-		0.00095	:	-	
Potassium	mg/L	T	-		1.66	:	-		1.15	:	-		0.821	:
Potassium	mg/L	D	0.956	:	-		1.61	:	-		1.16	:	-	
Selenium	mg/L	T	-		<0.0008	:	-		<0.00073	:	-		<0.0002	J
Selenium	mg/L	D	<0.001	:	-		<0.0008	:	-		<0.00073	:	-	
Silver	mg/L	T	-		<0.0001	J	-		<0.0002	:	-		<0.0001	:
Silver	mg/L	D	<0.0002	:	-		<0.0001	J	-		<0.0002	:	-	
Sodium	mg/L	T	-		6.28	:	-		3.83	:	-		4.03	:
Sodium	mg/L	D	<14.5	:	-		6.2	:	-		3.91	:	-	
Thallium	mg/L	T	-		<0.0001	:	-		<0.00001	:	-		<0.0001	:
Thallium	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.00001	:	-	
Vanadium	mg/L	T	-		<0.0002	:	-		<0.00073	:	-		0.00024	:
Vanadium	mg/L	D	<0.0002	:	-		0.0011	:	-		<0.00075	:	-	
Zinc	mg/L	T	-		<0.0111	:	-		<0.013	:	-		<0.0021	J
Zinc	mg/L	D	<0.039	:	-		<0.0141	:	-		<0.013	:	-	

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-9	RRS-9	RRS-9	RRS-9	RRS-9	RRS-9
			Sample Date	10/7/2002	3/23/2003	3/23/2003	7/16/2003	7/16/2003	9/25/2003
			Sample ID	RRS-9-D01N-SFW	RRS-9-T01N-SFW	RRS-9-D01N-SFW	RRS-9-T01N-SFW	RRS-9-D01N-SFW	RRS-9-T01N-SFW
				RUCCR	RUCCR	RUCCR	RUCCR	RUCCR	RUCCR
Field Measurements									
DO	mg/L	T		-	10.33 :	-	8.15 :	-	8.74 :
Eh	millivolts	T		-	145.2 :	-	263.7 :	-	389. :
Flow	cfs	T		-	2.1 :	-	1. :	-	1. :
pH	SU	T		-	7.6 J	-	7.6 J	-	7.6 J
Specific Conductance	uS/cm	T		-	156. :	-	145. :	-	178. :
Temperature	Celsius	T		-	3.45 :	-	16.06 :	-	12.2 :
Turbidity	NTU	T		-	64. :	-	1.7 :	-	0.5 :
General Chemistry									
Ammonia	mg/L	T		-	<0.066 J	-	0.053 :	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		-	58.7 :	-	57.4 :	-	64.6 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	3.1 J	-	<1.4 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	1.1 :	-	<0.83 :	-	<0.55 :
Fluoride	mg/L	T		-	0.21 :	-	<0.2 J	-	0.21 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<0.4 J	-	<1. J	-	<0.2 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 :	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	0.014 :	-	<0.01 :
Phosphorus	mg/L	T		-	<0.023 :	-	0.031 :	-	0.018 :
Sulfate	mg/L	T		-	23. :	-	17.2 :	-	19.2 J
Total Alkalinity	mg/L	T		-	58.7 :	-	57.4 :	-	64.6 :
Total Dissolved Solids	mg/L	T		-	<88. :	-	<76. :	-	122. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 J	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	2. :	-	3.9 :	-	1.8 :
Total Suspended Solids	mg/L	T		-	<2.1 :	-	3.3 :	-	1.1 :
Laboratory Parameters									
pH	SU	T		-	7.6 J	-	7.6 J	-	7.6 J
Specific Conductance	umhos/cm	T		-	134. J	-	131. J	-	154. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	78. :	-	65. :	-	77.3 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RRS-9 10/7/2002 RRS-9-D01N-SFW RUCCR		RRS-9 3/23/2003 RRS-9-T01N-SFW RUCCR		RRS-9 3/23/2003 RRS-9-D01N-SFW RUCCR		RRS-9 7/16/2003 RRS-9-T01N-SFW RUCCR		RRS-9 7/16/2003 RRS-9-D01N-SFW RUCCR		RRS-9 9/25/2003 RRS-9-T01N-SFW RUCCR	
Hardness	mg/L	D	79.1	:	-		77.7	:	-		69.	:	-	
Metals														
Aluminum	mg/L	T	-		<0.0503	:	-		0.0513	:	-		<0.031	:
Aluminum	mg/L	D	<0.003	:	-		<0.0503	:	-		<0.0236	:	-	
Antimony	mg/L	T	-		<0.0006	:	-		<0.0005	:	-		<0.00011	:
Antimony	mg/L	D	<0.0002	:	-		<0.0006	:	-		<0.0005	:	-	
Arsenic	mg/L	T	-		<0.00053	:	-		<0.0002	:	-		<0.00038	:
Arsenic	mg/L	D	<0.0002	:	-		<0.00056	:	-		<0.0002	:	-	
Barium	mg/L	T	-		0.0306	:	-		0.0263	:	-		0.0301	:
Barium	mg/L	D	0.0293	:	-		0.0286	:	-		0.0269	:	-	
Beryllium	mg/L	T	-		<0.0003	:	-		<0.0002	:	-		<0.00047	:
Beryllium	mg/L	D	<0.0003	J	-		<0.0003	:	-		<0.0002	:	-	
Boron	mg/L	T	-		<0.0084	:	-		<0.0048	:	-		<0.0048	:
Boron	mg/L	D	<0.005	J	-		<0.0084	:	-		<0.0048	:	-	
Cadmium	mg/L	T	-		<0.0005	:	-		<0.0002	:	-		<0.00008	:
Cadmium	mg/L	D	<0.0001	:	-		<0.0005	:	-		<0.0002	:	-	
Calcium	mg/L	T	-		23.9	:	-		20.1	:	-		23.8	:
Calcium	mg/L	D	24.2	:	-		23.9	:	-		21.3	:	-	
Chromium	mg/L	T	-		<0.001	:	-		<0.0014	J	-		<0.001	:
Chromium	mg/L	D	<0.0019	:	-		<0.0011	:	-		<0.0014	J	-	
Cobalt	mg/L	T	-		<0.0038	:	-		<0.002	:	-		<0.0011	:
Cobalt	mg/L	D	<0.0034	:	-		<0.0038	:	-		<0.002	:	-	
Copper	mg/L	T	-		<0.004	:	-		0.001	:	-		<0.0005	:
Copper	mg/L	D	<0.0003	:	-		<0.0047	:	-		<0.0009	:	-	
Iron	mg/L	T	-		<0.422	:	-		0.0415	J	-		<0.0444	:
Iron	mg/L	D	<0.0378	:	-		<0.422	:	-		<0.0333	J	-	
Lead	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.00006	:
Lead	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Magnesium	mg/L	T	-		4.44	:	-		3.61	:	-		4.35	:
Magnesium	mg/L	D	4.56	:	-		4.4	:	-		3.82	:	-	
Manganese	mg/L	T	-		<0.013	:	-		0.0132	:	-		0.0077	:
Manganese	mg/L	D	<0.003	:	-		<0.013	:	-		0.0053	J	-	
Mercury	mg/L	T	-		<0.0001	:	-		<0.0001	:	-		<0.00006	:
Mercury	mg/L	D	<0.0001	J	-		<0.0001	:	-		<0.0001	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR		Site ID / Sample Date / Sample ID / RUCCR	
			RRS-9 10/7/2002 RRS-9-D01N-SFW RUCCR		RRS-9 3/23/2003 RRS-9-T01N-SFW RUCCR		RRS-9 3/23/2003 RRS-9-D01N-SFW RUCCR		RRS-9 7/16/2003 RRS-9-T01N-SFW RUCCR		RRS-9 7/16/2003 RRS-9-D01N-SFW RUCCR		RRS-9 9/25/2003 RRS-9-T01N-SFW RUCCR	
Molybdenum	mg/L	T	-		<0.0022	:	-		0.00039	:	-		<0.00073	:
Molybdenum	mg/L	D	0.00063	:	-		<0.0022	:	-		0.00046	:	-	
Nickel	mg/L	T	-		<0.003	:	-		<0.0006	:	-		<0.00092	:
Nickel	mg/L	D	<0.0002	:	-		<0.003	:	-		<0.0006	:	-	
Potassium	mg/L	T	-		0.546	:	-		0.932	:	-		<1.02	J
Potassium	mg/L	D	0.792	:	-		0.54	:	-		1.01	:	-	
Selenium	mg/L	T	-		<0.001	:	-		<0.0008	:	-		<0.00073	J
Selenium	mg/L	D	<0.0002	J	-		<0.001	:	-		<0.0008	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0001	J	-		<0.0002	:
Silver	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	J	-	
Sodium	mg/L	T	-		<9.16	:	-		3.78	:	-		3.92	:
Sodium	mg/L	D	4.11	:	-		<9.16	:	-		4.22	:	-	
Thallium	mg/L	T	-		<0.0002	:	-		<0.0001	:	-		<0.00001	:
Thallium	mg/L	D	<0.0001	:	-		<0.0002	:	-		<0.0001	:	-	
Vanadium	mg/L	T	-		0.00021	:	-		0.00044	:	-		<0.00071	:
Vanadium	mg/L	D	0.00024	:	-		0.00023	:	-		0.00037	:	-	
Zinc	mg/L	T	-		<0.039	:	-		<0.0016	J	-		<0.013	:
Zinc	mg/L	D	<0.0021	J	-		<0.039	:	-		<0.0031	J	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-9	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	9/25/2003	2/2/2003	2/2/2003	2/9/2003	2/9/2003	2/9/2003
			Sample ID	RRS-9-D01N-SFW	RR-US-SPRING13-T 01N-SFW	RR-US-SPRING13-D 01N-SFW	RR-USSPRING13-T0 1N-SFW	RR-US-SPRING13-T0 1N-SFW	RR-USSPRING13-D0 1N-SFW
				RUCCR	UDS	UDS	UDS	UDS	UDS
Field Measurements									
DO	mg/L	T		-	9.59 :	-	-	5.57 :	-
Eh	millivolts	T		-	259.2 :	-	-	200.6 :	-
Flow	cfs	T		-	3.59 :	-	-	3.57 :	-
pH	SU	T		-	6.86 :	-	-	6.73 :	-
Specific Conductance	uS/cm	T		-	475. :	-	-	456. :	-
Temperature	Celsius	T		-	6.2 :	-	-	2.52 :	-
Turbidity	NTU	T		-	13.1 :	-	-	0. :	-
General Chemistry									
Ammonia	mg/L	T		-	0.081 :	-	0.056 :	-	-
Bicarbonate (as CaCO3)	mg/L	T		-	49.7 :	-	45. :	-	-
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	-	-	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	-
Chemical Oxygen Demand	mg/L	T		-	<20. J	-	<20. J	-	-
Chloride	mg/L	T		-	4.3 :	-	5.4 :	-	-
Fluoride	mg/L	T		-	0.85 J	-	1.1 J	-	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	-
Nitrate	mg/L	T		-	0.85 :	-	1.1 J	-	-
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	-
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	0.43 J	-	-
Phosphorus	mg/L	T		-	0.033 :	-	0.015 J	-	-
Sulfate	mg/L	T		-	195. :	-	169. :	-	-
Total Alkalinity	mg/L	T		-	49.7 :	-	45. :	-	-
Total Dissolved Solids	mg/L	T		-	356. :	-	347. :	-	-
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	-
Total Organic Carbon	mg/L	T		-	<1. :	-	<1. :	-	-
Total Suspended Solids	mg/L	T		-	8.8 :	-	8.2 :	-	-
Laboratory Parameters									
pH	SU	T		-	6.86 :	-	-	6.73 :	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	-
Physical Properties									
Hardness	mg/L	T		-	231. :	-	248. :	-	-
Hardness	mg/L	D		78.6 :	-	233. :	-	-	258. :

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID: RRS-9 Sample Date: 9/25/2003 Sample ID: RRS-9-D01N-SFW RUCCR		Site ID: RR-US-SPRING13 Sample Date: 2/2/2003 Sample ID: RR-US-SPRING13-T 01N-SFW UDS		Site ID: RR-US-SPRING13 Sample Date: 2/2/2003 Sample ID: RR-US-SPRING13-D 01N-SFW UDS		Site ID: RR-US-SPRING13 Sample Date: 2/9/2003 Sample ID: RR-USSPRING13-T0 1N-SFW UDS		Site ID: RR-US-SPRING13 Sample Date: 2/9/2003 Sample ID: RR-US-SPRING13-T0 1N-SFW UDS		Site ID: RR-US-SPRING13 Sample Date: 2/9/2003 Sample ID: RR-USSPRING13-D0 1N-SFW UDS	
Metals														
Aluminum	mg/L	T	-		1.49	:	-		1.32	:	-		-	
Aluminum	mg/L	D	<0.0038	:	-		<0.128	J	-		-		<0.174	:
Antimony	mg/L	T	-		<0.0021	:	-		<0.0009	:	-		-	
Antimony	mg/L	D	<0.00011	:	-		<0.0006	:	-		-		<0.0006	:
Arsenic	mg/L	T	-		0.00042	:	-		<0.0004	:	-		-	
Arsenic	mg/L	D	<0.00038	:	-		<0.0002	J	-		-		<0.0004	:
Barium	mg/L	T	-		0.0357	:	-		0.0348	:	-		-	
Barium	mg/L	D	0.0304	:	-		0.0345	:	-		-		0.0345	:
Beryllium	mg/L	T	-		0.0005	:	-		0.00028	:	-		-	
Beryllium	mg/L	D	<0.00047	:	-		<0.0002	:	-		-		<0.0002	:
Boron	mg/L	T	-		<0.0084	:	-		<0.0076	:	-		-	
Boron	mg/L	D	0.0052	:	-		<0.0066	:	-		-		<0.0084	:
Cadmium	mg/L	T	-		0.0012	:	-		0.00079	:	-		-	
Cadmium	mg/L	D	<0.00008	:	-		0.00066	J	-		-		0.00071	:
Calcium	mg/L	T	-		65.9	:	-		72.1	:	-		-	
Calcium	mg/L	D	24.2	:	-		66.5	:	-		-		74.9	:
Chromium	mg/L	T	-		<0.0037	:	-		<0.0037	:	-		-	
Chromium	mg/L	D	<0.001	:	-		<0.0037	:	-		-		<0.0037	:
Cobalt	mg/L	T	-		0.0039	:	-		0.0033	:	-		-	
Cobalt	mg/L	D	<0.0011	:	-		0.0037	:	-		-		0.0033	:
Copper	mg/L	T	-		0.0194	:	-		0.0164	:	-		-	
Copper	mg/L	D	<0.00053	:	-		<0.0068	:	-		-		0.0049	:
Iron	mg/L	T	-		0.308	:	-		<0.489	:	-		-	
Iron	mg/L	D	<0.044	:	-		<0.266	:	-		-		<0.489	:
Lead	mg/L	T	-		0.00024	:	-		0.0003	:	-		-	
Lead	mg/L	D	<0.00005	:	-		<0.0002	:	-		-		<0.0002	:
Magnesium	mg/L	T	-		16.2	:	-		16.6	:	-		-	
Magnesium	mg/L	D	4.41	:	-		16.2	:	-		-		17.2	:
Manganese	mg/L	T	-		0.293	:	-		0.276	:	-		-	
Manganese	mg/L	D	<0.0057	:	-		0.291	:	-		-		0.282	:
Mercury	mg/L	T	-		<0.0001	:	-		<0.0001	:	-		-	
Mercury	mg/L	D	<0.00006	:	-		<0.0001	:	-		-		<0.0001	:
Molybdenum	mg/L	T	-		<0.0033	:	-		<0.0011	:	-		-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RRS-9	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	9/25/2003	2/2/2003	2/2/2003	2/9/2003	2/9/2003	2/9/2003
			Sample ID	RRS-9-D01N-SFW	RR-US-SPRING13-T 01N-SFW	RR-US-SPRING13-D 01N-SFW	RR-USSPRING13-T0 1N-SFW	RR-US-SPRING13-T0 1N-SFW	RR-USSPRING13-D0 1N-SFW
				RUCCR	UDS	UDS	UDS	UDS	UDS
Molybdenum	mg/L	D		<0.00075 :	-	<0.0044 :	-	-	<0.0015 :
Nickel	mg/L	T		-	0.0305 :	-	0.0313 :	-	-
Nickel	mg/L	D		<0.00084 :	-	0.0306 :	-	-	0.0321 :
Potassium	mg/L	T		-	1.57 :	-	1.69 :	-	-
Potassium	mg/L	D		<1.04 J	-	1.55 :	-	-	1.75 :
Selenium	mg/L	T		-	0.0017 :	-	<0.0016 :	-	-
Selenium	mg/L	D		<0.00073 J	-	0.0017 :	-	-	<0.0016 :
Silver	mg/L	T		-	<0.0002 :	-	<0.0002 :	-	-
Silver	mg/L	D		<0.0002 :	-	<0.0002 :	-	-	<0.0002 :
Sodium	mg/L	T		-	8.31 :	-	4.6 :	-	-
Sodium	mg/L	D		4.11 :	-	7.45 :	-	-	6.26 :
Thallium	mg/L	T		-	<0.0002 :	-	<0.0002 :	-	-
Thallium	mg/L	D		<0.00001 :	-	<0.0002 :	-	-	<0.0002 :
Vanadium	mg/L	T		-	<0.0004 :	-	<0.0004 :	-	-
Vanadium	mg/L	D		<0.00056 :	-	<0.0004 :	-	-	<0.0004 :
Zinc	mg/L	T		-	<0.199 :	-	0.202 :	-	-
Zinc	mg/L	D		<0.013 :	-	<0.165 :	-	-	0.188 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	3/5/2003	3/5/2003	4/1/2003	4/9/2003	4/9/2003	5/5/2003
			Sample ID	RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING13-D01N-SFW UDS	RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING13-D01N-SFW UDS	RR-US-SPRING13-T01N-SFW UDS
Field Measurements									
DO	mg/L	T		-	-	9.98 :	9.48 :	-	10.87 :
Eh	millivolts	T		307.3 :	-	389.1 :	304. :	-	150.1 :
Flow	cfs	T		9.97 :	-	15.6 :	-	-	-
pH	SU	T		7.41 :	-	7.15 :	7.2 J	-	7.9 J
Specific Conductance	uS/cm	T		464. :	-	390. :	370. :	-	243. :
Temperature	Celsius	T		2.71 :	-	5.53 :	9.67 :	-	3.02 :
Turbidity	NTU	T		44.3 :	-	5.4 :	0. :	-	72. :
General Chemistry									
Ammonia	mg/L	T		<0.077 J	-	-	<0.052 :	-	<0.055 :
Bicarbonate (as CaCO3)	mg/L	T		48.3 :	-	-	54.7 J	-	52.7 :
Biochemical Oxygen Demand	mg/L	T		<1.6 J	-	-	<1.5 :	-	<1.5 :
Carbonate (as CaCO3)	mg/L	T		<1. :	-	-	54.7 J	-	<1. :
Chemical Oxygen Demand	mg/L	T		<20. :	-	-	<20. :	-	<20. :
Chloride	mg/L	T		5.8 :	-	-	5.5 :	-	3.2 :
Fluoride	mg/L	T		1. :	-	-	0.79 :	-	0.43 :
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	-	54.7 J	-	<1. :
Nitrate	mg/L	T		0.73 J	-	-	0.54 J	-	<0.4 J
Nitrite	mg/L	T		<0.005 J	-	-	<0.005 :	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	-	<0.01 :	-	<0.01 J
Phosphorus	mg/L	T		0.024 :	-	-	0.031 :	-	0.37 J
Sulfate	mg/L	T		177. :	-	-	124. :	-	55.2 J
Total Alkalinity	mg/L	T		48.3 :	-	-	54.7 J	-	52.7 :
Total Dissolved Solids	mg/L	T		324. :	-	-	266. :	-	130. :
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	-	<0.24 :	-	0.31 :
Total Organic Carbon	mg/L	T		1.3 :	-	-	1.9 :	-	2.7 :
Total Suspended Solids	mg/L	T		8.2 :	-	-	9.4 :	-	23.9 :
Laboratory Parameters									
pH	SU	T		7.41 :	-	7.15 :	7.2 J	-	7.9 J
Specific Conductance	umhos/cm	T		-	-	-	371. J	-	222. J
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	-	<0.01 J	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		231. :	-	-	<130. :	-	98.7 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	3/5/2003	3/5/2003	4/1/2003	4/9/2003	4/9/2003	5/5/2003
			Sample ID	RR-US-SPRING13-T01N-SFW	RR-US-SPRING13-D01N-SFW	RR-US-SPRING13-T01N-SFW	RR-US-SPRING13-T01N-SFW	RR-US-SPRING13-D01N-SFW	RR-US-SPRING13-T01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Hardness	mg/L	D		-	224. :	-	-	<130. :	-
Metals									
Aluminum	mg/L	T		1.35 J	-	-	0.998 :	-	0.775 :
Aluminum	mg/L	D		-	<0.127 :	-	-	0.242 :	-
Antimony	mg/L	T		<0.0006 :	-	-	<0.072 :	-	<0.0004 :
Antimony	mg/L	D		-	<0.0006 :	-	-	<0.072 :	-
Arsenic	mg/L	T		<0.0004 J	-	-	<0.0002 :	-	0.00031 :
Arsenic	mg/L	D		-	<0.0002 :	-	-	<0.0002 :	-
Barium	mg/L	T		0.0366 :	-	-	<0.123 :	-	0.0434 :
Barium	mg/L	D		-	0.0347 :	-	-	<0.123 :	-
Beryllium	mg/L	T		0.00047 :	-	-	<0.003 J	-	0.00044 :
Beryllium	mg/L	D		-	<0.0002 :	-	-	<0.003 J	-
Boron	mg/L	T		0.0117 :	-	-	<0.084 :	-	<0.0084 :
Boron	mg/L	D		-	0.0093 :	-	-	<0.084 :	-
Cadmium	mg/L	T		0.00082 J	-	-	<0.05 :	-	0.00025 :
Cadmium	mg/L	D		-	0.00057 :	-	-	<0.05 :	-
Calcium	mg/L	T		66.1 :	-	-	49. :	-	29.4 :
Calcium	mg/L	D		-	64.2 :	-	-	53.4 :	-
Chromium	mg/L	T		<0.0037 :	-	-	<0.1 :	-	<0.0011 :
Chromium	mg/L	D		-	<0.0037 :	-	-	<0.1 :	-
Cobalt	mg/L	T		0.004 :	-	-	<0.38 :	-	<0.0038 :
Cobalt	mg/L	D		-	0.0043 :	-	-	<0.38 :	-
Copper	mg/L	T		0.0171 :	-	-	<0.15 :	-	0.0088 J
Copper	mg/L	D		-	0.0054 J	-	-	<0.15 :	-
Iron	mg/L	T		<0.299 :	-	-	<3.11 :	-	0.659 :
Iron	mg/L	D		-	<0.299 :	-	-	<0.0422 :	-
Lead	mg/L	T		0.00022 :	-	-	<0.0023 :	-	0.0019 :
Lead	mg/L	D		-	<0.0002 :	-	-	<0.0018 :	-
Magnesium	mg/L	T		16. :	-	-	<29. :	-	6.16 :
Magnesium	mg/L	D		-	15.5 :	-	-	12.2 :	-
Manganese	mg/L	T		0.277 :	-	-	0.187 :	-	0.112 :
Manganese	mg/L	D		-	0.264 :	-	-	0.148 :	-
Mercury	mg/L	T		<0.0001 :	-	-	<0.0001 :	-	<0.0001 :
Mercury	mg/L	D		-	<0.0001 :	-	-	<0.0001 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	3/5/2003	3/5/2003	4/1/2003	4/9/2003	4/9/2003	5/5/2003
			Sample ID	RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING13-D01N-SFW UDS	RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING13-D01N-SFW UDS	RR-US-SPRING13-T01N-SFW UDS
Molybdenum	mg/L	T		<0.0055 :	-	-	<0.023 :	-	<0.0023 :
Molybdenum	mg/L	D		-	<0.0064 :	-	-	<0.023 :	-
Nickel	mg/L	T		0.0312 :	-	-	<0.3 :	-	0.0092 :
Nickel	mg/L	D		-	0.0306 :	-	-	<0.3 :	-
Potassium	mg/L	T		1.38 :	-	-	<32.6 :	-	1.18 :
Potassium	mg/L	D		-	1.34 :	-	-	3.28 :	-
Selenium	mg/L	T		<0.0016 J	-	-	<0.005 J	-	<0.0005 :
Selenium	mg/L	D		-	<0.0016 :	-	-	<0.005 J	-
Silver	mg/L	T		<0.0002 :	-	-	<0.001 :	-	<0.0001 :
Silver	mg/L	D		-	<0.0002 :	-	-	<0.001 :	-
Sodium	mg/L	T		7.92 :	-	-	<35.2 :	-	3.66 :
Sodium	mg/L	D		-	7.53 :	-	-	6.25 :	-
Thallium	mg/L	T		<0.0002 :	-	-	<0.001 :	-	<0.0001 :
Thallium	mg/L	D		-	<0.0002 :	-	-	<0.001 :	-
Vanadium	mg/L	T		<0.0004 :	-	-	<0.001 :	-	0.00089 :
Vanadium	mg/L	D		-	<0.0004 :	-	-	<0.001 :	-
Zinc	mg/L	T		0.199 :	-	-	<0.236 :	-	0.0592 :
Zinc	mg/L	D		-	0.167 :	-	-	<0.14 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	5/5/2003	6/3/2003	6/3/2003	6/3/2003	7/22/2003	7/22/2003
			Sample ID	RR-US-SPRING13-D0 1N-SFW UDS	RR-USSPRING13-T0 1N-SFW UDS	RR-US-SPRING13-T 01N-SFW UDS	RR-USSPRING13-D0 1N-SFW UDS	RR-US-SPRING13-T0 1N-SFW UDS	RR-US-SPRING13-D0 1N-SFW UDS
Field Measurements									
DO	mg/L	T		-	-	10.36 :	-	7.43 :	-
Eh	millivolts	T		-	-	304.4 :	-	374.6 :	-
Flow	cfs	T		-	-	-	-	24.2 :	-
pH	SU	T		-	6.7 J	7.51 :	-	7.8 :	-
Specific Conductance	uS/cm	T		-	-	191. :	-	327. :	-
Temperature	Celsius	T		-	-	6.58 :	-	14.09 :	-
Turbidity	NTU	T		-	-	35.8 :	-	4.2 :	-
General Chemistry									
Ammonia	mg/L	T		-	<0.065 :	-	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	54.1 :	-	-	52.2 :	-
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	-	<1.5 :	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	22.7 :	-
Chemical Oxygen Demand	mg/L	T		-	<2. :	-	-	<20. :	-
Chloride	mg/L	T		-	<1.7 J	-	-	2.7 :	-
Fluoride	mg/L	T		-	<1.3 :	-	-	<0.73 J	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Nitrate	mg/L	T		-	<0.4 J	-	-	<0.41 J	-
Nitrite	mg/L	T		-	<0.005 J	-	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		-	0.03 J	-	-	<0.01 :	-
Phosphorus	mg/L	T		-	0.067 J	-	-	0.034 :	-
Sulfate	mg/L	T		-	40.7 J	-	-	94.3 :	-
Total Alkalinity	mg/L	T		-	54.1 :	-	-	74.9 :	-
Total Dissolved Solids	mg/L	T		-	<160. :	-	-	210. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	-	-	-	<0.24 :	-
Total Organic Carbon	mg/L	T		-	2. J	-	-	1.4 :	-
Total Suspended Solids	mg/L	T		-	35.3 :	-	-	7.3 :	-
Laboratory Parameters									
pH	SU	T		-	6.7 J	7.51 :	-	7.8 :	-
Specific Conductance	umhos/cm	T		-	191. J	-	-	319. :	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		-	88.8 :	-	-	151. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-US-SPRING13 5/5/2003 RR-US-SPRING13-D0 1N-SFW UDS	RR-US-SPRING13 6/3/2003 RR-USSPRING13-T0 1N-SFW UDS	RR-US-SPRING13 6/3/2003 RR-US-SPRING13-T 01N-SFW UDS	RR-US-SPRING13 6/3/2003 RR-USSPRING13-D0 1N-SFW UDS	RR-US-SPRING13 7/22/2003 RR-US-SPRING13-T0 1N-SFW UDS	RR-US-SPRING13 7/22/2003 RR-US-SPRING13-D0 1N-SFW UDS
Hardness	mg/L	D	101. :	-	-	88.1 :	-	145. :
Metals								
Aluminum	mg/L	T	-	0.761 :	-	-	0.589 :	-
Aluminum	mg/L	D	<0.233 :	-	-	<0.315 J	-	0.0771 :
Antimony	mg/L	T	-	0.00055 J	-	-	<0.0005 :	-
Antimony	mg/L	D	0.00072 J	-	-	0.0005 :	-	<0.0005 :
Arsenic	mg/L	T	-	<0.0002 :	-	-	<0.0002 :	-
Arsenic	mg/L	D	<0.0002 :	-	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T	-	0.042 :	-	-	0.0368 :	-
Barium	mg/L	D	0.0271 :	-	-	0.0283 :	-	0.0319 :
Beryllium	mg/L	T	-	<0.00078 J	-	-	<0.0002 :	-
Beryllium	mg/L	D	<0.0003 :	-	-	<0.0004 J	-	<0.0002 :
Boron	mg/L	T	-	<0.0084 :	-	-	0.0072 :	-
Boron	mg/L	D	<0.0084 :	-	-	<0.0084 :	-	0.005 :
Cadmium	mg/L	T	-	0.00035 :	-	-	0.00053 :	-
Cadmium	mg/L	D	0.00022 :	-	-	0.00025 :	-	0.00047 :
Calcium	mg/L	T	-	27.4 :	-	-	44.8 :	-
Calcium	mg/L	D	30.1 :	-	-	27.4 :	-	42.9 :
Chromium	mg/L	T	-	<0.0014 :	-	-	<0.0006 :	-
Chromium	mg/L	D	0.0011 :	-	-	<0.001 :	-	<0.0006 :
Cobalt	mg/L	T	-	<0.0038 :	-	-	<0.0018 :	-
Cobalt	mg/L	D	<0.0038 :	-	-	<0.0038 :	-	0.0018 :
Copper	mg/L	T	-	0.0084 :	-	-	0.0095 :	-
Copper	mg/L	D	0.0026 J	-	-	0.0032 :	-	0.0056 :
Iron	mg/L	T	-	0.578 :	-	-	0.294 :	-
Iron	mg/L	D	<0.0542 :	-	-	<0.0814 :	-	<0.0168 :
Lead	mg/L	T	-	0.0014 J	-	-	0.00071 :	-
Lead	mg/L	D	<0.0001 :	-	-	<0.0001 :	-	<0.0001 :
Magnesium	mg/L	T	-	4.92 :	-	-	9.6 :	-
Magnesium	mg/L	D	6.24 :	-	-	4.8 :	-	9.15 :
Manganese	mg/L	T	-	0.111 :	-	-	0.111 :	-
Manganese	mg/L	D	0.0727 :	-	-	0.0768 :	-	0.0983 :
Mercury	mg/L	T	-	<0.0001 :	-	-	<0.0001 :	-
Mercury	mg/L	D	<0.0001 :	-	-	<0.0001 :	-	<0.0001 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-US-SPRING13 5/5/2003 RR-US-SPRING13-D0 1N-SFW UDS	RR-US-SPRING13 6/3/2003 RR-USSPRING13-T0 1N-SFW UDS	RR-US-SPRING13 6/3/2003 RR-US-SPRING13-T 01N-SFW UDS	RR-US-SPRING13 6/3/2003 RR-USSPRING13-D0 1N-SFW UDS	RR-US-SPRING13 7/22/2003 RR-US-SPRING13-T0 1N-SFW UDS	RR-US-SPRING13 7/22/2003 RR-US-SPRING13-D0 1N-SFW UDS
Molybdenum	mg/L	T	-	0.0024 :	-	-	0.0021 :	-
Molybdenum	mg/L	D	<0.0023 :	-	-	<0.0023 :	-	0.0022 :
Nickel	mg/L	T	-	<0.0068 :	-	-	0.0167 :	-
Nickel	mg/L	D	0.006 :	-	-	<0.006 :	-	0.0157 :
Potassium	mg/L	T	-	0.975 :	-	-	1.75 :	-
Potassium	mg/L	D	1.24 :	-	-	0.834 :	-	1.36 :
Selenium	mg/L	T	-	<0.0008 :	-	-	<0.0008 :	-
Selenium	mg/L	D	<0.0005 :	-	-	<0.0008 :	-	<0.0008 :
Silver	mg/L	T	-	<0.0001 :	-	-	<0.0001 J	-
Silver	mg/L	D	<0.0001 :	-	-	<0.0001 :	-	<0.0001 J
Sodium	mg/L	T	-	2.65 :	-	-	5.17 :	-
Sodium	mg/L	D	3.83 :	-	-	2.62 :	-	4.63 :
Thallium	mg/L	T	-	<0.0001 :	-	-	<0.0001 :	-
Thallium	mg/L	D	<0.0001 :	-	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T	-	0.00063 :	-	-	<0.00023 :	-
Vanadium	mg/L	D	0.00022 :	-	-	0.00021 :	-	<0.0002 :
Zinc	mg/L	T	-	0.0512 J	-	-	0.0964 :	-
Zinc	mg/L	D	0.0331 :	-	-	0.0302 :	-	0.0581 :

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	8/11/2003	8/11/2003	9/9/2003	9/9/2003	11/3/2003	11/3/2003
			Sample ID	RR-US-SPRING13-T0	RR-USSPRING13-D0	RR-US-SPRING13-T	RR-US-SPRING13-D0	RR-US-SPRING13-T0	RR-US-SPRING13-D0
			Exposure Area	1N-SFW UDS	1N-SFW UDS	01N-SFW UDS	1N-SFW UDS	1N-SFW UDS	1N-SFW UDS
Field Measurements									
DO	mg/L	T		8.5 :	-	9.01 :	-	9.9 :	-
Eh	millivolts	T		153.2 :	-	241. :	-	214.1 :	-
Flow	cfs	T		-	-	<25.3 :	-	<16.3 :	-
pH	SU	T		7.5 J	-	7.8 J	-	7.5 J	-
Specific Conductance	uS/cm	T		346. :	-	341. :	-	385. :	-
Temperature	Celsius	T		11.83 :	-	12.62 :	-	6.65 :	-
Turbidity	NTU	T		24.1 :	-	21.3 :	-	5. :	-
General Chemistry									
Ammonia	mg/L	T		<0.04 :	-	<0.043 :	-	<0.04 J	-
Bicarbonate (as CaCO3)	mg/L	T		60. :	-	62.8 :	-	62.7 :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.3 J	-	<1.4 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		51. J	-	<20. :	-	<20. :	-
Chloride	mg/L	T		3. :	-	2.8 :	-	3.2 :	-
Fluoride	mg/L	T		0.61 :	-	0.61 :	-	0.77 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.36 J	-	0.33 J	-	0.36 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 :	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 J	-	<0.01 J	-
Phosphorus	mg/L	T		<0.046 :	-	0.024 :	-	<0.01 :	-
Sulfate	mg/L	T		128. J	-	102. :	-	111. J	-
Total Alkalinity	mg/L	T		60. :	-	62.8 :	-	62.7 :	-
Total Dissolved Solids	mg/L	T		<200. :	-	210. :	-	360. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		1.6 J	-	1.1 :	-	<1. :	-
Total Suspended Solids	mg/L	T		8.2 :	-	14.9 :	-	5.8 :	-
Laboratory Parameters									
pH	SU	T		7.5 J	-	7.8 J	-	7.5 J	-
Specific Conductance	umhos/cm	T		328. J	-	299. J	-	362. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		161. :	-	158. :	-	171. :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-US-SPRING13 8/11/2003 RR-US-SPRING13-T0 1N-SFW UDS		RR-US-SPRING13 8/11/2003 RR-USSPRING13-D0 1N-SFW UDS		RR-US-SPRING13 9/9/2003 RR-US-SPRING13-T 01N-SFW UDS		RR-US-SPRING13 9/9/2003 RR-US-SPRING13-D0 1N-SFW UDS		RR-US-SPRING13 11/3/2003 RR-US-SPRING13-T0 1N-SFW UDS		RR-US-SPRING13 11/3/2003 RR-US-SPRING13-D0 1N-SFW UDS	
Hardness	mg/L	D	-		157.	:	-		155.	:	-		176.	:
Metals														
Aluminum	mg/L	T	1.18	:	-		1.07	:	-		0.878	:	-	
Aluminum	mg/L	D	-		0.226	J	-		0.29	:	-		0.267	:
Antimony	mg/L	T	<0.0005	:	-		<0.0005	:	-		<0.0005	:	-	
Antimony	mg/L	D	-		<0.0005	:	-		<0.0005	:	-		<0.00094	:
Arsenic	mg/L	T	0.00023	:	-		0.00024	:	-		<0.0002	:	-	
Arsenic	mg/L	D	-		<0.0002	J	-		<0.0002	:	-		<0.0002	:
Barium	mg/L	T	0.0461	:	-		0.0456	:	-		0.0379	:	-	
Barium	mg/L	D	-		0.0334	:	-		0.0354	:	-		0.0375	:
Beryllium	mg/L	T	0.0002	:	-		0.00026	:	-		<0.0004	:	-	
Beryllium	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0004	:
Boron	mg/L	T	0.0081	:	-		<0.0064	:	-		<0.0063	:	-	
Boron	mg/L	D	-		0.0095	:	-		0.008	:	-		<0.0063	:
Cadmium	mg/L	T	0.00037	J	-		0.00032	:	-		0.00047	:	-	
Cadmium	mg/L	D	-		0.00037	:	-		0.00028	:	-		0.00051	J
Calcium	mg/L	T	47.7	:	-		46.7	:	-		50.3	:	-	
Calcium	mg/L	D	-		46.5	:	-		46.1	:	-		51.8	:
Chromium	mg/L	T	<0.0014	J	-		<0.0023	:	-		<0.0011	J	-	
Chromium	mg/L	D	-		<0.0014	J	-		<0.0023	:	-		<0.0011	J
Cobalt	mg/L	T	<0.002	:	-		<0.0032	:	-		<0.0029	:	-	
Cobalt	mg/L	D	-		<0.002	:	-		<0.0032	:	-		0.0035	:
Copper	mg/L	T	0.01	:	-		0.0111	:	-		0.0105	:	-	
Copper	mg/L	D	-		0.0038	:	-		0.0041	:	-		0.0041	:
Iron	mg/L	T	0.813	:	-		0.581	:	-		<0.155	:	-	
Iron	mg/L	D	-		<0.0333	:	-		<0.0455	:	-		<0.0278	:
Lead	mg/L	T	0.0026	:	-		0.0021	:	-		0.00035	:	-	
Lead	mg/L	D	-		<0.0001	:	-		<0.0002	:	-		<0.0002	:
Magnesium	mg/L	T	10.1	:	-		10.	:	-		11.	:	-	
Magnesium	mg/L	D	-		9.82	:	-		9.77	:	-		11.4	:
Manganese	mg/L	T	0.137	:	-		0.13	:	-		0.144	:	-	
Manganese	mg/L	D	-		0.114	:	-		0.11	:	-		0.149	:
Mercury	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	8/11/2003	8/11/2003	9/9/2003	9/9/2003	11/3/2003	11/3/2003
			Sample ID	RR-US-SPRING13-T0	RR-USSPRING13-D0	RR-US-SPRING13-T	RR-US-SPRING13-D0	RR-US-SPRING13-T0	RR-US-SPRING13-D0
			Exposure Area	1N-SFW	1N-SFW	01N-SFW	1N-SFW	1N-SFW	1N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Molybdenum	mg/L	T		<0.0025 :	-	0.0027 :	-	<0.0027 :	-
Molybdenum	mg/L	D		-	0.0021 :	-	0.0027 :	-	<0.0027 :
Nickel	mg/L	T		0.0138 J	-	0.0149 :	-	0.0182 :	-
Nickel	mg/L	D		-	0.0123 :	-	0.0134 :	-	0.0185 :
Potassium	mg/L	T		1.73 :	-	1.49 :	-	1.21 J	-
Potassium	mg/L	D		-	1.45 :	-	1.33 :	-	1.19 J
Selenium	mg/L	T		<0.0008 :	-	0.00042 J	-	0.00031 J	-
Selenium	mg/L	D		-	<0.0008 :	-	0.00031 J	-	<0.0003 :
Silver	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Silver	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Sodium	mg/L	T		5.55 :	-	4.99 :	-	5.54 :	-
Sodium	mg/L	D		-	5.41 :	-	5.08 :	-	5.73 :
Thallium	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T		0.00069 :	-	0.00057 :	-	0.00019 :	-
Vanadium	mg/L	D		-	<0.0002 :	-	0.00011 :	-	<0.0001 :
Zinc	mg/L	T		0.0826 :	-	0.0777 :	-	0.111 :	-
Zinc	mg/L	D		-	0.0476 :	-	0.0459 :	-	0.0936 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	12/11/2003	12/11/2003	1/13/2004	1/13/2004	4/13/2004	4/13/2004
			Sample ID	RR-US-SPRING13-T0	RR-US-SPRING13-D	RR-US-SPRING13-T	RR-US-SPRING13-D0	RR-US-SPRING13-T0	RR-US-SPRING13-D0
				1N-SFW	01N-SFW	01N-SFW	1N-SFW	1N-SFW	1N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Field Measurements									
DO	mg/L	T		10.89 :	-	8.69 :	-	10.7 :	-
Eh	millivolts	T		256.8 :	-	141.2 :	-	74.4 :	-
pH	SU	T		7.5 J	-	7.3 J	-	7.7 J	-
Specific Conductance	uS/cm	T		506. :	-	362. :	-	279. :	-
Temperature	Celsius	T		1.71 :	-	1.53 :	-	5.47 :	-
Turbidity	NTU	T		5.5 :	-	6.6 :	-	2.3 :	-
General Chemistry									
Ammonia	mg/L	T		0.046 :	-	<0.04 :	-	<0.12 J	-
Bicarbonate (as CaCO3)	mg/L	T		52.5 :	-	41.5 J	-	64.3 :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 :	-	<1.4 :	-	<1.3 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		4.4 :	-	3.5 :	-	4.6 :	-
Fluoride	mg/L	T		1.1 :	-	0.76 :	-	0.47 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.48 :	-	0.64 J	-	0.38 J	-
Nitrite	mg/L	T		<0.005 :	-	0.009 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	0.017 J	-	<0.01 J	-
Phosphorus	mg/L	T		<0.01 :	-	0.014 :	-	0.016 :	-
Sulfate	mg/L	T		194. :	-	120. :	-	79.4 :	-
Total Alkalinity	mg/L	T		52.5 :	-	41.5 J	-	64.3 :	-
Total Dissolved Solids	mg/L	T		292. J	-	192. :	-	192. :	-
Total Kjeldahl Nitrogen	mg/L	T		0.28 J	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<1. :	-	<1. J	-	<3. J	-
Total Suspended Solids	mg/L	T		15.9 :	-	5. :	-	7. :	-
Laboratory Parameters									
pH	SU	T		7.5 J	-	7.3 J	-	7.7 J	-
Specific Conductance	umhos/cm	T		399. J	-	345. J	-	271. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		239. :	-	169. :	-	138. :	-
Hardness	mg/L	D		-	247. :	-	173. :	-	141. :

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13	RR-US-SPRING13
			Sample Date	12/11/2003	12/11/2003	1/13/2004	1/13/2004	4/13/2004	4/13/2004
			Sample ID	RR-US-SPRING13-T0 1N-SFW UDS	RR-US-SPRING13-D 01N-SFW UDS	RR-US-SPRING13-T 01N-SFW UDS	RR-US-SPRING13-D0 1N-SFW UDS	RR-US-SPRING13-T0 1N-SFW UDS	RR-US-SPRING13-D0 1N-SFW UDS
Metals									
Aluminum	mg/L	T		1.61 :	-	0.884 :	-	0.91 :	-
Aluminum	mg/L	D		-	<0.074 :	-	0.118 :	-	0.27 :
Antimony	mg/L	T		<0.0011 :	-	<0.0012 :	-	<0.0004 J	-
Antimony	mg/L	D		-	<0.0012 :	-	<0.0012 :	-	<0.0004 J
Arsenic	mg/L	T		<0.0002 J	-	0.00023 :	-	<0.0002 :	-
Arsenic	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		0.035 :	-	0.0335 :	-	0.0405 :	-
Barium	mg/L	D		-	0.0355 :	-	0.0332 :	-	0.0382 :
Beryllium	mg/L	T		0.0005 :	-	<0.001 :	-	<0.0002 :	-
Beryllium	mg/L	D		-	<0.0004 :	-	<0.001 :	-	<0.0002 :
Boron	mg/L	T		<0.0064 :	-	<0.0117 :	-	<0.0042 :	-
Boron	mg/L	D		-	<0.0064 :	-	<0.0117 :	-	<0.0054 :
Cadmium	mg/L	T		0.00064 :	-	0.00041 :	-	<0.0002 :	-
Cadmium	mg/L	D		-	0.0007 :	-	0.00033 :	-	<0.0002 :
Calcium	mg/L	T		70.6 :	-	49.8 :	-	41.3 :	-
Calcium	mg/L	D		-	73. :	-	51.1 :	-	42.1 :
Chromium	mg/L	T		<0.0011 :	-	<0.0057 :	-	<0.0011 :	-
Chromium	mg/L	D		-	<0.0011 :	-	<0.0057 :	-	<0.0008 :
Cobalt	mg/L	T		0.0042 :	-	<0.0037 :	-	0.0014 :	-
Cobalt	mg/L	D		-	0.0034 :	-	<0.0037 :	-	0.0014 :
Copper	mg/L	T		0.0214 :	-	0.0116 :	-	0.0119 :	-
Copper	mg/L	D		-	<0.0066 :	-	0.004 :	-	0.0047 J
Iron	mg/L	T		0.0656 :	-	0.0774 :	-	0.319 :	-
Iron	mg/L	D		-	<0.0455 :	-	<0.0357 :	-	<0.0192 :
Lead	mg/L	T		0.0004 :	-	0.00016 :	-	0.00067 :	-
Lead	mg/L	D		-	<0.0002 :	-	<0.0001 :	-	<0.0004 :
Magnesium	mg/L	T		15.3 :	-	10.7 :	-	8.6 :	-
Magnesium	mg/L	D		-	15.8 :	-	11. :	-	8.77 :
Manganese	mg/L	T		0.274 :	-	0.181 :	-	0.137 :	-
Manganese	mg/L	D		-	0.278 :	-	0.184 :	-	0.125 :
Mercury	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Molybdenum	mg/L	T		0.0037 :	-	0.0024 :	-	<0.0028 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-US-SPRING13 12/11/2003 RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING13 12/11/2003 RR-US-SPRING13-D01N-SFW UDS	RR-US-SPRING13 1/13/2004 RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING13 1/13/2004 RR-US-SPRING13-D01N-SFW UDS	RR-US-SPRING13 4/13/2004 RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING13 4/13/2004 RR-US-SPRING13-D01N-SFW UDS
Molybdenum	mg/L	D	-	0.0037 :	-	0.0027 :	-	<0.0029 :
Nickel	mg/L	T	0.0227 J	-	<0.0168 :	-	0.0103 :	-
Nickel	mg/L	D	-	0.0228 J	-	<0.0168 :	-	0.0094 :
Potassium	mg/L	T	1.41 :	-	1.82 :	-	1.2 :	-
Potassium	mg/L	D	-	1.44 :	-	2.17 :	-	1.24 :
Selenium	mg/L	T	<0.00063 J	-	0.00054 J	-	<0.0007 :	-
Selenium	mg/L	D	-	<0.00043 J	-	0.00078 J	-	<0.0007 :
Silver	mg/L	T	<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Silver	mg/L	D	-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Sodium	mg/L	T	6.86 :	-	5.35 :	-	5.3 :	-
Sodium	mg/L	D	-	7. :	-	5.59 :	-	5.46 :
Thallium	mg/L	T	<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Thallium	mg/L	D	-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T	<0.0029 :	-	<0.0002 :	-	0.00046 :	-
Vanadium	mg/L	D	-	<0.0029 :	-	<0.0002 :	-	0.0002 :
Zinc	mg/L	T	0.142 :	-	0.0839 :	-	0.055 :	-
Zinc	mg/L	D	-	0.134 :	-	0.0738 :	-	0.0376 :

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	4/14/2004	2/2/2003	2/2/2003	2/2/2003	2/2/2003	2/9/2003
			Sample ID	RR-US-SPRING13-T01N-SFW	RR-US-SPRING39-T01N-SFW	RR-US-SPRING39-D01N-SFW	RR-US-SPRING39A-T01N-SFW	RR-US-SPRING39A-D01N-SFW	RR-USSPRING39-T01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Field Measurements									
DO	mg/L	T		-	9.49 :	-	-	-	-
Eh	millivolts	T		-	240.8 :	-	-	-	-
Flow	cfs	T		30.15 :	4.29 :	-	-	-	-
pH	SU	T		-	7.03 :	-	-	-	-
Specific Conductance	uS/cm	T		-	409. :	-	-	-	-
Temperature	Celsius	T		-	3.5 :	-	-	-	-
Turbidity	NTU	T		-	13.8 :	-	-	-	-
General Chemistry									
Ammonia	mg/L	T		-	0.093 :	-	0.092 :	-	0.065 :
Bicarbonate (as CaCO3)	mg/L	T		-	52.3 :	-	51.1 :	-	57.7 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.5 J	-	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. J	-	<20. J	-	<20. J
Chloride	mg/L	T		-	3.8 :	-	4.1 :	-	5.2 :
Fluoride	mg/L	T		-	0.76 J	-	0.78 J	-	0.93 J
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.41 :	-	0.91 :	-	1.1 J
Nitrite	mg/L	T		-	<0.005 J	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	<0.01 J	-	<0.01 J
Phosphorus	mg/L	T		-	0.031 :	-	0.029 :	-	0.016 :
Sulfate	mg/L	T		-	143. :	-	149. :	-	128. :
Total Alkalinity	mg/L	T		-	52.3 :	-	51.1 :	-	57.7 :
Total Dissolved Solids	mg/L	T		-	289. :	-	327. :	-	273. :
Total Kjeldahl Nitrogen	mg/L	T		-	0.27 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Total Suspended Solids	mg/L	T		-	7.2 :	-	7.8 :	-	5.2 :
Laboratory Parameters									
pH	SU	T		-	7.03 :	-	-	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	195. :	-	220. :	-	214. :
Hardness	mg/L	D		-	-	192. :	-	218. :	-

J = Qualified as estimated during data validation
R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING13	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	4/14/2004	2/2/2003	2/2/2003	2/2/2003	2/2/2003	2/9/2003
			Sample ID	RR-US-SPRING13-T01N-SFW	RR-US-SPRING39-T01N-SFW	RR-US-SPRING39-D01N-SFW	RR-US-SPRING39A-T01N-SFW	RR-US-SPRING39A-D01N-SFW	RR-USSPRING39-T01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Metals									
Aluminum	mg/L	T		-	0.787 :	-	0.739 :	-	<0.583 :
Aluminum	mg/L	D		-	-	<0.0784 J	-	<0.0909 J	-
Antimony	mg/L	T		-	<0.0006 :	-	<0.0006 :	-	<0.0006 :
Antimony	mg/L	D		-	-	<0.0006 :	-	<0.0006 :	-
Arsenic	mg/L	T		-	<0.0004 :	-	<0.0004 :	-	<0.0004 :
Arsenic	mg/L	D		-	-	<0.0002 J	-	<0.0002 J	-
Barium	mg/L	T		-	0.0387 :	-	0.0379 :	-	0.0389 :
Barium	mg/L	D		-	-	0.036 :	-	0.035 :	-
Beryllium	mg/L	T		-	0.00037 :	-	0.00034 :	-	<0.0002 :
Beryllium	mg/L	D		-	-	<0.0002 :	-	0.0002 :	-
Boron	mg/L	T		-	<0.0042 :	-	<0.0049 :	-	<0.008 :
Boron	mg/L	D		-	-	<0.0036 :	-	<0.0044 :	-
Cadmium	mg/L	T		-	0.00082 :	-	0.00086 :	-	0.00063 :
Cadmium	mg/L	D		-	-	0.00053 J	-	0.00046 J	-
Calcium	mg/L	T		-	55.2 :	-	62.7 :	-	61.8 :
Calcium	mg/L	D		-	-	54.5 :	-	62.3 :	-
Chromium	mg/L	T		-	<0.0037 :	-	<0.0037 :	-	<0.0037 :
Chromium	mg/L	D		-	-	<0.0037 :	-	<0.0037 :	-
Cobalt	mg/L	T		-	0.0023 :	-	0.0022 :	-	0.0016 :
Cobalt	mg/L	D		-	-	0.0024 :	-	0.0022 :	-
Copper	mg/L	T		-	0.0112 :	-	<0.0102 :	-	0.0043 :
Copper	mg/L	D		-	-	<0.0035 :	-	<0.0037 :	-
Iron	mg/L	T		-	<0.266 :	-	0.319 :	-	<0.489 :
Iron	mg/L	D		-	-	<0.266 :	-	<0.266 :	-
Lead	mg/L	T		-	0.00025 :	-	0.0004 :	-	0.00035 :
Lead	mg/L	D		-	-	<0.0002 :	-	<0.0002 :	-
Magnesium	mg/L	T		-	13.8 :	-	15.3 :	-	14.5 :
Magnesium	mg/L	D		-	-	13.6 :	-	15.2 :	-
Manganese	mg/L	T		-	0.218 :	-	0.205 :	-	0.141 :
Manganese	mg/L	D		-	-	0.21 :	-	0.196 :	-
Mercury	mg/L	T		-	0.00012 :	-	<0.0001 :	-	<0.0001 :
Mercury	mg/L	D		-	-	<0.0001 :	-	<0.0001 :	-
Molybdenum	mg/L	T		-	<0.0038 :	-	<0.003 :	-	<0.0017 :

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-US-SPRING13 4/14/2004 RR-US-SPRING13-T01N-SFW UDS	RR-US-SPRING39 2/2/2003 RR-US-SPRING39-T01N-SFW UDS	RR-US-SPRING39 2/2/2003 RR-US-SPRING39-D01N-SFW UDS	RR-US-SPRING39 2/2/2003 RR-US-SPRING39A-T01N-SFW UDS	RR-US-SPRING39 2/2/2003 RR-US-SPRING39A-D01N-SFW UDS	RR-US-SPRING39 2/9/2003 RR-USSPRING39-T01N-SFW UDS
Molybdenum	mg/L	D	-	-	<0.0034 :	-	<0.0035 :	-
Nickel	mg/L	T	-	0.0284 :	-	0.0286 :	-	0.0305 :
Nickel	mg/L	D	-	-	0.0278 :	-	0.0279 :	-
Potassium	mg/L	T	-	1.5 :	-	1.58 :	-	1.83 :
Potassium	mg/L	D	-	-	1.48 :	-	1.52 :	-
Selenium	mg/L	T	-	<0.0016 :	-	<0.0016 :	-	<0.0016 :
Selenium	mg/L	D	-	-	<0.0016 :	-	<0.0016 :	-
Silver	mg/L	T	-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Silver	mg/L	D	-	-	<0.0002 :	-	<0.0002 :	-
Sodium	mg/L	T	-	6.49 :	-	8.11 :	-	5.29 :
Sodium	mg/L	D	-	-	8.46 :	-	8.48 :	-
Thallium	mg/L	T	-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Thallium	mg/L	D	-	-	<0.0002 :	-	<0.0002 :	-
Vanadium	mg/L	T	-	<0.0004 :	-	<0.0004 :	-	<0.0004 :
Vanadium	mg/L	D	-	-	<0.0004 :	-	<0.0004 :	-
Zinc	mg/L	T	-	<0.187 :	-	<0.185 :	-	0.21 :
Zinc	mg/L	D	-	-	<0.166 :	-	<0.169 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	2/9/2003	2/9/2003	3/5/2003	3/5/2003	4/1/2003	4/1/2003
			Sample ID	RR-US-SPRING39-T0 1N-SFW UDS	RR-USSPRING39-D0 1N-SFW UDS	RR-US-SPRING39-T 01N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS	RR-US-SPRING39-T0 1N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS
Field Measurements									
DO	mg/L	T		4.22 :	-	12.31 :	-	9.44 :	-
Eh	millivolts	T		196.5 :	-	227.5 :	-	375.2 :	-
Flow	cfs	T		2.45 :	-	8.45 :	-	<15.43 :	-
pH	SU	T		6.88 :	-	7.34 :	-	7.4 J	-
Specific Conductance	uS/cm	T		408. :	-	411. :	-	347. :	-
Temperature	Celsius	T		1.95 :	-	2.71 :	-	8.02 :	-
Turbidity	NTU	T		0. :	-	44.5 :	-	12. :	-
General Chemistry									
Ammonia	mg/L	T		-	-	<0.084 J	-	<0.36 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	-	54. :	-	60.7 :	-
Biochemical Oxygen Demand	mg/L	T		-	-	<1.6 :	-	<1.5 J	-
Carbonate (as CaCO3)	mg/L	T		-	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	-	<20. :	-	<31.3 :	-
Chloride	mg/L	T		-	-	5.5 :	-	4.6 :	-
Fluoride	mg/L	T		-	-	0.87 :	-	0.73 :	-
Hydroxide (as CaCO3)	mg/L	T		-	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		-	-	0.71 :	-	<1. J	-
Nitrite	mg/L	T		-	-	<0.005 :	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		-	-	<0.01 :	-	<0.01 J	-
Phosphorus	mg/L	T		-	-	0.023 :	-	0.039 :	-
Sulfate	mg/L	T		-	-	117. :	-	101. :	-
Total Alkalinity	mg/L	T		-	-	54. :	-	60.7 :	-
Total Dissolved Solids	mg/L	T		-	-	274. :	-	220. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		-	-	1.7 :	-	1.3 :	-
Total Suspended Solids	mg/L	T		-	-	4.5 :	-	8.9 :	-
Laboratory Parameters									
pH	SU	T		6.88 :	-	7.34 :	-	7.4 J	-
Specific Conductance	umhos/cm	T		-	-	-	-	305. J	-
Inorganics									
Cyanide	mg/L	T		-	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		-	-	208. :	-	156. :	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	2/9/2003	2/9/2003	3/5/2003	3/5/2003	4/1/2003	4/1/2003
			Sample ID	RR-US-SPRING39-T0 1N-SFW UDS	RR-USSPRING39-D0 1N-SFW UDS	RR-US-SPRING39-T 01N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS	RR-US-SPRING39-T0 1N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS
Hardness	mg/L	D		-	215. :	-	210. :	-	159. :
Metals									
Aluminum	mg/L	T		-	-	0.585 J	-	0.938 :	-
Aluminum	mg/L	D		-	<0.156 :	-	<0.0706 :	-	<0.122 :
Antimony	mg/L	T		-	-	<0.0006 :	-	<0.0011 :	-
Antimony	mg/L	D		-	<0.0006 :	-	<0.0006 :	-	<0.0006 :
Arsenic	mg/L	T		-	-	<0.0004 J	-	<0.0004 :	-
Arsenic	mg/L	D		-	<0.0004 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		-	-	0.0402 :	-	0.0431 :	-
Barium	mg/L	D		-	0.0365 :	-	0.0374 :	-	0.0364 :
Beryllium	mg/L	T		-	-	0.0004 :	-	<0.00038 :	-
Beryllium	mg/L	D		-	<0.0002 :	-	0.00022 :	-	<0.00054 :
Boron	mg/L	T		-	-	<0.0075 :	-	<0.0084 :	-
Boron	mg/L	D		-	<0.0083 :	-	<0.0075 :	-	<0.0084 :
Cadmium	mg/L	T		-	-	0.00054 J	-	<0.0005 :	-
Cadmium	mg/L	D		-	0.00055 :	-	0.00039 :	-	0.00029 :
Calcium	mg/L	T		-	-	59.2 :	-	45.2 :	-
Calcium	mg/L	D		-	62.2 :	-	59.9 :	-	46.3 :
Chromium	mg/L	T		-	-	<0.0037 :	-	0.0011 :	-
Chromium	mg/L	D		-	<0.0037 :	-	<0.0037 :	-	<0.001 :
Cobalt	mg/L	T		-	-	0.0023 :	-	<0.0038 :	-
Cobalt	mg/L	D		-	<0.0016 :	-	<0.0016 :	-	<0.0038 :
Copper	mg/L	T		-	-	0.0071 J	-	0.0092 :	-
Copper	mg/L	D		-	0.0022 :	-	<0.0017 J	-	<0.0015 :
Iron	mg/L	T		-	-	<0.299 :	-	0.535 :	-
Iron	mg/L	D		-	<0.489 :	-	<0.299 :	-	<0.422 :
Lead	mg/L	T		-	-	<0.0002 :	-	0.0015 :	-
Lead	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Magnesium	mg/L	T		-	-	14.5 :	-	10.4 :	-
Magnesium	mg/L	D		-	14.5 :	-	14.6 :	-	10.5 :
Manganese	mg/L	T		-	-	0.18 :	-	0.128 :	-
Manganese	mg/L	D		-	0.136 :	-	0.176 :	-	0.118 :
Mercury	mg/L	T		-	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-US-SPRING39 2/9/2003 RR-US-SPRING39-T01N-SFW UDS		RR-US-SPRING39 2/9/2003 RR-USSPRING39-D01N-SFW UDS		RR-US-SPRING39 3/5/2003 RR-US-SPRING39-T01N-SFW UDS		RR-US-SPRING39 3/5/2003 RR-US-SPRING39-D01N-SFW UDS		RR-US-SPRING39 4/1/2003 RR-US-SPRING39-T01N-SFW UDS		RR-US-SPRING39 4/1/2003 RR-US-SPRING39-D01N-SFW UDS	
Molybdenum	mg/L	T	-		-		<0.0045	:	-		0.0037	:	-	
Molybdenum	mg/L	D	-		<0.0017	:	-		<0.0054	:	-		0.0027	:
Nickel	mg/L	T	-		-		0.0316	:	-		0.018	:	-	
Nickel	mg/L	D	-		0.0295	:	-		0.0295	:	-		0.0163	:
Potassium	mg/L	T	-		-		1.35	:	-		1.42	:	-	
Potassium	mg/L	D	-		1.76	:	-		1.34	:	-		1.28	:
Selenium	mg/L	T	-		-		0.0018	J	-		<0.001	:	-	
Selenium	mg/L	D	-		<0.0016	:	-		<0.0016	:	-		<0.001	:
Silver	mg/L	T	-		-		<0.0002	:	-		<0.0002	:	-	
Silver	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Sodium	mg/L	T	-		-		7.4	:	-		<9.16	:	-	
Sodium	mg/L	D	-		5.81	:	-		<5.13	:	-		<9.16	:
Thallium	mg/L	T	-		-		<0.0002	:	-		<0.0002	:	-	
Thallium	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Vanadium	mg/L	T	-		-		<0.0004	:	-		0.00049	:	-	
Vanadium	mg/L	D	-		<0.0004	:	-		<0.0004	:	-		<0.0002	:
Zinc	mg/L	T	-		-		0.182	:	-		0.106	:	-	
Zinc	mg/L	D	-		0.2	:	-		0.159	:	-		0.0784	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	5/5/2003	5/5/2003	6/3/2003	6/3/2003	7/22/2003	7/22/2003
			Sample ID	RR-US-SPRING39-T01N-SFW	RR-US-SPRING39-D01N-SFW	RR-US-SPRING39-T01N-SFW	RR-US-SPRING39-D01N-SFW	RR-US-SPRING39-T01N-SFW	RR-US-SPRING39-D01N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Field Measurements									
DO	mg/L	T		10.31 :	-	9.85 :	-	7.05 :	-
Eh	millivolts	T		103.3 :	-	342.9 :	-	352.3 :	-
Flow	cfs	T		-	-	-	-	23.7 :	-
pH	SU	T		7.4 J	-	7.4 J	-	6.9 :	-
Specific Conductance	uS/cm	T		232. :	-	181. :	-	311. :	-
Temperature	Celsius	T		7.03 :	-	9.39 :	-	16.14 :	-
Turbidity	NTU	T		36.5 :	-	23.4 :	-	1.5 :	-
General Chemistry									
Ammonia	mg/L	T		<0.075 :	-	<0.068 :	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		53.9 :	-	55.2 :	-	63.4 :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 :	-	<1.5 J	-	<1.5 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<2. :	-	<20. :	-
Chloride	mg/L	T		3.2 :	-	10.1 :	-	5.2 :	-
Fluoride	mg/L	T		0.42 :	-	<0.31 :	-	<0.93 J	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<0.4 J	-	<0.4 J	-	<0.73 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 J	-	<0.005 :	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	0.021 J	-	<0.01 :	-
Phosphorus	mg/L	T		0.2 :	-	0.069 :	-	0.035 :	-
Sulfate	mg/L	T		50.4 :	-	34.1 :	-	228. :	-
Total Alkalinity	mg/L	T		53.9 :	-	55.2 :	-	63.4 :	-
Total Dissolved Solids	mg/L	T		142. J	-	<100. :	-	420. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	-	-	<0.24 :	-
Total Organic Carbon	mg/L	T		2.9 :	-	1.9 J	-	1.3 :	-
Total Suspended Solids	mg/L	T		48.3 :	-	17.5 :	-	4.4 :	-
Laboratory Parameters									
pH	SU	T		7.4 J	-	7.4 J	-	6.9 :	-
Specific Conductance	umhos/cm	T		210. J	-	180. J	-	570. :	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		94. :	-	84.9 :	-	151. J	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-US-SPRING39 5/5/2003 RR-US-SPRING39-T01N-SFW UDS		RR-US-SPRING39 5/5/2003 RR-US-SPRING39-D01N-SFW UDS		RR-US-SPRING39 6/3/2003 RR-US-SPRING39-T01N-SFW UDS		RR-US-SPRING39 6/3/2003 RR-US-SPRING39-D01N-SFW UDS		RR-US-SPRING39 7/22/2003 RR-US-SPRING39-T01N-SFW UDS		RR-US-SPRING39 7/22/2003 RR-US-SPRING39-D01N-SFW UDS	
Hardness	mg/L	D	-		95.2	:	-		81.1	:	-		273.	J
Metals														
Aluminum	mg/L	T	0.626	:	-		1.13	:	-		0.476	:	-	
Aluminum	mg/L	D	-		<0.242	:	-		0.3	:	-		<0.0183	:
Antimony	mg/L	T	<0.0003	:	-		<0.0005	:	-		<0.0005	:	-	
Antimony	mg/L	D	-		<0.0003	:	-		<0.0005	:	-		<0.0005	:
Arsenic	mg/L	T	0.00028	:	-		0.00032	:	-		<0.0002	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Barium	mg/L	T	0.0452	:	-		0.0462	:	-		0.0392	:	-	
Barium	mg/L	D	-		0.0285	:	-		0.0297	:	-		0.0334	:
Beryllium	mg/L	T	0.00047	:	-		<0.00072	:	-		<0.0002	:	-	
Beryllium	mg/L	D	-		<0.0003	:	-		0.0004	:	-		0.00027	:
Boron	mg/L	T	<0.0084	:	-		<0.0084	:	-		0.0073	:	-	
Boron	mg/L	D	-		<0.0084	:	-		<0.0084	:	-		0.0072	:
Cadmium	mg/L	T	0.00027	:	-		0.00028	:	-		0.00057	:	-	
Cadmium	mg/L	D	-		0.00017	:	-		<0.0002	:	-		0.00061	:
Calcium	mg/L	T	28.	:	-		26.3	:	-		44.7	J	-	
Calcium	mg/L	D	-		28.4	:	-		25.4	:	-		79.8	J
Chromium	mg/L	T	0.0021	:	-		<0.0021	:	-		<0.0006	:	-	
Chromium	mg/L	D	-		<0.001	:	-		<0.001	:	-		0.001	:
Cobalt	mg/L	T	<0.0038	:	-		<0.0038	:	-		<0.0018	:	-	
Cobalt	mg/L	D	-		<0.0038	:	-		<0.0038	:	-		<0.0018	:
Copper	mg/L	T	0.0065	J	-		0.0081	:	-		0.007	:	-	
Copper	mg/L	D	-		<0.0015	J	-		0.0036	:	-		0.0024	:
Iron	mg/L	T	0.603	J	-		0.877	:	-		0.314	:	-	
Iron	mg/L	D	-		<0.0815	J	-		<0.0759	:	-		0.0586	:
Lead	mg/L	T	0.0015	:	-		0.0037	:	-		0.00078	:	-	
Lead	mg/L	D	-		0.00011	:	-		0.0014	:	-		<0.0001	:
Magnesium	mg/L	T	5.86	:	-		4.65	:	-		9.52	J	-	
Magnesium	mg/L	D	-		5.9	:	-		4.33	:	-		18.	J
Manganese	mg/L	T	0.0962	:	-		0.108	:	-		0.0882	:	-	
Manganese	mg/L	D	-		0.0602	:	-		0.0772	:	-		0.0515	:
Mercury	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Mercury	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	5/5/2003	5/5/2003	6/3/2003	6/3/2003	7/22/2003	7/22/2003
			Sample ID	RR-US-SPRING39-T01N-SFW UDS	RR-US-SPRING39-D01N-SFW UDS	RR-US-SPRING39-T01N-SFW UDS	RR-US-SPRING39-D01N-SFW UDS	RR-US-SPRING39-T01N-SFW UDS	RR-US-SPRING39-D01N-SFW UDS
Molybdenum	mg/L	T		<0.0037 :	-	0.0024 :	-	0.0021 :	-
Molybdenum	mg/L	D		-	<0.0023 :	-	<0.0023 :	-	0.0024 :
Nickel	mg/L	T		0.0086 J	-	0.0076 :	-	0.0177 :	-
Nickel	mg/L	D		-	0.0044 J	-	0.0047 :	-	0.0229 :
Potassium	mg/L	T		1.12 :	-	1.19 :	-	1.69 :	-
Potassium	mg/L	D		-	1.11 :	-	0.835 :	-	1.75 :
Selenium	mg/L	T		<0.0005 :	-	<0.0008 :	-	<0.0008 :	-
Selenium	mg/L	D		-	<0.0005 :	-	<0.0008 :	-	<0.0008 :
Silver	mg/L	T		<0.0001 :	-	<0.001 :	-	<0.0001 J	-
Silver	mg/L	D		-	<0.0001 :	-	<0.00089 :	-	<0.0001 J
Sodium	mg/L	T		3.65 :	-	2.37 :	-	4.92 J	-
Sodium	mg/L	D		-	3.79 :	-	2.17 :	-	7.22 J
Thallium	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T		0.00066 :	-	0.0014 :	-	<0.00024 :	-
Vanadium	mg/L	D		-	0.00019 :	-	<0.0002 :	-	<0.0002 :
Zinc	mg/L	T		0.061 :	-	0.0515 :	-	0.121 :	-
Zinc	mg/L	D		-	0.0376 :	-	0.0337 :	-	0.133 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	8/11/2003	8/11/2003	9/9/2003	9/9/2003	11/3/2003	11/3/2003
			Sample ID	RR-US-SPRING39-T0 1N-SFW UDS	RR-US-SPRING39-D 01N-SFW UDS	RR-US-SPRING39-T 01N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS	RR-US-SPRING39-T0 1N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS
Field Measurements									
DO	mg/L	T		7.98 :	-	7.69 :	-	8.29 :	-
Eh	millivolts	T		236.5 :	-	256.8 :	-	270.5 :	-
Flow	cfs	T		-	-	<25.2 :	-	<17.1 :	-
pH	SU	T		6.3 J	-	7.4 J	-	7.4 J	-
Specific Conductance	uS/cm	T		306. :	-	338. :	-	358. :	-
Temperature	Celsius	T		15.45 :	-	12.23 :	-	6.72 :	-
Turbidity	NTU	T		25. :	-	19.6 :	-	3.1 :	-
General Chemistry									
Ammonia	mg/L	T		<0.046 :	-	<0.051 :	-	<0.04 J	-
Bicarbonate (as CaCO3)	mg/L	T		58. :	-	64.2 :	-	60. :	-
Biochemical Oxygen Demand	mg/L	T		<1.4 J	-	<1.3 J	-	<1.4 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		28. J	-	<20. :	-	<20. :	-
Chloride	mg/L	T		4.2 :	-	2.3 :	-	2.7 :	-
Fluoride	mg/L	T		0.71 :	-	0.52 :	-	0.67 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.55 J	-	0.31 J	-	0.28 :	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 :	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 J	-
Phosphorus	mg/L	T		<0.033 :	-	0.035 :	-	<0.01 :	-
Sulfate	mg/L	T		160. J	-	88.7 :	-	83. J	-
Total Alkalinity	mg/L	T		58. :	-	64.2 :	-	60. :	-
Total Dissolved Solids	mg/L	T		360. :	-	196. :	-	318. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		1.1 J	-	<1. :	-	<1. :	-
Total Suspended Solids	mg/L	T		6. :	-	12.9 :	-	3.2 :	-
Laboratory Parameters									
pH	SU	T		6.3 J	-	7.4 J	-	7.4 J	-
Specific Conductance	umhos/cm	T		463. J	-	263. J	-	313. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		232. :	-	140. :	-	153. :	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	8/11/2003	8/11/2003	9/9/2003	9/9/2003	11/3/2003	11/3/2003
			Sample ID	RR-US-SPRING39-T0 1N-SFW UDS	RR-US-SPRING39-D 01N-SFW UDS	RR-US-SPRING39-T 01N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS	RR-US-SPRING39-T0 1N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS
Hardness	mg/L	D		-	234. :	-	136. :	-	150. :
Metals									
Aluminum	mg/L	T		0.431 :	-	0.694 :	-	0.508 :	-
Aluminum	mg/L	D		-	0.0725 :	-	0.198 :	-	0.13 :
Antimony	mg/L	T		<0.0005 :	-	<0.0011 :	-	<0.0005 :	-
Antimony	mg/L	D		-	<0.0005 J	-	<0.0005 :	-	<0.0005 :
Arsenic	mg/L	T		<0.0002 :	-	0.00023 :	-	<0.0002 :	-
Arsenic	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		0.0368 :	-	0.0449 :	-	0.0393 :	-
Barium	mg/L	D		-	0.0343 :	-	0.0356 :	-	0.0374 :
Beryllium	mg/L	T		0.00023 :	-	<0.0002 :	-	<0.0004 :	-
Beryllium	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0004 :
Boron	mg/L	T		0.0092 :	-	0.0096 :	-	<0.0063 :	-
Boron	mg/L	D		-	0.0082 :	-	0.0085 :	-	<0.0063 :
Cadmium	mg/L	T		0.00034 :	-	0.00028 :	-	0.00025 :	-
Cadmium	mg/L	D		-	0.00037 :	-	0.00022 :	-	0.0003 :
Calcium	mg/L	T		68.4 :	-	41.6 :	-	45.4 :	-
Calcium	mg/L	D		-	69. :	-	40.5 :	-	44.3 :
Chromium	mg/L	T		<0.0014 J	-	<0.0023 :	-	<0.0011 J	-
Chromium	mg/L	D		-	<0.0014 J	-	0.0052 :	-	<0.0011 J
Cobalt	mg/L	T		<0.002 :	-	<0.0032 :	-	<0.0029 :	-
Cobalt	mg/L	D		-	<0.002 :	-	<0.0032 :	-	0.004 :
Copper	mg/L	T		0.0043 :	-	0.0071 :	-	0.0055 :	-
Copper	mg/L	D		-	0.0022 :	-	0.0061 :	-	0.0024 :
Iron	mg/L	T		0.221 :	-	0.478 :	-	<0.103 :	-
Iron	mg/L	D		-	<0.0333 :	-	<0.0455 :	-	<0.0278 :
Lead	mg/L	T		0.00046 :	-	0.0018 :	-	<0.0002 :	-
Lead	mg/L	D		-	<0.0001 :	-	<0.0002 :	-	<0.0002 :
Magnesium	mg/L	T		14.8 :	-	8.71 :	-	9.74 :	-
Magnesium	mg/L	D		-	14.9 :	-	8.45 :	-	9.5 :
Manganese	mg/L	T		0.0618 :	-	0.0923 :	-	0.09 :	-
Manganese	mg/L	D		-	0.0553 :	-	0.074 :	-	0.0918 :
Mercury	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	RR-US-SPRING39 8/11/2003 RR-US-SPRING39-T01N-SFW UDS T		RR-US-SPRING39 8/11/2003 RR-US-SPRING39-D01N-SFW UDS T		RR-US-SPRING39 9/9/2003 RR-US-SPRING39-T01N-SFW UDS T		RR-US-SPRING39 9/9/2003 RR-US-SPRING39-D01N-SFW UDS T		RR-US-SPRING39 11/3/2003 RR-US-SPRING39-T01N-SFW UDS T		RR-US-SPRING39 11/3/2003 RR-US-SPRING39-D01N-SFW UDS T	
Molybdenum	mg/L	T	0.0022	:	-		0.002	:	-		<0.0026	:	-	
Molybdenum	mg/L	D	-		0.0023	:	-		0.0021	:	-		<0.0027	:
Nickel	mg/L	T	0.0169	:	-		0.0125	:	-		0.0162	:	-	
Nickel	mg/L	D	-		0.0159	:	-		0.0177	:	-		0.0159	:
Potassium	mg/L	T	1.68	:	-		1.42	:	-		1.25	J	-	
Potassium	mg/L	D	-		1.67	:	-		1.33	:	-		1.18	J
Selenium	mg/L	T	<0.0008	:	-		0.00037	J	-		<0.0003	:	-	
Selenium	mg/L	D	-		<0.0008	:	-		0.00035	J	-		<0.0003	:
Silver	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Silver	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:
Sodium	mg/L	T	6.55	:	-		4.58	:	-		5.12	:	-	
Sodium	mg/L	D	-		6.64	:	-		4.51	:	-		5.05	:
Thallium	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:
Vanadium	mg/L	T	0.00022	:	-		0.00053	:	-		0.00014	:	-	
Vanadium	mg/L	D	-		<0.0002	:	-		0.00011	:	-		0.00011	:
Zinc	mg/L	T	0.0997	:	-		0.0726	:	-		0.098	:	-	
Zinc	mg/L	D	-		0.0893	:	-		0.0499	:	-		0.0861	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	12/11/2003	12/11/2003	1/13/2004	1/13/2004	4/13/2004	4/13/2004
			Sample ID	RR-US-SPRING39-T0	RR-US-SPRING39-D	RR-US-SPRING39-T	RR-US-SPRING39-D0	RR-US-SPRING39-T0	RR-US-SPRING39-D0
			Exposure Area	1N-SFW	01N-SFW	01N-SFW	1N-SFW	1N-SFW	1N-SFW
				UDS	UDS	UDS	UDS	UDS	UDS
Field Measurements									
DO	mg/L	T		10.73 :	-	-	-	10.24 :	-
Eh	millivolts	T		315.6 :	-	147.4 :	-	176.5 :	-
Flow	cfs	T		-	-	7.9 :	-	-	-
pH	SU	T		7. J	-	7.4 J	-	7.7 J	-
Specific Conductance	uS/cm	T		346. :	-	311. :	-	255. :	-
Temperature	Celsius	T		1.43 :	-	1.01 :	-	8.98 :	-
Turbidity	NTU	T		18.8 :	-	8.2 :	-	16.7 :	-
General Chemistry									
Ammonia	mg/L	T		<0.04 :	-	<0.04 :	-	<0.044 :	-
Bicarbonate (as CaCO3)	mg/L	T		59.6 :	-	59.5 J	-	68.3 :	-
Biochemical Oxygen Demand	mg/L	T		<1.5 :	-	<1.4 :	-	<1.3 :	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<20. :	-
Chloride	mg/L	T		2.6 :	-	2.9 :	-	4.5 :	-
Fluoride	mg/L	T		0.71 :	-	0.63 :	-	0.4 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		0.39 :	-	0.61 J	-	0.35 J	-
Nitrite	mg/L	T		<0.005 :	-	0.008 :	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 :	-	<0.05 J	-	<0.01 J	-
Phosphorus	mg/L	T		0.011 :	-	0.02 :	-	0.017 :	-
Sulfate	mg/L	T		97.3 :	-	91.6 :	-	61.9 :	-
Total Alkalinity	mg/L	T		59.6 :	-	59.5 J	-	68.3 :	-
Total Dissolved Solids	mg/L	T		224. J	-	216. :	-	172. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 J	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		<1. :	-	<1. :	-	<3.7 :	-
Total Suspended Solids	mg/L	T		4.7 :	-	3.7 :	-	7.1 :	-
Laboratory Parameters									
pH	SU	T		7. J	-	7.4 J	-	7.7 J	-
Specific Conductance	umhos/cm	T		282. J	-	297. J	-	246. J	-
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	<0.01 :	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		163. :	-	141. :	-	125. :	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	12/11/2003	12/11/2003	1/13/2004	1/13/2004	4/13/2004	4/13/2004
			Sample ID	RR-US-SPRING39-T0 1N-SFW UDS	RR-US-SPRING39-D 01N-SFW UDS	RR-US-SPRING39-T 01N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS	RR-US-SPRING39-T0 1N-SFW UDS	RR-US-SPRING39-D0 1N-SFW UDS
Hardness	mg/L	D		-	162. :	-	143. :	-	125. :
Metals									
Aluminum	mg/L	T		<0.171 :	-	0.444 :	-	0.531 :	-
Aluminum	mg/L	D		-	<0.0376 :	-	<0.0621 :	-	<0.134 :
Antimony	mg/L	T		<0.0005 :	-	<0.0012 :	-	<0.0004 J	-
Antimony	mg/L	D		-	<0.0005 :	-	<0.0012 :	-	<0.0004 J
Arsenic	mg/L	T		<0.0002 :	-	<0.0002 :	-	<0.0002 :	-
Arsenic	mg/L	D		-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		0.0404 :	-	0.0361 :	-	0.0423 :	-
Barium	mg/L	D		-	0.0388 :	-	0.0355 :	-	0.0399 :
Beryllium	mg/L	T		<0.0004 :	-	<0.0011 :	-	<0.0002 :	-
Beryllium	mg/L	D		-	<0.0004 :	-	<0.0018 :	-	<0.0002 :
Boron	mg/L	T		<0.0064 :	-	<0.0117 :	-	<0.0045 :	-
Boron	mg/L	D		-	<0.0064 :	-	<0.0117 :	-	<0.0042 :
Cadmium	mg/L	T		<0.0002 :	-	<0.0002 :	-	<0.0002 :	-
Cadmium	mg/L	D		-	<0.0002 :	-	0.00021 :	-	<0.0002 :
Calcium	mg/L	T		49.3 :	-	42. :	-	37.3 :	-
Calcium	mg/L	D		-	49.1 :	-	42.6 :	-	37.5 :
Chromium	mg/L	T		<0.0011 :	-	<0.0057 :	-	<0.0015 :	-
Chromium	mg/L	D		-	<0.0011 :	-	<0.0057 :	-	<0.00084 :
Cobalt	mg/L	T		<0.0029 :	-	<0.0037 :	-	<0.0011 :	-
Cobalt	mg/L	D		-	<0.0029 :	-	<0.0037 :	-	0.0015 :
Copper	mg/L	T		0.0018 :	-	0.0043 :	-	0.0082 :	-
Copper	mg/L	D		-	<0.0017 :	-	0.0018 :	-	0.0024 J
Iron	mg/L	T		0.13 :	-	0.0749 :	-	0.245 :	-
Iron	mg/L	D		-	<0.0455 :	-	<0.0423 :	-	<0.0192 :
Lead	mg/L	T		0.00031 :	-	0.00028 :	-	0.00091 :	-
Lead	mg/L	D		-	<0.0002 :	-	<0.0001 :	-	<0.0004 :
Magnesium	mg/L	T		9.61 :	-	8.71 :	-	7.64 :	-
Magnesium	mg/L	D		-	9.55 :	-	8.84 :	-	7.68 :
Manganese	mg/L	T		0.0571 :	-	0.0941 :	-	0.0979 :	-
Manganese	mg/L	D		-	0.0544 :	-	0.0912 :	-	0.0849 :
Mercury	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :

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R = Qualified as rejected value from data validation and results are considered unusable for any purpose
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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39	RR-US-SPRING39
			Sample Date	12/11/2003	12/11/2003	1/13/2004	1/13/2004	4/13/2004	4/13/2004
			Sample ID	RR-US-SPRING39-T0	RR-US-SPRING39-D	RR-US-SPRING39-T	RR-US-SPRING39-D0	RR-US-SPRING39-T0	RR-US-SPRING39-D0
				1N-SFW UDS	01N-SFW UDS	01N-SFW UDS	1N-SFW UDS	1N-SFW UDS	1N-SFW UDS
Molybdenum	mg/L	T		0.004 :	-	0.003 :	-	<0.0029 :	-
Molybdenum	mg/L	D		-	0.0043 :	-	<0.0024 :	-	<0.0028 :
Nickel	mg/L	T		0.0096 J	-	0.0102 :	-	0.0083 :	-
Nickel	mg/L	D		-	0.01 J	-	0.0101 :	-	0.0072 :
Potassium	mg/L	T		1.44 :	-	<1.1 J	-	1.09 :	-
Potassium	mg/L	D		-	1.48 :	-	<1.1 J	-	1.1 :
Selenium	mg/L	T		<0.0003 J	-	0.00052 J	-	<0.0007 :	-
Selenium	mg/L	D		-	<0.0003 J	-	0.00061 J	-	<0.0007 :
Silver	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Silver	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Sodium	mg/L	T		4.9 :	-	4.53 :	-	4.88 :	-
Sodium	mg/L	D		-	5.07 :	-	<5.25 :	-	4.92 :
Thallium	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Thallium	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Vanadium	mg/L	T		<0.0029 :	-	<0.0002 :	-	0.00065 :	-
Vanadium	mg/L	D		-	<0.0029 :	-	<0.0002 :	-	<0.0002 :
Zinc	mg/L	T		0.0596 :	-	0.0601 :	-	0.041 :	-
Zinc	mg/L	D		-	0.0563 :	-	0.0549 :	-	0.0251 :

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	SD-1		SD-1		SD-1		SD-1		Storm 1	
			Sample Date	4/16/2004	7/15/2003		7/15/2003		9/21/2003		9/21/2003		4/24/2003	
			Sample ID	RR-US-SPRING39-T01N-SFW	SD-1-T01N-SFW		SD-1-D01N-SFW		SD-1-T01N-SFW		SD-1-D01N-SFW		STORM1-T01N-SFW	
				UDS	ID		ID		ID		ID		SW3	
Field Measurements														
DO	mg/L	T		-	8.4	:	-		1.56	:	-		8.97	:
Eh	millivolts	T		-	187.3	:	-		165.	:	-		248.	:
Flow	cfs	T		21.44	: 0.7	:	-		0.9	:	-		-	
pH	SU	T		-	7.7	J	-		7.7	J	-		7.5	J
Specific Conductance	uS/cm	T		-	329.	:	-		328.	:	-		815.	:
Temperature	Celsius	T		-	13.41	:	-		11.16	:	-		8.1	:
Turbidity	NTU	T		-	0.5	:	-		22.3	:	-		75.	:
General Chemistry														
Ammonia	mg/L	T		-	0.057	:	-		0.056	:	-		<0.14	:
Bicarbonate (as CaCO3)	mg/L	T		-	55.8	:	-		61.8	:	-		36.1	:
Biochemical Oxygen Demand	mg/L	T		-	<1.5	J	-		<1.4	:	-		-	
Carbonate (as CaCO3)	mg/L	T		-	<1.	:	-		<1.	:	-		<1.	:
Chemical Oxygen Demand	mg/L	T		-	<20.	:	-		<20.	:	-		-	
Chloride	mg/L	T		-	2.7	J	-		3.	:	-		54.7	:
Fluoride	mg/L	T		-	<0.3	J	-		0.69	:	-		3.1	:
Hydroxide (as CaCO3)	mg/L	T		-	<1.	:	-		<1.	:	-		<1.	:
Nitrate	mg/L	T		-	<1.	J	-		0.35	J	-		5.3	J
Nitrite	mg/L	T		-	<0.005	J	-		<0.005	:	-		0.011	J
Phosphate, Ortho As P	mg/L	T		-	<0.01	J	-		<0.01	:	-		<0.01	J
Phosphorus	mg/L	T		-	0.026	:	-		0.027	:	-		0.063	:
Sulfate	mg/L	T		-	100.	:	-		89.4	J	-		260.	:
Total Alkalinity	mg/L	T		-	55.8	:	-		61.8	:	-		36.1	:
Total Dissolved Solids	mg/L	T		-	172.	:	-		234.	:	-		572.	:
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24	:	-		<0.29	:	-		0.82	:
Total Organic Carbon	mg/L	T		-	1.2	:	-		1.2	:	-		7.1	:
Total Suspended Solids	mg/L	T		-	8.7	:	-		19.8	:	-		26.1	:
Laboratory Parameters														
pH	SU	T		-	7.7	J	-		7.7	J	-		7.5	J
Specific Conductance	umhos/cm	T		-	331.	J	-		297.	J	-		798.	J
Inorganics														
Cyanide	mg/L	T		-	<0.01	:	-		<0.01	:	-		<0.01	:
Physical Properties														
Hardness	mg/L	T		-	152.	:	-		159.	:	-		314.	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	RR-US-SPRING39	SD-1	SD-1	SD-1	SD-1	Storm 1
			Sample Date	4/16/2004	7/15/2003	7/15/2003	9/21/2003	9/21/2003	4/24/2003
			Sample ID	RR-US-SPRING39-T01N-SFW	SD-1-T01N-SFW	SD-1-D01N-SFW	SD-1-T01N-SFW	SD-1-D01N-SFW	STORM1-T01N-SFW
				UDS	ID	ID	ID	ID	SW3
Hardness	mg/L	D		-	-	151. :	-	161. :	-
Metals									
Aluminum	mg/L	T		-	1.39 :	-	1.4 :	-	0.559 :
Aluminum	mg/L	D		-	-	0.263 :	-	0.261 :	-
Antimony	mg/L	T		-	<0.0005 :	-	<0.00014 :	-	0.00082 :
Antimony	mg/L	D		-	-	<0.0005 :	-	<0.00018 :	-
Arsenic	mg/L	T		-	<0.0002 :	-	<0.00038 :	-	0.00038 :
Arsenic	mg/L	D		-	-	<0.0002 :	-	<0.00038 :	-
Barium	mg/L	T		-	0.0372 :	-	0.0422 :	-	0.02 :
Barium	mg/L	D		-	-	0.0334 :	-	0.036 :	-
Beryllium	mg/L	T		-	<0.00071 :	-	<0.00051 :	-	0.00049 :
Beryllium	mg/L	D		-	-	<0.0002 :	-	<0.00047 :	-
Boron	mg/L	T		-	0.0053 :	-	<0.0048 :	-	0.0261 :
Boron	mg/L	D		-	-	0.0057 :	-	<0.0048 :	-
Cadmium	mg/L	T		-	0.00063 :	-	0.00053 :	-	0.0016 :
Cadmium	mg/L	D		-	-	0.00051 :	-	0.00044 :	-
Calcium	mg/L	T		-	45. :	-	47.6 :	-	110. :
Calcium	mg/L	D		-	-	44.8 :	-	48.4 :	-
Chromium	mg/L	T		-	<0.0014 :	-	<0.001 :	-	<0.001 J
Chromium	mg/L	D		-	-	<0.0014 :	-	<0.001 :	-
Cobalt	mg/L	T		-	0.0024 :	-	0.0032 :	-	0.0085 :
Cobalt	mg/L	D		-	-	<0.002 :	-	0.004 :	-
Copper	mg/L	T		-	0.0176 :	-	0.0137 :	-	0.0086 :
Copper	mg/L	D		-	-	0.0052 :	-	0.0035 :	-
Iron	mg/L	T		-	0.282 :	-	0.612 :	-	0.597 :
Iron	mg/L	D		-	-	<0.0333 :	-	<0.044 :	-
Lead	mg/L	T		-	0.0003 :	-	0.0014 :	-	0.0056 :
Lead	mg/L	D		-	-	<0.0001 :	-	<0.00004 :	-
Magnesium	mg/L	T		-	9.55 :	-	9.75 :	-	9.37 :
Magnesium	mg/L	D		-	-	9.53 :	-	9.87 :	-
Manganese	mg/L	T		-	0.292 :	-	0.253 :	-	1. :
Manganese	mg/L	D		-	-	0.216 :	-	0.246 :	-
Mercury	mg/L	T		-	<0.0001 :	-	<0.00006 :	-	<0.0001 :
Mercury	mg/L	D		-	-	0.00011 :	-	<0.00006 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area Fraction															
			RR-US-SPRING39		SD-1		SD-1		SD-1		SD-1		Storm 1				
			4/16/2004		7/15/2003		7/15/2003		9/21/2003		9/21/2003		4/24/2003				
			RR-US-SPRING39-T01N-SFW		SD-1-T01N-SFW		SD-1-D01N-SFW		SD-1-T01N-SFW		SD-1-D01N-SFW		STORM1-T01N-SFW				
			UDS		ID		ID		ID		ID		SW3				
Molybdenum	mg/L	T	-		0.0018	:	-		0.0041	:	-		2.74	:			
Molybdenum	mg/L	D	-		-		0.002	:	-		0.0026	:	-				
Nickel	mg/L	T	-		0.0212	:	-		0.0155	:	-		0.0051	:			
Nickel	mg/L	D	-		-		0.0177	:	-		0.0146	:	-				
Potassium	mg/L	T	-		1.15	:	-		1.39	:	-		5.45	:			
Potassium	mg/L	D	-		-		1.18	:	-		1.33	:	-				
Selenium	mg/L	T	-		<0.0016	:	-		<0.00073	:	-		0.00089	:			
Selenium	mg/L	D	-		-		<0.0016	:	-		<0.00073	:	-				
Silver	mg/L	T	-		<0.0001	J	-		<0.0002	:	-		<0.0001	:			
Silver	mg/L	D	-		-		<0.0001	J	-		<0.0002	:	-				
Sodium	mg/L	T	-		5.06	:	-		4.63	:	-		39.1	:			
Sodium	mg/L	D	-		-		5.24	:	-		4.91	:	-				
Thallium	mg/L	T	-		<0.0001	:	-		<0.00001	:	-		<0.0001	:			
Thallium	mg/L	D	-		-		<0.0001	:	-		<0.00001	:	-				
Vanadium	mg/L	T	-		<0.00046	:	-		<0.00083	:	-		0.0019	:			
Vanadium	mg/L	D	-		-		<0.00085	:	-		<0.00052	:	-				
Zinc	mg/L	T	-		0.17	:	-		0.112	:	-		0.118	J			
Zinc	mg/L	D	-		-		0.0914	:	-		0.0676	:	-				

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Storm 1	Storm 1	Storm 1	Storm 1	Storm 1	Storm 1
			Sample Date	4/24/2003	7/24/2003	7/24/2003	7/28/2003	7/28/2003	7/28/2003
			Sample ID	STORM1-D01N-SFW	STORM1-T01N-SFW	STORM1-D01N-SFW	STORM1-T01N-SFW	STORM-1-T01N-SFW	STORM-1-D01N-SFW
				SW3	SW3	SW3	SW3	SW3	SW3
Field Measurements									
DO	mg/L	T		-	7.1 :	-	7.85 :	7.85 :	-
Eh	millivolts	T		-	250.1 :	-	237.2 :	237.2 :	-
pH	SU	T		-	7. J	-	7.11 :	7.8 J	-
Specific Conductance	uS/cm	T		-	692. :	-	549. :	549. :	-
Temperature	Celsius	T		-	19.68 :	-	16.93 :	16.93 :	-
Turbidity	NTU	T		-	5.8 :	-	146.2 :	146.2 :	-
General Chemistry									
Ammonia	mg/L	T		-	0.36 J	-	-	0.16 :	-
Bicarbonate (as CaCO3)	mg/L	T		-	29.1 :	-	-	41. :	-
Biochemical Oxygen Demand	mg/L	T		-	9.4 :	-	-	4.2 :	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	42.7 :	-	-	38.5 :	-
Chloride	mg/L	T		-	38.4 :	-	-	7. :	-
Fluoride	mg/L	T		-	4.8 J	-	-	3.1 :	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Nitrate	mg/L	T		-	4.5 :	-	-	1.3 :	-
Nitrite	mg/L	T		-	0.051 :	-	-	0.013 :	-
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	-	0.021 :	-
Phosphorus	mg/L	T		-	0.039 :	-	-	0.52 :	-
Sulfate	mg/L	T		-	219. J	-	-	212. :	-
Total Alkalinity	mg/L	T		-	29.1 :	-	-	41. :	-
Total Dissolved Solids	mg/L	T		-	556. :	-	-	436. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	1. :	-	-	0.88 :	-
Total Organic Carbon	mg/L	T		-	13.7 J	-	-	9.5 :	-
Total Suspended Solids	mg/L	T		-	2.8 :	-	-	458. :	-
Laboratory Parameters									
pH	SU	T		-	7. J	-	7.11 :	7.8 J	-
Specific Conductance	umhos/cm	T		-	675. J	-	-	508. J	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		-	278. :	-	-	282. :	-
Hardness	mg/L	D		320. :	-	296. :	-	-	268. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Storm 1	Storm 1	Storm 1	Storm 1	Storm 1	Storm 1
			Sample Date	4/24/2003	7/24/2003	7/24/2003	7/28/2003	7/28/2003	7/28/2003
			Sample ID	STORM1-D01N-SFW	STORM1-T01N-SFW	STORM1-D01N-SFW	STORM1-T01N-SFW	STORM-1-T01N-SFW	STORM-1-D01N-SFW
				SW3	SW3	SW3	SW3	SW3	SW3
Metals									
Aluminum	mg/L	T		-	<0.257 J	-	-	3.3 :	-
Aluminum	mg/L	D		<0.0503 :	-	<0.183 J	-	-	<0.0236 J
Antimony	mg/L	T		-	<0.001 J	-	-	<0.0005 :	-
Antimony	mg/L	D		0.00092 :	-	<0.001 J	-	-	<0.0005 :
Arsenic	mg/L	T		-	<0.0004 :	-	-	0.00063 :	-
Arsenic	mg/L	D		0.00021 :	-	<0.0004 :	-	-	0.00031 :
Barium	mg/L	T		-	0.024 :	-	-	0.0341 :	-
Barium	mg/L	D		0.0172 :	-	0.0218 :	-	-	0.0157 :
Beryllium	mg/L	T		-	0.005 :	-	-	<0.00061 :	-
Beryllium	mg/L	D		<0.0003 :	-	0.0049 :	-	-	<0.0002 :
Boron	mg/L	T		-	0.0297 :	-	-	0.0149 :	-
Boron	mg/L	D		0.0242 :	-	0.0296 :	-	-	0.0154 :
Cadmium	mg/L	T		-	0.0043 :	-	-	0.00067 :	-
Cadmium	mg/L	D		0.0014 :	-	0.0042 :	-	-	<0.0002 :
Calcium	mg/L	T		-	93. :	-	-	95.8 :	-
Calcium	mg/L	D		113. :	-	99.2 :	-	-	94.2 :
Chromium	mg/L	T		-	0.0018 :	-	-	0.0085 :	-
Chromium	mg/L	D		<0.001 J	-	0.0009 :	-	-	<0.0014 :
Cobalt	mg/L	T		-	0.0112 :	-	-	0.0028 :	-
Cobalt	mg/L	D		0.0083 :	-	0.0122 :	-	-	0.0021 :
Copper	mg/L	T		-	0.0153 :	-	-	0.0265 :	-
Copper	mg/L	D		0.0055 :	-	0.0138 :	-	-	<0.0095 :
Iron	mg/L	T		-	<0.363 :	-	-	3.64 :	-
Iron	mg/L	D		<0.0344 :	-	<0.168 :	-	-	<0.0333 :
Lead	mg/L	T		-	0.0028 :	-	-	0.0287 :	-
Lead	mg/L	D		<0.0001 :	-	<0.0002 :	-	-	0.0002 :
Magnesium	mg/L	T		-	11.1 :	-	-	10.3 :	-
Magnesium	mg/L	D		9.24 :	-	11.7 :	-	-	7.87 :
Manganese	mg/L	T		-	2.28 :	-	-	0.407 :	-
Manganese	mg/L	D		0.981 :	-	2.44 :	-	-	0.0823 :
Mercury	mg/L	T		-	<0.0001 :	-	-	<0.00011 :	-
Mercury	mg/L	D		<0.0001 :	-	<0.0001 :	-	-	<0.0001 :
Molybdenum	mg/L	T		-	1.73 :	-	-	1.99 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Storm 1 4/24/2003 STORM1-D01N-SFW SW3		Storm 1 7/24/2003 STORM1-T01N-SFW SW3		Storm 1 7/24/2003 STORM1-D01N-SFW SW3		Storm 1 7/28/2003 STORM1-T01N-SFW SW3		Storm 1 7/28/2003 STORM-1-T01N-SFW SW3		Storm 1 7/28/2003 STORM-1-D01N-SFW SW3	
Molybdenum	mg/L	D	2.79	:	-		1.73	:	-		-		2.05	:
Nickel	mg/L	T	-		0.0142	:	-		-		0.01	:	-	
Nickel	mg/L	D	0.0033	:	-		0.0163	:	-		-		0.00094	:
Potassium	mg/L	T	-		6.6	:	-		-		7.07	:	-	
Potassium	mg/L	D	5.58	:	-		6.56	:	-		-		6.61	:
Selenium	mg/L	T	-		<0.0016	:	-		-		<0.0008	:	-	
Selenium	mg/L	D	<0.0008	:	-		<0.0016	J	-		-		<0.0008	:
Silver	mg/L	T	-		<0.0002	J	-		-		<0.0001	:	-	
Silver	mg/L	D	<0.0001	:	-		<0.0002	J	-		-		<0.0001	:
Sodium	mg/L	T	-		21.	:	-		-		13.4	:	-	
Sodium	mg/L	D	40.8	:	-		21.1	:	-		-		13.3	:
Thallium	mg/L	T	-		<0.0002	:	-		-		<0.0001	:	-	
Thallium	mg/L	D	<0.0001	:	-		<0.0002	:	-		-		<0.0001	:
Vanadium	mg/L	T	-		0.0013	:	-		-		0.008	:	-	
Vanadium	mg/L	D	0.00022	:	-		0.00064	:	-		-		0.00047	:
Zinc	mg/L	T	-		0.249	:	-		-		0.047	:	-	
Zinc	mg/L	D	0.109	J	-		0.268	:	-		-		<0.0026	:

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
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	
			Storm 1 9/10/2003 STORM1-T01N-SFW		Storm 1 9/10/2003 STORM1-D01N-SFW		Sugar Shack West Catchment 9/10/2003 SSWC-T01N-SFW		Sugar Shack West Catchment 9/10/2003 SSWC-D01N-SFW		SW12-1 10/8/2002 SW12-1-T01N-SFW		SW12-1 10/8/2002 SW12-1-D01N-SFW	
			SW3		SW3		SW3		SW3		SW12		SW12	
Field Measurements														
DO	mg/L	T	8.85	:	-		4.57	:	-		9.72	:	-	
Eh	millivolts	T	259.	:	-		477.7	:	-		114.	:	-	
pH	SU	T	8.	J	-		4.2	J	-		8.48	:	-	
Specific Conductance	uS/cm	T	272.	:	-		1849.	:	-		2713.	:	-	
Temperature	Celsius	T	13.39	:	-		15.1	:	-		15.3	:	-	
Turbidity	NTU	T	1209.6	:	-		70.	:	-		10.8	:	-	
General Chemistry														
Ammonia	mg/L	T	0.11	:	-		<0.13	:	-		<0.14	:	-	
Bicarbonate (as CaCO3)	mg/L	T	31.6	:	-		<1.	:	-		50.2	:	-	
Biochemical Oxygen Demand	mg/L	T	<1.3	J	-		<1.4	J	-		<1.4	J	-	
Carbonate (as CaCO3)	mg/L	T	<1.	:	-		<1.	:	-		2.1	:	-	
Chemical Oxygen Demand	mg/L	T	28.	:	-		<20.	:	-		<20.	:	-	
Chloride	mg/L	T	3.7	:	-		23.3	:	-		12.3	:	-	
Fluoride	mg/L	T	1.7	:	-		5.4	J	-		6.2	:	-	
Hydroxide (as CaCO3)	mg/L	T	<1.	:	-		<1.	:	-		<1.	:	-	
Nitrate	mg/L	T	0.67	J	-		0.6	J	-		0.79	J	-	
Nitrite	mg/L	T	<0.005	J	-		<0.005	:	-		0.03	J	-	
Phosphate, Ortho As P	mg/L	T	0.022	J	-		<0.024	:	-		<0.01	J	-	
Phosphorus	mg/L	T	0.44	:	-		0.041	:	-		<0.016	:	-	
Sulfate	mg/L	T	84.4	:	-		1100.	:	-		1710.	:	-	
Total Alkalinity	mg/L	T	31.6	:	-		<1.	:	-		52.3	:	-	
Total Dissolved Solids	mg/L	T	240.	:	-		1900.	:	-		2530.	:	-	
Total Kjeldahl Nitrogen	mg/L	T	0.53	:	-		0.36	:	-		0.41	:	-	
Total Organic Carbon	mg/L	T	2.6	:	-		2.8	:	-		2.5	:	-	
Total Suspended Solids	mg/L	T	444.	:	-		11.	:	-		<2.1	:	-	
Laboratory Parameters														
pH	SU	T	8.	J	-		4.2	J	-		8.48	:	-	
Specific Conductance	umhos/cm	T	225.	J	-		1710.	J	-		-		-	
Inorganics														
Cyanide	mg/L	T	<0.01	:	-		<0.01	:	-		<0.01	J	-	
Physical Properties														
Hardness	mg/L	T	178.	:	-		1170.	:	-		1650.	:	-	
Hardness	mg/L	D	-		106.	:	-		1150.	:	-		1570.	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Storm 1	Storm 1	Sugar Shack West Catchment	Sugar Shack West Catchment	SW12-1	SW12-1
			Sample Date	9/10/2003	9/10/2003	9/10/2003	9/10/2003	10/8/2002	10/8/2002
			Sample ID	STORM1-T01N-SFW	STORM1-D01N-SFW	SSWC-T01N-SFW	SSWC-D01N-SFW	SW12-1-T01N-SFW	SW12-1-D01N-SFW
				SW3	SW3	SW3	SW3	SW12	SW12
Metals									
Aluminum	mg/L	T		27.6 :	-	25.3 :	-	0.0409 :	-
Aluminum	mg/L	D		-	<0.142 :	-	24. :	-	<0.0041 :
Antimony	mg/L	T		<0.0005 :	-	<0.052 :	-	<0.00062 :	-
Antimony	mg/L	D		-	<0.0005 :	-	<0.052 :	-	<0.00064 :
Arsenic	mg/L	T		0.0034 :	-	<0.041 :	-	0.00047 :	-
Arsenic	mg/L	D		-	<0.0002 :	-	<0.041 :	-	0.00038 :
Barium	mg/L	T		0.136 :	-	<0.115 :	-	0.0476 :	-
Barium	mg/L	D		-	<0.0117 :	-	<0.115 :	-	0.05 :
Beryllium	mg/L	T		0.0033 :	-	0.0143 :	-	<0.0002 :	-
Beryllium	mg/L	D		-	<0.00041 :	-	0.0154 :	-	<0.0002 :
Boron	mg/L	T		0.0098 :	-	<0.063 :	-	<0.0152 :	-
Boron	mg/L	D		-	<0.0064 :	-	<0.063 :	-	<0.016 :
Cadmium	mg/L	T		0.0014 :	-	<0.05 :	-	0.00024 :	-
Cadmium	mg/L	D		-	0.00024 :	-	<0.05 :	-	0.0002 :
Calcium	mg/L	T		46.9 :	-	370. :	-	580. :	-
Calcium	mg/L	D		-	37.6 :	-	364. :	-	545. :
Chromium	mg/L	T		0.0407 :	-	0.112 :	-	<0.0046 :	-
Chromium	mg/L	D		-	<0.0013 :	-	<0.11 :	-	<0.0046 :
Chromium, Hexavalent	mg/L	D		-	-	-	-	<0.01 :	-
Cobalt	mg/L	T		0.0157 :	-	0.369 :	-	<0.0022 :	-
Cobalt	mg/L	D		-	<0.0031 :	-	0.366 :	-	<0.0022 :
Copper	mg/L	T		0.119 :	-	1.24 :	-	0.002 J	-
Copper	mg/L	D		-	0.0026 :	-	1.26 :	-	<0.0012 :
Iron	mg/L	T		25.4 :	-	<2.91 :	-	<0.0226 :	-
Iron	mg/L	D		-	0.114 :	-	<2.78 :	-	<0.0226 :
Lead	mg/L	T		0.157 :	-	0.0021 :	-	<0.0001 :	-
Lead	mg/L	D		-	0.00086 :	-	<0.002 :	-	<0.0001 :
Magnesium	mg/L	T		14.8 :	-	60.5 :	-	48.6 :	-
Magnesium	mg/L	D		-	2.96 :	-	59.3 :	-	51.4 :
Manganese	mg/L	T		1.62 :	-	13.4 :	-	0.383 :	-
Manganese	mg/L	D		-	0.0969 :	-	13.1 :	-	0.376 :
Mercury	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Storm 1 9/10/2003 STORM1-T01N-SFW SW3		Storm 1 9/10/2003 STORM1-D01N-SFW SW3		Sugar Shack West Catchment 9/10/2003 SSWC-T01N-SFW SW3		Sugar Shack West Catchment 9/10/2003 SSWC-D01N-SFW SW3		SW12-1 10/8/2002 SW12-1-T01N-SFW SW12		SW12-1 10/8/2002 SW12-1-D01N-SFW SW12	
Molybdenum	mg/L	T	1.53	:	-		<0.011	:	-		2.11	:	-	
Molybdenum	mg/L	D	-		1.17	:	-		<0.011	:	-		2.23	:
Nickel	mg/L	T	0.0374	:	-		0.489	:	-		0.0132	J	-	
Nickel	mg/L	D	-		<0.0016	:	-		0.47	:	-		0.0129	J
Potassium	mg/L	T	9.42	:	-		<52.9	:	-		36.5	:	-	
Potassium	mg/L	D	-		2.78	:	-		<32.9	:	-		38.4	:
Selenium	mg/L	T	0.00052	J	-		0.0038	J	-		<0.0027	:	-	
Selenium	mg/L	D	-		<0.0003	J	-		0.0037	J	-		<0.0025	:
Silver	mg/L	T	0.0015	:	-		<0.001	:	-		<0.0001	:	-	
Silver	mg/L	D	-		<0.0001	:	-		<0.001	:	-		<0.0001	:
Sodium	mg/L	T	7.88	:	-		<45.4	:	-		30.2	:	-	
Sodium	mg/L	D	-		6.14	:	-		<45.4	:	-		32.1	:
Thallium	mg/L	T	0.00045	:	-		<0.001	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.001	:	-		<0.0001	:
Vanadium	mg/L	T	0.0446	:	-		<0.001	:	-		0.00076	J	-	
Vanadium	mg/L	D	-		0.00046	:	-		<0.001	:	-		0.00075	J
Zinc	mg/L	T	0.259	:	-		2.57	:	-		<0.0069	:	-	
Zinc	mg/L	D	-		<0.0045	:	-		2.55	:	-		<0.0069	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	SW12-10	SW12-10	SW12-2	SW12-2	SW12-3	SW12-3
			Sample Date	10/6/2002	10/6/2002	10/8/2002	10/8/2002	10/8/2002	10/8/2002
			Sample ID	SW12-10-T01N-SFW	SW12-10-D01N-SFW	SW12-2-T01N-SFW	SW12-2-D01N-SFW	SW12-3-T01N-SFW	SW12-3-D01N-SFW
			Exposure Area	SW12	SW12	SW12	SW12	SW12	SW12
Field Measurements									
DO	mg/L	T		7.73 :	-	9.73 :	-	9.39 :	-
Eh	millivolts	T		167.2 :	-	105.1 :	-	86. :	-
pH	SU	T		7.93 :	-	8.52 :	-	8.71 :	-
Specific Conductance	uS/cm	T		2364. :	-	2721. :	-	2815. :	-
Temperature	Celsius	T		17.5 :	-	14.98 :	-	16.1 :	-
Turbidity	NTU	T		11.3 :	-	9.4 :	-	10.4 :	-
General Chemistry									
Ammonia	mg/L	T		<0.04 :	-	<0.13 :	-	0.17 :	-
Bicarbonate (as CaCO3)	mg/L	T		30.1 :	-	47.6 :	-	33.6 :	-
Biochemical Oxygen Demand	mg/L	T		-	-	<1.4 J	-	1.9 J	-
Carbonate (as CaCO3)	mg/L	T		<1. :	-	1.6 :	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	<20. :	-	<40. :	-
Chloride	mg/L	T		17.5 :	-	12.2 :	-	18.1 :	-
Fluoride	mg/L	T		5.3 :	-	5.9 :	-	9.3 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. :	-
Nitrate	mg/L	T		<0.5 J	-	0.81 J	-	<0.2 J	-
Nitrite	mg/L	T		<0.005 J	-	0.035 J	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 J	-	<0.01 J	-
Phosphorus	mg/L	T		<0.01 :	-	<0.017 :	-	<0.03 :	-
Sulfate	mg/L	T		1580. :	-	1470. :	-	1890. :	-
Total Alkalinity	mg/L	T		30.1 :	-	49.2 :	-	33.6 :	-
Total Dissolved Solids	mg/L	T		2110. :	-	2400. :	-	2690. :	-
Total Kjeldahl Nitrogen	mg/L	T		<0.24 :	-	0.35 :	-	0.36 :	-
Total Organic Carbon	mg/L	T		2.6 :	-	2.8 :	-	5.7 :	-
Total Suspended Solids	mg/L	T		<10. :	-	<2.1 :	-	<3.7 :	-
Laboratory Parameters									
pH	SU	T		7.93 :	-	8.52 :	-	8.71 :	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 J	-	<0.01 J	-
Physical Properties									
Hardness	mg/L	T		1540. :	-	1680. :	-	1810. :	-
Hardness	mg/L	D		-	1490. :	-	1700. :	-	1820. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	SW12-10	SW12-10	SW12-2	SW12-2	SW12-3	SW12-3
			Sample Date	10/6/2002	10/6/2002	10/8/2002	10/8/2002	10/8/2002	10/8/2002
			Sample ID	SW12-10-T01N-SFW	SW12-10-D01N-SFW	SW12-2-T01N-SFW	SW12-2-D01N-SFW	SW12-3-T01N-SFW	SW12-3-D01N-SFW
			Exposure Area	SW12	SW12	SW12	SW12	SW12	SW12
Metals									
Aluminum	mg/L	T		0.101 :	-	0.0426 :	-	0.0527 :	-
Aluminum	mg/L	D		-	<0.0578 :	-	<0.003 :	-	<0.0156 :
Antimony	mg/L	T		<0.0002 :	-	<0.00062 :	-	<0.0002 :	-
Antimony	mg/L	D		-	<0.0002 :	-	<0.00063 :	-	<0.00032 :
Arsenic	mg/L	T		<0.0002 :	-	0.00026 J	-	0.00038 :	-
Arsenic	mg/L	D		-	<0.0002 :	-	0.00043 :	-	0.00028 :
Barium	mg/L	T		<0.0092 :	-	0.05 :	-	<0.0092 :	-
Barium	mg/L	D		-	<0.0092 :	-	0.0499 :	-	<0.0092 :
Beryllium	mg/L	T		0.00046 :	-	<0.0002 :	-	0.00024 :	-
Beryllium	mg/L	D		-	0.00037 :	-	<0.0002 :	-	0.00022 :
Boron	mg/L	T		<0.0048 :	-	<0.0165 :	-	<0.013 :	-
Boron	mg/L	D		-	<0.0048 :	-	<0.0164 :	-	<0.0126 :
Cadmium	mg/L	T		0.00027 :	-	<0.0001 :	-	0.00036 :	-
Cadmium	mg/L	D		-	0.00028 :	-	0.00021 :	-	<0.0001 :
Calcium	mg/L	T		417. :	-	589. :	-	502. :	-
Calcium	mg/L	D		-	403. :	-	597. :	-	504. :
Chromium	mg/L	T		<0.0046 :	-	<0.0046 :	-	<0.0046 :	-
Chromium	mg/L	D		-	<0.0046 :	-	<0.0046 :	-	<0.0046 :
Chromium, Hexavalent	mg/L	D		0.0033 J	-	<0.01 :	-	<0.01 :	-
Cobalt	mg/L	T		<0.0022 :	-	<0.0022 :	-	<0.0022 :	-
Cobalt	mg/L	D		-	<0.0022 :	-	<0.0022 :	-	<0.0022 :
Copper	mg/L	T		<0.0027 :	-	<0.0012 J	-	0.0035 J	-
Copper	mg/L	D		-	<0.0023 :	-	<0.00098 :	-	0.0079 J
Iron	mg/L	T		<0.0616 :	-	<0.0226 :	-	<0.0226 :	-
Iron	mg/L	D		-	0.0258 :	-	<0.0226 :	-	<0.0226 :
Lead	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Lead	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Magnesium	mg/L	T		120. :	-	49.9 :	-	135. :	-
Magnesium	mg/L	D		-	116. :	-	50.2 :	-	135. :
Manganese	mg/L	T		0.131 :	-	0.424 :	-	0.0509 :	-
Manganese	mg/L	D		-	0.0648 :	-	0.404 :	-	0.0177 :
Mercury	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID / Exposure Area											
			SW12-10 10/6/2002 SW12-10-T01N-SFW SW12		SW12-10 10/6/2002 SW12-10-D01N-SFW SW12		SW12-2 10/8/2002 SW12-2-T01N-SFW SW12		SW12-2 10/8/2002 SW12-2-D01N-SFW SW12		SW12-3 10/8/2002 SW12-3-T01N-SFW SW12		SW12-3 10/8/2002 SW12-3-D01N-SFW SW12	
Molybdenum	mg/L	T	1.91	:	-		2.16	:	-		2.16	:	-	
Molybdenum	mg/L	D	-		1.84	:	-		2.18	:	-		2.16	:
Nickel	mg/L	T	0.0028	:	-		0.0133	J	-		0.0057	J	-	
Nickel	mg/L	D	-		0.0026	:	-		0.0131	:	-		0.0053	J
Potassium	mg/L	T	10.6	:	-		37.5	:	-		12.5	:	-	
Potassium	mg/L	D	-		10.3	:	-		37.6	:	-		12.4	:
Selenium	mg/L	T	0.00048	:	-		<0.0021	J	-		<0.0013	:	-	
Selenium	mg/L	D	-		0.00059	:	-		<0.0027	:	-		<0.00089	:
Silver	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Silver	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:
Sodium	mg/L	T	42.4	:	-		31.1	:	-		47.8	:	-	
Sodium	mg/L	D	-		41.	:	-		31.3	:	-		48.	:
Thallium	mg/L	T	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Thallium	mg/L	D	-		<0.0001	:	-		<0.0001	:	-		<0.0001	:
Vanadium	mg/L	T	0.00021	:	-		0.00084	:	-		0.00019	J	-	
Vanadium	mg/L	D	-		0.00011	:	-		0.00083	:	-		0.00014	J
Zinc	mg/L	T	0.0494	:	-		<0.0069	:	-		<0.0069	:	-	
Zinc	mg/L	D	-		<0.0244	:	-		<0.0069	:	-		<0.0069	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID											
			SW12-4	10/6/2002	SW12-4-T01N-SFW	SW12-4	10/6/2002	SW12-4-D01N-SFW	SW12-5	10/6/2002	SW12-5-T01N-SFW	SW12-5	10/6/2002	SW12-5-D01N-SFW	SW12-6	10/6/2002	SW12-6-T01N-SFW	SW12-6	10/6/2002	SW12-6-D01N-SFW
			SW12			SW12			SW12			SW12			SW12			SW12		
Field Measurements																				
DO	mg/L	T	7.85	:		-			8.49	:		-			8.5	:		-		
Eh	millivolts	T	144.	:		-			106.1	:		-			168.5	:		-		
pH	SU	T	7.52	:		-			7.96	:		-			7.6	:		-		
Specific Conductance	uS/cm	T	2458.	:		-			2455.	:		-			2367.	:		-		
Temperature	Celsius	T	11.95	:		-			10.81	:		-			15.34	:		-		
Turbidity	NTU	T	13.5	:		-			13.1	:		-			10.8	:		-		
General Chemistry																				
Ammonia	mg/L	T	<0.058	:		-			<0.048	:		-			<0.035	:		-		
Bicarbonate (as CaCO3)	mg/L	T	43.9	:		-			44.3	:		-			29.7	:		-		
Carbonate (as CaCO3)	mg/L	T	<1.	:		-			<1.	:		-			<1.	:		-		
Chemical Oxygen Demand	mg/L	T	<20.	:		-			<20.	:		-			<20.	:		-		
Chloride	mg/L	T	16.3	:		-			16.7	:		-			16.	:		-		
Fluoride	mg/L	T	9.9	:		-			10.	:		-			9.8	:		-		
Hydroxide (as CaCO3)	mg/L	T	<1.	:		-			<1.	:		-			<1.	:		-		
Nitrate	mg/L	T	<0.5	J		-			<0.5	J		-			<0.5	J		-		
Nitrite	mg/L	T	<0.005	J		-			<0.005	J		-			<0.005	J		-		
Phosphate, Ortho As P	mg/L	T	0.016	J		-			<0.01	J		-			0.039	J		-		
Phosphorus	mg/L	T	<0.054	:		-			<0.064	:		-			<0.011	J		-		
Sulfate	mg/L	T	1580.	:		-			1570.	:		-			1360.	:		-		
Total Alkalinity	mg/L	T	43.9	:		-			44.3	:		-			30.1	:		-		
Total Dissolved Solids	mg/L	T	1240.	:		-			2250.	:		-			2180.	:		-		
Total Kjeldahl Nitrogen	mg/L	T	<0.24	:		-			<0.24	:		-			<0.24	:		-		
Total Organic Carbon	mg/L	T	3.6	:		-			3.5	:		-			2.7	:		-		
Total Suspended Solids	mg/L	T	<2.8	:		-			<2.6	:		-			<2.7	:		-		
Laboratory Parameters																				
pH	SU	T	7.52	:		-			7.96	:		-			7.6	:		-		
Inorganics																				
Cyanide	mg/L	T	<0.01	J		-			<0.01	J		-			<0.01	J		-		
Physical Properties																				
Hardness	mg/L	T	1530.	:		-			1550.	:		-			1450.	:		-		
Hardness	mg/L	D	-			1550.	:		-			1590.	:		-			1440.	:	
Metals																				

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	Exposure Area		Site ID	Sample Date	Sample ID	Exposure Area		Site ID	Sample Date	Sample ID	Exposure Area		Site ID	Sample Date	Sample ID	Exposure Area		Site ID	Sample Date	Sample ID	Exposure Area	
			SW12-4	10/6/2002	SW12-4-T01N-SFW	SW12		SW12-4	10/6/2002	SW12-4-D01N-SFW	SW12		SW12-5	10/6/2002	SW12-5-T01N-SFW	SW12		SW12-5	10/6/2002	SW12-5-D01N-SFW	SW12		SW12-6	10/6/2002	SW12-6-T01N-SFW	SW12	
			SW12-6	10/6/2002	SW12-6-D01N-SFW	SW12																					
Aluminum	mg/L	T	0.29	:	-			0.268	:	-			0.0393	:	-												
Aluminum	mg/L	D	-		0.157	:		-		0.2	:		-		<0.0221	:											
Antimony	mg/L	T	<0.00039	:	-			<0.0002	:	-			<0.0002	:	-												
Antimony	mg/L	D	-		0.00034	:		-		<0.0002	:		-		0.00029	:											
Arsenic	mg/L	T	<0.0002	:	-			<0.0002	:	-			<0.0002	:	-												
Arsenic	mg/L	D	-		<0.0002	:		-		0.0002	:		-		<0.0002	:											
Barium	mg/L	T	0.0152	:	-			0.0147	:	-			<0.0092	:	-												
Barium	mg/L	D	-		0.0143	:		-		0.0145	:		-		<0.0092	:											
Beryllium	mg/L	T	0.00089	:	-			0.00084	:	-			0.0004	:	-												
Beryllium	mg/L	D	-		0.00069	:		-		0.00079	:		-		0.00031	:											
Boron	mg/L	T	<0.0081	:	-			<0.0048	:	-			<0.0048	:	-												
Boron	mg/L	D	-		<0.0058	:		-		<0.0055	:		-		<0.0048	:											
Cadmium	mg/L	T	0.0012	:	-			0.0014	:	-			<0.0001	:	-												
Cadmium	mg/L	D	-		0.0012	:		-		0.0014	:		-		0.00012	:											
Calcium	mg/L	T	413.	:	-			418.	:	-			393.	:	-												
Calcium	mg/L	D	-		416.	:		-		428.	:		-		389.	:											
Chromium	mg/L	T	<0.0046	:	-			<0.0046	:	-			<0.0046	:	-												
Chromium	mg/L	D	-		<0.0046	:		-		<0.0046	:		-		<0.0046	:											
Chromium, Hexavalent	mg/L	D	0.0024	J	-			0.0024	J	-			0.0042	J	-												
Cobalt	mg/L	T	0.0082	:	-			0.0082	:	-			<0.0022	:	-												
Cobalt	mg/L	D	-		0.0078	:		-		0.008	:		-		<0.0022	:											
Copper	mg/L	T	0.0076	:	-			0.0049	:	-			0.0022	:	-												
Copper	mg/L	D	-		0.0039	:		-		0.004	:		-		0.0015	:											
Iron	mg/L	T	0.12	:	-			<0.102	:	-			<0.0419	:	-												
Iron	mg/L	D	-		<0.0226	:		-		0.0547	:		-		<0.0226	:											
Lead	mg/L	T	<0.00068	:	-			<0.00073	:	-			<0.0001	:	-												
Lead	mg/L	D	-		<0.0001	:		-		<0.0003	:		-		<0.0001	:											
Magnesium	mg/L	T	122.	:	-			123.	:	-			115.	:	-												
Magnesium	mg/L	D	-		123.	:		-		126.	:		-		113.	:											
Manganese	mg/L	T	3.8	:	-			3.79	:	-			0.0777	:	-												
Manganese	mg/L	D	-		3.79	:		-		3.86	:		-		0.0646	:											
Mercury	mg/L	T	<0.0001	:	-			<0.0001	:	-			<0.0001	:	-												
Mercury	mg/L	D	-		<0.0001	:		-		<0.0001	:		-		<0.0001	:											
Molybdenum	mg/L	T	2.73	:	-			2.74	:	-			1.84	:	-												

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Sample Date	Sample ID	Exposure Area											
			SW12-4	10/6/2002	SW12-4-T01N-SFW	SW12	SW12-4	10/6/2002	SW12-4-D01N-SFW	SW12	SW12-5	10/6/2002	SW12-5-T01N-SFW	SW12	SW12-5	10/6/2002	SW12-5-D01N-SFW	SW12	SW12-6	10/6/2002	SW12-6-T01N-SFW	SW12	SW12-6	10/6/2002	SW12-6-D01N-SFW	SW12
Molybdenum	mg/L	D	-				2.75	:			-				2.8	:			-				1.82	:		
Nickel	mg/L	T	0.0517	:			-				0.054	:			-				0.004	:			-			
Nickel	mg/L	D	-				0.0534	:			-				0.0524	:			-				0.0041	:		
Potassium	mg/L	T	10.6	:			-				10.6	:			-				9.96	:			-			
Potassium	mg/L	D	-				10.6	:			-				10.8	:			-				9.85	:		
Selenium	mg/L	T	0.0007	:			-				0.00085	:			-				0.00059	:			-			
Selenium	mg/L	D	-				0.00076	:			-				0.00078	:			-				0.00047	:		
Silver	mg/L	T	<0.0001	:			-				<0.0001	:			-				<0.0001	:			-			
Silver	mg/L	D	-				<0.0001	:			-				<0.0001	:			-				<0.0001	:		
Sodium	mg/L	T	40.8	:			-				40.9	:			-				39.8	:			-			
Sodium	mg/L	D	-				41.2	:			-				42.1	:			-				39.4	:		
Thallium	mg/L	T	<0.0001	:			-				<0.0001	:			-				<0.0001	:			-			
Thallium	mg/L	D	-				<0.0001	:			-				<0.0001	:			-				<0.0001	:		
Vanadium	mg/L	T	0.00019	:			-				0.00024	:			-				0.00016	:			-			
Vanadium	mg/L	D	-				0.00011	:			-				0.00012	:			-				0.00017	:		
Zinc	mg/L	T	0.213	:			-				0.215	:			-				<0.0069	:			-			
Zinc	mg/L	D	-				0.195	:			-				0.207	:			-				<0.0069	:		

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	SW12-7	SW12-7	SW12-8	SW12-8	SW12-9	SW12-9
			Sample Date	10/6/2002	10/6/2002	10/2/2002	10/2/2002	10/6/2002	10/6/2002
			Sample ID	SW12-7-T01N-SFW	SW12-7-D01N-SFW	SW12-8-T01N-SFW	SW12-8-D01N-SFW	SW12-9-T01N-SFW	SW12-9-D01N-SFW
			Exposure Area	SW12	SW12	SW12	SW12	SW12	SW12
Field Measurements									
DO	mg/L	T		7.88 :	-	9.51 :	-	8.1 :	-
Eh	millivolts	T		136.5 :	-	114.5 :	-	144.8 :	-
pH	SU	T		8.35 :	-	7.31 :	-	8.2 :	-
Specific Conductance	uS/cm	T		2702. :	-	2316. :	-	2355. :	-
Temperature	Celsius	T		17.2 :	-	16.33 :	-	14.25 :	-
Turbidity	NTU	T		11.3 :	-	2.4 :	-	10.8 :	-
General Chemistry									
Ammonia	mg/L	T		<0.029 :	-	<0.084 :	-	<0.04 :	-
Bicarbonate (as CaCO3)	mg/L	T		26.5 :	-	37.6 :	-	28.9 J	-
Biochemical Oxygen Demand	mg/L	T		-	-	-	-	<1.3 J	-
Carbonate (as CaCO3)	mg/L	T		5.2 :	-	<1. :	-	1.2 J	-
Chemical Oxygen Demand	mg/L	T		<20. :	-	-	-	<20. :	-
Chloride	mg/L	T		17.7 :	-	17.2 :	-	16.4 :	-
Fluoride	mg/L	T		9.8 :	-	8.9 :	-	9.7 :	-
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	<1. :	-	<1. J	-
Nitrate	mg/L	T		<0.5 J	-	<0.2 :	-	<0.5 J	-
Nitrite	mg/L	T		<0.005 J	-	<0.005 :	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		<0.01 J	-	<0.01 :	-	<0.01 J	-
Phosphorus	mg/L	T		<0.033 :	-	0.031 :	-	<0.01 :	-
Sulfate	mg/L	T		1830. :	-	1620. :	-	1530. :	-
Total Alkalinity	mg/L	T		31.8 :	-	37.6 :	-	30. J	-
Total Dissolved Solids	mg/L	T		2470. :	-	1940. :	-	2100. :	-
Total Kjeldahl Nitrogen	mg/L	T		0.31 :	-	<0.24 :	-	<0.24 :	-
Total Organic Carbon	mg/L	T		4. :	-	3.3 :	-	2.9 :	-
Total Suspended Solids	mg/L	T		<3.8 :	-	4.7 :	-	<5.4 :	-
Laboratory Parameters									
pH	SU	T		8.35 :	-	7.31 :	-	8.2 :	-
Inorganics									
Cyanide	mg/L	T		<0.01 J	-	<0.01 J	-	<0.01 J	-
Physical Properties									
Hardness	mg/L	T		1720. :	-	1600. :	-	1450. :	-
Hardness	mg/L	D		-	1750. :	-	1620. :	-	1440. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	SW12-7	SW12-7	SW12-8	SW12-8	SW12-9	SW12-9
			Sample Date	10/6/2002	10/6/2002	10/2/2002	10/2/2002	10/6/2002	10/6/2002
			Sample ID	SW12-7-T01N-SFW	SW12-7-D01N-SFW	SW12-8-T01N-SFW	SW12-8-D01N-SFW	SW12-9-T01N-SFW	SW12-9-D01N-SFW
			Exposure Area	SW12	SW12	SW12	SW12	SW12	SW12
Metals									
Aluminum	mg/L	T		0.0298 :	-	0.342 :	-	0.093 :	-
Aluminum	mg/L	D		-	<0.0107 :	-	0.205 :	-	<0.0631 :
Antimony	mg/L	T		<0.00078 :	-	<0.0002 :	-	<0.0002 :	-
Antimony	mg/L	D		-	0.00031 :	-	0.00029 :	-	<0.0002 :
Arsenic	mg/L	T		0.00024 :	-	<0.0002 :	-	<0.0002 :	-
Arsenic	mg/L	D		-	0.00021 :	-	<0.0002 :	-	<0.0002 :
Barium	mg/L	T		<0.0092 :	-	0.0129 :	-	<0.0092 :	-
Barium	mg/L	D		-	<0.0092 :	-	0.013 :	-	<0.0092 :
Beryllium	mg/L	T		<0.0002 :	-	0.0011 :	-	0.00049 :	-
Beryllium	mg/L	D		-	<0.0002 :	-	0.00066 :	-	0.00037 :
Boron	mg/L	T		<0.0048 :	-	0.0067 :	-	<0.0048 :	-
Boron	mg/L	D		-	<0.0048 :	-	0.0144 :	-	0.0048 :
Cadmium	mg/L	T		0.00031 :	-	0.0016 :	-	0.00023 :	-
Cadmium	mg/L	D		-	0.00033 :	-	0.0015 J	-	0.00017 :
Calcium	mg/L	T		476. :	-	433. :	-	393. :	-
Calcium	mg/L	D		-	485. :	-	438. :	-	390. :
Chromium	mg/L	T		<0.0046 :	-	<0.0019 :	-	<0.0046 :	-
Chromium	mg/L	D		-	<0.0046 :	-	0.0024 :	-	<0.0046 :
Chromium, Hexavalent	mg/L	D		0.0061 J	-	-	-	<0.01 J	-
Cobalt	mg/L	T		<0.0022 :	-	0.0104 :	-	<0.0022 :	-
Cobalt	mg/L	D		-	<0.0022 :	-	0.0108 :	-	<0.0022 :
Copper	mg/L	T		0.0035 :	-	0.005 :	-	<0.0034 :	-
Copper	mg/L	D		-	0.0027 :	-	0.0039 J	-	<0.0042 :
Iron	mg/L	T		0.0263 :	-	0.287 :	-	<0.031 :	-
Iron	mg/L	D		-	<0.0226 :	-	0.23 :	-	0.195 :
Lead	mg/L	T		<0.00013 :	-	0.00043 :	-	0.00024 :	-
Lead	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Magnesium	mg/L	T		129. :	-	127. :	-	113. :	-
Magnesium	mg/L	D		-	131. :	-	128. :	-	112. :
Manganese	mg/L	T		0.0468 :	-	3.29 :	-	0.112 :	-
Manganese	mg/L	D		-	0.012 :	-	3.09 :	-	0.0822 :
Mercury	mg/L	T		<0.0001 :	-	<0.0001 :	-	<0.0001 :	-
Mercury	mg/L	D		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	SW12-7		SW12-7		SW12-8		SW12-8		SW12-9		SW12-9	
			Sample Date	10/6/2002		10/6/2002		10/2/2002		10/2/2002		10/6/2002		10/6/2002	
			Sample ID	SW12-7-T01N-SFW		SW12-7-D01N-SFW		SW12-8-T01N-SFW		SW12-8-D01N-SFW		SW12-9-T01N-SFW		SW12-9-D01N-SFW	
				SW12		SW12		SW12		SW12		SW12		SW12	
Molybdenum	mg/L	T		2.09	:	-		2.82	:	-		1.8	:	-	
Molybdenum	mg/L	D		-		2.13	:	-		2.85	:	-		1.8	:
Nickel	mg/L	T		0.0032	:	-		0.0365	:	-		0.0034	:	-	
Nickel	mg/L	D		-		0.0025	:	-		0.0344	J	-		0.0028	:
Potassium	mg/L	T		11.6	:	-		10.1	:	-		10.	:	-	
Potassium	mg/L	D		-		11.8	:	-		10.4	:	-		10.	:
Selenium	mg/L	T		0.00066	:	-		0.00056	:	-		0.00041	:	-	
Selenium	mg/L	D		-		0.00066	:	-		0.00042	J	-		0.00045	:
Silver	mg/L	T		<0.0001	:	-		<0.0019	:	-		<0.0001	:	-	
Silver	mg/L	D		-		<0.0001	:	-		<0.0019	:	-		<0.0001	:
Sodium	mg/L	T		45.	:	-		41.7	:	-		40.	:	-	
Sodium	mg/L	D		-		45.8	:	-		43.6	:	-		40.	:
Thallium	mg/L	T		<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Thallium	mg/L	D		-		<0.0001	:	-		<0.0001	:	-		<0.0001	:
Vanadium	mg/L	T		0.00023	:	-		0.00011	:	-		0.00019	:	-	
Vanadium	mg/L	D		-		0.00015	:	-		0.00012	:	-		0.00015	:
Zinc	mg/L	T		0.0087	:	-		0.187	:	-		<0.0215	:	-	
Zinc	mg/L	D		-		<0.0069	:	-		0.133	:	-		<0.0102	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	SW12-WTP 2/2/2003 SW12-WTP-T01N-SFW SW12		UFLIN 10/8/2002 UFLIN-T01N-SFW UFL		UFLIN 10/8/2002 UFLIN-D01N-SFW UFL		UFLIN 4/9/2003 UFLIN-T01N-SFW UFL		UFLIN 4/9/2003 UFLIN-D01N-SFW UFL		UFLIN 7/17/2003 UFLIN-T01N-SFW UFL	
Field Measurements														
DO	mg/L	T	-		11.2	:	-		9.52	:	-		4.66	:
Eh	millivolts	T	148.4	:	195.	:	-		211.2	:	-		257.2	:
pH	SU	T	7.28	:	7.93	:	-		5.9	J	-		8.2	J
Specific Conductance	uS/cm	T	2382.	:	303.	:	-		286.	:	-		224.	:
Temperature	Celsius	T	6.7	:	9.5	:	-		11.06	:	-		18.09	:
Turbidity	NTU	T	49.3	:	24.3	:	-		4.6	:	-		38.1	:
General Chemistry														
Ammonia	mg/L	T	-		<0.027	:	-		<0.1	:	-		<0.04	:
Bicarbonate (as CaCO3)	mg/L	T	-		67.2	:	-		73.	:	-		68.4	:
Biochemical Oxygen Demand	mg/L	T	-		2.9	:	-		<1.5	J	-		1.5	J
Carbonate (as CaCO3)	mg/L	T	-		<1.	:	-		<1.	:	-		<1.	:
Chemical Oxygen Demand	mg/L	T	-		<20.	:	-		<20.	:	-		<20.	:
Chloride	mg/L	T	-		3.4	:	-		6.	:	-		2.6	:
Fluoride	mg/L	T	-		<0.33	:	-		0.34	:	-		<0.25	J
Hydroxide (as CaCO3)	mg/L	T	-		<1.	:	-		<1.	:	-		<1.	:
Nitrate	mg/L	T	-		<0.2	:	-		0.49	J	-		<0.46	J
Nitrite	mg/L	T	-		<0.005	:	-		<0.005	J	-		0.0074	J
Phosphate, Ortho As P	mg/L	T	-		<0.01	:	-		<0.01	J	-		0.036	J
Phosphorus	mg/L	T	-		<0.11	:	-		0.037	:	-		0.061	:
Sulfate	mg/L	T	-		70.7	:	-		55.	J	-		50.3	:
Total Alkalinity	mg/L	T	-		67.2	:	-		73.	:	-		68.4	:
Total Dissolved Solids	mg/L	T	-		181.	:	-		180.	:	-		162.	:
Total Kjeldahl Nitrogen	mg/L	T	-		<0.4	:	-		<0.24	J	-		<0.24	:
Total Organic Carbon	mg/L	T	-		1.5	:	-		2.2	J	-		1.7	:
Total Suspended Solids	mg/L	T	-		<13.	:	-		7.7	:	-		6.1	:
Laboratory Parameters														
pH	SU	T	7.28	:	7.93	:	-		5.9	J	-		8.2	J
Specific Conductance	umhos/cm	T	-		-		-		267.	J	-		213.	J
Inorganics														
Cyanide	mg/L	T	-		<0.01	J	-		<0.01	J	-		<0.01	:
Physical Properties														
Hardness	mg/L	T	-		131.	:	-		132.	:	-		110.	:
Hardness	mg/L	D	-		-		131.	:	-		132.	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	SW12-WTP 2/2/2003 SW12-WTP-T01N-SFW SW12	UFLIN 10/8/2002 UFLIN-T01N-SFW UFL	UFLIN 10/8/2002 UFLIN-D01N-SFW UFL	UFLIN 4/9/2003 UFLIN-T01N-SFW UFL	UFLIN 4/9/2003 UFLIN-D01N-SFW UFL	UFLIN 7/17/2003 UFLIN-T01N-SFW UFL
Metals								
Aluminum	mg/L	T	-	0.171 :	-	0.323 J	-	0.336 :
Aluminum	mg/L	D	-	-	<0.0728 :	-	<0.0277 J	-
Antimony	mg/L	T	-	<0.0002 :	-	<0.0006 :	-	<0.00055 :
Antimony	mg/L	D	-	-	<0.0002 :	-	<0.0006 :	-
Arsenic	mg/L	T	-	<0.0002 :	-	<0.0002 :	-	<0.0002 :
Arsenic	mg/L	D	-	-	<0.0002 :	-	<0.0002 :	-
Barium	mg/L	T	-	0.0297 :	-	0.0455 :	-	0.039 :
Barium	mg/L	D	-	-	0.026 :	-	0.0404 :	-
Beryllium	mg/L	T	-	<0.0003 J	-	<0.00041 :	-	<0.0002 :
Beryllium	mg/L	D	-	-	<0.0003 J	-	<0.00041 :	-
Boron	mg/L	T	-	<0.005 J	-	<0.0075 :	-	0.0077 :
Boron	mg/L	D	-	-	<0.005 J	-	<0.0075 :	-
Cadmium	mg/L	T	-	<0.0001 :	-	<0.0004 :	-	<0.0002 :
Cadmium	mg/L	D	-	-	<0.0001 :	-	<0.0004 :	-
Calcium	mg/L	T	-	38.8 :	-	38. :	-	33.2 :
Calcium	mg/L	D	-	-	38.8 :	-	38.6 :	-
Chromium	mg/L	T	-	<0.0019 :	-	<0.0009 :	-	<0.0006 :
Chromium	mg/L	D	-	-	<0.0019 :	-	<0.0009 :	-
Chromium, Hexavalent	mg/L	D	-	<0.01 :	-	-	-	-
Cobalt	mg/L	T	-	<0.0034 :	-	<0.0029 :	-	<0.0018 :
Cobalt	mg/L	D	-	-	<0.0034 :	-	<0.0029 :	-
Copper	mg/L	T	-	0.0052 :	-	0.0125 :	-	<0.0099 :
Copper	mg/L	D	-	-	0.0025 :	-	<0.0024 J	-
Iron	mg/L	T	-	0.251 :	-	<0.422 :	-	0.31 :
Iron	mg/L	D	-	-	<0.0378 :	-	<0.422 :	-
Lead	mg/L	T	-	0.00063 :	-	<0.0002 J	-	0.00073 :
Lead	mg/L	D	-	-	<0.0001 :	-	<0.0002 J	-
Magnesium	mg/L	T	-	8.29 :	-	8.89 :	-	6.64 :
Magnesium	mg/L	D	-	-	8.28 :	-	8.77 :	-
Manganese	mg/L	T	-	0.124 :	-	0.135 :	-	0.0862 :
Manganese	mg/L	D	-	-	0.101 :	-	0.124 :	-
Mercury	mg/L	T	-	<0.0001 J	-	<0.0001 :	-	<0.0001 :
Mercury	mg/L	D	-	-	<0.0001 J	-	<0.0001 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	SW12-WTP 2/2/2003 SW12-WTP-T01N-SFW SW12	UFLIN 10/8/2002 UFLIN-T01N-SFW UFL	UFLIN 10/8/2002 UFLIN-D01N-SFW UFL	UFLIN 4/9/2003 UFLIN-T01N-SFW UFL	UFLIN 4/9/2003 UFLIN-D01N-SFW UFL	UFLIN 7/17/2003 UFLIN-T01N-SFW UFL
Molybdenum	mg/L	T	-	0.0013 :	-	0.0022 :	-	0.0029 :
Molybdenum	mg/L	D	-	-	0.0014 :	-	<0.0016 :	-
Nickel	mg/L	T	-	0.0032 :	-	0.0054 :	-	0.0032 :
Nickel	mg/L	D	-	-	0.0026 :	-	0.0052 :	-
Potassium	mg/L	T	-	1.5 :	-	<2.82 :	-	1.43 :
Potassium	mg/L	D	-	-	1.46 :	-	<2.78 :	-
Selenium	mg/L	T	-	<0.0002 J	-	<0.001 :	-	<0.0008 :
Selenium	mg/L	D	-	-	<0.0002 J	-	<0.001 :	-
Silver	mg/L	T	-	<0.0001 :	-	<0.0002 :	-	<0.0001 J
Silver	mg/L	D	-	-	<0.0001 :	-	<0.0002 :	-
Sodium	mg/L	T	-	5.46 :	-	<9.16 :	-	4.42 :
Sodium	mg/L	D	-	-	5.13 :	-	<9.16 :	-
Thallium	mg/L	T	-	<0.0001 :	-	<0.0002 :	-	<0.0001 :
Thallium	mg/L	D	-	-	<0.0001 :	-	<0.0002 :	-
Vanadium	mg/L	T	-	0.00022 :	-	0.00028 :	-	0.00029 :
Vanadium	mg/L	D	-	-	0.0001 :	-	<0.0002 :	-
Zinc	mg/L	T	-	0.0038 J	-	<0.039 :	-	<0.0217 :
Zinc	mg/L	D	-	-	<0.0021 J	-	<0.039 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLIN	UFLIN	UFLIN	UFLMID	UFLMID	UFLMID
			Sample Date	7/17/2003	9/25/2003	9/25/2003	10/8/2002	10/8/2002	4/9/2003
			Sample ID	UFLIN-D01N-SFW	UFLIN-T01N-SFW	UFLIN-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLMID-T01N-SFW
				UFL	UFL	UFL	UFL	UFL	UFL
Field Measurements									
DO	mg/L	T		-	10.08 :	-	11.58 :	-	11.8 :
Eh	millivolts	T		-	68.1 :	-	160. :	-	216.6 :
pH	SU	T		-	8. J	-	8.73 :	-	6.9 J
Specific Conductance	uS/cm	T		-	228. :	-	304. :	-	280. :
Temperature	Celsius	T		-	10.76 :	-	9.45 :	-	6.54 :
Turbidity	NTU	T		-	19.5 :	-	24.9 :	-	8.4 :
General Chemistry									
Ammonia	mg/L	T		-	<0.04 :	-	<0.028 :	-	<0.049 :
Bicarbonate (as CaCO3)	mg/L	T		-	73.5 :	-	71.2 :	-	71.5 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	3.7 :	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	2.4 :	-	3.5 :	-	6.5 :
Fluoride	mg/L	T		-	0.23 :	-	<0.32 :	-	0.33 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.4 J	-	<0.2 :	-	0.52 J
Nitrite	mg/L	T		-	<0.005 :	-	<0.005 :	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	<0.01 :	-	0.013 J
Phosphorus	mg/L	T		-	0.036 :	-	0.15 :	-	0.038 :
Sulfate	mg/L	T		-	49.9 J	-	80.5 :	-	54.9 J
Total Alkalinity	mg/L	T		-	73.5 :	-	71.2 :	-	71.5 :
Total Dissolved Solids	mg/L	T		-	128. :	-	189. :	-	184. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.51 :	-	<0.24 J
Total Organic Carbon	mg/L	T		-	<1. :	-	1.7 :	-	1.9 J
Total Suspended Solids	mg/L	T		-	12.2 :	-	<12.3 :	-	10.5 :
Laboratory Parameters									
pH	SU	T		-	8. J	-	8.73 :	-	6.9 J
Specific Conductance	umhos/cm	T		-	230. J	-	-	-	264. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 J	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	121. :	-	134. :	-	131. :
Hardness	mg/L	D		113. :	-	125. :	-	135. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLIN	UFLIN	UFLIN	UFLMID	UFLMID	UFLMID
			Sample Date	7/17/2003	9/25/2003	9/25/2003	10/8/2002	10/8/2002	4/9/2003
			Sample ID	UFLIN-D01N-SFW	UFLIN-T01N-SFW	UFLIN-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLMID-T01N-SFW
			Exposure Area	UFL	UFL	UFL	UFL	UFL	UFL
Metals									
Aluminum	mg/L	T		-	0.538 :	-	0.183 :	-	0.262 J
Aluminum	mg/L	D		0.208 :	-	0.201 :	-	<0.0688 :	-
Antimony	mg/L	T		-	<0.00011 :	-	<0.00025 :	-	<0.0006 :
Antimony	mg/L	D		<0.0005 :	-	<0.00055 :	-	<0.0002 :	-
Arsenic	mg/L	T		-	<0.00038 :	-	<0.0002 :	-	<0.0002 :
Arsenic	mg/L	D		<0.0002 :	-	<0.00038 :	-	<0.0002 :	-
Barium	mg/L	T		-	0.0526 :	-	0.0303 :	-	0.0377 :
Barium	mg/L	D		0.0378 :	-	0.0401 :	-	0.0267 :	-
Beryllium	mg/L	T		-	<0.00047 :	-	<0.0003 J	-	<0.00046 :
Beryllium	mg/L	D		<0.00023 :	-	<0.00047 :	-	<0.0003 J	-
Boron	mg/L	T		-	0.006 :	-	<0.005 J	-	<0.0075 :
Boron	mg/L	D		0.0071 :	-	<0.0048 :	-	<0.005 J	-
Cadmium	mg/L	T		-	0.00016 :	-	<0.0001 :	-	<0.0004 :
Cadmium	mg/L	D		<0.0002 :	-	0.00018 :	-	<0.0001 :	-
Calcium	mg/L	T		-	36.8 :	-	39.7 :	-	38.4 :
Calcium	mg/L	D		33.9 :	-	38. :	-	40.1 :	-
Chromium	mg/L	T		-	<0.001 :	-	<0.0019 :	-	<0.0009 :
Chromium	mg/L	D		0.0014 :	-	<0.001 :	-	<0.0019 :	-
Chromium, Hexavalent	mg/L	D		-	-	-	<0.01 :	-	-
Cobalt	mg/L	T		-	0.0011 :	-	<0.0034 :	-	<0.0029 :
Cobalt	mg/L	D		<0.0018 :	-	0.0018 :	-	<0.0034 :	-
Copper	mg/L	T		-	<0.0078 :	-	0.005 :	-	0.0073 J
Copper	mg/L	D		<0.0073 :	-	<0.0067 :	-	0.0025 :	-
Iron	mg/L	T		-	1.1 :	-	0.267 :	-	<0.601 :
Iron	mg/L	D		0.0707 :	-	<0.128 :	-	<0.0378 :	-
Lead	mg/L	T		-	0.0042 :	-	0.00066 :	-	<0.0002 J
Lead	mg/L	D		<0.0001 :	-	<0.00023 :	-	<0.0001 :	-
Magnesium	mg/L	T		-	7.16 :	-	8.46 :	-	8.63 :
Magnesium	mg/L	D		6.8 :	-	7.29 :	-	8.54 :	-
Manganese	mg/L	T		-	0.105 :	-	0.129 :	-	0.109 :
Manganese	mg/L	D		0.0769 :	-	0.101 :	-	0.104 :	-
Mercury	mg/L	T		-	<0.00006 :	-	<0.0001 J	-	<0.0001 :
Mercury	mg/L	D		0.00022 J	-	<0.00006 :	-	<0.0001 J	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLIN	UFLIN	UFLIN	UFLMID	UFLMID	UFLMID
			Sample Date	7/17/2003	9/25/2003	9/25/2003	10/8/2002	10/8/2002	4/9/2003
			Sample ID	UFLIN-D01N-SFW	UFLIN-T01N-SFW	UFLIN-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLMID-T01N-SFW
				UFL	UFL	UFL	UFL	UFL	UFL
Molybdenum	mg/L	T		-	<0.0014 :	-	0.0013 :	-	<0.0016 :
Molybdenum	mg/L	D		<0.0016 :	-	<0.0013 :	-	0.0015 :	-
Nickel	mg/L	T		-	0.0047 :	-	0.0033 :	-	0.0045 :
Nickel	mg/L	D		0.0058 :	-	0.0045 :	-	0.0026 :	-
Potassium	mg/L	T		-	1.62 J	-	1.54 :	-	<2.98 :
Potassium	mg/L	D		1.48 :	-	1.36 J	-	1.51 :	-
Selenium	mg/L	T		-	<0.00073 J	-	<0.0002 J	-	<0.001 :
Selenium	mg/L	D		<0.0008 :	-	<0.00073 J	-	<0.0002 J	-
Silver	mg/L	T		-	<0.0002 :	-	<0.0001 :	-	<0.0002 :
Silver	mg/L	D		<0.0001 J	-	<0.0002 :	-	<0.0001 :	-
Sodium	mg/L	T		-	4.39 :	-	5.41 :	-	<9.16 :
Sodium	mg/L	D		4.64 :	-	4.39 :	-	5.44 :	-
Thallium	mg/L	T		-	<0.00001 :	-	<0.0001 :	-	<0.0002 :
Thallium	mg/L	D		<0.0001 :	-	<0.00001 :	-	<0.0001 :	-
Vanadium	mg/L	T		-	0.00092 :	-	0.00025 :	-	0.00032 :
Vanadium	mg/L	D		<0.0002 :	-	<0.00044 :	-	0.00015 :	-
Zinc	mg/L	T		-	0.0226 :	-	<0.0057 :	-	<0.039 :
Zinc	mg/L	D		<0.0363 :	-	0.0197 :	-	<0.0021 J	-
Volatile Organics									
1,1,1-Trichloroethane	mg/L	T		-	-	-	<0.01 :	-	-
1,1,2,2-Tetrachloroethane	mg/L	T		-	-	-	<0.01 :	-	-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T		-	-	-	<0.01 :	-	-
1,1,2-Trichloroethane	mg/L	T		-	-	-	<0.01 :	-	-
1,1-Dichloroethane	mg/L	T		-	-	-	<0.01 :	-	-
1,1-Dichloroethene	mg/L	T		-	-	-	<0.01 :	-	-
1,2,4-Trichlorobenzene	mg/L	T		-	-	-	<0.01 :	-	-
1,2-Dibromo-3-chloropropane	mg/L	T		-	-	-	<0.01 :	-	-
1,2-Dichlorobenzene	mg/L	T		-	-	-	<0.01 :	-	-
1,2-Dichloroethane	mg/L	T		-	-	-	<0.01 :	-	-
1,2-Dichloroethene (total)	mg/L	T		-	-	-	<0.01 :	-	-
1,2-Dichloropropane	mg/L	T		-	-	-	<0.01 :	-	-
1,3-Dichlorobenzene	mg/L	T		-	-	-	<0.01 :	-	-
1,4-Dichlorobenzene	mg/L	T		-	-	-	<0.01 :	-	-
2-Butanone	mg/L	T		-	-	-	<0.01 J	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLIN	UFLIN	UFLIN	UFLMID	UFLMID	UFLMID
			Sample Date	7/17/2003	9/25/2003	9/25/2003	10/8/2002	10/8/2002	4/9/2003
			Sample ID	UFLIN-D01N-SFW	UFLIN-T01N-SFW	UFLIN-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLMID-T01N-SFW
				UFL	UFL	UFL	UFL	UFL	UFL
2-Hexanone	mg/L	T		-	-	-	<0.01 J	-	-
4-Methyl-2-pentanone	mg/L	T		-	-	-	<0.01 :	-	-
Acetone	mg/L	T		-	-	-	<0.01 J	-	-
Benzene	mg/L	T		-	-	-	<0.01 :	-	-
Bromodichloromethane	mg/L	T		-	-	-	<0.01 :	-	-
Bromoform	mg/L	T		-	-	-	<0.01 :	-	-
Bromomethane	mg/L	T		-	-	-	<0.01 :	-	-
Carbon disulfide	mg/L	T		-	-	-	<0.01 :	-	-
Carbon tetrachloride	mg/L	T		-	-	-	<0.01 :	-	-
Chlorobenzene	mg/L	T		-	-	-	<0.01 :	-	-
Chloroethane	mg/L	T		-	-	-	<0.01 :	-	-
Chloroform	mg/L	T		-	-	-	<0.01 :	-	-
Chloromethane	mg/L	T		-	-	-	<0.01 :	-	-
cis-1,2-Dichloroethene	mg/L	T		-	-	-	<0.01 :	-	-
cis-1,3-Dichloropropene	mg/L	T		-	-	-	<0.01 :	-	-
Dibromochloromethane	mg/L	T		-	-	-	<0.01 :	-	-
Dichlorodifluoromethane	mg/L	T		-	-	-	<0.01 :	-	-
Ethylbenzene	mg/L	T		-	-	-	<0.01 :	-	-
Methylene chloride	mg/L	T		-	-	-	<0.01 :	-	-
Styrene	mg/L	T		-	-	-	<0.01 :	-	-
Tetrachloroethene	mg/L	T		-	-	-	<0.01 :	-	-
Toluene	mg/L	T		-	-	-	<0.01 :	-	-
Total Xylene	mg/L	T		-	-	-	<0.01 :	-	-
trans-1,2-Dichloroethene	mg/L	T		-	-	-	<0.01 :	-	-
trans-1,3-Dichloropropene	mg/L	T		-	-	-	<0.01 :	-	-
Trichloroethene	mg/L	T		-	-	-	<0.01 :	-	-
Trichlorofluoromethane	mg/L	T		-	-	-	<0.01 :	-	-
Vinyl chloride	mg/L	T		-	-	-	<0.01 :	-	-
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T		-	-	-	<0.01 :	-	-
2,4,5-Trichlorophenol	mg/L	T		-	-	-	<0.025 :	-	-
2,4,6-Trichlorophenol	mg/L	T		-	-	-	<0.01 :	-	-
2,4-Dichlorophenol	mg/L	T		-	-	-	<0.01 :	-	-
2,4-Dimethylphenol	mg/L	T		-	-	-	<0.01 :	-	-

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Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLIN	UFLIN	UFLIN	UFLMID	UFLMID	UFLMID
			Sample Date	7/17/2003	9/25/2003	9/25/2003	10/8/2002	10/8/2002	4/9/2003
			Sample ID	UFLIN-D01N-SFW	UFLIN-T01N-SFW	UFLIN-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLMID-T01N-SFW
				UFL	UFL	UFL	UFL	UFL	UFL
2,4-Dinitrophenol	mg/L	T		-	-	-	<0.025 :	-	-
2,4-Dinitrotoluene	mg/L	T		-	-	-	<0.01 :	-	-
2,6-Dinitrotoluene	mg/L	T		-	-	-	<0.01 :	-	-
2-Chloronaphthalene	mg/L	T		-	-	-	<0.01 :	-	-
2-Chlorophenol	mg/L	T		-	-	-	<0.01 :	-	-
2-Methylnaphthalene	mg/L	T		-	-	-	<0.01 :	-	-
2-Methylphenol	mg/L	T		-	-	-	<0.01 :	-	-
2-Nitroaniline	mg/L	T		-	-	-	<0.025 :	-	-
2-Nitrophenol	mg/L	T		-	-	-	<0.01 :	-	-
3,3-Dichlorobenzidine	mg/L	T		-	-	-	<0.01 J	-	-
3-Nitroaniline	mg/L	T		-	-	-	<0.025 :	-	-
4,6-Dinitro-2-methylphenol	mg/L	T		-	-	-	<0.025 :	-	-
4-Bromophenyl phenyl ether	mg/L	T		-	-	-	<0.01 :	-	-
4-Chloro-3-methylphenol	mg/L	T		-	-	-	<0.01 :	-	-
4-Chloroaniline	mg/L	T		-	-	-	<0.01 :	-	-
4-Chlorophenyl phenyl ether	mg/L	T		-	-	-	<0.01 :	-	-
4-Methylphenol	mg/L	T		-	-	-	<0.01 :	-	-
4-Nitroaniline	mg/L	T		-	-	-	<0.025 J	-	-
4-Nitrophenol	mg/L	T		-	-	-	<0.025 :	-	-
Acenaphthene	mg/L	T		-	-	-	<0.01 :	-	-
Acenaphthylene	mg/L	T		-	-	-	<0.01 :	-	-
Anthracene	mg/L	T		-	-	-	<0.01 :	-	-
Benzaldehyde	mg/L	T		-	-	-	<0.01 J	-	-
Benzo(a)anthracene	mg/L	T		-	-	-	<0.01 :	-	-
Benzo(a)pyrene	mg/L	T		-	-	-	<0.01 :	-	-
Benzo(b)fluoranthene	mg/L	T		-	-	-	<0.01 :	-	-
Benzo(g,h,i)perylene	mg/L	T		-	-	-	<0.01 :	-	-
Benzo(k)fluoranthene	mg/L	T		-	-	-	<0.01 :	-	-
Bis(2-chloroethoxy)methane	mg/L	T		-	-	-	<0.01 :	-	-
Bis(2-chloroethyl)ether	mg/L	T		-	-	-	<0.01 :	-	-
Bis(2-ethylhexyl)phthalate	mg/L	T		-	-	-	<0.01 :	-	-
Butyl benzyl phthalate	mg/L	T		-	-	-	<0.01 :	-	-
Carbazole	mg/L	T		-	-	-	<0.01 :	-	-
Chrysene	mg/L	T		-	-	-	<0.01 :	-	-

J = Qualified as estimated during data validation
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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction						
		UFLIN	UFLIN	UFLIN	UFLMID	UFLMID	UFLMID	
		7/17/2003	9/25/2003	9/25/2003	10/8/2002	10/8/2002	4/9/2003	
		UFLIN-D01N-SFW	UFLIN-T01N-SFW	UFLIN-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLMID-T01N-SFW	
		UFL	UFL	UFL	UFL	UFL	UFL	
Dibenz(a,h)anthracene	mg/L	T	-	-	-	<0.01 :	-	-
Dibenzofuran	mg/L	T	-	-	-	<0.01 :	-	-
Dichlorodiisopropyl ether	mg/L	T	-	-	-	<0.01 :	-	-
Diethylphthalate	mg/L	T	-	-	-	<0.01 :	-	-
Dimethylphthalate	mg/L	T	-	-	-	<0.01 :	-	-
Di-n-Butyl phthalate	mg/L	T	-	-	-	<0.01 :	-	-
Di-n-Octyl phthalate	mg/L	T	-	-	-	<0.01 J	-	-
Fluoranthene	mg/L	T	-	-	-	<0.01 :	-	-
Fluorene	mg/L	T	-	-	-	<0.01 :	-	-
Hexachlorobenzene	mg/L	T	-	-	-	<0.01 :	-	-
Hexachlorobutadiene	mg/L	T	-	-	-	<0.01 :	-	-
Hexachlorocyclopentadiene	mg/L	T	-	-	-	<0.01 :	-	-
Hexachloroethane	mg/L	T	-	-	-	<0.01 :	-	-
Indeno(1,2,3-cd)pyrene	mg/L	T	-	-	-	<0.01 :	-	-
Isophorone	mg/L	T	-	-	-	<0.01 :	-	-
Naphthalene	mg/L	T	-	-	-	<0.01 :	-	-
Nitrobenzene	mg/L	T	-	-	-	<0.01 :	-	-
N-Nitrosodi-n-propylamine	mg/L	T	-	-	-	<0.01 :	-	-
N-Nitrosodiphenylamine	mg/L	T	-	-	-	<0.01 :	-	-
Pentachlorophenol	mg/L	T	-	-	-	<0.025 :	-	-
Phenanthrene	mg/L	T	-	-	-	<0.01 :	-	-
Phenol	mg/L	T	-	-	-	<0.01 :	-	-
Pyrene	mg/L	T	-	-	-	<0.01 :	-	-
Explosives								
2,4,6-Trinitrotoluene	mg/L	T	-	-	-	<0.00025 :	-	-
2,6-Pyridinediamine,	mg/L	T	-	-	-	<0.00025 J	-	-
Cyclotetramethylenetetranitramine	mg/L	T	-	-	-	<0.00025 :	-	-
Cyclotrimethylenetrinitramine	mg/L	T	-	-	-	<0.00025 :	-	-
Pentaerythritol tetranitrate	mg/L	T	-	-	-	<0.01 :	-	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLMID	UFLMID	UFLMID	UFLMID	UFLMID	UFLOUT
			Sample Date	4/9/2003	7/17/2003	7/17/2003	9/25/2003	9/25/2003	10/8/2002
			Sample ID	UFLMID-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLOUT-T01N-SFW
				UFL	UFL	UFL	UFL	UFL	UFL
Field Measurements									
DO	mg/L	T		-	7. :	-	10.27 :	-	12.15 :
Eh	millivolts	T		-	193.8 :	-	82.5 :	-	144. :
pH	SU	T		-	8.2 J	-	8.1 J	-	8.8 :
Specific Conductance	uS/cm	T		-	223. :	-	228. :	-	375. :
Temperature	Celsius	T		-	16.68 :	-	9.3 :	-	9.06 :
Turbidity	NTU	T		-	37.8 :	-	22.1 :	-	22.7 :
General Chemistry									
Ammonia	mg/L	T		-	<0.04 J	-	0.043 :	-	<0.1 :
Bicarbonate (as CaCO3)	mg/L	T		-	68.9 :	-	72.8 :	-	75.2 :
Biochemical Oxygen Demand	mg/L	T		-	<1.6 :	-	<1.4 :	-	5.4 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	2.5 :	-	2.4 :	-	3.4 :
Fluoride	mg/L	T		-	<0.24 :	-	0.23 :	-	<0.32 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	<0.57 J	-	0.41 J	-	<0.2 J
Nitrite	mg/L	T		-	0.0069 :	-	<0.005 :	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	0.035 :	-	<0.011 :	-	<0.01 J
Phosphorus	mg/L	T		-	0.057 :	-	0.037 :	-	<0.088 :
Sulfate	mg/L	T		-	50.1 J	-	47.7 J	-	73.8 :
Total Alkalinity	mg/L	T		-	68.9 :	-	72.8 :	-	75.2 :
Total Dissolved Solids	mg/L	T		-	170. :	-	144. :	-	184. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	0.74 :
Total Organic Carbon	mg/L	T		-	1.9 :	-	1.3 :	-	1.9 :
Total Suspended Solids	mg/L	T		-	5.1 :	-	14.8 :	-	<13.2 :
Laboratory Parameters									
pH	SU	T		-	8.2 J	-	8.1 J	-	8.8 :
Specific Conductance	umhos/cm	T		-	215. J	-	236. J	-	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 J
Physical Properties									
Hardness	mg/L	T		-	109. :	-	126. :	-	143. :
Hardness	mg/L	D		131. :	-	110. :	-	120. :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLMID	UFLMID	UFLMID	UFLMID	UFLMID	UFLOUT
			Sample Date	4/9/2003	7/17/2003	7/17/2003	9/25/2003	9/25/2003	10/8/2002
			Sample ID	UFLMID-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLMID-T01N-SFW	UFLMID-D01N-SFW	UFLOUT-T01N-SFW
				UFL	UFL	UFL	UFL	UFL	UFL
Metals									
Aluminum	mg/L	T		-	0.383 :	-	0.508 :	-	0.429 :
Aluminum	mg/L	D		<0.0277 J	-	0.22 :	-	0.0869 :	-
Antimony	mg/L	T		-	<0.0005 :	-	<0.00023 :	-	<0.0002 :
Antimony	mg/L	D		<0.0006 :	-	<0.00073 :	-	<0.00015 :	-
Arsenic	mg/L	T		-	<0.0002 :	-	<0.00038 :	-	0.00035 J
Arsenic	mg/L	D		<0.0002 :	-	<0.0002 :	-	<0.00038 :	-
Barium	mg/L	T		-	0.0392 :	-	0.055 :	-	0.0378 :
Barium	mg/L	D		0.0325 :	-	0.0366 :	-	0.0368 :	-
Beryllium	mg/L	T		-	<0.0002 :	-	<0.00047 :	-	<0.0002 :
Beryllium	mg/L	D		<0.00041 :	-	<0.0002 :	-	<0.00047 :	-
Boron	mg/L	T		-	0.0056 :	-	<0.0085 :	-	<0.0099 :
Boron	mg/L	D		<0.0075 :	-	0.007 :	-	<0.0066 :	-
Cadmium	mg/L	T		-	<0.0002 :	-	0.00017 :	-	<0.0001 :
Cadmium	mg/L	D		<0.0004 :	-	<0.0002 :	-	0.00014 :	-
Calcium	mg/L	T		-	32.8 :	-	38.2 :	-	42.6 :
Calcium	mg/L	D		36.6 :	-	33.3 :	-	36.6 :	-
Chromium	mg/L	T		-	0.00065 :	-	<0.001 :	-	<0.0046 :
Chromium	mg/L	D		<0.0009 :	-	<0.0006 :	-	<0.001 :	-
Chromium, Hexavalent	mg/L	D		-	-	-	-	-	<0.01 :
Cobalt	mg/L	T		-	<0.0018 :	-	0.0012 :	-	<0.0022 :
Cobalt	mg/L	D		<0.0029 :	-	<0.0018 :	-	0.0011 :	-
Copper	mg/L	T		-	0.0113 :	-	<0.0074 :	-	0.0071 J
Copper	mg/L	D		<0.0024 :	-	<0.0056 :	-	<0.0033 :	-
Iron	mg/L	T		-	0.378 J	-	1.16 :	-	0.818 :
Iron	mg/L	D		<0.422 :	-	0.0569 :	-	<0.044 :	-
Lead	mg/L	T		-	0.0012 :	-	0.004 :	-	0.0039 :
Lead	mg/L	D		<0.0002 J	-	<0.0001 :	-	<0.00004 :	-
Magnesium	mg/L	T		-	6.56 :	-	7.43 :	-	8.88 :
Magnesium	mg/L	D		8.48 :	-	6.66 :	-	7.04 :	-
Manganese	mg/L	T		-	0.103 :	-	0.109 :	-	0.141 :
Manganese	mg/L	D		0.0762 :	-	0.0753 :	-	0.0942 :	-
Mercury	mg/L	T		-	<0.0001 :	-	<0.00006 :	-	<0.0001 :
Mercury	mg/L	D		<0.0001 :	-	<0.0001 :	-	<0.00006 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area Fraction	UFLMID 4/9/2003 UFLMID-D01N-SFW UFL		UFLMID 7/17/2003 UFLMID-T01N-SFW UFL		UFLMID 7/17/2003 UFLMID-D01N-SFW UFL		UFLMID 9/25/2003 UFLMID-T01N-SFW UFL		UFLMID 9/25/2003 UFLMID-D01N-SFW UFL		UFLOUT 10/8/2002 UFLOUT-T01N-SFW UFL	
Molybdenum	mg/L	T	-		<0.0016	:	-		<0.0015	:	-		0.0018	:
Molybdenum	mg/L	D	0.0019	:	-		0.0016	:	-		<0.0012	:	-	
Nickel	mg/L	T	-		0.003	:	-		0.0046	:	-		0.0049	J
Nickel	mg/L	D	0.0033	:	-		0.0021	:	-		<0.0042	:	-	
Potassium	mg/L	T	-		1.37	:	-		1.66	J	-		1.97	:
Potassium	mg/L	D	<3.04	:	-		1.35	:	-		<1.31	J	-	
Selenium	mg/L	T	-		<0.0008	:	-		<0.00073	J	-		0.00033	J
Selenium	mg/L	D	<0.001	:	-		<0.0008	:	-		<0.00073	J	-	
Silver	mg/L	T	-		<0.0001	:	-		<0.0002	:	-		<0.0001	:
Silver	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.0002	:	-	
Sodium	mg/L	T	-		4.02	:	-		4.43	:	-		5.61	:
Sodium	mg/L	D	<9.16	:	-		4.26	:	-		4.18	:	-	
Thallium	mg/L	T	-		<0.0001	:	-		<0.00001	:	-		<0.0001	:
Thallium	mg/L	D	<0.0002	:	-		<0.0001	:	-		<0.00001	:	-	
Vanadium	mg/L	T	-		0.00043	:	-		0.001	:	-		0.00043	:
Vanadium	mg/L	D	<0.0002	:	-		<0.0002	:	-		<0.00054	:	-	
Zinc	mg/L	T	-		<0.0218	:	-		0.0263	:	-		0.0111	:
Zinc	mg/L	D	<0.039	:	-		<0.0102	:	-		<0.013	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLOUT	UFLOUT	UFLOUT	UFLOUT	UFLOUT	UFLOUT
			Sample Date	10/8/2002	4/9/2003	4/9/2003	7/17/2003	7/17/2003	9/25/2003
			Sample ID	UFLOUT-D01N-SFW	UFLOUT-T01N-SFW	UFLOUT-D01N-SFW	UFLOUT-T01N-SFW	UFLOUT-D01N-SFW	UFLOUT-T01N-SFW
				UFL	UFL	UFL	UFL	UFL	UFL
Field Measurements									
DO	mg/L	T		-	12.23 :	-	4.77 :	-	12.98 :
Eh	millivolts	T		-	205. :	-	367.8 :	-	158.5 :
pH	SU	T		-	7.4 J	-	8.1 J	-	7.2 J
Specific Conductance	uS/cm	T		-	282. :	-	222. :	-	228. :
Temperature	Celsius	T		-	5.83 :	-	16.55 :	-	9.51 :
Turbidity	NTU	T		-	7.7 :	-	37.9 :	-	27.8 :
General Chemistry									
Ammonia	mg/L	T		-	<0.14 :	-	<0.04 :	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		-	71.9 :	-	68.9 :	-	73.3 :
Biochemical Oxygen Demand	mg/L	T		-	<1.5 J	-	<1.6 :	-	1.5 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	6. :	-	2.5 :	-	2.5 :
Fluoride	mg/L	T		-	0.33 :	-	<0.24 J	-	0.23 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.45 J	-	<0.43 J	-	0.41 J
Nitrite	mg/L	T		-	<0.005 J	-	0.0064 :	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 J	-	0.3 J	-	<0.012 :
Phosphorus	mg/L	T		-	0.038 :	-	0.056 J	-	0.043 :
Sulfate	mg/L	T		-	55.3 J	-	50.6 :	-	46.7 J
Total Alkalinity	mg/L	T		-	71.9 :	-	68.9 :	-	73.3 :
Total Dissolved Solids	mg/L	T		-	176. :	-	178. :	-	180. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 J	-	<0.24 :	-	<0.34 :
Total Organic Carbon	mg/L	T		-	<1. J	-	<1. :	-	1.1 :
Total Suspended Solids	mg/L	T		-	11.3 :	-	4.3 :	-	18.3 :
Laboratory Parameters									
pH	SU	T		-	7.4 J	-	8.1 J	-	7.2 J
Specific Conductance	umhos/cm	T		-	264. J	-	306. J	-	222. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 J	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	136. :	-	111. :	-	113. :
Hardness	mg/L	D		138. :	-	132. :	-	109. :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID											
			UFLOUT 10/8/2002 UFLOUT-D01N-SFW		UFLOUT 4/9/2003 UFLOUT-T01N-SFW		UFLOUT 4/9/2003 UFLOUT-D01N-SFW		UFLOUT 7/17/2003 UFLOUT-T01N-SFW		UFLOUT 7/17/2003 UFLOUT-D01N-SFW		UFLOUT 9/25/2003 UFLOUT-T01N-SFW	
			UFL		UFL		UFL		UFL		UFL		UFL	
Metals														
Aluminum	mg/L	T	-		0.232	J	-		0.312	:	-		0.584	:
Aluminum	mg/L	D	0.0952	:	-		<0.0277	J	-		0.173	:	-	
Antimony	mg/L	T	-		<0.0006	:	-		<0.0005	:	-		<0.00015	:
Antimony	mg/L	D	<0.0002	:	-		<0.0006	:	-		<0.0005	:	-	
Arsenic	mg/L	T	-		<0.0002	:	-		0.0002	:	-		0.00046	:
Arsenic	mg/L	D	0.0003	J	-		<0.0002	:	-		<0.0002	:	-	
Barium	mg/L	T	-		0.0381	:	-		0.0383	:	-		0.0517	:
Barium	mg/L	D	0.0254	:	-		0.0316	:	-		0.0339	:	-	
Beryllium	mg/L	T	-		<0.00054	:	-		<0.0002	:	-		<0.00047	:
Beryllium	mg/L	D	<0.0002	:	-		<0.00048	:	-		<0.0002	:	-	
Boron	mg/L	T	-		<0.0075	:	-		0.006	:	-		<0.0048	:
Boron	mg/L	D	<0.011	:	-		<0.0075	:	-		0.0062	:	-	
Cadmium	mg/L	T	-		<0.0004	:	-		<0.0002	:	-		0.00015	:
Cadmium	mg/L	D	<0.0001	:	-		<0.0004	:	-		<0.0002	:	-	
Calcium	mg/L	T	-		37.3	:	-		33.4	:	-		34.2	:
Calcium	mg/L	D	41.3	:	-		37.4	:	-		32.8	:	-	
Chromium	mg/L	T	-		<0.0009	:	-		0.00069	:	-		<0.001	:
Chromium	mg/L	D	<0.0046	:	-		<0.0009	:	-		<0.0006	:	-	
Cobalt	mg/L	T	-		<0.0029	:	-		<0.0018	:	-		<0.0011	:
Cobalt	mg/L	D	<0.0022	:	-		<0.0029	:	-		<0.0018	:	-	
Copper	mg/L	T	-		0.0081	:	-		<0.0102	:	-		0.0077	:
Copper	mg/L	D	0.0025	J	-		<0.0024	:	-		<0.005	:	-	
Iron	mg/L	T	-		<0.488	:	-		0.32	:	-		1.49	:
Iron	mg/L	D	0.0442	:	-		<0.422	:	-		0.0489	:	-	
Lead	mg/L	T	-		<0.0002	J	-		0.00072	:	-		0.0058	:
Lead	mg/L	D	<0.0001	:	-		<0.0002	J	-		<0.0001	:	-	
Magnesium	mg/L	T	-		8.49	:	-		6.67	:	-		6.64	:
Magnesium	mg/L	D	8.58	:	-		8.36	:	-		6.56	:	-	
Manganese	mg/L	T	-		0.103	:	-		0.0861	:	-		0.104	:
Manganese	mg/L	D	0.107	:	-		0.0769	:	-		0.0735	:	-	
Mercury	mg/L	T	-		<0.0001	:	-		0.00022	:	-		<0.00006	:
Mercury	mg/L	D	<0.0001	:	-		<0.0001	:	-		<0.0001	:	-	
Molybdenum	mg/L	T	-		0.0022	:	-		<0.0016	:	-		<0.0015	:

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	UFLOUT 10/8/2002 UFLOUT-D01N-SFW UFL	UFLOUT 4/9/2003 UFLOUT-T01N-SFW UFL	UFLOUT 4/9/2003 UFLOUT-D01N-SFW UFL	UFLOUT 7/17/2003 UFLOUT-T01N-SFW UFL	UFLOUT 7/17/2003 UFLOUT-D01N-SFW UFL	UFLOUT 9/25/2003 UFLOUT-T01N-SFW UFL
Molybdenum	mg/L	D	0.0015 :	-	<0.0016 :	-	<0.0016 :	-
Nickel	mg/L	T	-	0.0047 :	-	0.0031 :	-	0.0043 :
Nickel	mg/L	D	0.0027 J	-	0.003 :	-	0.0024 :	-
Potassium	mg/L	T	-	<3.03 :	-	1.4 :	-	1.6 :
Potassium	mg/L	D	1.67 :	-	<3.04 :	-	1.34 :	-
Selenium	mg/L	T	-	<0.001 :	-	<0.0008 :	-	<0.00073 :
Selenium	mg/L	D	0.0006 J	-	<0.001 :	-	<0.0008 :	-
Silver	mg/L	T	-	<0.0002 :	-	<0.0001 J	-	<0.0002 :
Silver	mg/L	D	<0.0001 :	-	<0.0002 :	-	<0.0001 J	-
Sodium	mg/L	T	-	<9.16 :	-	4.22 :	-	3.76 :
Sodium	mg/L	D	5.66 :	-	<9.16 :	-	4.06 :	-
Thallium	mg/L	T	-	<0.0002 :	-	<0.0001 :	-	0.00001 :
Thallium	mg/L	D	<0.0001 :	-	<0.0002 :	-	<0.0001 :	-
Vanadium	mg/L	T	-	0.00026 :	-	0.00032 :	-	<0.0011 :
Vanadium	mg/L	D	0.00012 :	-	<0.0002 :	-	<0.0002 :	-
Zinc	mg/L	T	-	<0.039 :	-	<0.0215 :	-	0.021 :
Zinc	mg/L	D	<0.0069 :	-	<0.039 :	-	<0.0162 :	-

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLOUT	UNIQUE 1	UNIQUE 1	UNIQUE 2	UNIQUE 2	UNIQUE 3
			Sample Date	9/25/2003	3/20/2003	3/20/2003	3/23/2003	3/23/2003	3/23/2003
			Sample ID	UFLOUT-D01N-SFW	UNIQUE1-T01N-SFW	UNIQUE1-D01N-SFW	UNIQUE2-T01N-SFW	UNIQUE2-D01N-SFW	UNIQUE3-T01N-SFW
			Exposure Area	UFL	Unique	Unique	Unique	Unique	Unique
Field Measurements									
DO	mg/L	T		-	8.89 :	-	10.32 :	-	10.63 :
Eh	millivolts	T		-	195.3 :	-	180.4 :	-	205.1 :
pH	SU	T		-	7.5 J	-	7.4 J	-	7.5 J
Specific Conductance	uS/cm	T		-	378. :	-	427. :	-	429. :
Temperature	Celsius	T		-	5.21 :	-	3.99 :	-	2.81 :
Turbidity	NTU	T		-	47.6 :	-	89.7 :	-	95.1 :
General Chemistry									
Ammonia	mg/L	T		-	<0.1 J	-	<0.06 J	-	<0.07 J
Bicarbonate (as CaCO3)	mg/L	T		-	60.9 :	-	44. :	-	40.9 :
Biochemical Oxygen Demand	mg/L	T		-	<1.4 J	-	<1.5 J	-	<1.5 J
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	4.9 :	-	6.2 :	-	6.1 :
Fluoride	mg/L	T		-	0.75 :	-	1. :	-	0.96 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.68 J	-	0.89 J	-	0.66 J
Nitrite	mg/L	T		-	0.011 J	-	<0.005 J	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		-	0.69 J	-	0.41 J	-	<0.01 J
Phosphorus	mg/L	T		-	0.064 J	-	<0.014 J	-	0.055 :
Sulfate	mg/L	T		-	112. :	-	156. :	-	152. :
Total Alkalinity	mg/L	T		-	60.9 :	-	44. :	-	40.9 :
Total Dissolved Solids	mg/L	T		-	244. :	-	306. :	-	296. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	3.6 :	-	2.8 :	-	1.7 :
Total Suspended Solids	mg/L	T		-	8.1 :	-	22.3 :	-	19.4 :
Laboratory Parameters									
pH	SU	T		-	7.5 J	-	7.4 J	-	7.5 J
Specific Conductance	umhos/cm	T		-	312. J	-	376. J	-	375. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	170. :	-	209. :	-	200. :
Hardness	mg/L	D		130. :	-	165. :	-	205. :	-

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UFLOUT	UNIQUE 1	UNIQUE 1	UNIQUE 2	UNIQUE 2	UNIQUE 3
			Sample Date	9/25/2003	3/20/2003	3/20/2003	3/23/2003	3/23/2003	3/23/2003
			Sample ID	UFLOUT-D01N-SFW	UNIQUE1-T01N-SFW	UNIQUE1-D01N-SFW	UNIQUE2-T01N-SFW	UNIQUE2-D01N-SFW	UNIQUE3-T01N-SFW
				UFL	Unique	Unique	Unique	Unique	Unique
Metals									
Aluminum	mg/L	T		-	<1.28 :	-	2.38 :	-	2.27 :
Aluminum	mg/L	D		0.0764 :	-	<0.509 :	-	<0.0914 :	-
Antimony	mg/L	T		-	<0.0006 :	-	<0.0006 :	-	<0.0006 :
Antimony	mg/L	D		<0.00014 :	-	<0.0006 :	-	<0.0006 :	-
Arsenic	mg/L	T		-	<0.0004 J	-	<0.00059 :	-	<0.0006 :
Arsenic	mg/L	D		<0.00038 :	-	<0.0004 J	-	<0.00038 :	-
Barium	mg/L	T		-	0.0456 :	-	0.0413 :	-	0.04 :
Barium	mg/L	D		0.0358 :	-	0.0423 :	-	0.0316 :	-
Beryllium	mg/L	T		-	<0.0003 J	-	0.0018 :	-	<0.0015 :
Beryllium	mg/L	D		<0.00047 :	-	<0.0003 J	-	<0.001 :	-
Boron	mg/L	T		-	<0.0084 :	-	<0.0084 :	-	<0.0084 :
Boron	mg/L	D		<0.0048 :	-	<0.0084 :	-	<0.0084 :	-
Cadmium	mg/L	T		-	<0.0005 :	-	0.00086 :	-	0.00066 :
Cadmium	mg/L	D		0.00011 :	-	<0.0005 :	-	0.00072 :	-
Calcium	mg/L	T		-	49.5 :	-	61.2 :	-	58.6 :
Calcium	mg/L	D		39.6 :	-	48.1 :	-	59.8 :	-
Chromium	mg/L	T		-	<0.001 :	-	<0.0015 :	-	<0.0013 :
Chromium	mg/L	D		<0.001 :	-	<0.001 :	-	<0.001 :	-
Cobalt	mg/L	T		-	<0.0038 :	-	<0.0038 :	-	0.004 :
Cobalt	mg/L	D		<0.0011 :	-	<0.0038 :	-	<0.0038 :	-
Copper	mg/L	T		-	0.0124 :	-	0.0243 :	-	0.0224 :
Copper	mg/L	D		<0.0027 :	-	0.0065 :	-	0.0039 :	-
Iron	mg/L	T		-	<0.311 :	-	0.896 :	-	<0.808 :
Iron	mg/L	D		<0.044 :	-	<0.311 :	-	<0.422 :	-
Lead	mg/L	T		-	0.00061 :	-	0.00086 :	-	0.0014 :
Lead	mg/L	D		<0.00004 :	-	<0.0002 :	-	<0.0002 :	-
Magnesium	mg/L	T		-	11.3 :	-	13.8 :	-	13.1 :
Magnesium	mg/L	D		7.52 :	-	11. :	-	13.4 :	-
Manganese	mg/L	T		-	0.148 :	-	0.464 :	-	0.442 :
Manganese	mg/L	D		0.105 :	-	0.135 :	-	0.436 :	-
Mercury	mg/L	T		-	<0.0001 :	-	<0.0001 :	-	<0.0001 :
Mercury	mg/L	D		<0.00006 :	-	<0.0001 :	-	<0.0001 :	-
Molybdenum	mg/L	T		-	<0.0023 :	-	0.0046 :	-	0.0045 :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	UFLOUT 9/25/2003 UFLOUT-D01N-SFW UFL		UNIQUE 1 3/20/2003 UNIQUE1-T01N-SFW Unique		UNIQUE 1 3/20/2003 UNIQUE1-D01N-SFW Unique		UNIQUE 2 3/23/2003 UNIQUE2-T01N-SFW Unique		UNIQUE 2 3/23/2003 UNIQUE2-D01N-SFW Unique		UNIQUE 3 3/23/2003 UNIQUE3-T01N-SFW Unique	
Molybdenum	mg/L	D	<0.0011	:	-		0.0029	:	-		0.004	:	-	
Nickel	mg/L	T	-		0.0198	:	-		0.0258	:	-		0.0241	:
Nickel	mg/L	D	0.0038	:	-		0.0185	:	-		0.0245	:	-	
Potassium	mg/L	T	-		1.59	:	-		1.98	:	-		1.88	:
Potassium	mg/L	D	1.33	:	-		1.6	:	-		1.8	:	-	
Selenium	mg/L	T	-		<0.001	:	-		<0.0028	:	-		<0.0029	:
Selenium	mg/L	D	<0.00073	:	-		<0.0028	J	-		<0.001	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Silver	mg/L	D	<0.0002	:	-		<0.0002	:	-		<0.0002	:	-	
Sodium	mg/L	T	-		6.08	:	-		<15.	:	-		<16.4	:
Sodium	mg/L	D	4.35	:	-		6.06	:	-		<15.7	:	-	
Thallium	mg/L	T	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Thallium	mg/L	D	<0.00001	:	-		<0.0002	:	-		<0.0002	:	-	
Vanadium	mg/L	T	-		0.00038	:	-		0.00035	:	-		0.00045	:
Vanadium	mg/L	D	<0.00054	:	-		<0.0002	:	-		<0.0002	:	-	
Zinc	mg/L	T	-		0.142	:	-		0.219	:	-		0.208	:
Zinc	mg/L	D	0.0259	:	-		0.11	:	-		0.144	:	-	

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UNIQUE 3	UNIQUE 3	UNIQUE 3	UNIQUE 4	UNIQUE 4	UNIQUE 5
			Sample Date	3/23/2003	9/26/2003	9/26/2003	9/26/2003	9/26/2003	9/26/2003
			Sample ID	UNIQUE3-D01N-SFW	UNIQUE3-T01N-SFW	UNIQUE3-D01N-SFW	UNIQUE4-T01N-SFW	UNIQUE4-D01N-SFW	UNIQUE5-T01N-SFW
			Exposure Area	Unique	Unique	Unique	Unique	Unique	Unique
Field Measurements									
DO	mg/L	T		-	10.17 :	-	9.51 :	-	10.1 :
Eh	millivolts	T		-	206.9 :	-	254.3 :	-	239. :
Flow	cfs	T		-	-	-	2.9 :	-	-
pH	SU	T		-	7.3 J	-	7.5 J	-	7.6 J
Specific Conductance	uS/cm	T		-	366. :	-	292. :	-	290. :
Temperature	Celsius	T		-	7.67 :	-	6.34 :	-	6.19 :
Turbidity	NTU	T		-	19.2 :	-	0. :	-	0. :
General Chemistry									
Ammonia	mg/L	T		-	0.07 :	-	<0.04 :	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		-	57.7 :	-	66.8 :	-	67. :
Biochemical Oxygen Demand	mg/L	T		-	1.4 :	-	<1.4 :	-	<1.4 :
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		-	23.8 :	-	<20. :	-	<20. :
Chloride	mg/L	T		-	3.4 :	-	2.7 :	-	2.6 :
Fluoride	mg/L	T		-	0.78 :	-	0.53 :	-	0.54 :
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	<1. :	-	<1. :
Nitrate	mg/L	T		-	0.39 :	-	0.44 :	-	0.39 :
Nitrite	mg/L	T		-	<0.005 :	-	<0.005 :	-	<0.005 :
Phosphate, Ortho As P	mg/L	T		-	<0.01 :	-	<0.21 :	-	<0.01 :
Phosphorus	mg/L	T		-	0.02 :	-	0.022 :	-	0.052 :
Sulfate	mg/L	T		-	103. J	-	78.1 J	-	73.1 J
Total Alkalinity	mg/L	T		-	57.7 :	-	66.8 :	-	67. :
Total Dissolved Solids	mg/L	T		-	202. :	-	162. :	-	198. :
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		-	1.7 :	-	1.1 :	-	1.6 :
Total Suspended Solids	mg/L	T		-	11. :	-	6.1 :	-	18.3 :
Laboratory Parameters									
pH	SU	T		-	7.3 J	-	7.5 J	-	7.6 J
Specific Conductance	umhos/cm	T		-	331. J	-	259. J	-	263. J
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		-	179. :	-	142. :	-	152. :

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 D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID: UNIQUE 3 Sample Date: 3/23/2003 Sample ID: UNIQUE3-D01N-SFW Unique	Site ID: UNIQUE 3 Sample Date: 9/26/2003 Sample ID: UNIQUE3-T01N-SFW Unique	Site ID: UNIQUE 3 Sample Date: 9/26/2003 Sample ID: UNIQUE3-D01N-SFW Unique	Site ID: UNIQUE 4 Sample Date: 9/26/2003 Sample ID: UNIQUE4-T01N-SFW Unique	Site ID: UNIQUE 4 Sample Date: 9/26/2003 Sample ID: UNIQUE4-D01N-SFW Unique	Site ID: UNIQUE 5 Sample Date: 9/26/2003 Sample ID: UNIQUE5-T01N-SFW Unique
Hardness	mg/L	D	203. :	-	188. :	-	152. :	-
Metals								
Aluminum	mg/L	T	-	1.14 :	-	0.515 :	-	0.966 :
Aluminum	mg/L	D	<0.0764 :	-	0.116 :	-	0.14 :	-
Antimony	mg/L	T	-	<0.00024 :	-	<0.00014 :	-	<0.00026 :
Antimony	mg/L	D	<0.0006 :	-	<0.0002 :	-	<0.0005 :	-
Arsenic	mg/L	T	-	<0.00038 :	-	<0.00038 :	-	<0.00038 :
Arsenic	mg/L	D	<0.00051 :	-	<0.00038 :	-	<0.00038 :	-
Barium	mg/L	T	-	0.0408 :	-	0.0428 :	-	0.0615 :
Barium	mg/L	D	0.0321 :	-	0.0389 :	-	0.0424 :	-
Beryllium	mg/L	T	-	<0.00047 :	-	<0.00047 :	-	<0.00047 :
Beryllium	mg/L	D	<0.001 :	-	<0.00047 :	-	<0.00047 :	-
Boron	mg/L	T	-	0.0062 :	-	0.0052 :	-	0.0066 :
Boron	mg/L	D	<0.0084 :	-	0.007 :	-	0.0074 :	-
Cadmium	mg/L	T	-	0.00056 :	-	0.00036 :	-	0.00043 :
Cadmium	mg/L	D	0.00094 :	-	0.00049 :	-	0.00031 :	-
Calcium	mg/L	T	-	53.4 :	-	42.7 :	-	45.3 :
Calcium	mg/L	D	59.4 :	-	56.3 :	-	45.7 :	-
Chromium	mg/L	T	-	<0.001 :	-	<0.001 :	-	<0.001 :
Chromium	mg/L	D	<0.001 :	-	<0.001 :	-	<0.001 :	-
Cobalt	mg/L	T	-	0.0022 :	-	0.0014 :	-	0.002 :
Cobalt	mg/L	D	<0.0038 :	-	0.0034 :	-	0.0019 :	-
Copper	mg/L	T	-	0.012 :	-	<0.0062 :	-	<0.0094 :
Copper	mg/L	D	0.0044 :	-	<0.0033 :	-	<0.0024 :	-
Iron	mg/L	T	-	0.399 :	-	0.304 :	-	1.34 :
Iron	mg/L	D	<0.422 :	-	<0.044 :	-	<0.044 :	-
Lead	mg/L	T	-	<0.0007 :	-	<0.00061 :	-	0.0036 :
Lead	mg/L	D	<0.0002 :	-	<0.00004 :	-	<0.00004 :	-
Magnesium	mg/L	T	-	11. :	-	8.55 :	-	9.38 :
Magnesium	mg/L	D	13.3 :	-	11.6 :	-	9.13 :	-
Manganese	mg/L	T	-	0.266 :	-	0.108 :	-	0.138 :
Manganese	mg/L	D	0.428 :	-	0.272 :	-	0.109 :	-
Mercury	mg/L	T	-	<0.00006 :	-	<0.00006 :	-	<0.00006 :
Mercury	mg/L	D	<0.0001 :	-	<0.00006 :	-	<0.00006 :	-

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	UNIQUE 3 3/23/2003 UNIQUE3-D01N-SFW Unique		UNIQUE 3 9/26/2003 UNIQUE3-T01N-SFW Unique		UNIQUE 3 9/26/2003 UNIQUE3-D01N-SFW Unique		UNIQUE 4 9/26/2003 UNIQUE4-T01N-SFW Unique		UNIQUE 4 9/26/2003 UNIQUE4-D01N-SFW Unique		UNIQUE 5 9/26/2003 UNIQUE5-T01N-SFW Unique	
Molybdenum	mg/L	T	-		0.0037	:	-		<0.0026	:	-		<0.0022	:
Molybdenum	mg/L	D	0.0035	:	-		0.0037	:	-		0.0025	:	-	
Nickel	mg/L	T	-		0.0164	:	-		0.0138	:	-		0.0152	:
Nickel	mg/L	D	0.0223	:	-		0.0157	:	-		0.013	:	-	
Potassium	mg/L	T	-		1.56	:	-		1.4	:	-		1.68	:
Potassium	mg/L	D	1.76	:	-		1.58	:	-		1.42	:	-	
Selenium	mg/L	T	-		<0.00073	:	-		<0.00073	:	-		<0.00073	:
Selenium	mg/L	D	<0.0028	:	-		<0.00073	:	-		<0.00073	:	-	
Silver	mg/L	T	-		<0.0002	:	-		<0.0002	:	-		<0.0002	:
Silver	mg/L	D	<0.0002	:	-		<0.0002	:	-		<0.0002	:	-	
Sodium	mg/L	T	-		6.06	:	-		4.69	:	-		4.54	:
Sodium	mg/L	D	<16.2	:	-		6.49	:	-		4.93	:	-	
Thallium	mg/L	T	-		<0.00001	:	-		<0.00001	:	-		<0.00001	:
Thallium	mg/L	D	<0.0002	:	-		<0.00001	:	-		<0.00001	:	-	
Vanadium	mg/L	T	-		0.00064	:	-		0.00062	:	-		0.001	:
Vanadium	mg/L	D	<0.0002	:	-		<0.0004	:	-		<0.00035	:	-	
Zinc	mg/L	T	-		0.126	:	-		0.0859	:	-		0.114	:
Zinc	mg/L	D	0.146	:	-		0.0949	:	-		0.0786	:	-	

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

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	UNIQUE 5	UNIQUE 6	UNIQUE 6	Upper Cabresto Creek	UPPER CABRESTO CREEK	UPPER CABRESTO CREEK
			Sample Date	9/26/2003	9/26/2003	9/26/2003	3/23/2003	3/23/2003	3/23/2003
			Sample ID	UNIQUE5-D01N-SFW	UNIQUE6-T01N-SFW	UNIQUE6-D01N-SFW	Upper Cabresto Creek-T01N-SFW	UCC-T01N-SFW	UCC-D01N-SFW
			Exposure Area	Unique	Unique	Unique	RUCCR	RUCCR	RUCCR
Field Measurements									
DO	mg/L	T		-	6.87 :	-	-	11.04 :	-
Eh	millivolts	T		-	221. :	-	-	127. :	-
Flow	cfs	T		-	-	-	4.2 :	-	-
pH	SU	T		-	7.5 J	-	-	7.6 J	-
Specific Conductance	uS/cm	T		-	780. :	-	-	181. :	-
Temperature	Celsius	T		-	9.87 :	-	-	1.73 :	-
Turbidity	NTU	T		-	12.1 :	-	-	63.3 :	-
General Chemistry									
Ammonia	mg/L	T		-	<0.04 :	-	-	<0.087 J	-
Bicarbonate (as CaCO3)	mg/L	T		-	123. :	-	-	52.2 :	-
Biochemical Oxygen Demand	mg/L	T		-	1.8 :	-	-	<1.5 J	-
Carbonate (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Chemical Oxygen Demand	mg/L	T		-	<20. :	-	-	<20. :	-
Chloride	mg/L	T		-	6.5 :	-	-	1.2 :	-
Fluoride	mg/L	T		-	0.89 :	-	-	0.35 :	-
Hydroxide (as CaCO3)	mg/L	T		-	<1. :	-	-	<1. :	-
Nitrate	mg/L	T		-	0.2 :	-	-	<0.4 J	-
Nitrite	mg/L	T		-	<0.005 :	-	-	<0.005 J	-
Phosphate, Ortho As P	mg/L	T		-	<0.033 :	-	-	1.7 J	-
Phosphorus	mg/L	T		-	0.061 :	-	-	<0.01 J	-
Sulfate	mg/L	T		-	376. J	-	-	36.5 J	-
Total Alkalinity	mg/L	T		-	123. :	-	-	52.2 :	-
Total Dissolved Solids	mg/L	T		-	682. :	-	-	<128. :	-
Total Kjeldahl Nitrogen	mg/L	T		-	<0.24 :	-	-	<0.24 :	-
Total Organic Carbon	mg/L	T		-	2.8 :	-	-	1.8 :	-
Total Suspended Solids	mg/L	T		-	11.7 :	-	-	<1.4 :	-
Laboratory Parameters									
pH	SU	T		-	7.5 J	-	-	7.6 J	-
Specific Conductance	umhos/cm	T		-	809. J	-	-	163. J	-
Inorganics									
Cyanide	mg/L	T		-	<0.01 :	-	-	<0.01 :	-
Physical Properties									
Hardness	mg/L	T		-	436. :	-	-	81.9 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	UNIQUE 5 9/26/2003 UNIQUE5-D01N-SFW Unique	UNIQUE 6 9/26/2003 UNIQUE6-T01N-SFW Unique	UNIQUE 6 9/26/2003 UNIQUE6-D01N-SFW Unique	Upper Cabresto Creek 3/23/2003 Upper Cabresto Creek-T01N-SFW RUCCR	UPPER CABRESTO CREEK 3/23/2003 UCC-T01N-SFW RUCCR	UPPER CABRESTO CREEK 3/23/2003 UCC-D01N-SFW RUCCR
Hardness	mg/L	D	138. :	-	448. :	-	-	90.2 :
Metals								
Aluminum	mg/L	T	-	0.222 :	-	-	0.0596 :	-
Aluminum	mg/L	D	0.143 :	-	<0.007 :	-	-	<0.0503 :
Antimony	mg/L	T	-	<0.00039 :	-	-	<0.0018 :	-
Antimony	mg/L	D	<0.00022 :	-	<0.0003 :	-	-	<0.0006 :
Arsenic	mg/L	T	-	<0.00038 :	-	-	0.00025 :	-
Arsenic	mg/L	D	<0.00038 :	-	0.00039 :	-	-	<0.00053 :
Barium	mg/L	T	-	0.0391 :	-	-	0.0153 :	-
Barium	mg/L	D	0.0375 :	-	0.0342 :	-	-	0.016 :
Beryllium	mg/L	T	-	<0.00047 :	-	-	0.00069 :	-
Beryllium	mg/L	D	<0.00047 :	-	<0.00047 :	-	-	<0.0003 :
Boron	mg/L	T	-	0.0226 :	-	-	<0.0084 :	-
Boron	mg/L	D	0.0056 :	-	0.0229 :	-	-	<0.0084 :
Cadmium	mg/L	T	-	0.00019 :	-	-	<0.0005 :	-
Cadmium	mg/L	D	0.00032 :	-	0.00022 :	-	-	<0.0005 :
Calcium	mg/L	T	-	136. :	-	-	25.7 :	-
Calcium	mg/L	D	41.3 :	-	140. :	-	-	28.3 :
Chromium	mg/L	T	-	<0.001 :	-	-	<0.001 :	-
Chromium	mg/L	D	<0.001 :	-	<0.001 :	-	-	<0.001 :
Cobalt	mg/L	T	-	<0.0011 :	-	-	<0.0038 :	-
Cobalt	mg/L	D	0.0024 :	-	0.0014 :	-	-	<0.0038 :
Copper	mg/L	T	-	<0.0024 :	-	-	<0.0015 :	-
Copper	mg/L	D	<0.0025 :	-	<0.0014 :	-	-	<0.0015 :
Iron	mg/L	T	-	0.513 :	-	-	<0.311 :	-
Iron	mg/L	D	<0.0546 :	-	<0.044 :	-	-	<0.311 :
Lead	mg/L	T	-	<0.0015 :	-	-	<0.0002 :	-
Lead	mg/L	D	<0.00004 :	-	<0.00004 :	-	-	<0.0002 :
Magnesium	mg/L	T	-	23.3 :	-	-	4.29 :	-
Magnesium	mg/L	D	8.44 :	-	23.9 :	-	-	4.73 :
Manganese	mg/L	T	-	0.239 :	-	-	<0.01 :	-
Manganese	mg/L	D	0.107 :	-	0.231 :	-	-	<0.01 :
Mercury	mg/L	T	-	<0.00006 :	-	-	<0.0001 :	-
Mercury	mg/L	D	<0.00006 :	-	<0.00006 :	-	-	<0.0001 :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	UNIQUE 5 9/26/2003 UNIQUE5-D01N-SFW Unique T		UNIQUE 6 9/26/2003 UNIQUE6-T01N-SFW Unique T		UNIQUE 6 9/26/2003 UNIQUE6-D01N-SFW Unique D		Upper Cabresto Creek 3/23/2003 Upper Cabresto Creek-T01N-SFW RUCCR T		UPPER CABRESTO CREEK 3/23/2003 UCC-T01N-SFW RUCCR T		UPPER CABRESTO CREEK 3/23/2003 UCC-D01N-SFW RUCCR D	
Molybdenum	mg/L		-		0.385	:	-		-		<0.0023	:	-	
Molybdenum	mg/L		<0.002	:	-		0.394	:	-		-		<0.0023	:
Nickel	mg/L		-		<0.0049	:	-		-		<0.003	:	-	
Nickel	mg/L		0.014	:	-		<0.0045	:	-		-		<0.003	:
Potassium	mg/L		-		2.84	:	-		-		0.715	:	-	
Potassium	mg/L		<1.3	:	-		2.83	:	-		-		1.03	:
Selenium	mg/L		-		<0.00073	:	-		-		<0.0024	:	-	
Selenium	mg/L		<0.00073	:	-		0.00078	:	-		-		<0.001	:
Silver	mg/L		-		<0.0002	:	-		-		<0.0002	:	-	
Silver	mg/L		<0.0002	:	-		<0.0002	:	-		-		<0.0002	:
Sodium	mg/L		-		36.2	:	-		-		<3.52	:	-	
Sodium	mg/L		4.26	:	-		37.2	:	-		-		<3.52	:
Thallium	mg/L		-		<0.00001	:	-		-		<0.0002	:	-	
Thallium	mg/L		<0.00001	:	-		<0.00001	:	-		-		<0.0002	:
Vanadium	mg/L		-		<0.0011	:	-		-		0.0002	:	-	
Vanadium	mg/L		<0.00055	:	-		<0.00083	:	-		-		<0.0002	:
Zinc	mg/L		-		<0.013	:	-		-		<0.0207	:	-	
Zinc	mg/L		0.0767	:	-		<0.013	:	-		-		<0.0203	:

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction											
			UPPER CABRESTO CREEK 7/16/2003 UPPERCABRESTO-T01N-SFW RUCCR		UPPER CABRESTO CREEK 7/16/2003 UPPERCABRESTO-D01N-SFW RUCCR		UPPER CABRESTO CREEK 9/25/2003 UPPERCABRESTO-T01N-SFW RUCCR		UPPER CABRESTO CREEK 9/25/2003 UPPERCABRESTO-D01N-SFW RUCCR		Zwergle 10/7/2002 ZWERGEL-T01N-SFW RURR		Zwergle 10/7/2002 ZWERGEL-D01N-SFW RURR	
Field Measurements													
DO	mg/L	T	8.15	:	-		9.42	:	-		8.81	:	-	
Eh	millivolts	T	498.	:	-		328.6	:	-		335.6	:	-	
Flow	cfs	T	5.6	:	-		5.9	:	-		5.98	:	-	
pH	SU	T	7.7	J	-		8.	J	-		7.14	:	-	
Specific Conductance	uS/cm	T	147.	:	-		168.	:	-		212.	:	-	
Temperature	Celsius	T	14.43	:	-		8.12	:	-		10.42	:	-	
Turbidity	NTU	T	3.	:	-		5.7	:	-		9.	:	-	
General Chemistry													
Ammonia	mg/L	T	<0.04	J	-		<0.04	:	-		<0.04	:	-	
Bicarbonate (as CaCO3)	mg/L	T	46.2	J	-		52.	:	-		88.9	:	-	
Biochemical Oxygen Demand	mg/L	T	<1.5	J	-		<1.4	J	-		<1.3	J	-	
Carbonate (as CaCO3)	mg/L	T	<1.	J	-		<1.	:	-		2.1	:	-	
Chemical Oxygen Demand	mg/L	T	<20.	J	-		<20.	:	-		<20.	:	-	
Chloride	mg/L	T	<0.57	:	-		<0.53	:	-		1.3	:	-	
Fluoride	mg/L	T	<0.32	J	-		0.3	:	-		<0.21	:	-	
Hydroxide (as CaCO3)	mg/L	T	<1.	J	-		<1.	:	-		<1.	:	-	
Nitrate	mg/L	T	<0.4	J	-		<0.2	J	-		<0.2	J	-	
Nitrite	mg/L	T	<0.005	J	-		<0.005	J	-		<0.005	J	-	
Phosphate, Ortho As P	mg/L	T	<0.01	J	-		<0.01	J	-		<0.01	J	-	
Phosphorus	mg/L	T	0.01	:	-		<0.01	:	-		<0.024	:	-	
Sulfate	mg/L	T	33.4	:	-		23.2	J	-		23.3	:	-	
Total Alkalinity	mg/L	T	46.2	J	-		52.	:	-		91.	:	-	
Total Dissolved Solids	mg/L	T	<90.	:	-		80.	:	-		127.	:	-	
Total Kjeldahl Nitrogen	mg/L	T	<0.24	J	-		<0.24	:	-		<0.24	:	-	
Total Organic Carbon	mg/L	T	2.8	:	-		<1.	:	-		1.2	:	-	
Total Suspended Solids	mg/L	T	1.8	:	-		2.4	:	-		<1.2	:	-	
Laboratory Parameters													
pH	SU	T	7.7	J	-		8.	J	-		7.14	:	-	
Specific Conductance	umhos/cm	T	125.	J	-		135.	J	-		-		-	
Inorganics													
Cyanide	mg/L	T	<0.01	:	-		<0.01	:	-		<0.01	J	-	
Physical Properties													
Hardness	mg/L	T	64.6	:	-		73.2	:	-		115.	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	UPPER CABRESTO CREEK 7/16/2003 UPPERCABRESTO-T01N-SFW RUCCR		UPPER CABRESTO CREEK 7/16/2003 UPPERCABRESTO-D01N-SFW RUCCR		UPPER CABRESTO CREEK 9/25/2003 UPPERCABRESTO-T01N-SFW RUCCR		UPPER CABRESTO CREEK 9/25/2003 UPPERCABRESTO-D01N-SFW RUCCR		Zwergle 10/7/2002 ZWERGEL-T01N-SFW RURR		Zwergle 10/7/2002 ZWERGEL-D01N-SFW RURR	
Hardness	mg/L	D	-		61.5	:	-		69.1	:	-		115.	:
Metals														
Aluminum	mg/L	T	0.0296	:	-		0.0558	:	-		<0.0113	:	-	
Aluminum	mg/L	D	-		<0.0236	:	-		<0.0159	:	-		<0.003	:
Antimony	mg/L	T	<0.0005	:	-		<0.00011	:	-		<0.0002	:	-	
Antimony	mg/L	D	-		<0.0005	:	-		<0.00013	:	-		<0.0002	:
Arsenic	mg/L	T	<0.0002	:	-		<0.00038	:	-		<0.0002	:	-	
Arsenic	mg/L	D	-		<0.0002	:	-		<0.00038	:	-		<0.0002	:
Barium	mg/L	T	0.0322	:	-		0.0143	:	-		0.0356	:	-	
Barium	mg/L	D	-		0.0116	:	-		0.0133	:	-		0.0351	:
Beryllium	mg/L	T	<0.0002	:	-		<0.00047	:	-		<0.0003	:	-	
Beryllium	mg/L	D	-		<0.0002	:	-		<0.00047	:	-		<0.0003	:
Boron	mg/L	T	<0.0048	:	-		<0.0048	:	-		<0.005	:	-	
Boron	mg/L	D	-		<0.0048	:	-		<0.0048	:	-		<0.005	:
Cadmium	mg/L	T	<0.0002	:	-		<0.00008	:	-		<0.0001	:	-	
Cadmium	mg/L	D	-		<0.0002	:	-		<0.00008	:	-		<0.0001	:
Calcium	mg/L	T	20.8	:	-		23.4	:	-		37.3	:	-	
Calcium	mg/L	D	-		19.8	:	-		22.1	:	-		37.2	:
Chromium	mg/L	T	<0.0014	J	-		<0.001	:	-		<0.00045	:	-	
Chromium	mg/L	D	-		<0.0014	J	-		<0.001	:	-		<0.0004	:
Chromium, Hexavalent	mg/L	D	-		-		-		-		<0.01	:	-	
Cobalt	mg/L	T	<0.002	:	-		<0.0011	:	-		<0.0001	:	-	
Cobalt	mg/L	D	-		<0.002	:	-		0.0017	:	-		<0.0001	:
Copper	mg/L	T	<0.0024	:	-		<0.0005	:	-		<0.00075	:	-	
Copper	mg/L	D	-		<0.0024	:	-		<0.00045	:	-		<0.00034	:
Iron	mg/L	T	<0.0333	:	-		0.0557	:	-		<0.0518	:	-	
Iron	mg/L	D	-		<0.0333	:	-		<0.044	:	-		0.0423	:
Lead	mg/L	T	<0.00014	:	-		<0.00016	:	-		<0.0001	:	-	
Lead	mg/L	D	-		<0.0001	:	-		<0.00004	:	-		<0.0001	:
Magnesium	mg/L	T	3.08	:	-		3.59	:	-		5.41	:	-	
Magnesium	mg/L	D	-		2.94	:	-		3.39	:	-		5.4	:
Manganese	mg/L	T	<0.0007	J	-		<0.003	:	-		<0.0035	:	-	
Manganese	mg/L	D	-		<0.0007	J	-		<0.0036	:	-		0.0012	:
Mercury	mg/L	T	<0.0001	:	-		<0.00006	:	-		<0.0001	:	-	

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	UPPER CABRESTO CREEK 7/16/2003 UPPERCABRESTO-T01N-SFW RUCCR	UPPER CABRESTO CREEK 7/16/2003 UPPERCABRESTO-D01N-SFW RUCCR	UPPER CABRESTO CREEK 9/25/2003 UPPERCABRESTO-T01N-SFW RUCCR	UPPER CABRESTO CREEK 9/25/2003 UPPERCABRESTO-D01N-SFW RUCCR	Zwergle 10/7/2002 ZWERGEL-T01N-SFW RURR	Zwergle 10/7/2002 ZWERGEL-D01N-SFW RURR
Mercury	mg/L	D	-	<0.0001 :	-	0.00007 :	-	<0.0001 :
Molybdenum	mg/L	T	0.0022 :	-	<0.00073 :	-	0.00087 :	-
Molybdenum	mg/L	D	-	<0.0017 :	-	<0.00078 :	-	0.00096 :
Nickel	mg/L	T	<0.0021 J	-	<0.00096 :	-	<0.0002 :	-
Nickel	mg/L	D	-	<0.0021 J	-	<0.001 :	-	<0.0002 :
Potassium	mg/L	T	0.819 :	-	<0.952 :	-	0.841 :	-
Potassium	mg/L	D	-	0.759 :	-	<0.896 J	-	0.852 :
Selenium	mg/L	T	<0.0008 :	-	<0.00073 :	-	<0.0002 :	-
Selenium	mg/L	D	-	<0.0008 :	-	<0.00073 J	-	0.00024 :
Silver	mg/L	T	<0.0001 J	-	<0.0002 :	-	<0.0001 :	-
Silver	mg/L	D	-	<0.0001 J	-	<0.0002 :	-	<0.0001 :
Sodium	mg/L	T	3.28 :	-	3.53 :	-	2.72 :	-
Sodium	mg/L	D	-	3.24 :	-	3.43 :	-	3.1 :
Thallium	mg/L	T	<0.0001 :	-	<0.00001 :	-	<0.0001 :	-
Thallium	mg/L	D	-	<0.0001 :	-	<0.00001 :	-	<0.0001 :
Vanadium	mg/L	T	0.0003 :	-	0.0005 :	-	0.00036 :	-
Vanadium	mg/L	D	-	0.0003 :	-	<0.00052 :	-	0.00029 :
Zinc	mg/L	T	<0.0031 :	-	<0.013 :	-	<0.0021 J	-
Zinc	mg/L	D	-	<0.0037 :	-	<0.013 :	-	<0.0021 J
Volatile Organics								
1,1,1-Trichloroethane	mg/L	T	-	-	-	-	<0.01 :	-
1,1,2,2-Tetrachloroethane	mg/L	T	-	-	-	-	<0.01 :	-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/L	T	-	-	-	-	<0.01 :	-
1,1,2-Trichloroethane	mg/L	T	-	-	-	-	<0.01 :	-
1,1-Dichloroethane	mg/L	T	-	-	-	-	<0.01 :	-
1,1-Dichloroethene	mg/L	T	-	-	-	-	<0.01 :	-
1,2,4-Trichlorobenzene	mg/L	T	-	-	-	-	<0.01 :	-
1,2-Dibromo-3-chloropropane	mg/L	T	-	-	-	-	<0.01 :	-
1,2-Dichlorobenzene	mg/L	T	-	-	-	-	<0.01 :	-
1,2-Dichloroethane	mg/L	T	-	-	-	-	<0.01 :	-
1,2-Dichloroethene (total)	mg/L	T	-	-	-	-	<0.01 :	-
1,2-Dichloropropane	mg/L	T	-	-	-	-	<0.01 :	-
1,3-Dichlorobenzene	mg/L	T	-	-	-	-	<0.01 :	-
1,4-Dichlorobenzene	mg/L	T	-	-	-	-	<0.01 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction							
		Site ID	UPPER CABRESTO CREEK	UPPER CABRESTO CREEK	UPPER CABRESTO CREEK	UPPER CABRESTO CREEK	Zwergle	Zwergle	
		Sample Date	7/16/2003	7/16/2003	9/25/2003	9/25/2003	10/7/2002	10/7/2002	
		Sample ID	UPPERCABRESTO-T01N-SFW	UPPERCABRESTO-D01N-SFW	UPPERCABRESTO-T01N-SFW	UPPERCABRESTO-D01N-SFW	ZWERGEL-T01N-SFW	ZWERGEL-D01N-SFW	
		Exposure Area	RUCCR	RUCCR	RUCCR	RUCCR	RURR	RURR	
		Fraction							
2-Butanone	mg/L	T	-	-	-	-	<0.01 J	-	
2-Hexanone	mg/L	T	-	-	-	-	<0.01 J	-	
4-Methyl-2-pentanone	mg/L	T	-	-	-	-	<0.01 :	-	
Acetone	mg/L	T	-	-	-	-	<0.01 J	-	
Benzene	mg/L	T	-	-	-	-	<0.01 :	-	
Bromodichloromethane	mg/L	T	-	-	-	-	<0.01 :	-	
Bromoform	mg/L	T	-	-	-	-	<0.01 :	-	
Bromomethane	mg/L	T	-	-	-	-	<0.01 :	-	
Carbon disulfide	mg/L	T	-	-	-	-	0.001 J	-	
Carbon tetrachloride	mg/L	T	-	-	-	-	<0.01 :	-	
Chlorobenzene	mg/L	T	-	-	-	-	<0.01 :	-	
Chloroethane	mg/L	T	-	-	-	-	<0.01 :	-	
Chloroform	mg/L	T	-	-	-	-	<0.01 :	-	
Chloromethane	mg/L	T	-	-	-	-	<0.01 :	-	
cis-1,2-Dichloroethene	mg/L	T	-	-	-	-	<0.01 :	-	
cis-1,3-Dichloropropene	mg/L	T	-	-	-	-	<0.01 :	-	
Dibromochloromethane	mg/L	T	-	-	-	-	<0.01 :	-	
Dichlorodifluoromethane	mg/L	T	-	-	-	-	<0.01 :	-	
Ethylbenzene	mg/L	T	-	-	-	-	<0.01 :	-	
Methylene chloride	mg/L	T	-	-	-	-	<0.01 :	-	
Styrene	mg/L	T	-	-	-	-	<0.01 :	-	
Tetrachloroethene	mg/L	T	-	-	-	-	<0.01 :	-	
Toluene	mg/L	T	-	-	-	-	<0.01 :	-	
Total Xylene	mg/L	T	-	-	-	-	<0.01 :	-	
trans-1,2-Dichloroethene	mg/L	T	-	-	-	-	<0.01 :	-	
trans-1,3-Dichloropropene	mg/L	T	-	-	-	-	<0.01 :	-	
Trichloroethene	mg/L	T	-	-	-	-	<0.01 :	-	
Trichlorofluoromethane	mg/L	T	-	-	-	-	<0.01 :	-	
Vinyl chloride	mg/L	T	-	-	-	-	<0.01 :	-	
Semi-Volatile Organics									
1,1`-Biphenyl	mg/L	T	-	-	-	-	<0.01 :	-	
2,4,5-Trichlorophenol	mg/L	T	-	-	-	-	<0.026 :	-	
2,4,6-Trichlorophenol	mg/L	T	-	-	-	-	<0.01 :	-	
2,4-Dichlorophenol	mg/L	T	-	-	-	-	<0.01 :	-	

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T = Total Fraction D = Dissolved Fraction

Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	UPPER CABRESTO CREEK 7/16/2003 UPPERCABRESTO-T01N-SFW RUCCR	UPPER CABRESTO CREEK 7/16/2003 UPPERCABRESTO-D01N-SFW RUCCR	UPPER CABRESTO CREEK 9/25/2003 UPPERCABRESTO-T01N-SFW RUCCR	UPPER CABRESTO CREEK 9/25/2003 UPPERCABRESTO-D01N-SFW RUCCR	Zwergle 10/7/2002 ZWERGEL-T01N-SFW RURR	Zwergle 10/7/2002 ZWERGEL-D01N-SFW RURR
2,4-Dimethylphenol	mg/L	T	-	-	-	-	<0.01 :	-
2,4-Dinitrophenol	mg/L	T	-	-	-	-	<0.026 :	-
2,4-Dinitrotoluene	mg/L	T	-	-	-	-	<0.01 :	-
2,6-Dinitrotoluene	mg/L	T	-	-	-	-	<0.01 :	-
2-Chloronaphthalene	mg/L	T	-	-	-	-	<0.01 :	-
2-Chlorophenol	mg/L	T	-	-	-	-	<0.01 :	-
2-Methylnaphthalene	mg/L	T	-	-	-	-	<0.01 :	-
2-Methylphenol	mg/L	T	-	-	-	-	<0.01 :	-
2-Nitroaniline	mg/L	T	-	-	-	-	<0.026 :	-
2-Nitrophenol	mg/L	T	-	-	-	-	<0.01 :	-
3,3-Dichlorobenzidine	mg/L	T	-	-	-	-	<0.01 :	-
3-Nitroaniline	mg/L	T	-	-	-	-	<0.026 :	-
4,6-Dinitro-2-methylphenol	mg/L	T	-	-	-	-	<0.026 :	-
4-Bromophenyl phenyl ether	mg/L	T	-	-	-	-	<0.01 :	-
4-Chloro-3-methylphenol	mg/L	T	-	-	-	-	<0.01 :	-
4-Chloroaniline	mg/L	T	-	-	-	-	<0.01 :	-
4-Chlorophenyl phenyl ether	mg/L	T	-	-	-	-	<0.01 :	-
4-Methylphenol	mg/L	T	-	-	-	-	<0.01 :	-
4-Nitroaniline	mg/L	T	-	-	-	-	<0.026 J	-
4-Nitrophenol	mg/L	T	-	-	-	-	<0.026 :	-
Acenaphthene	mg/L	T	-	-	-	-	<0.01 :	-
Acenaphthylene	mg/L	T	-	-	-	-	<0.01 :	-
Anthracene	mg/L	T	-	-	-	-	<0.01 :	-
Benzaldehyde	mg/L	T	-	-	-	-	<0.01 J	-
Benzo(a)anthracene	mg/L	T	-	-	-	-	<0.01 :	-
Benzo(a)pyrene	mg/L	T	-	-	-	-	<0.01 :	-
Benzo(b)fluoranthene	mg/L	T	-	-	-	-	<0.01 :	-
Benzo(g,h,i)perylene	mg/L	T	-	-	-	-	<0.01 :	-
Benzo(k)fluoranthene	mg/L	T	-	-	-	-	<0.01 :	-
Bis(2-chloroethoxy)methane	mg/L	T	-	-	-	-	<0.01 :	-
Bis(2-chloroethyl)ether	mg/L	T	-	-	-	-	<0.01 :	-
Bis(2-ethylhexyl)phthalate	mg/L	T	-	-	-	-	<0.01 J	-
Butyl benzyl phthalate	mg/L	T	-	-	-	-	<0.01 :	-
Carbazole	mg/L	T	-	-	-	-	<0.01 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction						
		Site ID	UPPER CABRESTO CREEK	UPPER CABRESTO CREEK	UPPER CABRESTO CREEK	UPPER CABRESTO CREEK	Zwergle	Zwergle
		Sample Date	7/16/2003	7/16/2003	9/25/2003	9/25/2003	10/7/2002	10/7/2002
		Sample ID	UPPERCABRESTO-T01N-SFW	UPPERCABRESTO-D01N-SFW	UPPERCABRESTO-T01N-SFW	UPPERCABRESTO-D01N-SFW	ZWERGEL-T01N-SFW	ZWERGEL-D01N-SFW
		Exposure Area	RUCCR	RUCCR	RUCCR	RUCCR	RURR	RURR
Chrysene	mg/L	T	-	-	-	-	<0.01 :	-
Dibenz(a,h)anthracene	mg/L	T	-	-	-	-	<0.01 :	-
Dibenzofuran	mg/L	T	-	-	-	-	<0.01 :	-
Dichlorodiisopropyl ether	mg/L	T	-	-	-	-	<0.01 :	-
Diethylphthalate	mg/L	T	-	-	-	-	<0.01 :	-
Dimethylphthalate	mg/L	T	-	-	-	-	<0.01 :	-
Di-n-Butyl phthalate	mg/L	T	-	-	-	-	<0.01 :	-
Di-n-Octyl phthalate	mg/L	T	-	-	-	-	<0.01 :	-
Fluoranthene	mg/L	T	-	-	-	-	<0.01 :	-
Fluorene	mg/L	T	-	-	-	-	<0.01 :	-
Hexachlorobenzene	mg/L	T	-	-	-	-	<0.01 :	-
Hexachlorobutadiene	mg/L	T	-	-	-	-	<0.01 :	-
Hexachlorocyclopentadiene	mg/L	T	-	-	-	-	<0.01 :	-
Hexachloroethane	mg/L	T	-	-	-	-	<0.01 :	-
Indeno(1,2,3-cd)pyrene	mg/L	T	-	-	-	-	<0.01 :	-
Isophorone	mg/L	T	-	-	-	-	<0.01 :	-
Naphthalene	mg/L	T	-	-	-	-	<0.01 :	-
Nitrobenzene	mg/L	T	-	-	-	-	<0.01 :	-
N-Nitrosodi-n-propylamine	mg/L	T	-	-	-	-	<0.01 :	-
N-Nitrosodiphenylamine	mg/L	T	-	-	-	-	<0.01 :	-
Pentachlorophenol	mg/L	T	-	-	-	-	<0.026 :	-
Phenanthrene	mg/L	T	-	-	-	-	<0.01 :	-
Phenol	mg/L	T	-	-	-	-	<0.01 :	-
Pyrene	mg/L	T	-	-	-	-	<0.01 :	-
Explosives								
2,4,6-Trinitrotoluene	mg/L	T	-	-	-	-	<0.00025 :	-
2,6-Pyridinediamine,	mg/L	T	-	-	-	-	<0.00025 J	-
Cyclotetramethylenetetranitramine	mg/L	T	-	-	-	-	<0.00025 :	-
Cyclotrimethylenetrinitramine	mg/L	T	-	-	-	-	<0.00025 :	-
Pentaerythritol tetranitrate	mg/L	T	-	-	-	-	<0.01 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Zwergle	Zwergle	ZWERGLE	Zwergle	Zwergle	ZWERGLE
			Sample Date	3/23/2003	3/23/2003	7/16/2003	7/16/2003	7/16/2003	9/25/2003
			Sample ID	ZWERGEL-T01N-SFW	ZWERGEL-D01N-SFW	ZWERGLE-T01N-SFW	ZWERGEL-T01N-SFW	ZWERGEL-D01N-SFW	ZWERGEL-T01N-SFW
				RURR	RURR	RURR	RURR	RURR	RURR
Field Measurements									
DO	mg/L	T		11.57 :	-	8.97 :	-	-	9.89 :
Eh	millivolts	T		186.8 :	-	102.1 :	-	-	200.8 :
Flow	cfs	T		4.7 :	-	12.3 :	-	-	12.1 :
pH	SU	T		7.7 J	-	8.67 :	8.2 J	-	8.2 J
Specific Conductance	uS/cm	T		227. :	-	170. :	-	-	205. :
Temperature	Celsius	T		0.56 :	-	12.03 :	-	-	8.32 :
Turbidity	NTU	T		36.7 :	-	0. :	-	-	8.3 :
General Chemistry									
Ammonia	mg/L	T		<0.09 J	-	-	<0.04 :	-	<0.04 :
Bicarbonate (as CaCO3)	mg/L	T		96.4 :	-	-	75. :	-	83.5 :
Biochemical Oxygen Demand	mg/L	T		<1.5 J	-	-	<1.5 J	-	<1.4 J
Carbonate (as CaCO3)	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Chemical Oxygen Demand	mg/L	T		<20. :	-	-	<20. :	-	<20. :
Chloride	mg/L	T		3.3 :	-	-	<1. :	-	1.2 :
Fluoride	mg/L	T		<0.1 :	-	-	<0.1 J	-	<0.1 :
Hydroxide (as CaCO3)	mg/L	T		<1. :	-	-	<1. :	-	<1. :
Nitrate	mg/L	T		<0.4 J	-	-	<1. J	-	0.29 J
Nitrite	mg/L	T		<0.005 J	-	-	<0.005 :	-	<0.005 J
Phosphate, Ortho As P	mg/L	T		0.073 J	-	-	<0.01 :	-	<0.01 :
Phosphorus	mg/L	T		<0.025 :	-	-	<0.01 :	-	<0.01 :
Sulfate	mg/L	T		12.7 :	-	-	19.1 :	-	21.6 J
Total Alkalinity	mg/L	T		96.4 :	-	-	75. :	-	83.5 :
Total Dissolved Solids	mg/L	T		<106. J	-	-	104. :	-	90. J
Total Kjeldahl Nitrogen	mg/L	T		<0.24 J	-	-	<0.24 :	-	<0.24 :
Total Organic Carbon	mg/L	T		<1. J	-	-	1.8 :	-	1.3 :
Total Suspended Solids	mg/L	T		3.4 :	-	-	<1.5 :	-	1. :
Laboratory Parameters									
pH	SU	T		7.7 J	-	8.67 :	8.2 J	-	8.2 J
Specific Conductance	umhos/cm	T		181. J	-	-	164. J	-	181. J
Inorganics									
Cyanide	mg/L	T		<0.01 :	-	-	<0.01 :	-	<0.01 :
Physical Properties									
Hardness	mg/L	T		117. :	-	-	90.9 :	-	103. :

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID	Zwergle	Zwergle	ZWERGLE	Zwergle	Zwergle	ZWERGLE
			Sample Date	3/23/2003	3/23/2003	7/16/2003	7/16/2003	7/16/2003	9/25/2003
			Sample ID	ZWERGEL-T01N-SF W RURR	ZWERGEL-D01N-SF W RURR	ZWERGLE-T01N-SF W RURR	ZWERGEL-T01N-SF W RURR	ZWERGEL-D01N-SF W RURR	ZWERGEL-T01N-SF W RURR
Hardness	mg/L	D		-	119. :	-	-	85.9 :	-
Metals									
Aluminum	mg/L	T		0.113 :	-	-	<0.0667 :	-	0.0383 :
Aluminum	mg/L	D		-	<0.0503 :	-	-	<0.0236 :	-
Antimony	mg/L	T		<0.0006 :	-	-	<0.0005 :	-	<0.00011 :
Antimony	mg/L	D		-	<0.0006 :	-	-	<0.0005 :	-
Arsenic	mg/L	T		<0.00036 :	-	-	<0.0002 :	-	<0.00038 :
Arsenic	mg/L	D		-	<0.0004 :	-	-	<0.0002 :	-
Barium	mg/L	T		0.0539 :	-	-	0.0276 :	-	0.0325 :
Barium	mg/L	D		-	0.0518 :	-	-	0.0255 :	-
Beryllium	mg/L	T		<0.0003 :	-	-	<0.0002 :	-	<0.00047 :
Beryllium	mg/L	D		-	<0.0003 :	-	-	<0.0002 :	-
Boron	mg/L	T		<0.0084 :	-	-	<0.0048 :	-	<0.0048 :
Boron	mg/L	D		-	<0.0084 :	-	-	<0.0048 :	-
Cadmium	mg/L	T		<0.0005 :	-	-	<0.0002 :	-	<0.00008 :
Cadmium	mg/L	D		-	<0.00052 :	-	-	<0.0002 :	-
Calcium	mg/L	T		36.7 :	-	-	29.8 :	-	33.7 :
Calcium	mg/L	D		-	37.5 :	-	-	28.2 :	-
Chromium	mg/L	T		<0.0014 :	-	-	<0.0014 :	-	<0.001 :
Chromium	mg/L	D		-	<0.001 :	-	-	<0.0014 :	-
Cobalt	mg/L	T		<0.0038 :	-	-	<0.002 :	-	<0.0011 :
Cobalt	mg/L	D		-	<0.0038 :	-	-	<0.002 :	-
Copper	mg/L	T		<0.0034 :	-	-	<0.0024 :	-	<0.00064 :
Copper	mg/L	D		-	<0.0041 :	-	-	<0.0024 :	-
Iron	mg/L	T		<0.422 :	-	-	0.0827 :	-	<0.044 :
Iron	mg/L	D		-	<0.422 :	-	-	0.0389 :	-
Lead	mg/L	T		<0.0002 :	-	-	<0.0001 :	-	<0.00006 :
Lead	mg/L	D		-	<0.0002 :	-	-	<0.0001 :	-
Magnesium	mg/L	T		6.04 :	-	-	4.01 :	-	4.61 :
Magnesium	mg/L	D		-	6.03 :	-	-	3.78 :	-
Manganese	mg/L	T		<0.013 :	-	-	0.0078 :	-	<0.0035 :
Manganese	mg/L	D		-	<0.013 :	-	-	0.0036 :	-
Mercury	mg/L	T		<0.0001 :	-	-	<0.0002 :	-	<0.00006 :
Mercury	mg/L	D		-	<0.0001 :	-	-	<0.00021 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Site ID / Sample Date / Sample ID / Exposure Area / Fraction	Zwergle 3/23/2003 ZWERGEL-T01N-SF W RURR	Zwergle 3/23/2003 ZWERGEL-D01N-SF W RURR	ZWERGLE 7/16/2003 ZWERGLE-T01N-SF W RURR	Zwergle 7/16/2003 ZWERGEL-T01N-SF W RURR	Zwergle 7/16/2003 ZWERGEL-D01N-SF W RURR	ZWERGLE 9/25/2003 ZWERGEL-T01N-SF W RURR
Molybdenum	mg/L	T	<0.0022 J	-	-	<0.0017 :	-	<0.001 :
Molybdenum	mg/L	D	-	<0.0022 J	-	-	<0.0017 :	-
Nickel	mg/L	T	<0.003 :	-	-	<0.0021 :	-	<0.001 :
Nickel	mg/L	D	-	<0.003 :	-	-	<0.0021 :	-
Potassium	mg/L	T	0.729 :	-	-	0.965 :	-	<0.939 :
Potassium	mg/L	D	-	0.657 :	-	-	0.801 :	-
Selenium	mg/L	T	<0.0014 :	-	-	<0.0008 :	-	<0.00073 :
Selenium	mg/L	D	-	<0.0022 :	-	-	<0.0008 :	-
Silver	mg/L	T	<0.0002 :	-	-	<0.0001 J	-	<0.0002 :
Silver	mg/L	D	-	<0.0002 :	-	-	<0.0001 J	-
Sodium	mg/L	T	<9.16 :	-	-	2.54 :	-	2.42 :
Sodium	mg/L	D	-	<9.16 :	-	-	2.43 :	-
Thallium	mg/L	T	<0.0002 :	-	-	<0.0001 :	-	<0.00001 :
Thallium	mg/L	D	-	<0.0002 :	-	-	<0.0001 :	-
Vanadium	mg/L	T	0.00042 :	-	-	0.00034 :	-	0.00056 :
Vanadium	mg/L	D	-	0.00026 :	-	-	0.00028 :	-
Zinc	mg/L	T	<0.039 :	-	-	<0.0098 :	-	<0.013 :
Zinc	mg/L	D	-	<0.039 :	-	-	<0.0032 :	-

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Appendix A-2
Surface Water
Validated Analytical Results

Parameter	Units	Exposure Area Fraction	Site ID / Sample Date / Sample ID					
			Zwergle / 9/25/2003 / ZWERGEL-D01N-SFW	----	----	----	----	----
			RURR					
Physical Properties								
Hardness	mg/L	D	106. :	-	-	-	-	-
Metals								
Aluminum	mg/L	D	<0.0029 :	-	-	-	-	-
Antimony	mg/L	D	<0.00017 :	-	-	-	-	-
Arsenic	mg/L	D	<0.00038 :	-	-	-	-	-
Barium	mg/L	D	0.0335 :	-	-	-	-	-
Beryllium	mg/L	D	<0.00047 :	-	-	-	-	-
Boron	mg/L	D	<0.0048 :	-	-	-	-	-
Cadmium	mg/L	D	<0.00008 :	-	-	-	-	-
Calcium	mg/L	D	34.8 :	-	-	-	-	-
Chromium	mg/L	D	<0.001 :	-	-	-	-	-
Cobalt	mg/L	D	<0.0011 :	-	-	-	-	-
Copper	mg/L	D	<0.00049 :	-	-	-	-	-
Iron	mg/L	D	<0.044 :	-	-	-	-	-
Lead	mg/L	D	<0.00004 :	-	-	-	-	-
Magnesium	mg/L	D	4.75 :	-	-	-	-	-
Manganese	mg/L	D	<0.0018 :	-	-	-	-	-
Mercury	mg/L	D	<0.00006 :	-	-	-	-	-
Molybdenum	mg/L	D	<0.00096 :	-	-	-	-	-
Nickel	mg/L	D	<0.001 :	-	-	-	-	-
Potassium	mg/L	D	<0.958 :	-	-	-	-	-
Selenium	mg/L	D	<0.00073 :	-	-	-	-	-
Silver	mg/L	D	<0.0002 :	-	-	-	-	-
Sodium	mg/L	D	2.57 :	-	-	-	-	-
Thallium	mg/L	D	<0.00001 :	-	-	-	-	-
Vanadium	mg/L	D	<0.00058 :	-	-	-	-	-
Zinc	mg/L	D	<0.013 :	-	-	-	-	-

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T = Total Fraction D = Dissolved Fraction