NIBLACK EXPLORATION PROJECT

2011 Annual Report

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ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
BMP	best management practice
CBG	CBR Gold Corporation
CBR	Committee Bay Resources Ltd.
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
HTR	Heatherdale Resources Ltd.
LAD	land application/dispersion
MDL	method detection limit
MQO	measurement quality objective
MRL	method reporting limit
MS/MSD	matrix spike/matrix spike duplicate
NAG	non-acid-generating
NC Tool	Natural Conditions Tool
NOAA	National Oceanic and Atmospheric Administration
PAG	potentially acid-generating
PARCC	precision, accuracy, representativeness, completeness, and comparability
Permit	State of Alaska's Waste Management Permit 2006-DB0037
PQL	practical quantification limit
QA/QC	quality assurance and quality control
QAPP	quality assurance project plan
ROS	regression on order statistics
RPD	relative percent difference
SWPPP	stormwater pollution prevention plan
TDS	total dissolved solids
TECS-AK	Technical Environmental Consulting Service

TSS	total suspended solids
UPL	upper prediction limit
USEPA	U.S. Environmental Protection Agency

1 INTRODUCTION

This report is submitted in accordance with annual reporting requirements for the Niblack Exploration Project. The Niblack Exploration Project is a copper-gold- zinc-silver prospect located off Moira Sound on southeastern Prince of Wales Island, approximately 30 miles southwest of the town of Ketchikan (Figure 1-1). Underground development on the Niblack Exploration Project was initiated by Niblack Mining Corporation on September 21, 2007, and was completed on July 12, 2008. The initial phase of underground exploration (drilling) was completed on October 7, 2008 and the second phase of underground drilling was initiated on September 26, 2009. Niblack Mining Corporation was acquired as the principal asset of Abacus Alaska Inc. by Committee Bay Resources Ltd. (CBR) on October 1, 2008, which subsequently underwent a corporate name change to CBR Gold Corporation (CBG). In July 2009, Heatherdale Resources Ltd. (HTR) entered into a joint venture agreement with CBG and the two companies formed the operating entity Niblack Project LLC. HTR announced 100 percent ownership interest in the Niblack Exploration Project in early 2012.

The permits, plans, and approvals reported and referred to herein include the following:

- Alaska Department of Natural Resources Reclamation Plan Approval #J072711
- Alaska Department of Environmental Conservation (ADEC) Waste Management Permit 2006-DB0037 (hereinafter Permit; ADEC 2007)
- Niblack Exploration Project Plans
  - Underground Exploration Plan of Operations (Niblack 2007)
  - Reclamation and Closure Plan (RTR 2007)
  - Stormwater Pollution Prevention Plan (SWPPP; RTR 2006)
  - Water Quality Baseline and Site Monitoring Plan (Knight Piésold 2007b)
  - Quality Assurance Project Plan (QAPP; Integral 2007)
  - Operational Characterization Plan (Knight Piésold 2007a).

2 SUMMARY OF ACTIVITIES

2.1 SURFACE DISTURBANCE

The total surface area cleared or disturbed at the project site is 13.5 acres. This total includes access roads and a historical land camp site constructed prior to 2007, which are not covered under the Niblack Underground Exploration Program permits. Photographs of site facilities are provided in Appendix A.

Surface disturbance is shown on the site-wide as-built maps (Figures 2-1 and 2-2) and includes the following:

- 5,000 ft of access road
- Ditches, culverts, and settling basins for storm water management
- Construction of laydown areas for equipment/supply storage, including a fuel storage facility, magazine sites (currently decommissioned), portal area, shop area (old camp), and a mineralized stockpile identified on the map as the Lookout Stockpile (tarped)
- Sediment ponds, wastewater treatment plant, and land application system
- Barge landing and dock facilities
- Surface drilling landing
- Temporary potentially acid-generating (PAG) waste rock storage site
- Non-acid-generating (NAG) waste rock dump site, access roads, NAG fines stockpile, berms, and run-on diversion ditches
- Topsoil and growth media stockpiles.

Underground development began in September 2007, continued through the early part of 2008, and was completed with the blasting of the final round on July 12, 2008. As a result, the placement of NAG material at construction sites and on the NAG waste dumps was completed shortly thereafter, as was the loading of the temporary PAG waste rock storage facility, the construction of which was completed in spring 2008. The majority of the NAG material removed from the underground development was utilized in the construction of site facilities and thus the NAG waste dumps actually only contain material that was required to construct access roads. Some additional NAG material was placed on the lower NAG road in 2008 and was sorted through a 6-in. grizzly to create a small "fines" stockpile for road maintenance (Figure 2-1).

The temporary PAG waste rock storage site (see Figure 2-1) was constructed on a stable foundation of crushed rock overlain by a 6-in. layer of compacted sand, and lined with 80-mil high-density polyethylene (geo-membrane) between two layers of geotextile fabric. This was

overlain by another 6-in. layer of compacted sand as a service layer. The PAG liner construction deviated slightly from the original specifications within Niblack's waste management permit application in that 6-in. layers of sand were used instead of the 12-in. layers originally specified. However, no significant reduction in membrane integrity was anticipated and none was observed during the placement of the initial lift of PAG material on the liner (see Section 2.2 for quantities of materials).

Construction of the sediment ponds, and piping from the portal to the ponds, was complete prior to commencement of tunneling activity in 2007 (Figure 2-1). The water treatment plant and several of the land application/dispersion (LAD) zones were completed in early 2008. Land application of water from the settling ponds began in October 2007. The water treatment plant was tested for effectiveness in September 2009 and is ready to begin the treatment of mine wastewater should the need arise. To date, chemical water treatment has not been required.

As presented in Table 2-1 of the 2007 Annual Report (Integral 2008a) and Table 2-1 of the 2008 Annual Report (Integral 2009a), from December 2007 through early February 2008 the LAD system emitters froze and approximately 2 million gallons of water was discharged to the historical mine shaft. This was reported to ADEC, as required by the Niblack Exploration Project Waste Management Permit (Section 1.4.5; ADEC 2007). No water has been directed to the historical mine shaft since that time. Land application of wastewater recommenced in February 2008, once the drip emitters had thawed, and continued through 2009. Water balance data for the project in 2011 is included in Table 2-1.

2.2 UNDERGROUND DEVELOPMENT

Underground construction and excavation commenced on September 21, 2007, and was completed on July 12, 2008, with only a temporary interruption of activities for the holidays between December 17, 2007, and January 6, 2008. The total underground development consists of 2,772 linear ft on the main access drift, 372 ft of short cross-cuts and utility bays, and 144 ft for two sumps, one near the portal and the other near the end of the drift (Figure 2-1). A total of 51,700 tons of waste rock (30,900 cubic yards expanded waste volume) was generated from underground development in 2008. The total volume excavated from 2007 through 2008 was approximately 66,150 tons (39,300 cubic yards).

Data from the Muck Segregation Plan (as described in the Niblack Project Operational Characterization Plan [Knight Piésold 2007a]) is included within a master acid base accounting geochemical database. The database is included in the appendices of the 2007, 2008, and 2009 Niblack Annual Reports (Integral 2008a, 2009a, 2010). The database has not changed since the 2007 Annual Report, and therefore it is not repeated here. The Niblack exploration drift totals 3,288 linear ft (main drift plus cross-cuts and sumps) and was constructed with a total of 286 blast rounds. Of this total, 43 rounds constituting 495 linear ft of drifting (approximately 9,960 tons or 5,920 cubic yards) were determined to consist of PAG materials, the majority of which

(26 rounds for 299 linear ft) consists of sulfide mineralization within the Lookout Rhyolite, and related footwall alteration, at the end of the drift. The first four rounds excavated from the Lookout Rhyolite (48 linear ft of the drift representing approximately 965 tons or 574 cubic yards of material) consisted of well-mineralized rock and was set aside for future test work. This material was placed on a lined laydown area between the temporary PAG storage site and the old camp and was covered with 80-mil geo-membrane (sealed) so as to prevent any introduction of surface water onto the pile. Regular checks are conducted around the perimeter of this pile to monitor for any potential leaks; none have been observed to date. The remainder of the PAG material (approximately 8,995 tons or 5,346 cubic yards of material) was placed on the temporary PAG storage site. NAG waste rock, dominated by mafic volcanic rocks and mafic dykes, totaled 2,793 linear ft of the total excavation and represents some 56,200 tons, or 33,400 cubic yards, of material. All NAG waste rock has been used in construction activities, including the laydown areas expansion, the NAG site access roads and berms, the base for the temporary PAG storage facility, and road maintenance.

2.2.1 Water Discharge

Water balance data for the project in 2011 is included in Table 2-1. A total of 92,000,000 gallons of water was discharged to the LAD system in 2011. Daily discharge rates averaged 175 gallons per minute (gpm) and never exceeded the 300 gpm wastewater discharge limit.

During initial underground construction in 2007 and 2008, groundwater flows exceeded pre-project estimates and necessitated grouting to remain below the permitted wastewater discharge limit of 150 gpm. To reduce flows, grout was applied along almost the entire length of the mine drift. The resulting grout curtain has been successful in eliminating significant water seepage into the drift. On August 13, 2008, approval was granted by the State for an increase in the permitted wastewater discharge limit to 250 gpm. An additional increase in the permitted wastewater discharge limit up to 300 gpm was approved by the State on December 31, 2009.

Following the completion of the initial phase of underground development and exploration, the exploration project went into Temporary Closure starting in October 2008. During this time, water was allowed to accumulate in the underground exploration drift. CBG requested, and received, approval from ADEC (Kleespies 2009, pers. comm.) to conduct a dewatering operation to remove water that had accumulated in the underground exploration drift while the project was in Temporary Closure. The dewatering was initiated on August 26, 2009 and completed on September 11, 2009. During this period, approximately 2.4 million gallons of water were removed from the underground exploration drift (Turner 2009, pers. comm.). Additional water quality monitoring was conducted during and after mine dewatering. Water quality results from this monitoring are included in the Third Quarter 2009 Water Quality Monitoring Report (Integral 2009b). Following mine dewatering, several leaking split sets within the drift were sealed to reduce groundwater discharge into the drift.

In early 2010, site staff incorporated several measures to reduce the possibility of freezing conditions or over-saturation preventing proper functioning of the LAD system. System improvements included replacing the existing LAD system emitters, which discharged at a rate of 6 gpm, with higher-volume 12 gpm emitters in approximately 75 percent of the LAD zone areas. Regular alternation of LAD zones was initiated to allow extra time for discharge water and precipitation to percolate through system soils. Additionally, a daily process of system checks has been initiated to monitor LAD system function.

Upline of the LAD system, screen filters were installed to reduce clogging in the LAD emitters. Coil water heaters were also installed to prevent discharge water from freezing in the LAD lines.

2.2.2 Site Temperature and Precipitation

Figure 2-3 presents long-term (1949 – 2011) average temperature and precipitation data for Ketchikan, AK, from the Western Regional Climate Center (http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ak4590). Typical temperatures for the region average 45.6°F and range from 28.5°F to 65.1°F. Total precipitation averages 138 in. annually, and is generally greatest from September through February. Because of the mild temperatures, most precipitation falls as rain, with less than 40 in. of annual snowfall on average. Air temperature and precipitation measured from February 2008 through December 2011 at the Land Camp Weather Station located at the Niblack Project site[1] is presented on Figure 2-4 (upper plot). Precipitation in 2011 totaled 171 in. at the Niblack site and mean daily temperatures in 2011 ranged from 11°F to 67°F (average 44.9°F).

Wintertime minimum temperatures provide information about the potential for freeze-up of the LAD system. Figure 2-4 (lower plot) compares observed daily on-site minimum temperatures to the 20-yr (1991 – 2011) average daily minimum for Ketchikan measured at the National Oceanic and Atmospheric Administration (NOAA) Ketchikan Airport station (http://pajk.arh.noaa.gov/cliMap/akClimate.php). In 2011, the daily minimum temperature fell below freezing on 72 days between the months of November and April. During the 2010/2011 winter season (November through March), daily mean temperatures averaged 35.8°F. This is within the range of temperatures observed in the 2008/2009 winter season (34.8°F) and the 2009/2010 winter season (38.6°F).

[1] Onsite weather station was not available from 9/18/2009 to 2/27/2009 due to instrument malfunction. Daily temperature and precipitation data for the Ketchikan Airport NOAA weather station are shown for this time period.

2.3 EXPLORATION DRILLING

Overall, a total of 235 surface core boreholes and 164 underground core boreholes have been drilled on the Niblack property between 1975 and late 2011. Niblack Project LLC has drilled approximately 152,800 ft in 120 holes (113 underground and 7 surface) since 2009.

2.3.1 Underground Exploration Drilling

Figure 2-5 shows areas of underground drilling from 2007–2011. A total of 19,765 ft of underground exploration drilling was completed during 2008. Six drill holes (4,400 ft) were completed from the Mammoth Drill Station (east cross-cut #1), located approximately 485 ft into the exploration drift, between January 12 and February 13, 2008. An additional 17 drill holes (11,500 ft) were completed from the East Drill Station (east cross-cut #5), located approximately 2,440 ft into the drift, between June 15 and September 15, 2008. Finally, two drill holes (2,300 ft) were completed from the West Drill Station (west cross-cut #2), located approximately 2,370 ft into the drift, between September 15 and October 7, 2008. These drill holes were plugged with "packers" (sections of pipe with ball valves), which proved effective at reducing discharge from the drill holes.

In 2009, underground exploration drilling was conducted between September 26 and December 23. Eight drill holes (8,609.5 ft) were completed during this period: seven from drill station one (DS-1) and one from drill station two (DS-2), which are located 250 ft and 430 ft north of Remuck Station #4 in the exploration drift. These drill holes were plugged with "packers" to prevent discharge from the drill holes and were sealed with grout in 2010.

A 25,000-ft underground diamond drill program was initiated in 2009 and continued into 2010. Two diamond drill rigs were utilized and the intent of the program was to expand and delineate the existing resources, as well as to find new resources in the Lookout Zone area. Underground work has proceeded from drill stations located at approximately 200-ft intervals along the exploration drift. Holes have been drilled in fan patterns designed to cross-cut the mineralization along the apparent strike of the zone. Niblack Project LLC drilled approximately 107,700 ft in 88 holes from the start of drilling in October 2009 through late December 2010. Approximately 90 percent of the holes drilled were plugged with grout in 2010. The remaining holes were grouted in 2011.

Underground drilling continued in 2011, following patterns similar to 2010. Niblack Project LLC completed 25 holes totaling approximately 40,100 ft from January through October 2011.

2.3.2 Surface Drilling

In May and June 2011, a helicopter-supported surface drill rig was added to the Niblack exploration program to test exploration targets in the area of the historic Niblack Mine. The four areas of surface drilling are shown as black circles and lines in Figure 2-6. Seven surface

holes totaling approximately 5,000 ft were drilled. Surface disturbance in 2011 was approximately 0.1 acre, including all drill sites and helicopter landing zones. All areas disturbed during the course of the exploration program were restored as described in Section 2.4.3.

2.4 RECLAMATION

Reclamation in 2011 included both construction reclamation and interim reclamation (as described the Niblack Project Reclamation and Closure Plan [RTR 2007]).

2.4.1 Construction Reclamation

Construction reclamation activities are those activities that occur during and directly after the exploration tunnel and associated facilities are constructed. This phase of reclamation involves the removal and storage of topsoil and growth media from disturbed areas. During construction, vegetation was cleared from the surfaces that were developed, primarily from the PAG and water treatment facility. Topsoil and soil-like growth media were removed where possible and stockpiled for reclamation. Stockpiles are located along the outer edge of access roads and laydown areas (Figure 2-2). Following the construction of the majority of the site facilities and access roads in 2007, there have been only minor construction reclamation activities. This was limited to the completion of the NAG site, which consisted of the felling of trees and construction of access roads, run-on diversion ditches, and berms. Concurrent reclamation of the lower NAG haul road included placement of topsoil along the lower side of the road and berm.

2.4.2 Interim Reclamation

Interim reclamation is defined as temporary measures for reducing the potential for erosion and sedimentation, and other activities required to protect surface water and groundwater resources. Interim reclamation has been undertaken to stabilize road cuts, stockpiles, and other disturbances resulting from construction activities. Interim reclamation measures completed in 2009 included seeding over road cuts, installing and maintaining sedimentation control systems, and employing other best management practices (BMPs) commonly used for construction and exploration projects.

2.4.3 Surface Drilling Reclamation

The majority of surface drilling activity took place on patented claims; nevertheless, these sites were reclaimed according to the standards for State or Federal land. The final location of the season was inside the boundaries of the Tongass National Forest. Drill pad construction began at this station before the end of the 2011 drill season, but no drilling activity occurred. The drill pad was left as-is and in place as Niblack plans to resume surface operations in 2012 at this

location. All areas disturbed during the course of this exploration program were restored to the extent possible, and reasonable measures were taken to prevent and undo unnecessary degradation. Any areas leveled to assist in drill pad construction were rebuilt to approximate topography before drilling operations. Where possible, felled trees were used in pad construction and all trees were bucked, limbed, and laid flat on the ground during reclamation activities.

2.5 WORK PLANNED FOR 2012

Plans for 2012 include work to support the completion of a Preliminary Economic Assessment early in the year, advancement of geotechnical studies, and additional metallurgical test work for a prefeasibility study. Niblack Project LLC will also undertake a surface exploration program that involves drill-testing of priority targets.

3 WATER QUALITY REPORTING

This section summarizes the water quality monitoring conducted in 2011 at the Niblack Exploration Project in accordance with the requirements of the Permit (ADEC 2007). The objectives of this water quality monitoring summary are to provide ADEC with the following:

- A summary of sampling and analysis activities conducted during 2011, including any visual observations of anomalous conditions or any other conditions considered relevant to interpretation of water quality monitoring data
- A summary of data quality reviews completed in accordance with the QAPP (Integral 2007)
- Water quality monitoring work planned for 2012.

3.1 CHANGES TO THE WATER QUALITY MONITORING PROGRAM

Sampling and analysis of groundwater and surface water in 2011 were performed as required by the Permit, with the parameter list, monitoring frequency, and monitoring location changes as approved by Kenwyn George of ADEC (George 2008, pers. comm.). The changes were implemented beginning in the third quarter of 2008 and are described in detail in the 2008 Annual Report (Integral 2009a).

3.1.1 Groundwater and Surface Water Sampling and Analysis

Six sampling events were conducted during 2011 (Table 3-1) at the water quality monitoring sites indicated on Figure 3-1. Samples were collected by field personnel from Technical Environmental Consulting Service (TECS-AK). Regular quarterly monitoring was conducted in January (Q1), April (Q2), July (Q3), and December (Q4) at surface water stations WQ4, WQ6, WQ10, and WQ13, groundwater stations MW1, MW2, MW3, MW4, and settling pond station EFF1. Station EFF1 was also sampled in September and October. During these sampling events, samples were collected at the water quality monitoring sites defined in the Permit and the project QAPP (Integral 2007), as summarized in Table 3-2, with the exception of collection of surface water at the PAG site under the drain, which will be monitored only if a breach in the PAG pile liner should occur (see Note A1, Table 3-2). Table 3-2 summarizes the sample stations and designated purpose (reference, compliance, and information-only) of each station as specified in the water quality monitoring permit; the monitoring stations that were removed from the sampling network beginning in Q3 2008 are marked with a footnote. Table 3-3 presents the analyte monitoring list and sample collection methods. Table 3-4 includes the original complete monitoring list as well as the reduced list of water quality parameters implemented beginning in Q3 2008, and lists the analytical method used for each parameter. Table 3-5 details the monitoring schedule and analyte list for surface water and groundwater

stations sampled from 2007 through 2011. Results of surface and groundwater quality monitoring are presented in Appendix B and are discussed in Section 4.

Field quality assurance and quality control (QA/QC) samples were collected during the regular quarterly sampling events in 2011, as summarized in Table 3-1. The QA/QC samples included a field replicate for the surface water stations and a field replicate for the groundwater stations, and field blanks for all analytes including total and dissolved trace elements. The water quality and field QA/QC samples for the 2011 sampling events were analyzed for the parameters identified in the permit (ADEC 2007), the project QAPP (Integral 2007), and identified in Tables 3-4 and 3-5. An evaluation of field replicate samples is presented in Section 3.2; field replicate results are presented in Appendix C.

3.2 DATA QUALITY EVALUATION

The Niblack Mining Corporation QAPP (Integral 2007) identifies the following two data quality objectives (DQOs) to ensure that data of adequate quantity and quality are generated to support the requirements of the State of Alaska's Waste Management Permit No. 2006-DB0037:

> DQO 1—Surface Water Quality Compliance. The DQO for surface water quality compliance is to ensure that data of sufficient quantity and quality are collected to determine whether concentrations of water quality parameters in designated surface water compliance monitoring locations comply with site-specific natural conditions-based water quality standards. The site-specific standards for surface water will be established by the combined data set from surface water monitoring conducted at pre-project reference locations before exploratory activity and from ongoing monitoring of upstream reference locations.
>
> DQO 2—Wetlands Groundwater Quality Compliance. The DQO for wetlands groundwater quality compliance is to ensure that data of sufficient quality and quantity are collected to determine whether concentrations of water quality parameters in designated wetlands compliance wells conform to site-specific natural conditions-based water quality standards. The site-specific standards will be determined based on pre-construction monitoring of wetlands wells and concurrent monitoring of remote wetlands reference location(s).

Measurement quality objectives (MQOs) evaluate and control the data collection process to ensure that measurement uncertainty is within an acceptable range to meet DQOs. MQOs define the acceptable quality of field and laboratory data for the project, in terms of data quality indicators such as the precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters (USEPA 2002). PARCC parameters are commonly used to assess the quality of environmental data. These parameters, as well as analytical sensitivity (i.e.,

detectability), were used to assess conformance of surface water, groundwater, and effluent data with quality control criteria, as detailed in the following sections.

As specified in the QAPP (Integral 2007), a readiness review was conducted on the entire set of water quality data collected in 2011. This review assures that all data underwent complete quality assurance review and validation and that all qualifiers assigned during validation were entered into the database and verified.

3.2.1 Data Validation and Detectability

As specified in the Niblack Exploration Project QAPP (Integral 2007), a quality assurance review of the laboratory data from chemical analyses of surface water and groundwater samples was conducted for all water quality sampling events conducted in 2011. Laboratory analytical data were validated according to the data validation procedures in the U.S. Environmental Protection Agency (EPA) guidance for inorganic data review (USEPA 2010). Data that did not meet the applicable laboratory or data validation quality control limits were qualified as undetected (assigned a *U* qualifier), estimated (assigned a *J* qualifier), or rejected (assigned an *R* qualifier) during the quality assurance review. The tabulated analytical summary data presented in Appendix B and discussed in Section 3.4, also present the data validation qualifiers assigned to the project data.

Detectability refers to the ability of the analytical method to reliably measure a concentration above background. Two components are used to define detectability: the method detection limit (MDL) and the practical quantification limit (PQL) or method reporting limit (MRL).

- The MDL is the minimum value that the instrument can discern above background, but with no certainty to the accuracy of the measured value. For field measurements, the manufacturer's listed instrument detection limit can be used.
- The PQL or MRL is the minimum value that can be reported with confidence.

Sample data measured below the MDL were reported as nondetect. Sample data measured ≥MDL but ≤PQL or MRL were reported as estimated data (assigned a *J* qualifier). Sample data measured above the PQL or MRL were reported as reliable data unless otherwise qualified per the specific sample analysis. The tabulated analytical summary data presented in Section 5 include the data validation qualifiers assigned to the project data.

Field data were verified during preparation of samples and again during data entry. After field data were entered into the project database, field staff conducted 100 percent verification of the entries to ensure the accuracy and completeness of the database.

3.2.1.1 Zinc Data Qualification

The quality assurance review included assessment of the field blank results, as well as evaluation of natural samples, for each sampling event. Field blanks were collected for each sampling event for all parameters, including total and dissolved trace elements. As indicated in the 2007 and 2008 annual reports (Integral 2008a, 2009a) and the Q1 2008 quarterly report (Integral 2008b), zinc was detected in all field blanks collected from July 2007 through March 2008 at concentrations ranging from 0.64 to 51.9 µg/L. Zinc concentrations were systematically higher in the dissolved fraction than in the total fraction in the field blanks collected over this period. In addition, a systematic positive bias was observed in the dissolved versus total results for natural samples of surface water collected from July 2007 through March 2008 (64 percent). Based on these results, surface water sample collection procedures were modified beginning in Q2 2008 to follow the groundwater protocols (i.e., use of a peristaltic pump and in-line cartridge filters for dissolved samples) in an effort to reduce or eliminate the potential for introducing zinc contamination to dissolved surface water during filtration. For field blank samples collected since Q2 2008, zinc concentrations ranged from 0.2 to 6.23 µg/L. No systematic positive bias was observed in the dissolved versus total field blanks sampled since Q2 2008. The improvements in the field blank results since sampling protocols were adjusted in Q2 2008 suggest that the changes in the surface water sampling protocols reduced zinc contamination during filtration, and therefore will continue to be used for both surface water and groundwater sampling.

Table 3-6 presents the site-specific qualification scheme developed for zinc samples collected since Q1 2008. In Q3 2009, the qualifiers for zinc samples collected in Q1 and Q2 2009 were re-evaluated based on the full set of blank data collected since sample collection methods were changed in Q2 2008. Of the 44 total and dissolved zinc samples collected at permit stations from Q1 and Q2 2009, this adjustment lead to the requalification of nine samples. Of these nine samples, five qualifiers were adjusted from *U*-qualification to *J*-qualification, and four qualifiers were revised from no qualifier to *J*-qualification. For all zinc samples collected since Q1 2009, qualifiers were assigned based on the 95th percentile of the distribution of the field blank concentrations across all sampling events from April 2008 through the sample event of interest. This results in unique zinc qualification action levels for each individual sampling event. For each sample event, results less than or equal to two times the 95th percentile values were qualified as undetected (assigned a *U* qualifier) and results greater than two times the 95th percentile but less than five times the 95th percentile distribution were qualified as estimated (assigned a *J* qualifier). Results greater than five times the 95th percentile distribution were not qualified. Revised qualifiers are included in the water quality results tables in Appendix B.

After additional sampling results become available, the zinc qualification scheme may be revised to reflect the reductions in field blank zinc contamination that have been observed since the revised sampling protocols were implemented in Q2 2008. Any such changes will be documented in the quarterly and annual reports.

3.2.1.2 Precision

Precision reflects the reproducibility between individual measurements of the same property. Surface water and groundwater field replicates were collected to assess the precision of the project results. Field replicate samples were generated using a peristaltic pump to collect water from one location into two separate sets of bottles at approximately the same time; the two sets of bottles were labeled as representing two separate sample locations in order to "blind" the replicate relationship at the analyzing laboratory. Field replicate sample pair results are presented in Appendix C.

The comparability of the field replicate results was assessed by calculating the relative percent difference (RPD) and sample difference (replicate sample – normal sample) of the results, as presented in Table C-1 (surface water) and Table C-2 (groundwater). Table 3-7 summarizes the RPD and sample difference measurements for the entire surface water data set from 2006 to 2011. Table 3-8 presents the same information for all groundwater results. Results for normal/replicate sample pairs were evaluated against a control limit of ±50 RPD, as specified in the Niblack Mining Corporation QAPP (Integral 2007). Greater variability is expected for results near or below the reporting limit because the background signal variations (i.e., "noise") are greater relative to the analyte levels.

As shown on Table 3-7 and Appendix Table C-1, since surface water monitoring began in 2006 the control limit (RPD = ±50) was exceeded for the total dissolved solids (TDS) in four sampling events (November 2007, May 2008, August 2010, and December 2010), hardness in one sampling event (April 2011), alkalinity in one sampling event (May 2009), nitrate + nitrite in one sampling event (December 2007), dissolved aluminum in one sampling event (January 2011), and dissolved copper in one sampling event (August 2007). The surface water RPD values were within control limits for all other parameters. For TDS, the variability in samples could be the result of variations in sampling techniques (i.e., movement of peristaltic tube within the water column) and/or sample matrix at the time of collection, or of variations associated with the gravimetrically-based analytical method (SM 2450C). Cases of RPD >50 percent for hardness, alkalinity, nitrate + nitrite, dissolved aluminum, and dissolved copper were isolated incidents with no clear cause.

Fourteen parameters showed normal/replicate pair differences greater than the RPD = ±50 control limit during one or more groundwater sampling events, as summarized in Table 3-8 and presented in Appendix Table C-2. For physical parameters, control limit exceedances were observed for hardness (October, November, December 2007, June 2008, and September 2009), TDS (September 2007, November 2007, April 2008, July 2010, and January 2011), and total suspended solids (TSS) (July 2007, March 2008, and August 2008). For these physical parameters, the variability in samples could be the result of variations in sampling techniques (i.e., movement of peristaltic tube within the water column) and/or sample matrix at the time of collection, or of variations associated with the analytical methods. Alkalinity and chloride exceeded the RPD control limit during July 2011 and October 2008, respectively. Finally,

isolated cases where trace element normal/replicate pairs exceeded control limits were observed for total aluminum, copper, iron, lead, magnesium, nickel, and/or silver, as well as dissolved copper and nickel, during multiple sample events in 2007, 2008, and 2011. Variability between the normal and replicate pairs for total (unfiltered) parameters may be associated with differences in suspended particles collected in the samples and variations in sampling techniques and/or sample matrix at the time of collection.

3.2.1.3 Precision Control Charts

The normal-replicate sample pairs are evaluated through process control charts presented in Appendix C (Figures C-1 through C-17). Figures C-1 through C-17 present a pair of charts for each analyte. Surface water charts are presented at the top of each figure, while groundwater charts are plotted at the bottom. The $\bar{X}$ (Xbar) charts present a time series of the normal-replicate pair mean values, plotted with the data set mean ($\bar{\bar{X}}$) and upper and lower control limits. The mean control limits are based on standard deviations and calculated as:

$$Upper\ Control\ Limit_{\bar{X}} = \bar{\bar{X}} + A_2 R$$
$$Lower\ Control\ Limit_{\bar{X}} = \bar{\bar{X}} - A_2 R$$

where

$\bar{\bar{X}} = \sum \frac{\bar{x}_i}{k}$, where k is the total number of normal-replicate pairs

$\bar{x} = \sum \frac{x_i}{n}$, where n is the number of paired replicates (n = 2 for all cases herein) and x is the normal or replicate sample concentration

$\bar{R} = \sum \frac{r_i}{k}$

$r = |x_{normal} - x_{replicate}|$

$A_2 = 1.88$, a constant based on n

The R (range) charts present a time series of the difference in concentration range of each normal-replicate pair, again plotted with the data set mean range value and upper and lower control limits. The range control limits are based on standard deviations and calculated as:

$$Upper\ Control\ Limit_R = D_4 \bar{R}$$
$$Lower\ Control\ Limit_R = D_3 \bar{R}$$

where

$\bar{R}$ is as defined above

$D_4 = 3.267$, a constant based on n

$D_4 = 0$, a constant based on n

Mean and range values were plotted for only unqualified data; if either the normal or replicate data value was *J*, *U*, *UJ*, or *R* qualified the normal-replicate pair was excluded from both process control charts.[2]

Used together, these plots provide insight into the variability within each normal-replicate sample pair. The R charts show whether sample variability is within statistical control; if so, the $\bar{X}$ charts are examined to determine if the normal-replicate means are within control limits. Variation beyond control limits flags data that should be examined for evidence of systematic sampling and/or analytical errors across time or multiple analytes.

For surface water normal-replicate pairs, the R charts show that variability above the upper control limits was seen frequently in 2007 and early 2008 for multiple parameters, including TDS, chloride, sulfate, and total and dissolved aluminum (Figures C-1 through C-17). These parameters also show multiple instances of normal-replicate pair mean concentrations beyond control limits, as shown on the $\bar{X}$ charts and as is expected based on the variability present in the range values. Similarly, the $\bar{X}$ charts show that normal-replicate pair mean concentrations varied beyond the mean control limits during the 2007 to early 2008 time period for hardness and copper (the range variability was generally within control limits for these two parameters). These results suggest that sample precision improved starting in late 2008. Improvements may be related to the transition to a new laboratory for analytical services beginning in July 2007, as well as to modification of surface water sample collection procedures beginning in Q2 2008 to use of a peristaltic pump and in-line cartridge filters for sample collection. Other analytes show only isolated instances of range and mean values beyond the control limits. Several analytes were not evaluated because of the high frequency of estimated or nondetect data points in the normal-replicate pairs: ammonia, TSS, and dissolved arsenic, cadmium, chromium, lead, and zinc.

For groundwater normal-replicate pairs, the R charts show generally isolated variations beyond the range control limits for most parameters. Most exceedances of range control limits occurred in 2007 and 2008. In particular, five of the twelve groundwater analytes evaluated showed significant normal-replicate variability for the May 2007 sampling event. Suspended solids were elevated in these samples, and varied between the normal and replicate (444 mg/L and 286 mg/L); this suggests that difference in normal and replicate chemical concentrations may be associated with suspended particles for this event. The $\bar{X}$ charts show that normal-replicate pair mean concentrations varied beyond the mean control limits during the 2007 to early 2008 time period for most analytes. As observed for surface water, these results suggest that sample precision improved starting in late 2008. Improvements may be related to the transition to a new laboratory for analytical services beginning in July 2007. Several parameters were not

[2] Dissolved mercury, dissolved selenium, dissolved silver were not evaluated with $\bar{X}$ or R charts because all surface water and groundwater data was qualified as estimated or below detection limits.

evaluated due to the high frequency of estimated or nondetect data points in the normal-replicate pairs: dissolved cadmium, chromium, and zinc.

The precision of the results is acceptable. Sample data were not qualified based solely on the field replicate results.

3.2.1.4 Accuracy

Accuracy (bias) represents the degree to which a measured concentration conforms to a reference value. Matrix spike/matrix spike duplicate (MS/MSD) samples and field blanks were analyzed to assess the data accuracy. The accuracy of the results was assessed by calculating the percent recovery for the MS/MSD samples. MS/MSD results for all analyses conducted by Columbia Analytical Services (Kelso, WA; all sample events since July 24, 2007) are presented in Table 3-9 for surface water and Table 3-10 for groundwater. For surface water, all percent recoveries for MS/MSD samples fell within the quality control limits. For groundwater, cases where the percent recovery was above or below the target acceptance limits are highlighted with bold font in Table 3-10. Out-of-acceptance percent recoveries were observed for isolated analyses of sulfate, aluminum, iron, manganese, and zinc. For each of these cases, the control criteria for matrix spike recoveries are not applicable because the analyte concentrations were significantly higher than the added spike concentrations, preventing accurate evaluation of the spike recovery. Out-of-acceptance percent recoveries were observed for selenium in sample MW2 (January 2011). For this case, the laboratory noted that associated laboratory control spikes were acceptable, and that the matrix spike outlier suggests a potential low bias for the analyte in the particular matrix. Isolated cases of bismuth and tin analyses were also outside of the target acceptance limits. For these cases, the laboratory noted that associated laboratory control spikes were acceptable, and that the matrix spike outlier suggests a potential high bias for the analyte in the particular matrix. Analysis of bismuth and tin is not required by the permit and these results are not included in quarterly or annual reports.

3.2.2 Representativeness

Representativeness is the degree to which data represent a characteristic of an environmental condition. All samples collected in 2011 were collected according to QAPP protocols (Integral 2007); no discrepancies were noted. All samples were properly handled (i.e., proper preservation and shipping temperature) during collection and receipt by the laboratory. For orthophosphate, the 48-hour holding time was exceeded by 119 hours for sample WQ4 (January 2011) and by 140 hours for sample WQ10 (April 2011); these sample results were flagged by the laboratory and qualified as estimated (*J*/*UJ*) during data validation.

3.2.3 Completeness

Data completeness refers to the amount of usable data collected. Percent completeness by parameter group was calculated for surface water and groundwater samples collected since

2006. Tables 3-11 and 3-12 summarize data counts and completeness, by quarter, for surface water and groundwater. No data for 2011 were rejected during data validation and review; completeness for both surface water and groundwater data was 100 percent.

3.2.4 Comparability

Comparability is the qualitative similarity of one data set to another (i.e., the extent to which different data sets can be combined for use). EPA analytical methods were used by the laboratory to analyze all 2011 samples. No discrepancies were noted between methods used by the laboratory and those listed in the QAPP (Integral 2007). Sample results from 2011 are comparable to results from previous sampling events.

3.2.5 Analytical Correctness

As required by the Permit, the measured value of TDS was compared to a calculated TDS value ("$TDS_{calc.}$") as a technique to check the correctness of analyses. $TDS_{calc.}$ was calculated using the following equation, which was adapted from the methods outlined in Standard Method 1030E from the 20th edition of the Standard Methods for the Examination of Water and Wastewater (AWWA 1998).[3]

$$TDS_{calc.} = 0.6 \times (ALK\ as\ CaCO_3) + Na^+ + K^+ + Ca^{2+} + Mg^{2+} + Cl^- + SO_4^{2-} + SiO_3^{2-} + NO_3^- + F^- + FeOOH + Al(OH)_3$$

For comparison, the calculated and measured TDS values are presented in Appendix B in Table B-1 for surface water and Table B-3 for groundwater. The measured TDS concentration is generally expected to be greater than the calculated TDS value because the measured TDS should capture all dissolved analytes, whereas the calculated value includes only those ions indicated in the sum. According to Standard Method 1030E, an acceptable ratio of measured TDS to calculated TDS is:

$$1.0 > \frac{measured\ TDS}{calculated\ TDS} < 1.2$$

[3] To calculate $TDS_{calc.}$, nondetect values were set equal to one-half the detection limit. Whenever available, the dissolved concentration fraction was used in the calculation. The formula was modified from Standard Method 1030E to include the contributions of iron and aluminum, which occur at appreciable concentrations in many water quality samples from the site, to TDS_{calc}. SiO_3^{2-} was calculated from the measured value of elemental silicon (Si) using the conversion factor 2.709, FeOOH was calculated from the measured value of elemental iron (Fe) using the conversion factor 1.59, and $Al(OH)_3$ was calculated from the measured value of elemental aluminum (Al) using the conversion factor 2.89. Also, in many cases, NO_3^- was not analyzed individually, but rather as a sum of the nitrate and nitrite. When only this sum was available, the total nitrate plus nitrate value (as NO_3^-) was used in the TDS calculation. This may provide a slight overestimate in the contribution of nitrate to the calculated TDS value; however, a brief analysis of sample pairs where nitrate and nitrite were analyzed individually showed that, on average, nitrate made up 87 percent of the total summed value.

In 2011, the majority of the calculated ratios (13 out of 19 [68 percent] for surface water and 15 out of 20 [75 percent] for groundwater samples) fell outside this range. This finding is attributed to the generally low measured TDS of surface water and groundwater at the Niblack Exploration Project and the possibility that additional ions may be present in the water that are not accounted for in the calculation.

4 SAMPLING RESULTS SUMMARY

This section summarizes the results of water quality monitoring conducted in 2011 at the Niblack Exploration Project. The objectives of this water quality monitoring summary are to provide ADEC with the following:

- Tabulated results of laboratory analyses and field parameter measurements from the surface water and groundwater quality monitoring sites included in the Permit
- Graphical, time-series presentation of water quality monitoring results for general water quality parameters and constituents required under the Permit, to facilitate trend detection
- Statistical comparison of surface water and groundwater results
- A discussion of any concentrations measured above applicable water quality criteria.

Tabulated surface water quality monitoring results for data collected through 2011 are provided in Table B-1 in Appendix B. Table B-1 includes results for all surface water stations identified in the Permit for the reduced list of monitoring parameters approved by ADEC (George 2008, pers. comm.) and identified in Table 3-4. Surface water method detection limits are provided in Table B-2. A corresponding set of tables for settling pond station EFF1 and groundwater monitoring locations specified under the Permit are also provided in Appendix B (Tables B-3 and B-4).

Surface water and groundwater replicate results and relative percent differences are presented in Appendix C and discussed in Section 3.

4.1 WATER QUALITY COMPLIANCE EVALUATION

ADEC has determined that water quality parameters at the Niblack Exploration Project shall be monitored at locations and frequencies listed in Table B of the Permit for groundwater and Table C of the Permit for surface streams (ADEC 2007). Furthermore, Section 1.13.2 of the Permit requires that site-specific, natural-conditions-based water quality criteria shall be established for a subset of water quality parameters—pH, aluminum (total recoverable), cadmium (dissolved), copper (dissolved), lead (dissolved), nickel (dissolved), silver (dissolved), and zinc (dissolved)—listed in Table E of the Permit.

The compliance evaluation presented in this section includes the following elements:

1. A screening evaluation of compliance samples collected after the initiation of underground exploration against ADEC water quality criteria to identify any trace elements to be evaluated further using visual trend analysis and statistical comparisons.
2. Visual trend analysis using time series graphical plots.

3. Statistical comparisons using the following approaches:
   a. ADEC Natural Conditions method
   b. Alternate population testing methods described in the Niblack QAPP
   c. An upper threshold value screening method using an upper prediction limit (UPL) statistic.
4. An overall assessment of compliance with natural-conditions water quality criteria based on the weight of evidence provided by the tools listed above.

As agreed to by Niblack Project LLC and ADEC on August 13, 2008, the ADEC Concurrent Measurement method is no longer being used as a statistical tool to evaluate compliance with surface water quality standards. The concurrent monitoring approach was excluded because, for some parameters and in some monitoring events, upstream water quality values were higher than the downstream values, making the statistical methods used in concurrent monitoring inapplicable.

4.1.1 Changes to the Water Quality Compliance Evaluation

This report incorporates the following recent updates to ADEC water quality criteria and screening tools:

- The December 2008 update of the Alaska Water Quality Criteria Manual for Toxic And Other Deleterious Organic and Inorganic Substances (ADEC 2008) revised the chronic total aluminum criterion as follows: "Where the pH is greater than or equal to 7.0 and the hardness is greater than or equal to 50 ppm as $CaCO_3$, the chronic aluminum standard will then be equal to the acute aluminum standard, 750 μg/L as total recoverable aluminum." The revised criteria are applied to screening of surface water and groundwater compliance samples.

- ADEC released Version 2 of the Natural Conditions Tool in June 2010. Version 2 is used here and in the 2010 Annual Report (Integral 2011b); Version 1 was used in the 2007, 2008, and 2009 Annual Reports. Key updates in the new version include removing the limitation on the number of observations that can be analyzed, allowing analysis of data collected over two different years (Version 1 required data collection periods to cover a minimum of two consecutive years), removing limitations on the user-defined season of interest, and conversion to Microsoft® Excel 2007. The ADEC user guide (Tetra Tech 2010) for Version 2 provides detailed information on applications and functions of the tool.

4.1.2 Screening against Alaska Department of Environmental Conservation Criteria

To identify a subset of these trace elements that will be evaluated further in this annual monitoring report using statistical comparisons and visual trend analysis, the surface water and groundwater data collected from 2006 to 2011 were screened against ADEC chronic aquatic life criteria (ADEC 2008) for trace elements included in Tables B, C, and E of the Permit.[4,5] Table 4-1 presents a summary of the screening results for all surface water and groundwater data collected from 2006 to 2011.

4.1.2.1 Surface Water

In 2011, concentrations of Permit-regulated trace elements at surface water compliance locations were below ADEC screening criteria in all samples and for all constituents with the following exceptions. During Q1 2011, concentrations at all four surface water compliance monitoring stations (WQ4, WQ6, WQ10, and WQ13) were above the criteria for total aluminum. In addition, during Q3 2011, concentrations at WQ6 and WQ13 were above the criteria for dissolved copper. As shown in Table 4-2, surface water sample concentrations at compliance stations WQ4, WQ6, WQ10, and WQ13 were occasionally higher than the ADEC chronic criterion for total aluminum (87–750 µg/L, total recoverable[6]) and dissolved copper (0.18–5.9 µg/L, hardness-based criteria) in multiple sampling events since mine exploration activities began in September 2007. Since site activity began, land application of wastewater has occurred upgradient of stations WQ4, WQ6, and WQ10. No land application of wastewater has occurred upgradient of Unnamed Creek #2 and the WQ13 monitoring station.

In comparison, pre-activity (prior to September 21, 2007) reference samples at all stations (WQ4, WQ6, WQ7, WQ8, WQ10, WQ12, and WQ13) and post-activity initiation (after September 21, 2007) reference samples collected upstream of site operations (WQ7, WQ8, and WQ12) also exhibited multiple cases where concentrations were higher than the total aluminum and dissolved copper chronic criteria (Table 4-2). Historical surface water quality samples collected prior to 2006 are shown on Table 4-2 for comparison purposes. These samples were collected prior to initiation of exploration activity at the site. Individual, naturally elevated concentrations of dissolved cadmium, lead, mercury, and zinc were observed in these pre-

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[4] Per discussion with ADEC Water Quality Officer James Gendron, dissolved mercury was screened against the human health criterion for consumption of aquatic organisms (0.051 µg/L).

[5] There is no ADEC screening criterion for silver.

[6] The December 2008 update of the Alaska Water Quality Criteria Manual for Toxic And Other Deleterious Organic and Inorganic Substances (ADEC 2008) revised the chronic total aluminum criterion as follows: "Where the pH is greater than or equal to 7.0 and the hardness is greater than or equal to 50 ppm as CaCO3, the chronic aluminum standard will then be equal to the acute aluminum standard, 750 µg/L as total recoverable aluminum." Based on this revised criterion, eight samples at groundwater station MW9 and five samples at settling pond station EFF1 that were categorized as greater than the chronic criteria in previous annual reports now fall below the criteria. No other groundwater or surface water screening results changed as a result of the revised criteria.

exploration samples, which exceeded the chronic aquatic life screening criteria. The rates of concentrations that measured higher than aquatic criteria are consistent for aluminum and copper reference and compliance samples. Specifically, for total aluminum, concentrations in 20 percent of all reference samples, 28 percent of all compliance samples collected from the start of site activity in September 2007 through December 2010, and 26 percent of compliance samples collected in 2011 were higher than the screening levels. For dissolved copper, higher concentrations were observed in 12 percent of reference samples, 12 percent of September 2007 through December 2010 compliance samples, and 11 percent of 2011 compliance samples. The consistency of these results indicates that trace element concentrations higher than chronic aquatic life criteria are related to natural variation and are not the result of exploration activities at the site.

4.1.2.2 Groundwater and Mine Water

In 2011, concentrations of Permit-regulated trace elements at groundwater compliance wells were below ADEC chronic aquatic life screening criteria in all samples and for all constituents except total aluminum. One sample (MW2 in Q4 2011) was also above the screening level for dissolved lead. As shown in Table 4-3, groundwater sample concentrations at compliance wells MW1, MW2, MW3, and MW4 were occasionally higher than the ADEC chronic criteria for total aluminum, dissolved copper, dissolved lead, dissolved mercury, and dissolved zinc in multiple sampling events since mine exploration activities began in September 2007. Since site activity began, land application of wastewater has occurred upgradient of MW2, MW3, and MW4. No land application of wastewater has occurred upgradient of the MW1 area.

As with surface water, multiple naturally elevated concentrations of trace elements were observed in pre-activity reference samples. The rates of concentrations measured higher than aquatic criteria are consistent for both reference and compliance samples. Specifically, for total aluminum, concentrations higher than the screening criteria were measured in 98 percent of all pre-activity reference samples, 100 percent of compliance samples collected from the start of site activity in September 2007 through December 2010, and 94 percent of 2011 compliance samples. For dissolved lead, higher concentrations were measured in 5.7 percent of reference samples, 16 percent of September 2007 through December 2010 compliance samples, and 6.3 percent of 2011 compliance samples. No copper or zinc concentrations were higher than screening levels in 2011. Twenty-eight percent of copper reference samples and 15 percent of all copper compliance samples collected from September 2007 through December 2011 had concentrations higher than the screening levels, while 3 percent of both reference and compliance samples were higher than screening levels for zinc. Cadmium exceedances were observed only in pre-activity reference samples, and only a single mercury exccedance was observed. These results show that trace element concentrations higher than chronic aquatic life criteria in groundwater were prevalent prior to activity at the site, and are not the result of exploration activities.

Settling pond station EFF1 measures the quality of effluent water discharged to the LAD system. Water quality data collected at station EFF1 is used for informational purposes only

and is not considered in compliance review. In Q3 2011, station EFF1 total aluminum, dissolved cadmium, and dissolved copper concentrations were higher than the associated chronic aquatic life screening levels. Locations and dates where EFF1 trace element concentrations were greater than ADEC screening values are presented in Table 4-3. No consistently correlated concentration increases were observed in surface water or groundwater monitoring stations downgradient of the LAD system; this indicates that soil natural attenuation processes and dilution from precipitation and upgradient water sources effectively remove trace elements and decrease concentrations measured in the settling pond water.

4.2 TIME SERIES ANALYSIS AND TREND DETECTION

Figures 4-1 through 4-24 present time series concentration plots for select conventional parameters (Figures 4-1 through 4-8), cations and anions (Figures 4-9 through 4-13), and trace elements (Figures 4-14 through 4-24). These plots present all reference and compliance surface water, groundwater, and effluent samples collected from February 2006 to December 2011, with values below detection limits shown as hollow symbols. A vertical gray line on each plot indicates the initiation of project activities on September 21, 2007. Visual analysis of the time series plots provides important insights to the measured magnitude of water quality parameters, as well as patterns and trends observed both before and after initiation of exploration activity at the site in September 2007.

For surface water trend analysis, upstream reference/downstream compliance station pairs are plotted together. While these pairs represent the best available sampling locations to evaluate potential project influences, systematic biases related to surface and groundwater inflows between station pairs may influence trend analysis and direct comparison of upstream and downstream stations. In particular, physical differences are known to exist between upstream and downstream stations on both Unnamed Creek #1 and Waterfall Creek. On Unnamed Creek #1, upstream station WQ12 exhibits lower flows than downstream station WQ10. Similarly, upstream station WQ8 on Waterfall Creek generally exhibits lower flows than downstream station WQ4, and known small tributaries enter Waterfall Creek between these two stations. No known inflows exist on Camp Creek between upstream station WQ7 and downstream station WQ6, and fairly consistent flows have been observed between these two stations.

Mine water effluent is monitored at station EFF1, located at the settling ponds just above the outlet to the water LAD discharge system (Figure 3-1). As specified in the permit, this station is not a point of compliance, but is monitored to provide general information on site conditions. Effluent monitoring results are presented on Figures 4-1 through 4-24 for comparison to groundwater and surface water data.

4.2.1 Conventionals

Figures 4-1 through 4-8 present time series concentration plots for eight conventional parameters—temperature, conductivity, dissolved oxygen, hardness, pH, TDS, TSS, and turbidity. Surface water and groundwater temperature results show clear and consistent seasonal fluctuations at all monitoring stations (Figure 4-1). Beginning in summer 2009, a general increasing trend is evident for conductivity at downstream surface water stations WQ4, WQ6, WQ10, and WQ13 (Figure 4-2); this increase may be associated with an increase in sulfate (Figure 4-13). Beginning in Q4 2010 and continuing through 2011, conductivity levels decreased from the relatively high surface water values measured in August 2010. In groundwater, conductivity levels increased beginning in April 2010, followed by a subsequent decrease through 2011 at monitoring wells MW1, MW2, MW3. Conductivity has remained higher than pre-activity levels at well MW4. A possible relationship between conductivity and sulfate is not apparent for groundwater. Like temperature, dissolved oxygen (Figure 4-3) shows a seasonal pattern in surface water, with higher values measured in winter and spring, as expected based on the general property of increased oxygen solubility with decreased water temperature. Dissolved oxygen in groundwater shows a gradual increase from Q1 through Q3 2011.

Surface water and groundwater hardness (Figure 4-4) levels generally fall within the range of pre-mining levels at all stations and show no clear or consistent trends, with the exception of groundwater station MW4, which shows gradually increasing hardness from Q1 through Q3 2011. Surface and groundwater pH values are circum-neutral at all stations both before and after the initiation of mining activity (Figure 4-5).

TDS, turbidity, and TSS are different measures of impurities in water. No patterns are evident in the TDS (Figure 4-6) or turbidity (Figure 4-8) data, with surface water and groundwater results covering a similar range of magnitude and variability before and after initiation of mining activities. TSS (Figure 4-7) decreased at monitoring wells MW2 and MW3 in spring 2008 and has remained low since this time. TSS and turbidity measured in effluent at settling pond station EFF1 increased somewhat in Q4 2010 and Q1 2011, but decreased to previous low levels in Q2 and Q3 2011.

None of the conventional parameters measured in surface water and groundwater monitoring stations shows evidence of a substantial or ongoing change in magnitude, trend, or pattern following initiation of mining activity in September 2007. Furthermore, the conventional parameter results measured in 2011 are consistent in magnitude with previous monitoring data.

4.2.2 Cations and Anions

Figures 4-9 through 4-13 present time series concentration plots for alkalinity, ammonia, chloride, nitrate + nitrite as nitrogen, and sulfate. In general, none of these parameters have changed in magnitude, trend, or pattern following initiation of mining activity in September 2007, with the exceptions discussed below.

As shown on Figures 4-9 and 4-10, alkalinity levels at MW4 began a generally increasing trend starting in Q3 2009. A sharp increase in the ammonia concentration to the highest level measured in groundwater wells to date (2.31 mg/L as N) was measured at MW2 in Q4 2011. Chloride (Figure 4-11) results show a slight seasonal pattern at all surface water and groundwater monitoring stations, with higher values measured in winter and spring.

Sulfate measured at downstream surface water stations WQ4, WQ10, and WQ13, and groundwater stations MW1 and MW4, has increased somewhat since initiation of mining activity (Figure 4-13). A sharp increase in sulfate to 9.11 mg/L, the highest value measured in surface water to date, was measured at station WQ13 in Q2 2011. Sulfate levels decreased somewhat at this station in Q3 and Q4 2011, but remain slightly higher than pre-activity levels.

4.2.3 Trace Elements

Figures 4-14 through 4-24 present time series concentration plots for 10 trace elements—aluminum, arsenic, cadmium, copper, lead, mercury, nickel, selenium, silver, and zinc—that are identified for monitoring in surface water and groundwater in Tables B, C, and E of the Permit.

For the five trace elements (aluminum, copper, lead, mercury, and zinc) that exhibited concentrations higher than ADEC screening criteria in surface water or groundwater compliance samples collected since site activity began in September 2007, visual analysis of time series plots provides important insights to the magnitude, patterns, and trends observed both before and after project initiation, and provides context to the results of statistical comparison tests. For total aluminum in surface water (Figure 4-15), concentrations at station WQ4 were elevated compared to upstream measurements at WQ8 in December 2006 and October through February 2008. However, dissolved aluminum concentrations (Figure 4-14) at station WQ4 have remained generally comparable to upstream levels through the entire monitoring period. The relatively high total aluminum measurements at WQ4 are likely associated with natural variability and the capture of solids in the unfiltered water sample and are not expected to be indicative of contamination issues. In July 2009, concentrations of both total and dissolved aluminum were somewhat high relative to previous measurements at all four downstream surface water compliance stations (WQ4, WQ6, WQ10, and WQ13). Concentrations decreased to typical low levels in the subsequent sampling events. As shown in Figures 4-14 and 4-15, Q1 2011 dissolved and total aluminum concentrations in surface water compliance samples at WQ4, WQ10, and WQ13 increased above recent levels. Other than the few exceptions discussed above, total and dissolved aluminum concentrations at all four surface water compliance stations fell close to or within the range of concentrations measured prior to initiation of mining activity. In groundwater, total and dissolved aluminum concentrations measured at compliance wells MW1, MW2, MW3, and MW4 (Figures 4-14 and 4-15) generally show relatively higher concentrations from 2007 through 2008, followed by lower concentrations in 2009 through 2011. Dissolved aluminum in groundwater may show a seasonal pattern of higher concentrations in the warmer summer and fall months.

Dissolved copper concentrations at surface water compliance stations WQ4, WQ6, and WQ10 (Figure 4-18) closely track their respective upstream reference station trends and generally fall well within pre-activity concentration ranges. As observed for aluminum, dissolved copper concentrations were somewhat high relative to previous measurements at all four downstream surface water compliance stations (WQ4, WQ6, WQ10, and WQ13) in July 2009, but decreased to well within pre-activity concentration ranges in the subsequent 2009 through Q2 2011 sampling events. Dissolved copper concentrations increased slightly above recent levels at all four surface water compliance stations in Q3 2011. However, the Q3 2011 dissolved copper concentrations are close to or within the range of concentrations measured prior to initiation of mining activity at all four surface water stations. At groundwater stations, dissolved copper concentrations (Figure 4-18) were relatively high prior to project initiation, but fell to concentrations within or below pre-activity concentration ranges in sampling events from 2008 through 2009. As with dissolved aluminum, a possible seasonal pattern may be evident in the groundwater monitoring data, with dissolved copper concentration peaks observed in summer or early autumn in at all four groundwater compliance stations.

Dissolved lead was rarely detected in surface water compliance stations (Figure 4-19). Review of the time series plots indicates that dissolved lead generally is not present in surface water in elevated concentrations either pre- or post-initiation of the project. In groundwater, dissolved lead (Figure 4-19) concentrations follow similar patterns as observed for dissolved copper. A possible seasonal pattern for groundwater dissolved lead may be evident, with concentration peaks observed in summer or early autumn.

Mercury was not seen above laboratory detection limits in any surface water or groundwater samples from 2008 through 2011 (Figure 4-20), and has been detected only once in surface water and once in groundwater (both in 2007). Trend analysis is not possible on this limited data set; however, it is clear that mercury generally is not present at elevated concentrations either pre- or post-initiation of the project.

Dissolved zinc was rarely detected (detection frequency: 12 percent) in surface water samples (Figure 4-24). No clear spatial or temporal patterns are evident in the available surface water data; however, it is clear that dissolved zinc generally is not present in surface water in elevated concentrations either pre- or post-initiation of the project. In groundwater, dissolved zinc (Figure 4-24) concentrations were below detection limits in all samples collected from 2008 through 2011 at wells MW1 and MW2. At well MW3, a single sample measured in January 2010 (19.6 µg/L) was higher than any previous measurement at this location. In MW4 samples, detected concentrations of dissolved zinc that were higher than the maximum pre-activity concentration (10.7 µg/L) were observed in six sampling events from October 2007 through July 2009, with concentrations ranging from 12.6 µg/L to 22.7 µg/L. No consistent patterns of elevated zinc concentrations are evident in the either the MW3 or MW4 data, however, and all samples collected since April 2010 were below detection. These occasionally high dissolved zinc concentrations may be associated with natural variability.

Elements that were never measured above screening criteria at any surface water or groundwater compliance station include dissolved arsenic (Figure 4-16), cadmium (Figure 4-17), nickel (Figure 4-21), selenium (Figure 4-22), and silver (Figure 4-23). No consistent upward concentration trends have been observed for any of these trace elements at the surface water or groundwater compliance monitoring stations during the life of this project.

4.2.4 Mine Water

Mine water effluent is monitored at station EFF1, located in the settling ponds just above the outlet to the water LAD discharge system (Figure 3-1). As specified in the permit, this station is not a point of compliance, but rather is monitored to provide general information on site conditions. Effluent monitoring results are presented on Figures 4-1 through 4-24 for comparison to groundwater and surface water data.

Effluent pH has decreased from the initial high values measured in 2007 and 2008; basic effluent water most likely resulted from grouting activity in the mine tunnel. As also observed at surface water and groundwater stations, effluent pH, conductivity, and sulfate show a slight increasing trend starting in summer 2009. The October 2010 effluent conductivity measurement was the highest recorded since the start of monitoring, with a value of 588 μS/cm (previous measurements ranged from 120 to 339 μS/cm). This was not accompanied by an increase in any of the other water quality parameters (conventionals, cations and anions, or trace elements), and conductivity decreased to normal levels in early 2011. Peak concentrations of several parameters, including DO, pH, TSS, turbidity, ammonia, nitrate + nitrite, sulfate, total aluminum, dissolved aluminum, and arsenic were observed in effluent samples collected prior to 2009, followed by decreased levels in later monitoring. Effluent water alkalinity (Figure 4-9) dropped sharply to its lowest level (31 mg/L) in July 2011, but returned to typical levels in September 2011.

An increase in dissolved cadmium, copper, lead, and zinc was observed in mine water effluent from March through July 2009 during the mine temporary closure period. Settling pond trace element concentrations decreased sharply in October 2009, following mine dewatering, plugging of seeps leaking within the drift, and resumption of drilling. This indicates that the action of plugging small mineralized seeps in the drift paired with increased volume of cleaner waters from recently opened drill holes has effectively reduced trace element concentrations in mine discharge waters.

A small increase in total and dissolved aluminum was also observed at settling pond station EFF1 in Q4 2010 and Q1 2011; this increase corresponds to the increase in TSS and turbidity discussed in Section 4.2.1. Dissolved cadmium, copper, and zinc increased in settling pond water in Q3 2011, as shown on Figures 4-17, 4-18, and 4-24. Dissolved cadmium (0.62 μg/L) and copper (20.1 μg/L) concentrations measured on September 7, 2011 were the highest levels measured in effluent water to date. Effluent trace element concentrations returned to normal low levels in Q4 2011. Corresponding changes in sulfate, pH, or other indicator parameters

were not observed in the Q3 settling pond samples and the cause of the trace element increases is unknown. Furthermore, samples from surface water and groundwater compliance monitoring locations downgradient of the LAD system did not exhibit increased concentrations during Q3 or Q4 2011, indicating that natural attenuation in site soils and dilution effectively reduced trace element levels.

4.2.5 Summary of Time Series Analysis and Trends

In summary, most trace elements included in Permit Tables B, C, and E were found to be below ADEC screening criteria in all compliance samples collected since site activity began in September 2007. Elements that were never measured above screening criteria at any surface water or groundwater compliance station include dissolved arsenic, cadmium, nickel, selenium, and silver. Five trace elements—total aluminum and dissolved copper, lead, mercury, and zinc—were observed above ADEC screening criteria in surface water or groundwater compliance samples at least once since site activity began in September 2007. For these five elements, concentrations in compliance samples generally fall within pre-activity concentration ranges and do not suggest project impacts during the period from September 2007 through December 2011.

Certain trace elements (dissolved aluminum, copper, and lead) were observed in relatively high concentrations at surface water stations WQ4, WQ6, WQ10, and WQ13 in July 2009 during the temporary mine closure period (October 2008 through mid-September 2009). Samples collected at these stations since October 2009 show that concentrations have returned to the range of values observed prior to temporary mine closure. The July 2009 observations may be related to the higher-than-normal concentrations of some trace elements evident in mine water discharge during the temporary closure period, as observed at the settling pond information-only station EFF1 from March through July 2009.

4.3 STATISTICAL COMPARISONS

This section presents a discussion of statistical comparisons performed on surface water and groundwater sampling results that exceeded promulgated ADEC screening criteria as discussed above. Table 4-4 provides an overview of the specific statistical tests to be performed on each relevant surface water data set, and Table 4-5 provides the same information for groundwater. For surface water, total aluminum and dissolved copper samples were tested for statistically significant differences from the reference data set. For groundwater, total aluminum, dissolved copper, dissolved lead, and dissolved zinc were tested. Due to the low (less than five samples detected) detection frequency of dissolved mercury in groundwater, this parameter was not analyzed through statistical tests. Finally, there is no ADEC screening criteria for dissolved aluminum; however, dissolved aluminum was statistically tested for both surface water and groundwater to aid in interpretation of total aluminum test results.

4.3.1 ADEC Natural Conditions Approach

The ADEC natural conditions approach (also referred to as the statistical characterization approach in ADEC guidance) determines natural-conditions-based standards based on statistical characterization of the distribution of historical (pre-activity) data at the site and current (post-initiation) reference station concentrations. The natural conditions approach produces a site-specific standard that is variable in time as more reference sampling results become available. With the natural conditions approach, compliance data are screened against these calculated site-specific standards external to the Natural Conditions Tool (NC Tool). The ADEC Natural Conditions Tool Microsoft Excel spreadsheet (Alaska_NC_Tool_Base.xlsm) was used in the analyses presented here.

ADEC released Version 2 of the Natural Conditions Tool in June 2010. Version 2 is used here and in the 2010 Annual Report; Version 1 was used in the 2007, 2008, and 2009 Annual Reports. Key updates in the new version include removing the limitation on the number of observations that can be analyzed, allowing analysis of data collected over two different years (Version 1 required data collection periods to cover a minimum of two consecutive years), removing limitations on the user-defined season of interest, and conversion to Microsoft Excel 2007. The ADEC user guide (Tetra Tech 2010) for Version 2 provides detailed information on applications and functions of the tool.

The NC Tool passes reference data through a series of automated data processing and evaluation steps:

- Data screening for minimum data requirements and seasonality
- Data trimming to remove nondetect values and an equal number of high detected concentrations
- Additional data trimming (up to 25 percent of the data) from the upper and lower tails of the data set until the data (with appropriate transformations) passes a normality test
- Distribution testing of the trimmed data set to determine appropriate central tendency tests
- Calculation of natural condition-based site criteria.

The NC Tool uses a lower-bound measure of central tendency to identify a site-specific chronic aquatic life criterion. This measure varies depending on the characteristics of the data set. The 95 percent lower confidence limit on the mean using the Student's *t*-distribution is used for parametric data sets with a sample size greater than or equal to 50; the 95 percent lower confidence limit on the median is used for nonparametric data sets and/or those with a sample size less than 50. In cases where the natural-conditions-based standard is less than the published water quality criteria, the published criteria apply and are used for evaluation of permit compliance.

4.3.1.1 NC Tool Application

Data and data processing: The surface water reference data sets evaluated with the NC Tool included total and dissolved aluminum and dissolved copper for all pre-activity (April 20, 2005 to September 11, 2007) surface water samples collected at stations WQ4, WQ6, WQ7, WQ8, WQ10, WQ12, and WQ13, and all post-initiation samples (October 1, 2007 to July 24, 2008) collected at upstream stations WQ7, WQ8, and WQ12. Groundwater reference data sets for total and dissolved aluminum, dissolved copper, dissolved lead, and dissolved zinc included all pre-activity (February 27 to September 11, 2007) groundwater samples collected at stations MW1, MW2, MW3, MW4, and MW7, and all post-initiation samples (September 30, 2007 to July 25, 2008) collected at the designated reference well MW7.

Seasonality: For consistency with past evaluations, the default seasonal definitions provided in Version 1 of the NC Tool and used in the 2007, 2008, 2009, and 2010 Annual Reports were applied to the reference data sets, with summer defined as April to September and winter as October to March. When the seasonal distinctions are applied, the groundwater reference data set fails the NC Tool minimum data requirement for data collected over two different years. The surface water reference data set does meet the two-year minimum data requirement when the summer and winter seasons are defined as above. However, surface water data sets for total and dissolved aluminum and dissolved copper failed the Wilcoxon rank sum test for seasonality embedded in the NC Tool. Therefore, the final NC criteria for both groundwater and surface water were determined on an annual basis rather than a seasonal basis.

Treatment of outliers: The NC Tool default data trimming operations were applied to eliminate outliers and skewing data values.

Treatment of nondetect values: No nondetect data values existed in the surface water reference data sets for total or dissolved aluminum. For groundwater reference data only one nondetect value was found in each the total and dissolved aluminum groundwater data sets. These values were included at the full detection limit and flagged as required by the NC Tool. Due to minimum data requirements of the NC Tool, high nondetect values were removed from the surface water dissolved copper, groundwater dissolved copper, groundwater dissolved lead, and groundwater dissolved zinc reference data sets, as described in detail in the following summary of NC Tool spreadsheet modifications.

Spreadsheet modifications: Because the data collected for the Niblack Exploration Project do not meet all minimum sample requirements embedded in the NC Tool, the following modifications were made to obtain criteria results using the NC Tool:

- Detection frequency: The NC Tool requires that only up to 20 percent of observations in reference data sets may be nondetect values. In addition, the tool trims all detected data values that are below the highest detection limit. Because of these requirements, the surface water dissolved copper, and the groundwater dissolved copper, dissolved lead, and dissolved zinc reference data sets failed the minimum data requirements and could not be processed by the NC Tool. Nondetect values in these data sets were therefore pre-processed to remove high nondetect values prior to data import into the NC Tool. High nondetect values were defined as any nondetect value that was higher than the lowest detected value in the reference data set. Following removal of high nondetect values, remaining nondetects were included in the NC Tool analysis at the full detection limit and flagged as required by the NC Tool.
- Period of record: The complete surface water and groundwater reference data sets meet the minimum two-year sample requirement specified in Version 2 of the NC Tool. However, following removal of high nondetect values, the groundwater zinc data set failed the two-year sample requirement. For this case, a single data point sample date was altered from July 1, 2007 to July 1, 2008.
- Default criteria: The ADEC NC Tool requires entry of a single published chronic aquatic life criterion value for each analyte. Generally, the ADEC chronic aquatic life criterion was applied here. In cases where this criterion is calculated based on hardness (e.g., dissolved copper, lead, or zinc), the criterion varies between sampling events. The published criterion has no effect on the natural conditions standard calculation; therefore, a simple average of the calculated hardness-based criteria was entered for each analyte, and the natural conditions criterion was not directly compared to the published criterion.

4.3.1.2 NC Tool Results

Results of surface water sample concentration screening against site-specific criteria calculated with the NC Tool for total aluminum, dissolved aluminum, and dissolved copper are presented in Table 4-6. Groundwater screening results using the natural conditions approach for total aluminum, dissolved aluminum, dissolved copper, dissolved lead, and dissolved zinc are presented in Table 4-7. Both reference (pre-activity, prior to September 21, 2007) and compliance (ongoing site activity, after September 21, 2007) data were screened against the NC Tool criteria. For surface water, the site-specific criteria calculated for total and dissolved aluminum were 55.1 μg/L and 42.1 μg/L, respectively. These values are below the lower ADEC chronic aquatic life criterion of 87 μg/L for total recoverable aluminum; therefore, the lower NC Tool site-specific criteria do not apply to total or dissolved aluminum and were not used in screening. Screening against the NC Tool site-specific dissolved copper criterion of 0.85 μg/L yielded multiple exceedances both before and after initiation of underground exploration activity at both reference (upstream) and compliance (downstream) stations.

Similarly, groundwater exceedances of site-specific criteria for total aluminum (548 µg/L), dissolved aluminum (217 µg/L), dissolved copper (1.65 µg/L), dissolved lead (0.314 µg/L), and dissolved zinc (4.93 µg/L) were observed both before and after project initiation and at both reference and compliance wells.

A primary limitation of ADEC's NC Tool for determining site-specific water quality criteria is the assumed equivalence of a lower-bound estimate of the central tendency of the reference data set and a site-specific chronic aquatic life criterion. Because this approach relies on point comparisons of individual compliance sample results with a lower-bound central tendency estimate from the reference data, a high rate of false positive "exceedances" can be expected *even if the compliance data come from the same underlying distribution (i.e., population) as the reference data.* This limitation is well illustrated by the high rate of false positives when the pre-activity data (which cannot reflect impacts from the project) are screened against the criteria developed using the NC Tool (Tables 4-6 and 4-7), as discussed above.

Other limitations arise from the treatment of nondetect results in the NC Tool. The tool is designed to remove all nondetect results prior to computing the site-specific criteria and also to remove an equal number of results from the upper end of the distribution. Trimming of the upper end is intended to avoid creating a data set that would be upward biased if only the nondetects were trimmed, but it has the undesirable consequence of artificially reducing the variance of the reference data set. Well-established and widely applied methods that avoid bias and do not require the trimming procedures used in the NC Tool are available (e.g., Helsel 2005) and should be considered in future revisions of ADEC's methods for establishing natural conditions criteria.

In summary, application of the NC Tool and interpretation of NC Tool site-specific criteria exceedances are limited by features inherent to the tool, including use of the lower-bound central tendency to select criteria, data trimming techniques, and treatment of nondetect values. The results of screening site data against NC Tool site-specific criteria reflect these tool limitations, as well as the naturally elevated concentrations present in reference samples collected prior to initiation of site activity and during site activity at stations located upstream of site influence.

4.3.2 Alternate Population Testing Methods

The Niblack QAPP (Integral 2007) recommends a general statistical approach to compare compliance and reference data for the Niblack Exploration Project, to be applied in parallel to the ADEC spreadsheet tools. The general statistical method recommended in the QAPP is a single-value *t*-test (or its non-parametric equivalent), with a false positive rate (α) of 0.05. The test evaluates whether or not a compliance sample measurement is significantly different than the central tendency of the reference data. This method is generally consistent with ADEC's guidance for natural conditions assessment, although the treatment of outliers may differ and the treatment of nondetects does differ from ADEC's guidance, as described below.

The QAPP statistical analysis is a collection of methods for data evaluation and testing, which may be applied in slightly different ways for different data sets, depending on the characteristics of the data. This flexible, or adaptive, approach is typical of statistical analysis tasks, and is carried out within a general analysis framework. This general framework consists of the following steps:

- Identification and elimination of outliers
- Evaluation and compensation for undetected measurements
- Evaluation of normality of the reference data distribution, and selection of an appropriate hypothesis test
- Application of the selected test.

Depending on the characteristics of a particular data set, these steps may not always be carried out in the same order. Some steps may be performed repeatedly. For example, examination of the data for outliers may be performed both before and after undetected measurements are compensated for.

Software tools to carry out the steps above have been implemented in the R programming language. The tools are a set of R functions that have been tailored specifically for the data and analyses needed for this project. These allow for statistical analyses to be carried out in an interactive and adaptive fashion by issuing commands to execute these functions at the R console.

For normal and lognormal reference data sets, the QAPP statistical method compares individual compliance point samples to the reference population mean using a one-sided *t*-test of the null hypothesis (H_0) that the mean (μ) of the reference data is equivalent to the effluent concentration (C_{eff})—or, equivalently, that the effluent data are typical of the reference distribution. The alternative hypothesis (H_1) is that the mean of the reference data is less than the effluent concentration—or, equivalently, that the effluent concentration is significantly higher than the reference data:

$$H_0: \ C_{eff} = \mu_{ref}$$

$$H_1: \ C_{eff} > \mu_{ref}$$

For a 95 percent confidence limit on the reference data mean ($\alpha = 0.05$), a p value of less than 0.05 indicates that the null hypothesis should be rejected.

For reference data sets that do not fit a normal or lognormal distribution, the Wilcoxon signed rank test is applied as a nonparametric equivalent to the one-sided *t*-test. This test compares each compliance point sample to the reference population by evaluating whether the compliance point sample is a plausible estimate of the reference population distribution median:

$$H_0: C_{eff} - Median_{ref} = 0$$

$$H_1: C_{eff} - Median_{ref} > 0$$

For a 95 percent confidence limit on the reference data median ($\alpha = 0.05$), a p value of less than 0.05 indicates that the null hypothesis should be rejected.

4.3.2.1 Population Test Application

The surface water reference data sets for total and dissolved aluminum and dissolved copper included all pre-activity (February 15, 2006 to September 11, 2007) surface water samples collected at stations WQ4, WQ6, WQ7, WQ8, WQ10, WQ12, and WQ13, and all post-initiation samples (October 1, 2007 to July 24, 2008) collected at upstream stations WQ7, WQ8, and WQ12. The groundwater reference data sets for total and dissolved aluminum, dissolved copper, dissolved lead, and dissolved zinc included all pre-activity (February 27 to September 11, 2007) groundwater samples collected at stations MW1, MW2, MW3, MW4, and MW7, and all post-initiation samples (September 30, 2007 to July 25, 2008) collected at offsite well MW7. Compliance samples were compared individually to reference populations; these include surface water stations WQ4, WQ6, and WQ10 and monitoring wells MW1, MW2, MW3, MW4, for the surface water and groundwater post-initiation sampling events which occurred between September 30, 2007 and December 21, 2011. Individual pre-activity reference samples were also compared to the reference population mean to provide context for evaluation of the compliance data.

Following distribution testing and log-transformation to most closely approximate a normal distribution (when applicable), reference data sets were screened for outliers using classical statistical outlier tests and visual evaluation of time series plots. The box plot outlier function in R was used to identify as a potential outlier any value greater than the last data point that is within a coefficient of 1.5 times the length of the box (the Tukey criterion for outliers; Cleveland 1993). Time series plots of the data were also reviewed before final exclusion of any high or low outliers from the data sets.

Reference data were screened for nondetect values following outlier removal. No nondetect data values existed in the surface water reference data sets for total or dissolved aluminum, and 34 nondetect values were present in the dissolved copper data set, with a detection frequency of 74 percent. Regression on order statistics (ROS) substitution was applied to estimate nondetect values for the surface water dissolved copper data set (Helsel 2005). For groundwater reference data, 1 nondetect value was found in both the total and dissolved aluminum data sets, 3 nondetect data values were present in the dissolved copper data set, and 4 nondetect values were found in the dissolved lead groundwater data sets, with a detection frequency of over 90 percent in each of these data sets. Thirty-three nondetect values were present in the groundwater dissolved zinc reference data set (41 percent detection frequency). ROS substitution was applied to each of the groundwater reference data sets.

Time series plots generated with both unprocessed reference data and processed (i.e., outliers removed and nondetect substitution applied where applicable) were visually examined to identify potential seasonality in the reference data set. Due to the short time period of available reference data, definitive evaluation of seasonality was not possible at this time, and the data were assumed to be non-seasonal.

4.3.2.2 Population Testing Results

Tables 4-8 and 4-9 present the results of surface water and groundwater data testing conducted with the alternative statistical population approach for each of the surface water and groundwater permit trace elements identified as potential parameters of concern by screening against ADEC chronic aquatic life criteria. Both reference (pre-activity) and compliance (ongoing site activity) data were screened with the alternative population approach. For surface water, compliance sample concentrations measured at all three compliance stations failed the alternative population screening for both total and dissolved aluminum and dissolved copper during multiple sampling events. Screening against the reference data population yielded multiple exceedances before and after initiation of underground exploration activity at both reference and compliance stations for aluminum and copper.

For groundwater, the comparison of individual samples to the reference population also produced exceedances of the reference population central tendency for all parameters (total and dissolved aluminum, dissolved copper, dissolved lead, and dissolved zinc) in samples collected both before and after project initiation and at both reference and compliance wells.

The primary limitation of screening using an alternate population testing method is fundamentally similar to that of the ADEC natural conditions method in that the underlying statistical hypothesis involves a comparison of an individual compliance measurement (i.e., point measurement) with the central tendency (mean or median) of the reference data set. As a result, frequent "failures" of this test can be expected, both when individual pre-activity reference point measurements and post-initiation compliance point measurements are compared with the reference data sets using this approach. Because of this, the "failures" reported in Tables 4-8 and 4-9 cannot necessarily be interpreted as exceedances of (or departures from) the site-specific natural conditions, but may warrant further assessment. Furthermore, in the case of parameters with a high frequency of nondetect values, such as groundwater dissolved zinc, ROS substitution for nondetect values may influence the estimate of the reference data set central tendency used in comparison to individual sample concentrations.

In summary, like the NC Tool, the alternative population test approach is limited by the use of the population central tendency to determine individual site sample exceedances. The results of screening site data using the alternative population screen reflects this central tendency approach as well as the naturally elevated concentrations present in reference samples collected

prior to initiation of site activity and during site activity at stations located upstream of site influence.

4.3.3 Upper Prediction Limit Analysis

As an alternative to the comparisons of central tendency embodied in the NC Tool and the alternate population test approach described in the previous sections, USEPA guidance (e.g., USEPA 1989, 1992, 2006, 2007) recommends the use of estimates of an upper percentile of a reference data set (e.g., the 90th or 95th percentile) as an appropriate approach to make comparisons between background data and individual measurements from a compliance point. One such estimate is a UPL. A UPL is the upper bound of a prediction interval, defined as a statistical interval, based upon historical and/or background data, within which a newly and independently obtained site compliance observation will fall within a given probability (or confidence coefficient; Gibbons 1994). A UPL represents an estimate of a threshold value in the upper tail of the data distribution. Therefore, a UPL should represent a number larger than the lower confidence limit on the mean (as applied in the NC Tool) and the upper confidence limit on the mean (as applied in the alternate population test approach). Upper threshold values, such as UPLs, are commonly used when individual point-by-point compliance observations are compared with a background compliance limit.

UPLs were calculated for a 95 percent prediction limit according to the general equation

$$UPL = x + t_{(1-\alpha)(n-1)} \times s \times \sqrt{1 + \frac{1}{n}}$$

Where:

x	=	the reference data set mean
s	=	the standard deviation
n	=	the number of reference samples
$t_{(1-\alpha)(n-1)}$	=	the critical value from the Student's *t*-distribution with n – 1 degrees of freedom
α	=	0.05

For lognormal data sets, the UPL is calculated using the log-transformed data.

4.3.3.1 Upper Prediction Limit Screen Application

UPLs were calculated using the processed (log-transformed, outliers removed, and/or ROS substitution applied to nondetects, where applicable) surface water and groundwater reference data sets generated for the alternate population testing approach (Section 3.4.3.2). Compliance samples were screened individually against the calculated UPL thresholds.

4.3.3.2 Upper Prediction Limit Screen Results

Tables 4-10 and 4-11 present the results of compliance data screening against the 95 percentile UPL for each of the surface water and groundwater permit trace elements identified as potential parameters of concern by screening against ADEC chronic aquatic life criteria.

For surface water, the total aluminum UPL (144 µg/L) was exceeded multiple times at WQ4, WQ10, and WQ12, both before and after initiation of site activity, as well as once at WQ6 and twice at WQ13. Stations WQ4, WQ6, WQ8, WQ10, WQ12, and WQ13 each exceeded the surface water dissolved aluminum UPL (92 µg/L) on one or more occasions post-activity. Pre-activity dissolved aluminum exceedances were observed at stations WQ10 and WQ12. For dissolved copper in surface water, exceedances of the UPL (1.4 µg/L) occurred at least once at stations WQ4, WQ6, WQ10, and WQ13 following initiation of site activity. Pre-activity dissolved copper exceedances were observed at all stations except for WQ12.

For groundwater, one exceedance of the total aluminum UPL (7,394 µg/L) was observed at MW2 in December 2007, and four exceedances of the total aluminum UPL were observed at MW3 prior to initiation of site activity. For dissolved aluminum, three consecutive exceedances of the UPL (1,236 µg/L) were observed at MW3 during site activity from July to September 2008. Pre-activity dissolved aluminum exceedances were observed at wells MW2, MW3, and MW4. Two exceedances of the dissolved copper UPL (4.3 µg/L) were observed at MW4 in September and October 2007 immediately following initiation of site activity, while pre-activity exceedances were observed at wells MW3 and MW4. For dissolved lead, individual UPL (0.96 µg/L) exceedances were measured at both MW1 and MW4 in October 2007. Pre-activity dissolved lead exceedances were observed at wells MW2 and MW3. Finally, two exceedances of the dissolved zinc UPL (9.6 µg/L) were observed at MW2, one at MW3, and six at MW4 following initiation of site activity. Pre-activity dissolved zinc exceedances were observed at MW4 and at off-site reference well MW7. In 2011, no groundwater sample concentrations were higher than the reference data set UPL for total or dissolved aluminum, dissolved copper, dissolved lead, or dissolved zinc.

No clear spatial or temporal patterns related to UPL exceedances were observed for either surface water or groundwater samples. As expected, this screen against an upper threshold of the reference data set distributions yielded a lower number of test failures than were observed for the more conservative screens applied by the NC Tool and the alternative population testing approach. A small number of exceedances of the 95th percentile UPL, e.g., 5 percent, are expected even if the compliance data do not differ statistically from the reference data, because the UPL does not capture the maximum upper extent of the reference data distribution. For the data presented here, 7.6 percent (52 of 686 samples) of surface water samples and 4.6 percent (37 of 800 samples) of groundwater samples were found to exceed the UPL screen.

In summary, screening using an UPL testing method avoids the frequent failures yielded from both the ADEC natural conditions method and the alternative population approach related to

comparison of an individual compliance measurement with the central tendency (mean or median) of the reference data set. A key limitation of the UPL approach occurs in the case of parameters with a high frequency of nondetect values, such as groundwater dissolved zinc, where ROS substitution for nondetect values may influence the estimate of the reference data set UPL used in comparison to individual sample concentrations.

4.3.4 Overall Weight-of-Evidence Compliance Assessment

Initial screening of surface water and groundwater compliance data collected since initiation of mine exploration activities September 30, 2007 against promulgated Alaska water quality criteria identified a limited number of chemicals and locations where further evaluation was needed to determine compliance with natural conditions-based water quality standards. These included total aluminum and dissolved copper in surface water (Table 4-4) and total aluminum, dissolved copper, dissolved lead, dissolved mercury, and dissolved zinc in groundwater (Table 4-5). Evaluation of time series data plots indicates that, for each of these constituents, compliance samples collected after the initiation of exploration in fall within the range of pre-activity concentrations and therefore do not appear to depart from natural conditions. Statistical comparisons using a variety of conservative central tendency and upper threshold statistical tests produced varying rates of test failures, including high rates of "false positive" test failures for individual reference samples. These statistical results are not unexpected given the limitations of the approaches employed and the characteristics of the data set, as documented in the preceding sections.

Based on the compliance monitoring data collected after the initiation of underground exploration from September 2007 through December 2011, and the graphical and statistical analyses presented in this report, the weight of evidence indicates that site exploration activities have not resulted in significant changes to natural surface water and groundwater quality in the vicinity of the project. Continued trend evaluation and statistical analysis (including consideration of refined or alternate methods) will be required to confirm these initial findings as the monitoring program proceeds.

4.4 PAG WATER QUALITY

The potentially acid generating waste rock storage facility (PAG Site; Figure 2-1 and Figure 4-25), was constructed in spring 2008 for the temporary storage of the blast rock determined to be potentially acid generating during drift excavation. The PAG pile consists of approximately 39 rounds (estimated 9,000 tons) composed of primarily sulfide-bearing Lookout Rhyolite rock unit. Based on the QA/QC verification test work conducted as part of the Operational Characterization Plan (Knight Piésold 2007a), the material in the PAG pile is anticipated to average ~1% total sulfur, predominantly as sulfide-sulfur, low neutralization potentials (NP) below approximately 20 kg $CaCO_3$/t equivalent and corresponding neutralization potential ratios of less than 0.5 (MESH Environmental 2009). Runoff from the PAG Site is captured in a

settling pond (the PAG Pond) and routed to the settling ponds and wastewater treatment facility located upline of the site LAD discharge system (Figure 2-1).

Following the completion of underground drilling in October 2008, Niblack Project LLC (then CBG) placed the project on Temporary Closure. At that time, CBG requested, and was subsequently granted, approval to leave the PAG rock pile uncovered. The uncovered pile provided an opportunity to evaluate the kinetics, or weathering behavior, of the PAG rock on a large scale and provided information for waste management practices for possible future development.

PAG pile runoff is monitored at the PAG Pond, with monitoring of field parameters on a weekly basis and full water chemistry on a monthly basis. PAG runoff water quality was not monitored from December 2008 to March 2009 when the sampling pond was frozen. Monitoring results are submitted to ADEC in monthly reports as part of the PAG Monitoring Program accepted by Alaska Department of Natural Resources/ADEC on February 6, 2009. The monitoring record for the PAG site summarized here includes data from August 19, 2008 through December 31, 2011. From August 2008 through December 2011, an estimated 6.98 million gallons of precipitation runoff has been collected from the PAG Site, comprising approximately 3 percent of the total site discharge captured in the settling ponds and routed to the LAD system.

PAG Site water quality results are provided in Table 4-12 (analytical data) and Table 4-13 (field parameters). Figures 4-26 through 4-32 present selected parameters shown in conjunction with the corresponding period of record for precipitation and temperature.

The 2011 pH results for the PAG Site remained generally within the circum-neutral range, with most values in the 6.5 to 7.9 range (Figure 4-26). A value of 4.3 was recorded in March 2011 but the pH recovered to circum-neutral at the following sampling event in April. There is an apparent seasonal trend observed in the data with generally lower pH values reported during the winter months and higher values during the summer months. These values are also consistent with measurements made from 2008 through 2010. Sulfate, nitrite + nitrate, and total dissolved solids (Figures 4-26 and 4-27) values all showed an initial flush when monitoring began in 2008 followed by a sharp decrease in concentration when sampling resumed in the spring of 2009. Similar to pH, sulfate and TDS tend to exhibit overall lower values in the winter months than during summer. Nitrate + nitrite has continued on a generally decreasing trend since monitoring began in August 2008 through July 2011; nitrate + nitrite increased slightly in August 2011 and plateaued during the end of 2011.

Total aluminum (Figure 4-28) and total iron (Figure 4-29) plots for the PAG Facility both show a similar trend of higher observed values during the winter months without a corresponding increase in dissolved values.

Dissolved arsenic, cadmium, copper and nickel (Figures 4-30 and 4-31) all showed an initial flush at the beginning of the study in 2008. When sampling resumed in April 2009 (after the pond had thawed), arsenic and cadmium levels remained lower than the 2008 concentrations, while copper and nickel showed some variation in the dissolved trace element content through 2011. Dissolved lead and zinc (Figure 4-32) showed little variation throughout 2011.

Of note are apparent increases in dissolved aluminum, nickel, iron and lead in the September 13, 2009 sampling event to values in excess of the corresponding total concentrations. This is believed to be the result of a sampling error and is not expected to be representative of the true dissolved sample concentrations. The subsequent October 2009 sampling event recorded dissolved values lower than the totals for each parameter and the values were consistent with the August 2009 sampling event as well as previous year's samples.

Comparing the PAG Site concentration results to ADEC aquatic life chronic screening levels (summarized in Table 4-12), total aluminum was recorded above the screening level during the three sampling events from October 2009 through January 2010. There was no significant corresponding increase in dissolved aluminum during this time. No other parameters were observed to be higher than ADEC chronic aquatic life screening levels since monitoring of the PAG Site began in August 2008.

In summary, monitoring through the end of 2011 shows that the PAG pile runoff water has remained buffered with pH values remaining generally circum-neutral, with slightly lower values recorded over the winter months and values typically above 7.5 in the summer months. Total iron and total aluminum also appear to increase and decrease with changing seasons, with the highest concentrations observed during the winter months. In the summer months both elements decrease, all the while showing minimal changes in their dissolved counterparts. Total aluminum has been the only element that exceeded the ADEC aquatic life chronic screening levels. The remainder of the trace elements tested were below screening levels.

Studying the uncovered PAG Site continues to reveal relevant and useful information regarding the acid rock drainage potential and weathering kinetics of the PAG waste rock at this site. Niblack Project LLC plans to continue the monitoring program for this PAG Site and to keep the PAG waste rock uncovered through 2012.

4.5 MONITORING WORK PLANNED FOR 2012

The monitoring program will continue to be implemented through 2012 in accordance with the requirements of the Waste Management Permit, Site Monitoring Plan, and QAPP with the parameter list, monitoring frequency, and monitoring location changes as approved by Kenwyn George of ADEC (George 2008, pers. comm.).

5 STORMWATER POLLUTION PREVENTION PLAN REPORTING

5.1 VISUAL INSPECTIONS

Visual inspections of the site for stress to vegetation, channelization in wastewater application areas, and function of stormwater controls were conducted at a minimum frequency of weekly as required in Section 1.6.11 of the Permit and in the SWPPP (RTR 2006). No stress to vegetation and no channelization were observed in the land application area. Ditches and settling ponds were cleared during annual maintenance to facilitate proper function. Visual site inspection forms are provided in Appendix D.

Past efforts, such as the maintenance of both upstream and downstream culvert settling ponds, increases in road lifts and ditch depths to properly control water flow, and the addition and maintenance of flow control measures (e.g., geotextile/silt fences and rock barriers) have led to a visible reduction in the turbidity of stormwater discharge.

Minor issues were recorded during inspections conducted in 2011 and descriptions of corrective actions were included in subsequent inspection reports (presented in Appendix D). General inspection of stormwater BMPs by site personnel is conducted on an almost daily basis. A visual inspection of the stormwater controls, waste storage areas, and water treatment areas is documented weekly on a visual inspection form.

Non-stormwater source contributions to surface water are minimal at the Niblack Exploration Project site. All inspections take into account any potential contributions from site activities. For example, fueling facilities and vehicle maintenance areas are examined during each of the regular recorded inspections. Inspection records are archived in a binder at the Niblack Exploration Project camp office.

5.2 SIGNIFICANT SPILL REPORTS SUMMARY

There were no significant/reportable spills of hydrocarbons or other deleterious fluids during 2011.

5.3 CHANGES MADE TO THE STORMWATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES

There are no changes planned to the SWPPP or to the BMPs described in the SWPPP at this time. All of the BMPs currently described in the SWPPP are good options for stormwater and associated sediment control at the site. As a result of the BMPs implemented on site, and the

stabilization of the site post-construction, the turbidity observed in stormwater has been significantly reduced.

This annual report will be kept on file at the Niblack Exploration Project camp office.

6 DISCHARGE EVENTS

Two discharge events occurred in 2011 that may constitute discharges that are out of compliance with the Permit. These events were reported to ADEC and described in detail in the Q1 2011 and Q2 2011 quarterly reports (Integral 2011a, b).

6.1 JANUARY 20, 2011 PAG POND

On January 20, 2011, the water sampling field staff observed that the PAG pond (Figure 3-1) was overflowing the containment berm at the south end and that the gravity-fed outflow line from the PAG pond to the settling/treatment pond was partially frozen. Site staff were immediately notified and set up a temporary system to pump water from the PAG pond to the settling/treatment ponds. Field staff estimated the overflow rate at less than 1 gpm for at least 6 hours (Adams 2011b, pers. comm.). An opportunistic water quality sample was collected at the PAG monitoring station to document water quality during the overflow period.

The PAG pond had also been sampled on the previous day as part of routine monitoring. At that time, the pond was only partially frozen and water levels were well below the level of the containment berm. Following that regular monthly sampling on January 19, the site experienced rising temperatures, causing snowmelt. Over 2 in. of rain also fell from January 19-20. Site staff suspect that the gravity-fed outflow from the PAG pond may have partially frozen during a period of cold weather on the days immediately prior to the large rainfall event, thus restricting the normal outflow from the PAG pond.

This overflow event was documented and reported to ADEC via e-mail on January 22, 2011 (Brommeland 2011, pers. comm.). Water quality results from the normal PAG pond sample collected on January 19, 2011 were compared to the opportunistic sample collected during the overflow period on January 20, 2011. These results are presented in detail in the January 2011 Monthly Report for the PAG waste rock storage facility (pHase Geochemistry 2011). This comparison showed that field parameter levels measured during the overflow event were found to be more similar to rainwater than the typical PAG pond measurements. Laboratory analytical data results were generally similar for both samples. Marginally higher concentrations of turbidity, nitrate+nitrite, ammonia, dissolved and total aluminum, iron, and lead, as well as total copper, were reported in the overflow event samples. This is likely due to higher levels of suspended particulates during the rainfall/overflow conditions. The remaining parameters were either consistent or slightly lower than the results from the previous day.

6.2 APRIL 21, 2011 SETTLING PONDS

On April 21, 2011, the water sampling field staff observed water discharging from an overflow pipe in the settling ponds (Figure 2-1). The settling ponds collect mine portal water flows and

PAG pile runoff water prior to discharge through the LAD system. The overflow pipe is located adjacent to the LAD system discharge pipe and is proximal to the EFF1 water quality monitoring location (Figure 3-1). Site staff were immediately notified and promptly turned off the overflow pipe valve within 15 minutes of the initial observation of the overflow. Site staff estimated that settling pond water discharge from the overflow pipe occurred for approximately 2 hours (Adams 2011a, pers. comm.); the total volume of water released is unknown.

Field staff observed that water from the overflow pipe flowed toward the Waterfall Creek drainage (Figure 3-1; Hogarty 2011, pers. comm.). Water was sampled from station EFF1 immediately after the overflow pipe valve was closed. These sample results are presented on time series plots in Figures 4-1 through 4-24. These plots show that the settling pond water quality during the discharge event was comparable to and typical of water in Waterfall Creek for most trace elements evaluated. Station EFF1 concentrations were slightly higher than WQ4 concentrations for two elements, dissolved arsenic and dissolved cadmium.

Following the overflow pipe discharge event, site staff took measures to prevent future use of the overflow pipe. These measures included installation of a locked chain and lockout/tagout labeling on the overflow pipe valve.

7 ADEQUACY OF FINANCIAL RESPONSIBILITY

There have been no significant changes to inflation, required reclamation activities, or scope of the project from that presented in the Niblack Project Reclamation and Closure Plan (RTR 2007). Acreage of disturbance for the various facilities requiring reclamation at project closure is the same or less than that used to calculate reclamation costs. Monitoring results to date provide no indication of revision required to the financial responsibility cost estimate of $1,221,408.

8 REFERENCES

Adams, F. 2011a. Personal communication (e-mail to L. Brommeland, Hunter Dickinson Inc., dated April 21, 2011, regarding the settling pond overflow event). Niblack Project LLC, Ketchikan, AK.

Adams, F. 2011b. Personal communication (e-mail to L. Brommeland, Hunter Dickinson Inc., dated January 21, 2011, regarding the PAG pond overflow event). Niblack Project LLC, Ketchikan, AK.

ADEC. 2007. Waste Management Permit 2006-DB0037, Niblack Exploration Project. State of Alaska Department of Environmental Conservation, Juneau, AK.

ADEC. 2008. Alaska Water Quality Manual for Toxic and Deleterious Organic and Inorganic Substances. As amended through December 12, 2008. State of Alaska Department of Environmental Conservation, Juneau, AK.

AWWA. 1998. Standard methods for the examination of water and wastewater. 20th Edition. Method 1030E, Data Quality. American Water Works Association, Denver, CO.

Brommeland, L. 2011. Personal communication (e-mail to J. DiMarchi, State of Alaska, Department of Natural Resources, dated January 22, 2011, regarding the PAG pond overflow event). Hunter Dickinson Inc., Vancouver, Canada.

Cleveland, W.S. 1993. *Visualizing data*. Hobart Press, Summit, NJ.

George, K. 2008. Personal communication (e-mail to D. Green, Niblack Mining Corporation, dated August 13, 2008, regarding Niblack water quality sampling). State of Alaska, Division of Water.

Gibbons, R.D. 1994. *Statistical methods for groundwater monitoring*. John Wiley & Sons Inc., New York. 286 pp.

Heatherdale. 2011. News Release, October 31, 2011. Available at: http://www.heatherdaleresources.com/hdr/NewsReleases.asp?ReportID=487763&_Type=News-Releases&_Title=Heatherdale-Continues-Successful-Drilling-At-Niblack. Accessed on March 7, 2012. Heatherdale Resources Ltd., Vancouver, Canada.

Helsel, D.R. 2005. *Nondetects and data analysis: statistics for censored environmental data*. John Wiley & Sons, Inc., Hoboken, NJ.

Hogarty, B. 2011. Personal communication (e-mail to M. Ruby, Integral Consulting Inc., dated July 14, 2011, regarding documentation of the settling pond overflow event). TECS-AK, Ketchikan, AK.

Integral. 2007. Niblack Mining Corporation quality assurance project plan. Integral Consulting Inc., Portland, OR.

Integral. 2008a. Niblack Mining Corporation, Niblack Underground Exploration Project, annual report. Prepared for Niblack Mining Corporation, Vancouver, BC. Integral Consulting Inc., Broomfield, CO.

Integral. 2008b. First quarter 2008 water quality monitoring report, Niblack Underground Exploration Project. Prepared for State of Alaska, Department of Environmental Conservation. Integral Consulting Inc., Broomfield, CO.

Integral. 2009a. CBR Gold Corporation, Niblack Exploration Project, 2008 Annual Report. Prepared for State of Alaska, Department of Environmental Conservation, Division of Water. Integral Consulting Inc., Broomfield, CO.

Integral. 2009b. Third quarter 2009 water quality monitoring report, Niblack Underground Exploration Project. Prepared for State of Alaska, Department of Environmental Conservation. Integral Consulting Inc., Broomfield, CO.

Integral. 2010. Niblack Exploration Project, 2009 Annual Report. Prepared for State of Alaska, Department of Environmental Conservation, Division of Water. Integral Consulting Inc., Broomfield, CO.

Integral. 20011a. First quarter 2011 water quality monitoring report, Niblack Underground Exploration Project. Prepared for State of Alaska, Department of Environmental Conservation. Integral Consulting Inc., Broomfield, CO.

Integral. 2011b. Niblack Mining Corporation, Niblack Underground Exploration Project 2010 Annual Report. Draft. Prepared for State of Alaska, Department of Environmental Conservation. Integral Consulting Inc., Louisville, CO.

Integral. 2011c. Third quarter 2011 water quality monitoring report, Niblack Underground Exploration Project. Prepared for State of Alaska, Department of Environmental Conservation. Integral Consulting Inc., Broomfield, CO.

Kleespies, P. 2009. Personal communication (letter to J. DiMarchi, Alaska Department of Natural Resources, Office of Project Management and Permitting, dated July 22, 2009, regarding request to resume underground exploration activities at the Niblack Project). CBR Gold Corp./Abacus Alaska Inc., Edmonton, AB, Canada.

Knight Piésold. 2007a. Niblack Mining Corporation, Niblack Project: Operational characterization plan. Ref. No. VA102-00205/02-4. Knight Piésold Ltd., Vancouver, BC, Canada.

Knight Piésold. 2007b. Niblack Mining Corporation, Niblack Project: Water quality baseline and site monitoring plan. Ref. No. VA102-00205/02-11. Knight Piésold Ltd., Vancouver, BC, Canada.

MESH Environmental. 2009. Technical Memorandum: QA/QC Data for the 2008 Annual Report, Niblack Project. Prepared for CBR Gold Corp./Abacus Alaska Inc. MESH Environmental Inc., Vancouver, BC, Canada. February 6, 2009.

Niblack. 2007. Niblack Project. Underground exploration plan of operations. Revision 1. Niblack Mining Corporation, Vancouver, BC, Canada. April 13, 2007.

pHase Geochemistry. 2011. Monthly Report. January 2011. Uncovered (PAG) Waste Rock Storage Facility, Monitoring Program. Niblack Project, Alaska. April 13, 2011. pHase Geochemistry, Vancouver, Canada.

RTR. 2006. Niblack lookout unit initial construction/exploration project stormwater pollution prevention plan (SWPPP). RTR Resource Management, Inc., Boise, ID.

RTR. 2007. Reclamation and closure plan for the Niblack Underground Exploration Project. RTR Resource Management, Inc., Boise, ID.

Tetra Tech. 2010. Alaska Statistical Spreadsheet Tools for Natural Condition Evaluation, User Guides, Version 2. Tetra Tech, Inc. Research Triangle Park, NC.

Turner, A. 2009. Personal communication (e-mail to A. Wood Conovitz, Integral Consulting, dated October 20, 2009, regarding a summary of drift dewatering activities at the Niblack Project). Apex Geoscience, Edmonton, AB, Canada.

USEPA. 1989. Statistical analysis of groundwater monitoring data at RCRA facilities. Interim Final Guidance. U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC.

USEPA. 1992. Statistical analysis of groundwater monitoring data at RCRA facilities. Addendum to interim final guidance. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. July 1992.

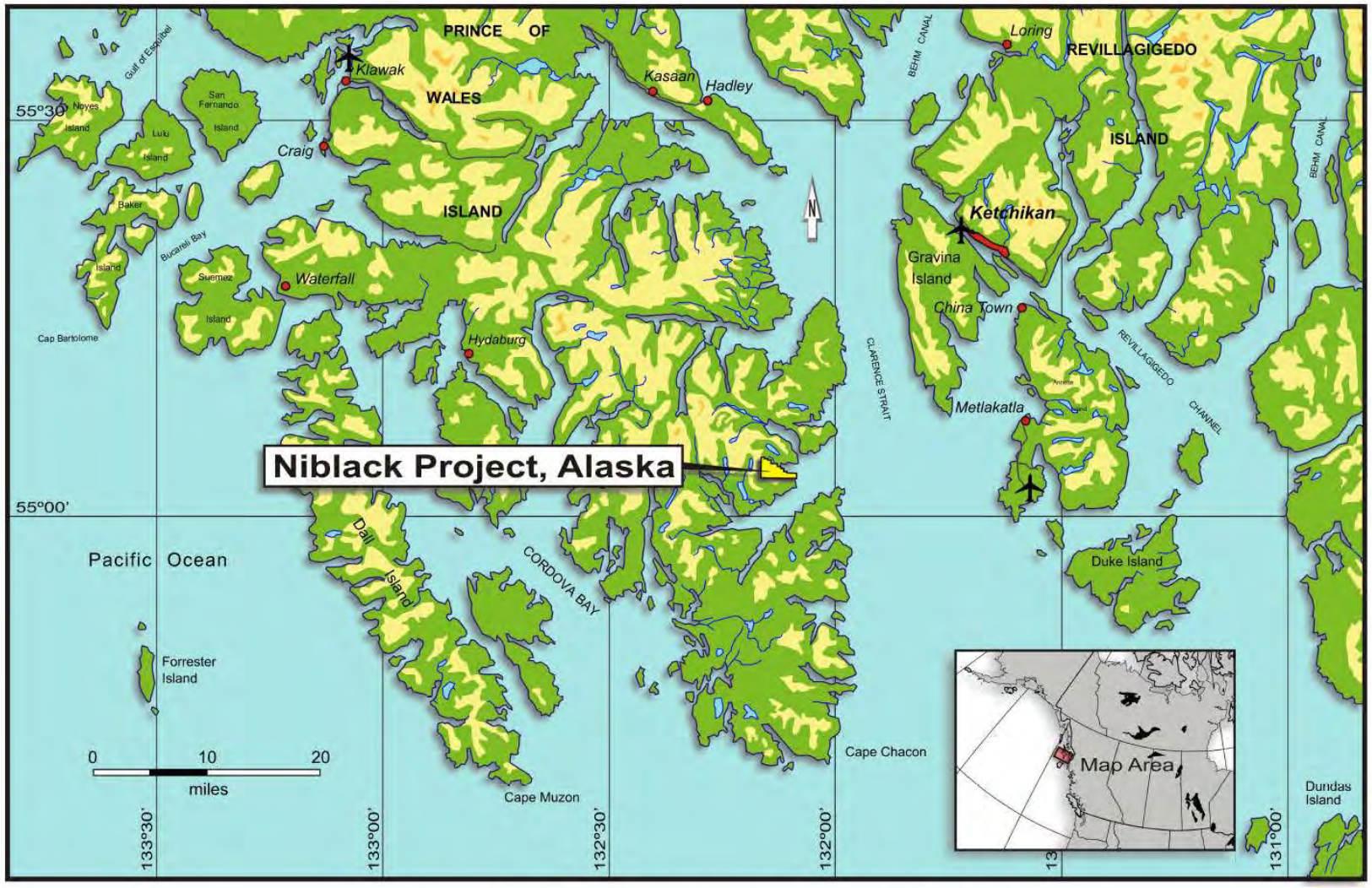
USEPA. 2002. Guidance for quality assurance project plans. EPA QA/G-5. EPA/240/R-02/009. U.S. Environmental Protection Agency, Office of Environmental Information, Washington, DC.

USEPA. 2006. Guidance on systematic planning using the data quality objectives process. EPA QA/G-4. U.S. Environmental Protection Agency, Office of Environmental Information. February 2006.

USEPA. 2007. ProUCL Version 4.0, Technical Guide. EPA/600/R-07/041. U.S. Environmental Protection Agency, Office of Research and Development, Washington, DC.

USEPA. 2010. USEPA contract laboratory program national functional guidelines for inorganic superfund data review. USEPA-540-R-10-011. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation, Washington, DC.

FIGURES

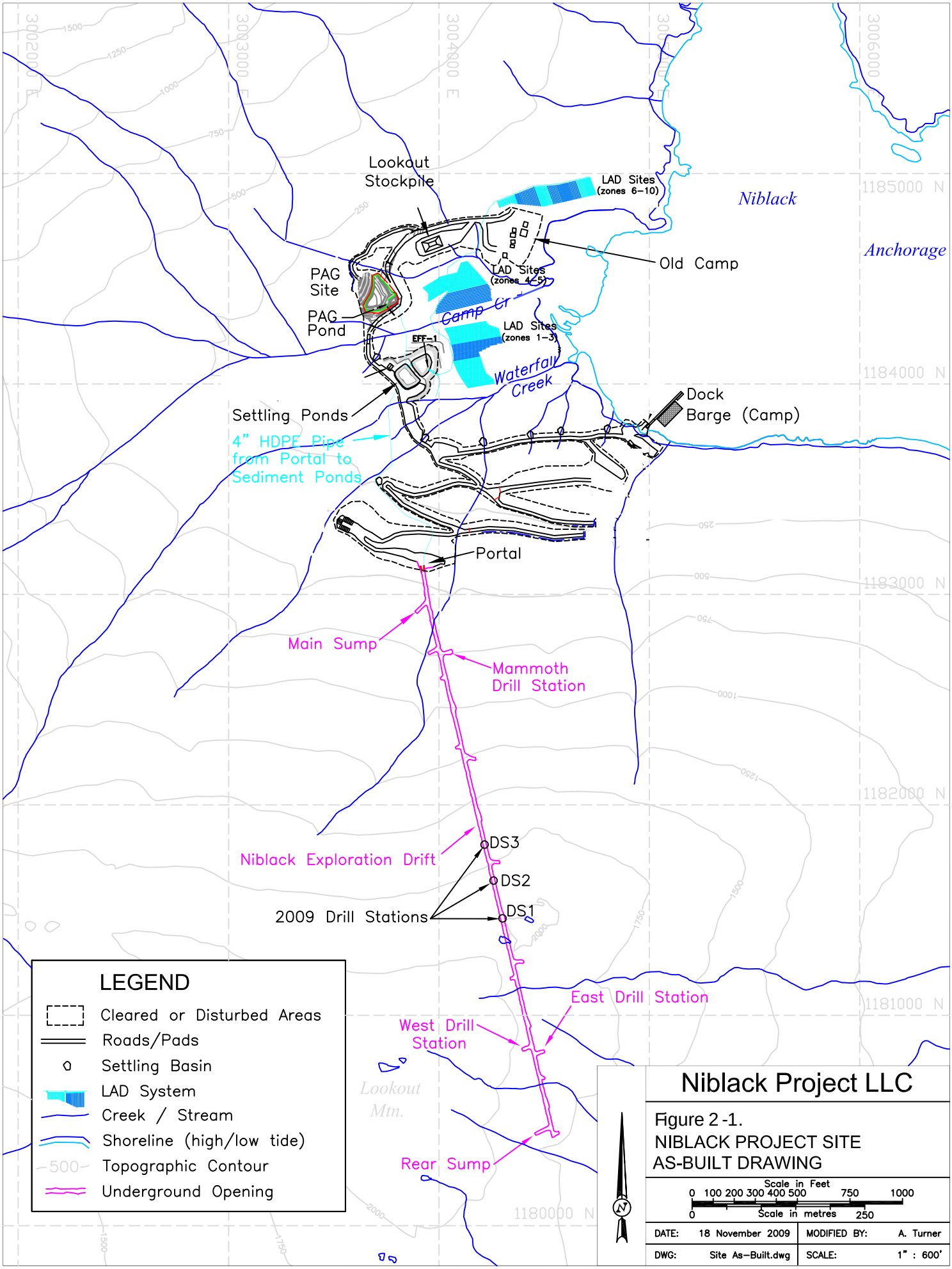


Niblack Project Location Map

May, 2006

NIBLACK PROJECT LLC integral consulting inc.

Figure 1-1
Niblack Project Location Map
Niblack Exploration Project
2011 Annual Report


Lookout Stockpile
LAD Sites (zones 6–10)
Niblack
Anchorage
Old Camp
LAD Sites (zones 4–5)
PAG Site
PAG Pond
Camp Cr
LAD Sites (zones 1–3)
EFF-1
Waterfall Creek
Settling Ponds
Dock
Barge (Camp)
4" HDPE Pipe from Portal to Sediment Ponds
Portal
Main Sump
Mammoth Drill Station
Niblack Exploration Drift
DS3
DS2
DS1
2009 Drill Stations
East Drill Station
West Drill Station
Lookout Mtn.
Rear Sump
1185000 N
1184000 N
1183000 N
1182000 N
1181000 N
1180000 N
LEGEND
Cleared or Disturbed Areas
Roads/Pads
Settling Basin
LAD System
Creek / Stream
Shoreline (high/low tide)
500 Topographic Contour
Underground Opening
Niblack Project LLC
Figure 2-1.
NIBLACK PROJECT SITE
AS-BUILT DRAWING
Scale in Feet
0 100 200 300 400 500 750 1000
0 Scale in metres 250
DATE: 18 November 2009
MODIFIED BY: A. Turner
DWG: Site As-Built.dwg
SCALE: 1" : 600'

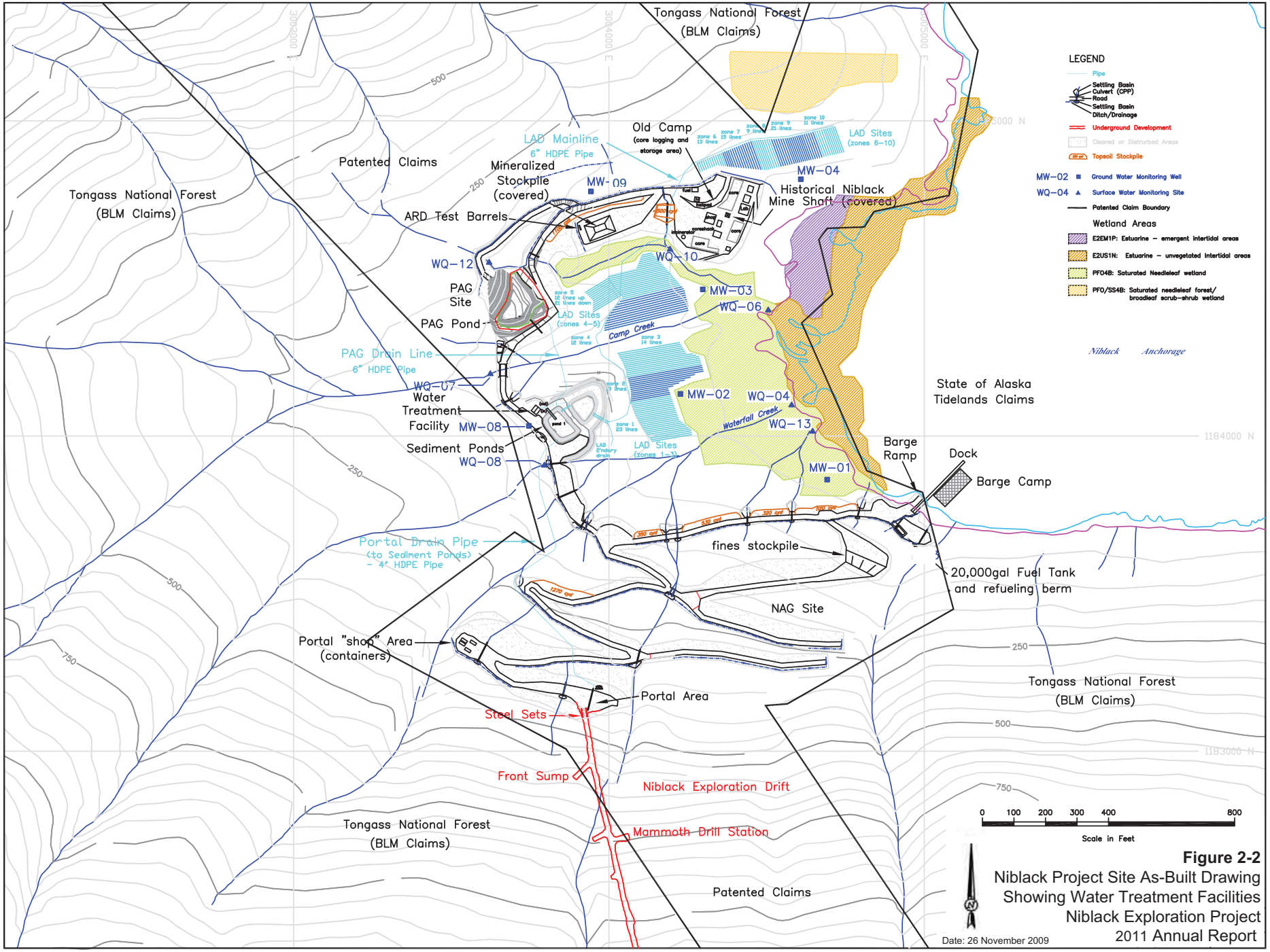


Figure 2-2
Niblack Project Site As-Built Drawing
Showing Water Treatment Facilities
Niblack Exploration Project
2011 Annual Report

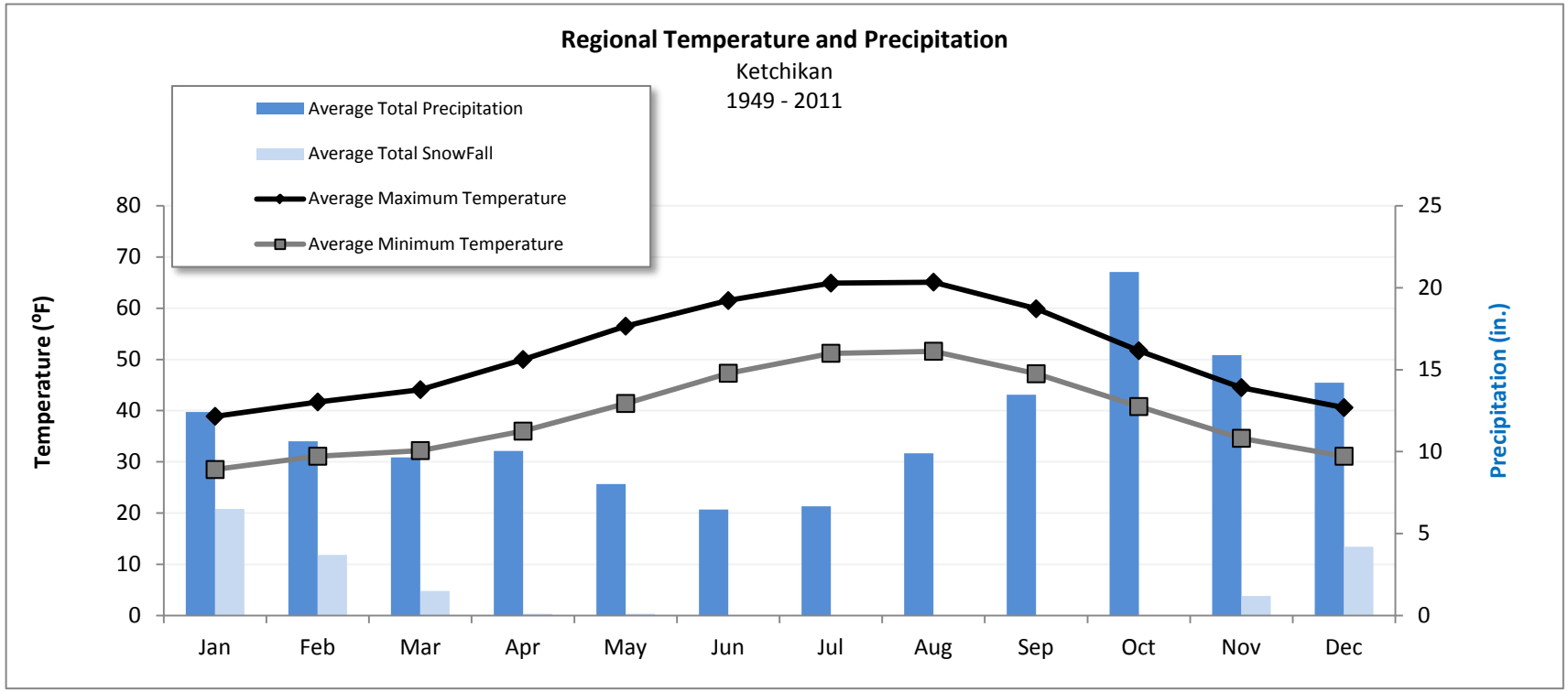


Figure 2-3
Ketchikan Long-Term Average
Temperature and Precipitation Data
Niblack Exploration Project
2011 Annual Report

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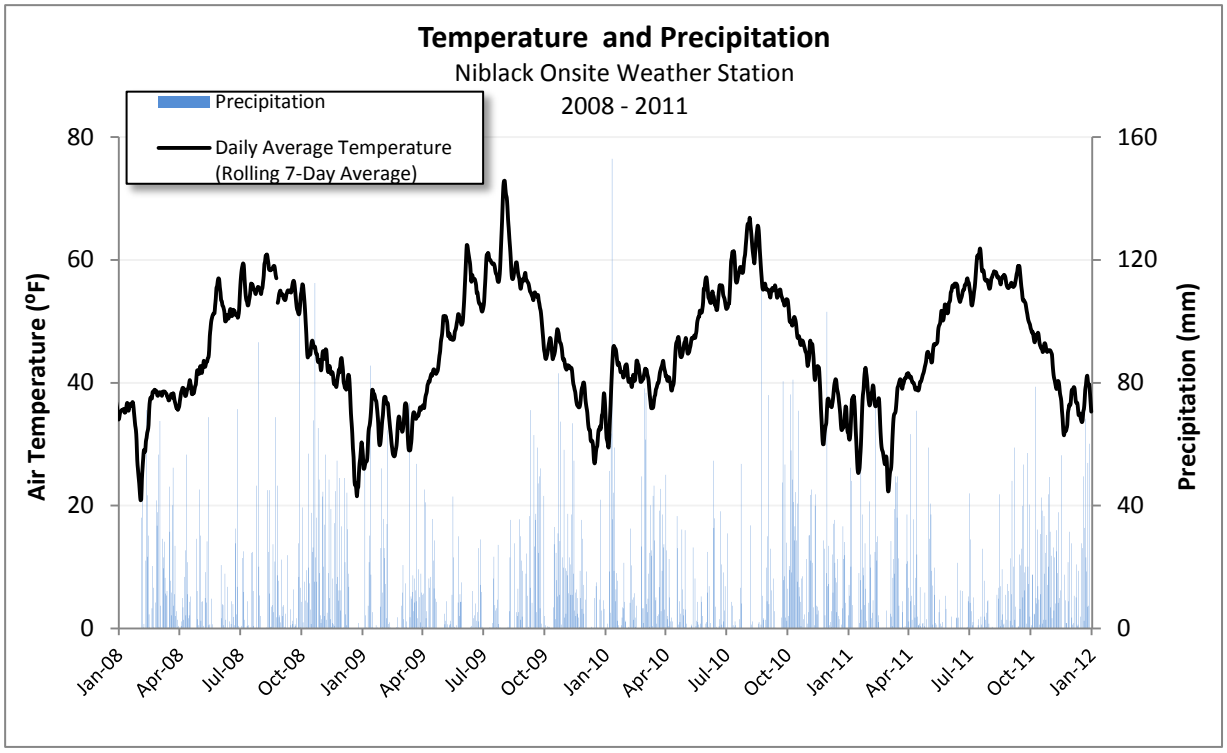

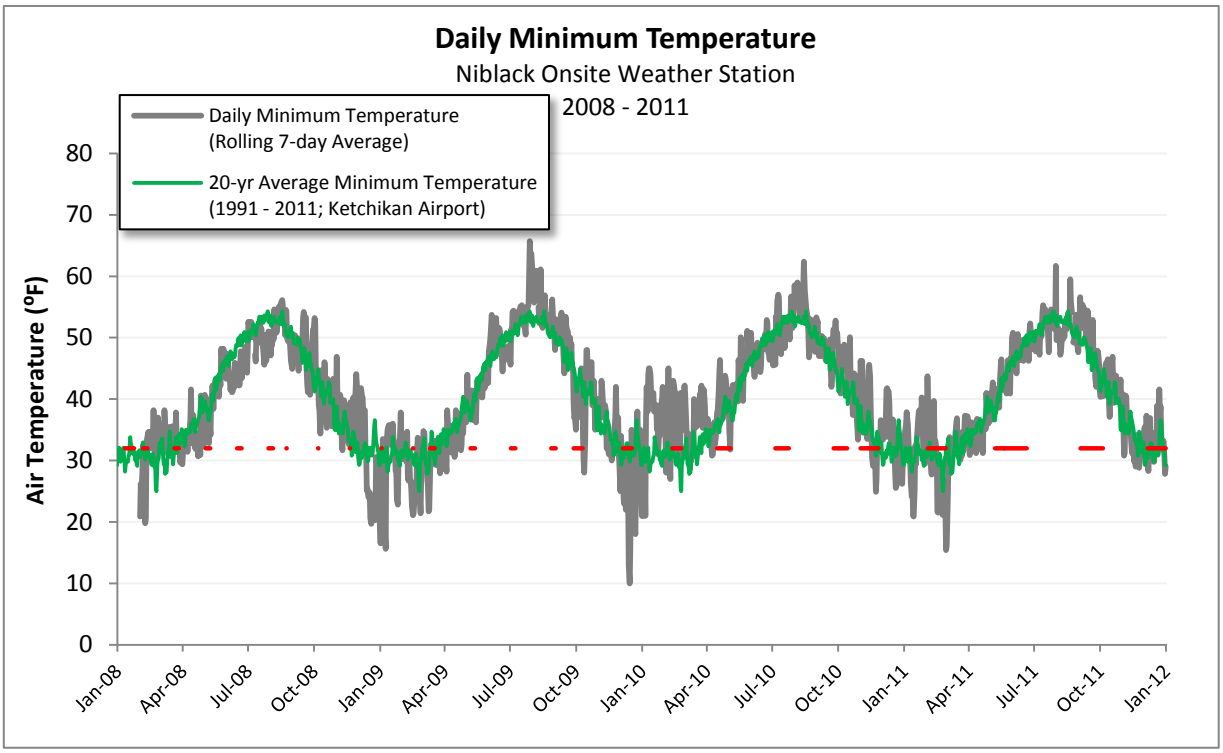

Note: Onsite weather station was not available from 9/18/2009 - 2/27/2009 due to instrument malfunction. Daily temperature and precipitation data for the Ketchikan Airport NOAA weather station are shown for this time period.

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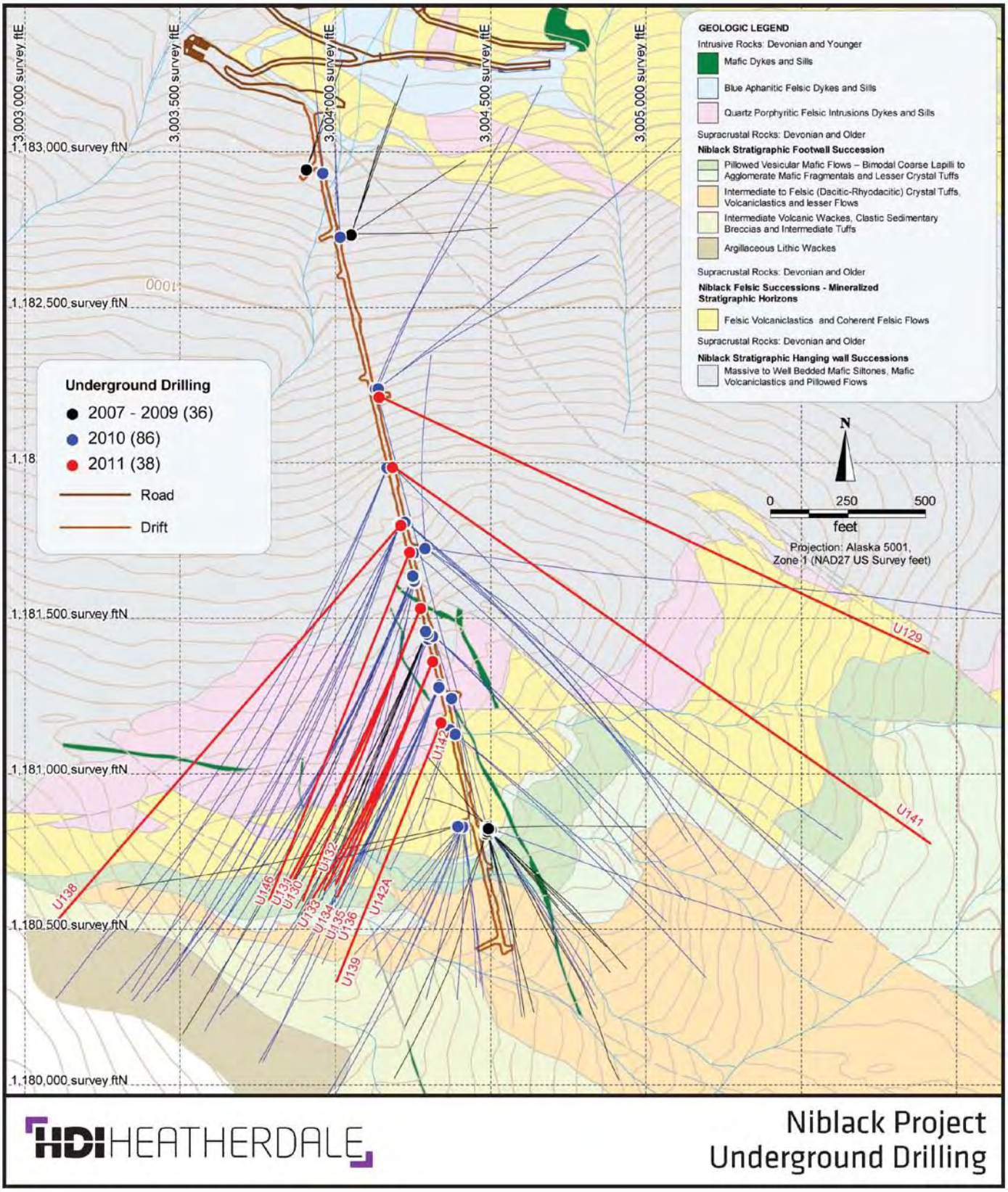
Figure 2-4
Niblack Project Site
Temperature and Precipitation Data
Niblack Exploration Project
2011 Annual Report



Source: Heatherdale (2011)

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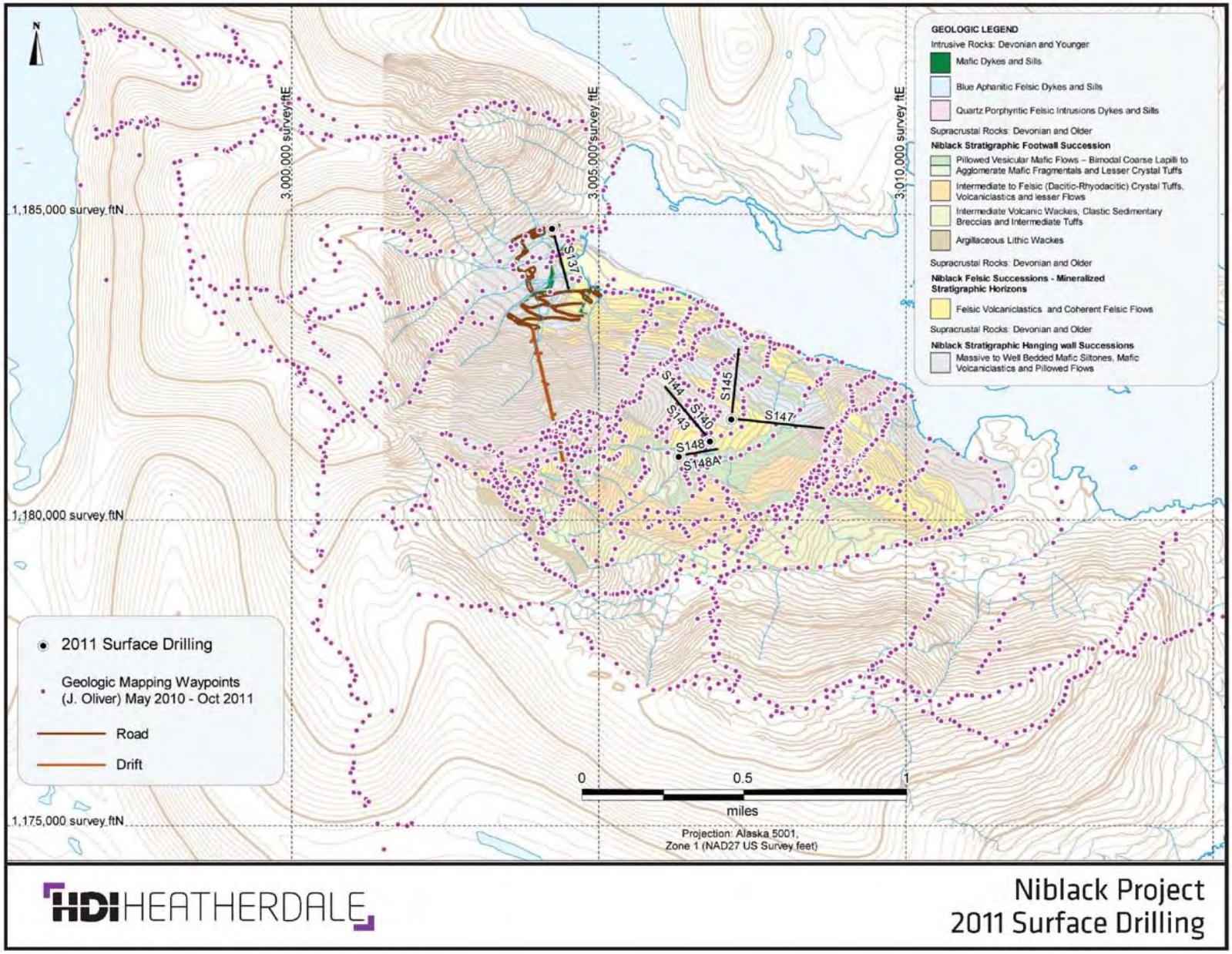
Figure 2-5
Niblack Underground Drilling, 2007–2011
Niblack Exploration Project
2011 Annual Report



Source: Heatherdale (2011)

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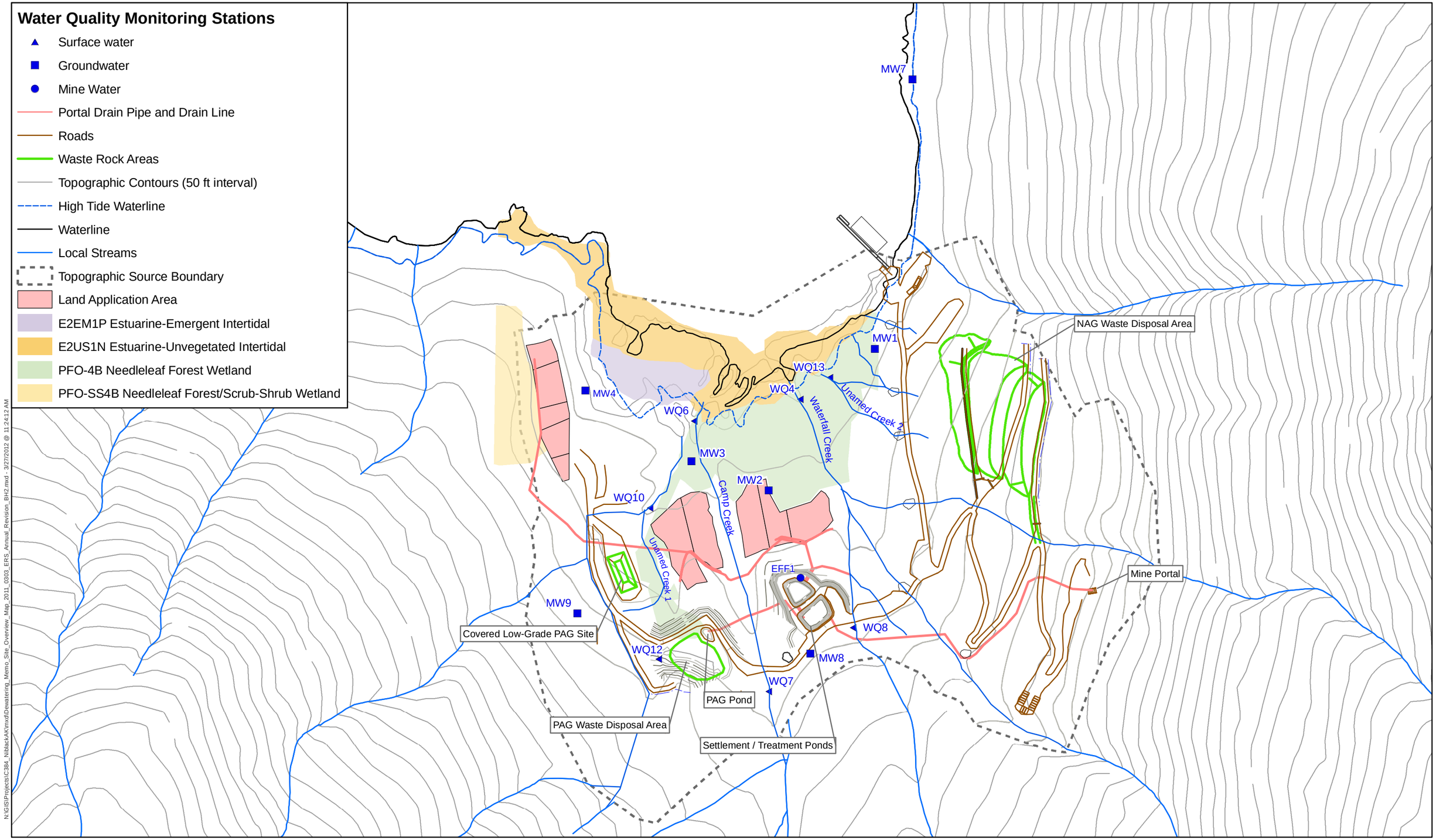
Figure 2-6
Niblack Project Surface Drilling, 2011
Niblack Exploration Project
2011 Annual Report



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integral consulting inc.

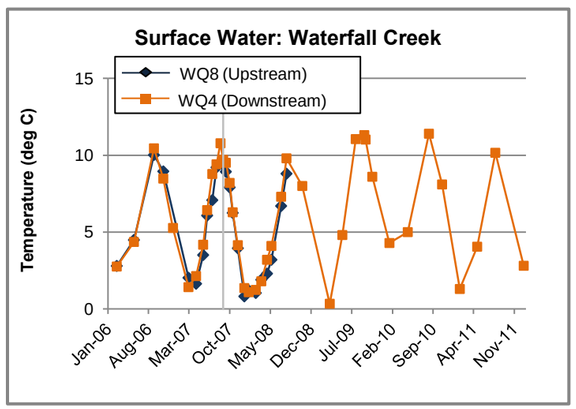
0 125 250 500 Feet

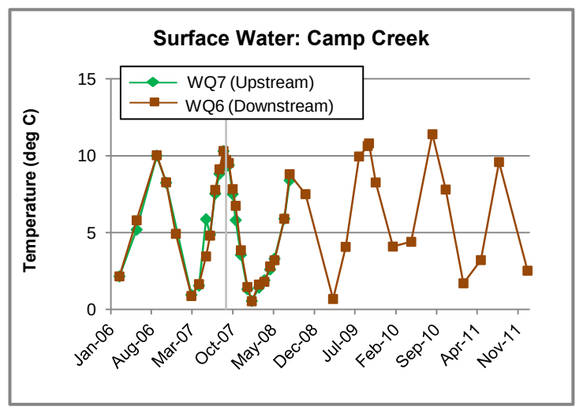
N

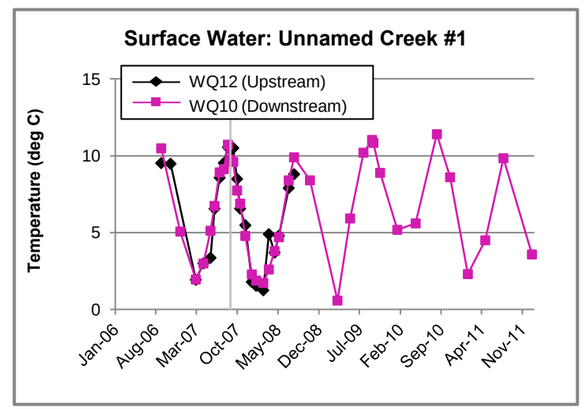
Feature Sources:
Base layers from Knight Piesold, 2007. Water Quality Baseline and Site Monitoring Plan.
Land Application Area from Turner, 2009. Personal communication.
Waste rock areas, portal drains, roads, and ground cover zones from Niblack Project LLC.

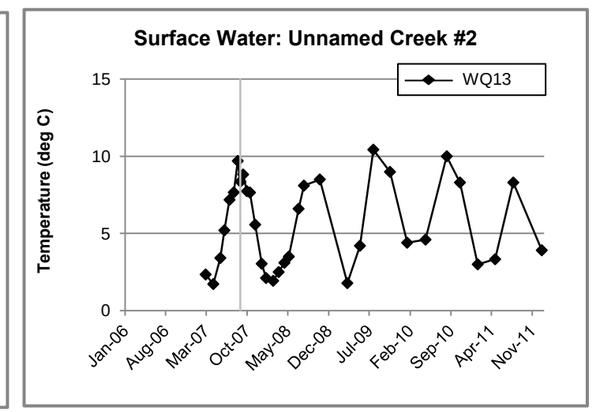
Figure 3-1
Water Quality Monitoring Stations
Niblack Exploration Project
2011 Annual Report

Surface Water Temperature

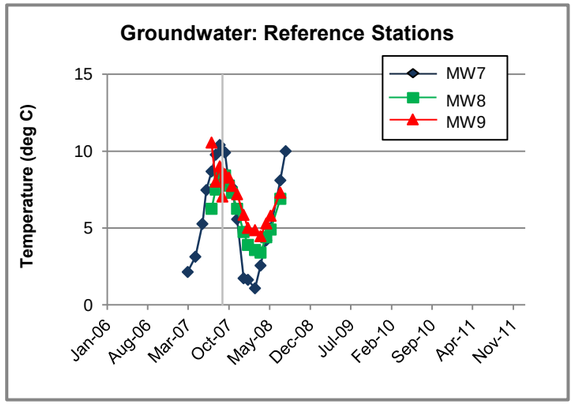


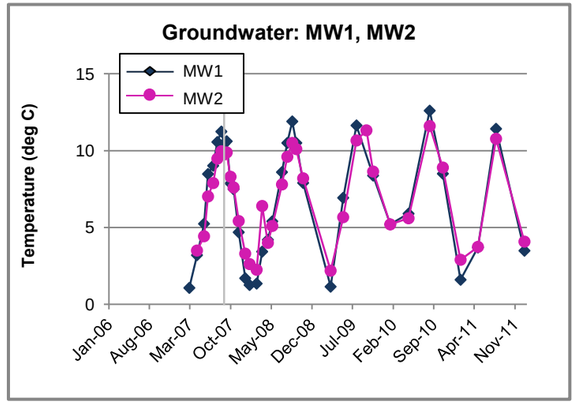


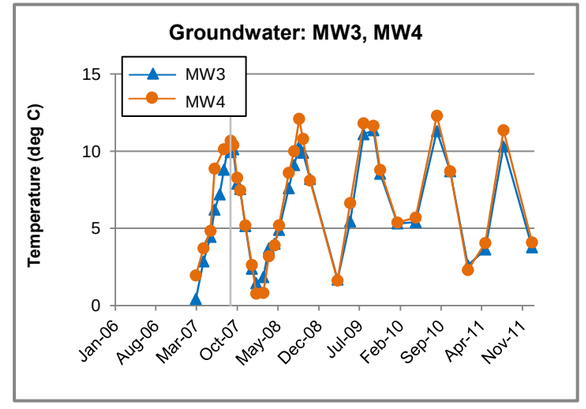


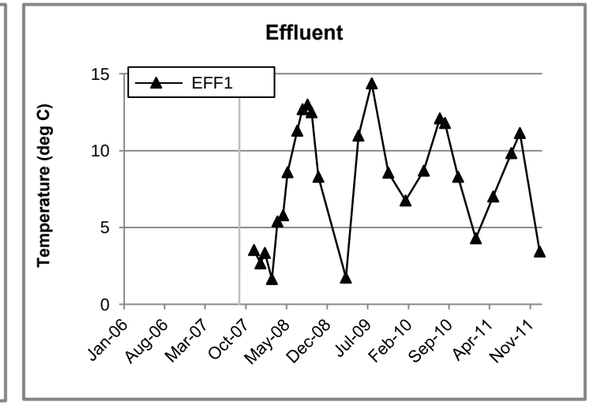


Groundwater Temperature









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

NIBLACK PROJECT LLC integral consulting inc

Figure 4-1
Time Series Plots: Temperature
Surface Water and Groundwater
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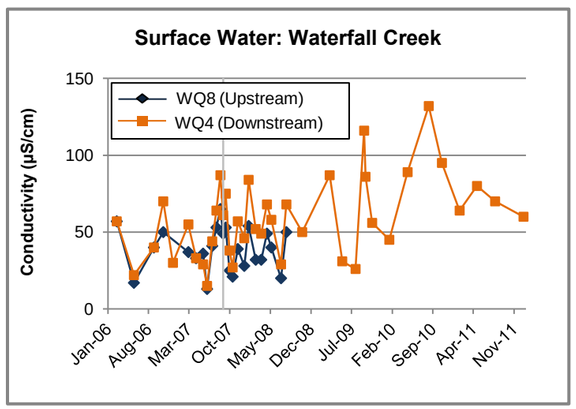
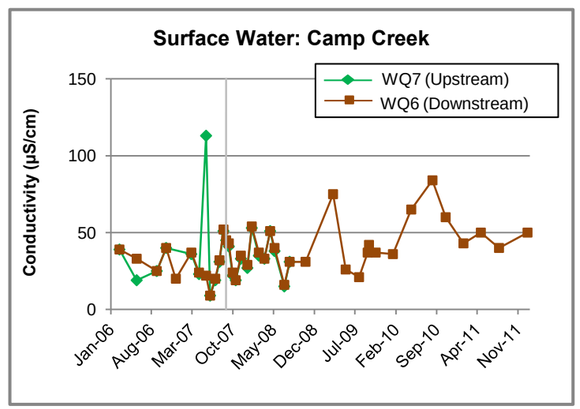
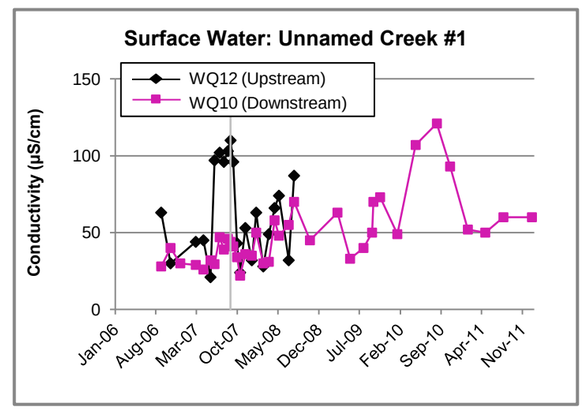
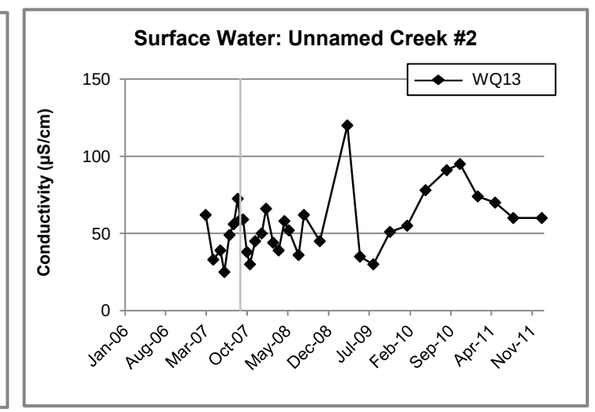
Surface Water Conductivity

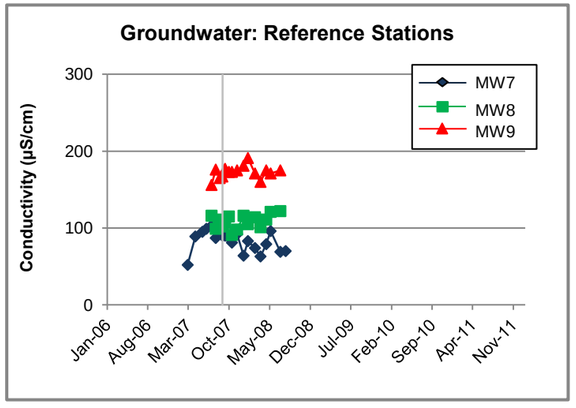


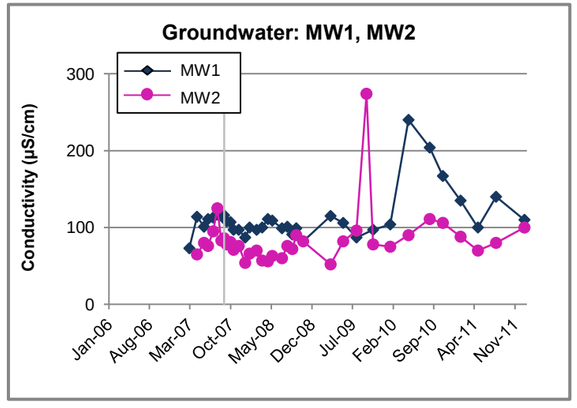


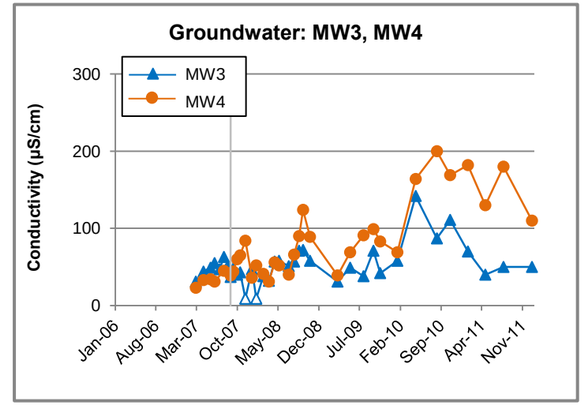


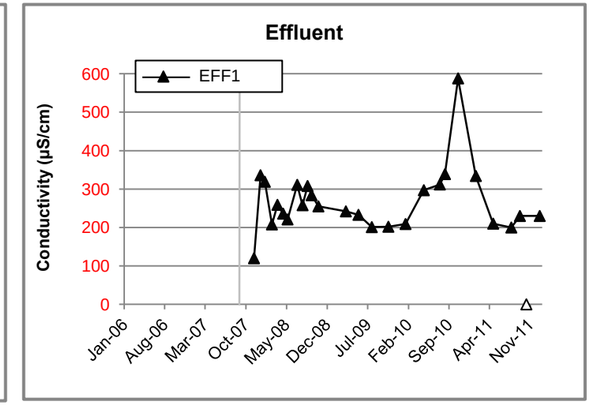


Groundwater Conductivity









Note: Effluent plot y-axis scale differs from other groundwater plots.

Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-2
Time Series Plots: Conductivity
Surface Water and Groundwater
Niblack Exploration Project
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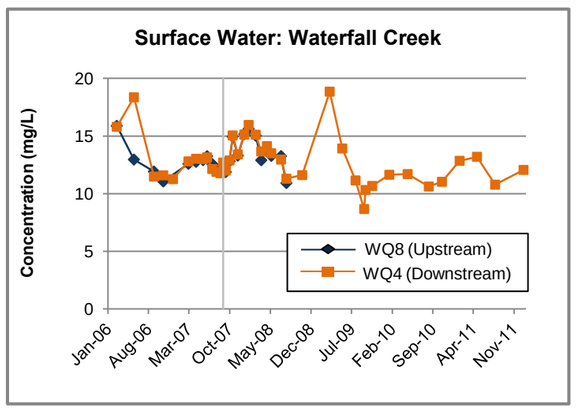
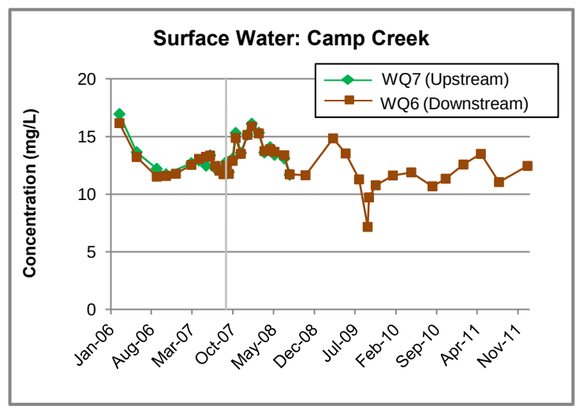
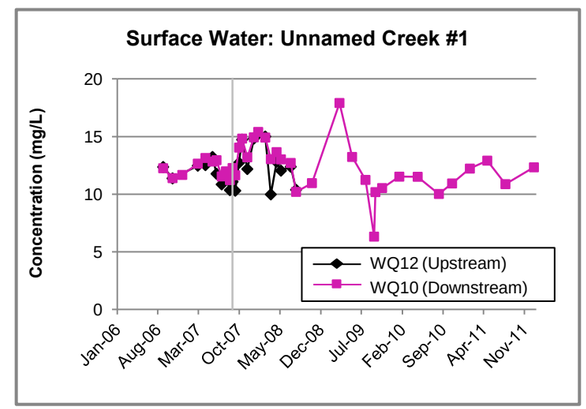
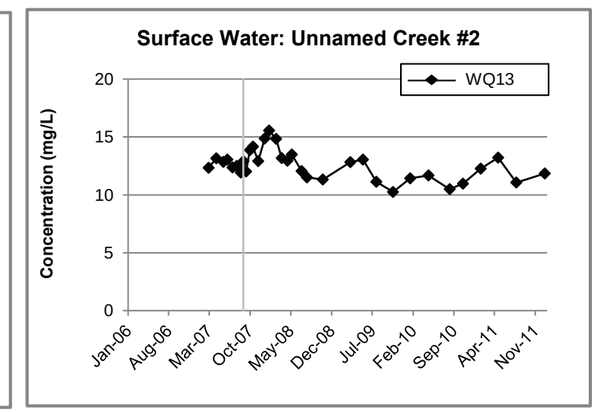
Surface Water Dissolved Oxygen

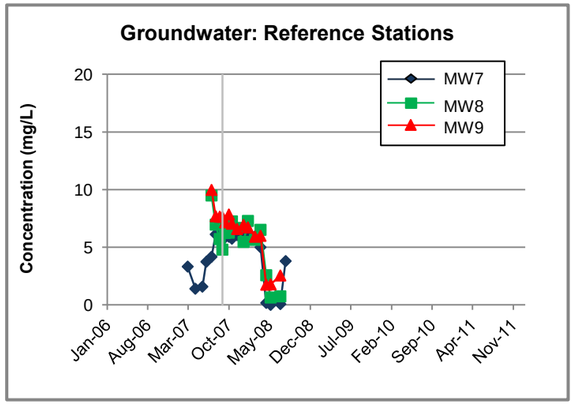


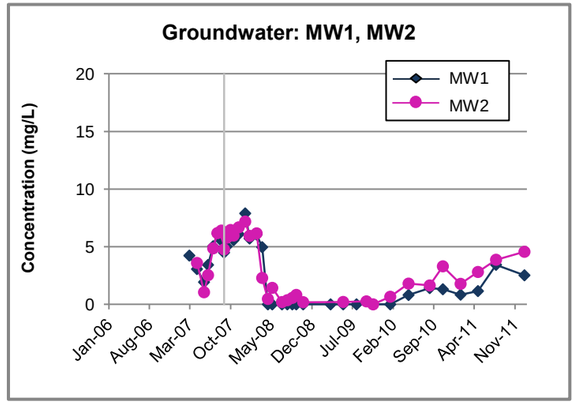


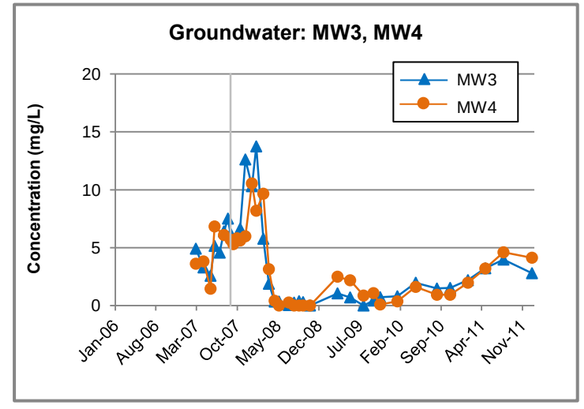


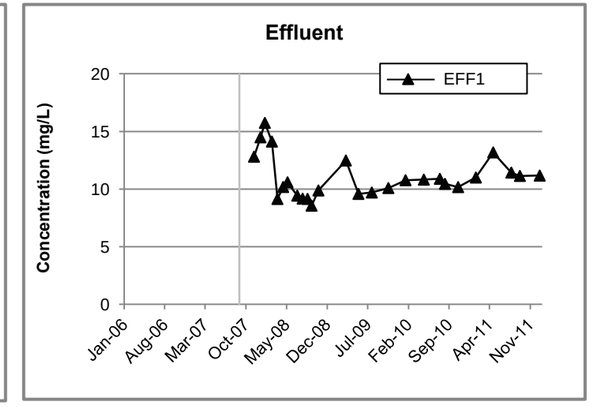


Groundwater Dissolved Oxygen









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-3
Time Series Plots: Dissolved Oxygen
Surface Water and Groundwater
Niblack Exploration Project
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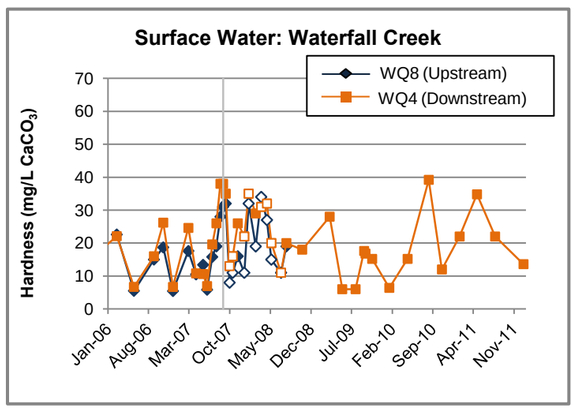
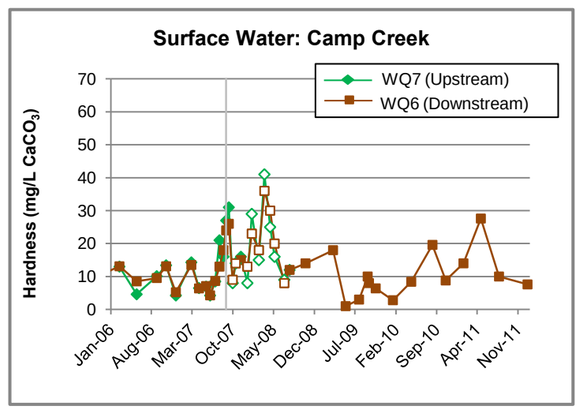
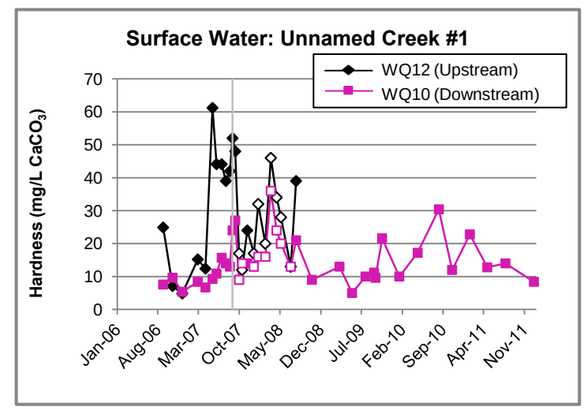
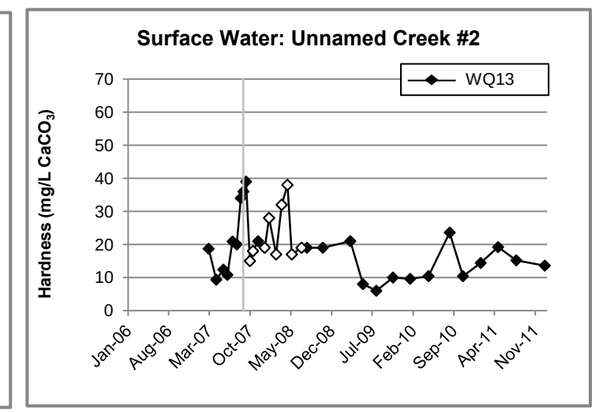
Surface Water Hardness

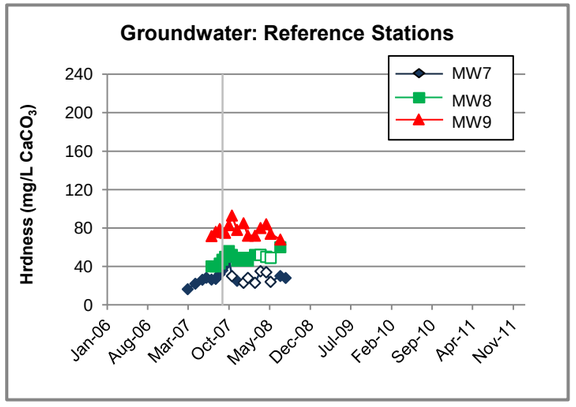


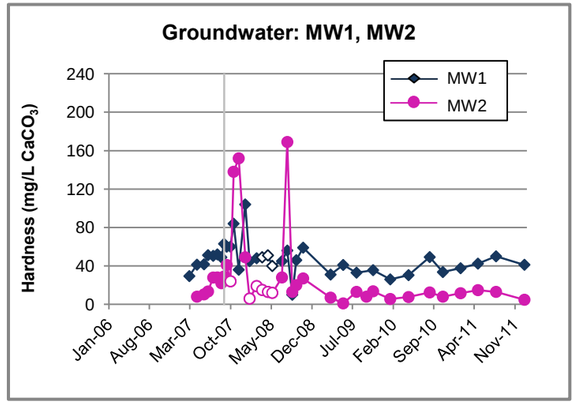


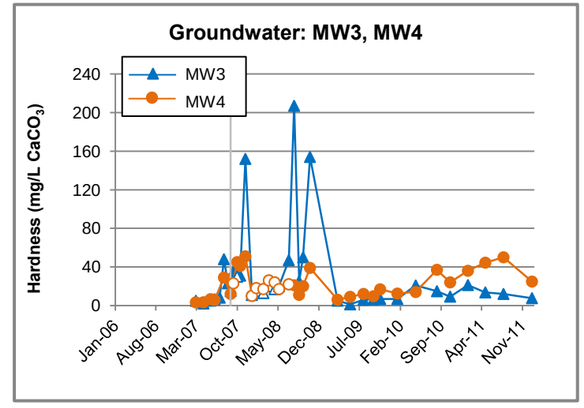


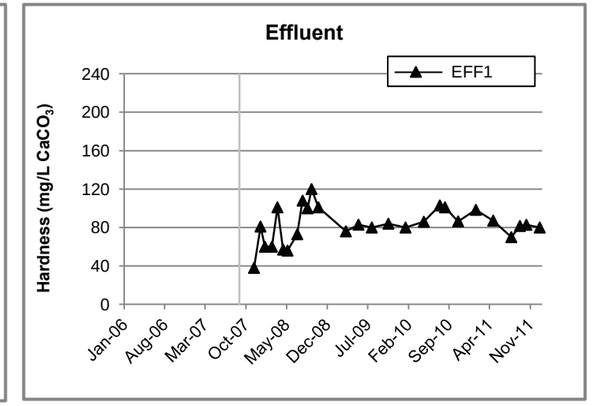


Groundwater Hardness









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-4
Time Series Plots: Hardness
Surface Water and Groundwater
Niblack Exploration Project
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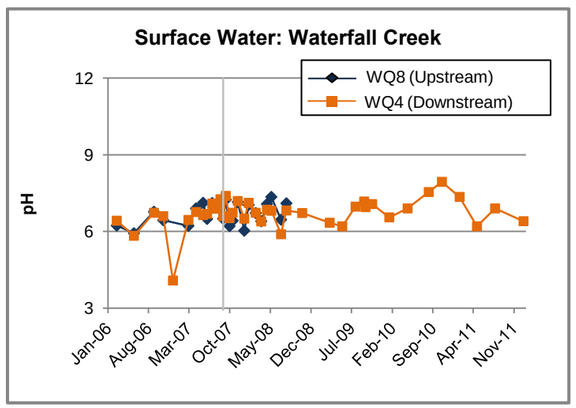
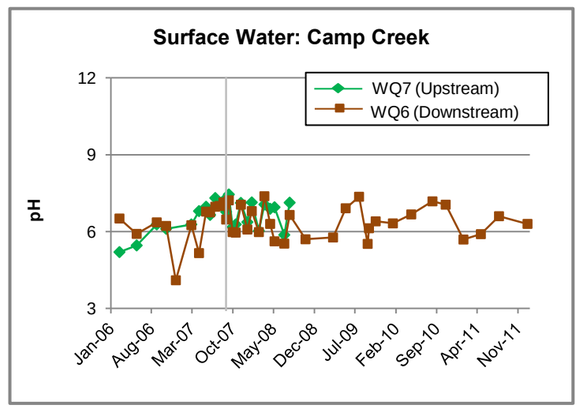
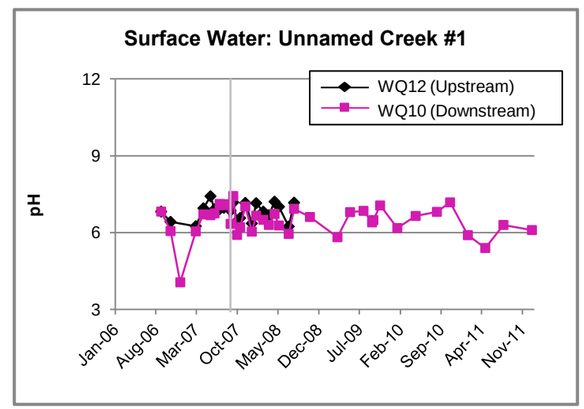
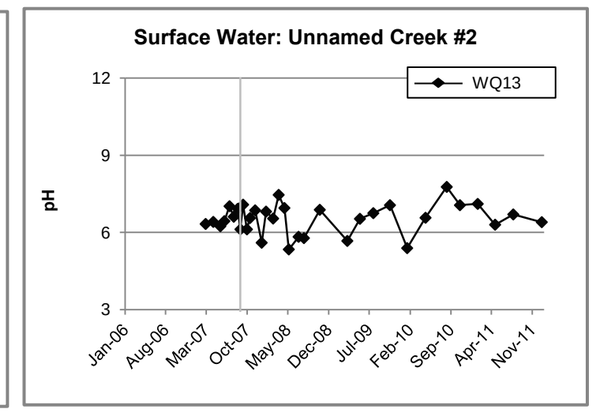
Surface Water pH

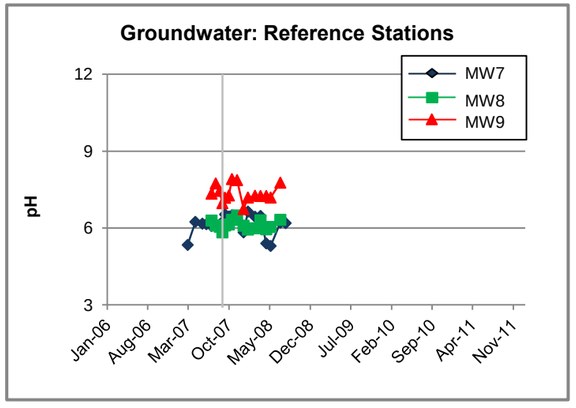


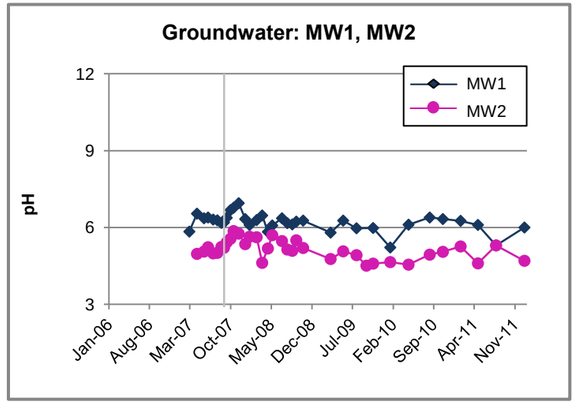


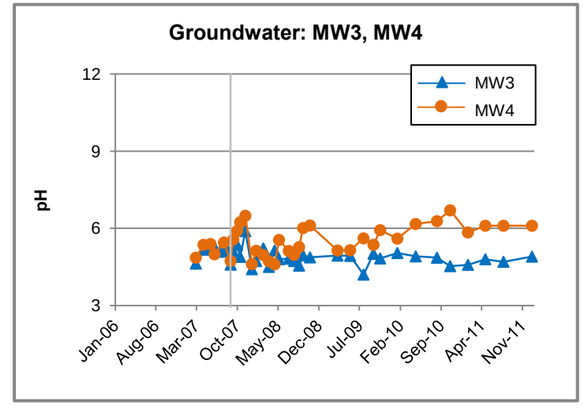


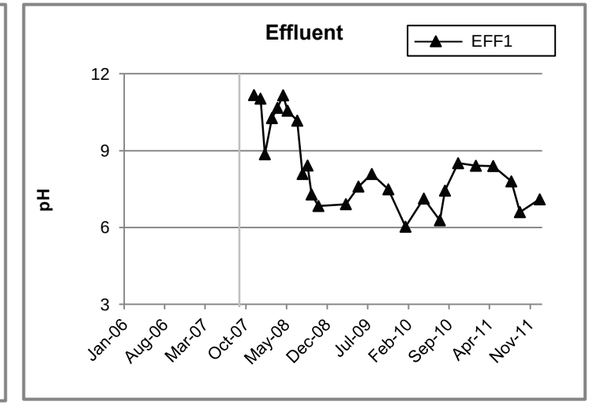


Groundwater pH









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-5
Time Series Plots: pH
Surface Water and Groundwater
Niblack Exploration Project
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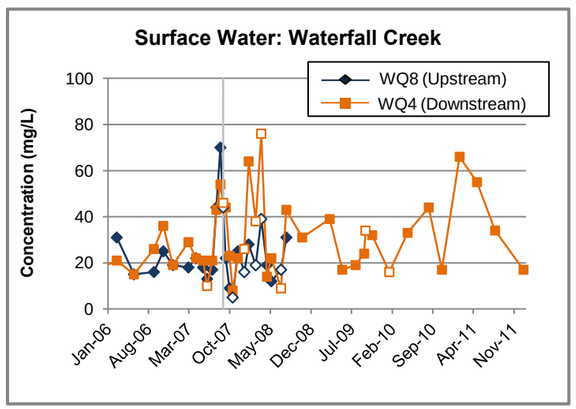
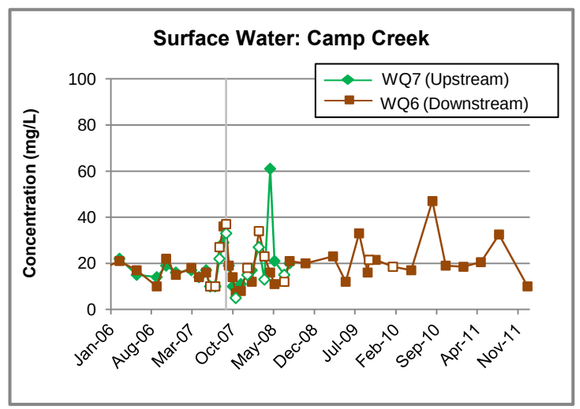
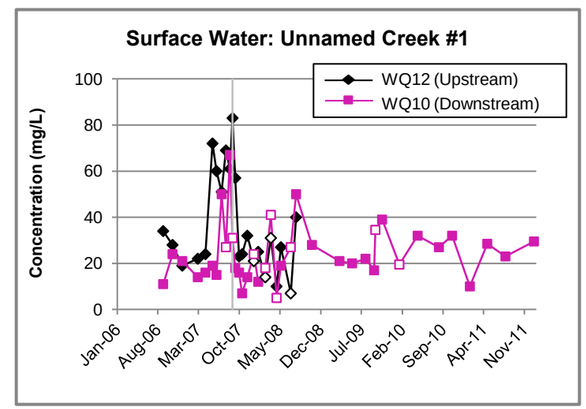
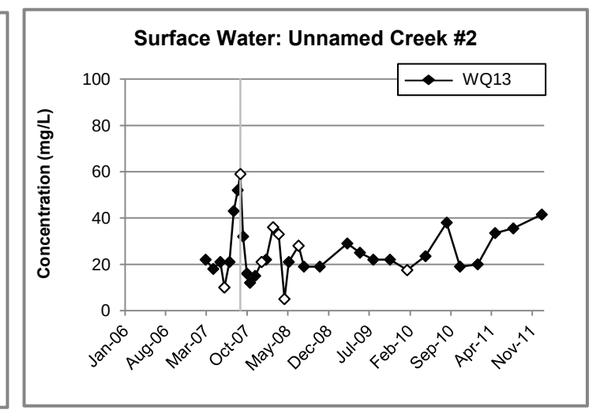
Surface Water Total Dissolved Solids

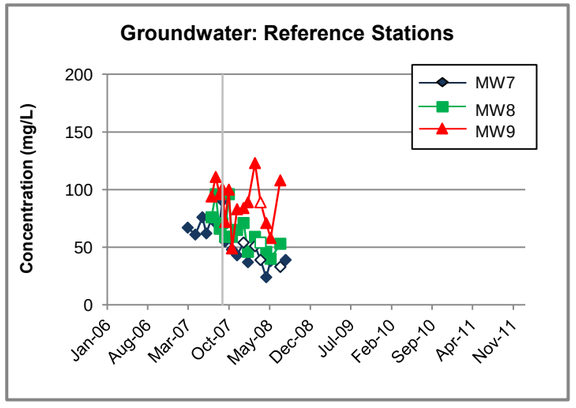


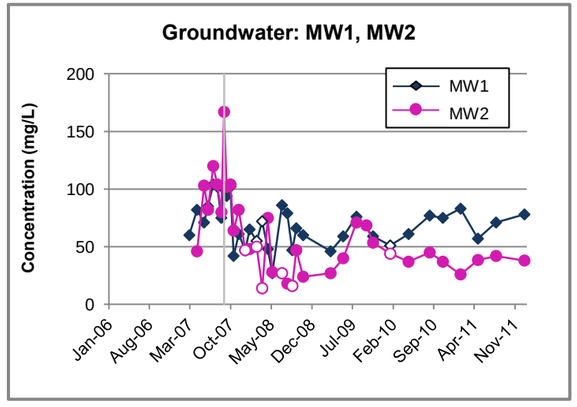


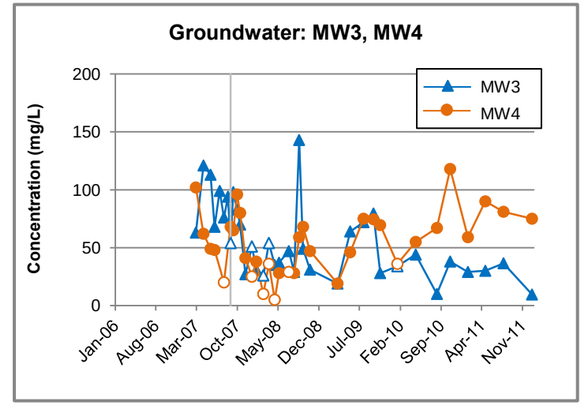


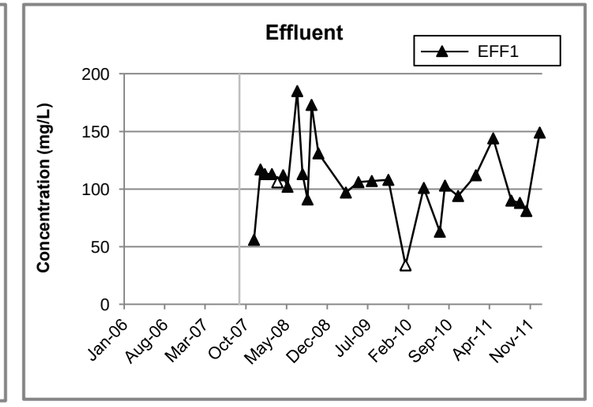


Groundwater Total Dissolved Solids









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-6
Time Series Plots: Total Dissolved Solids
Surface Water and Groundwater
Niblack Exploration Project
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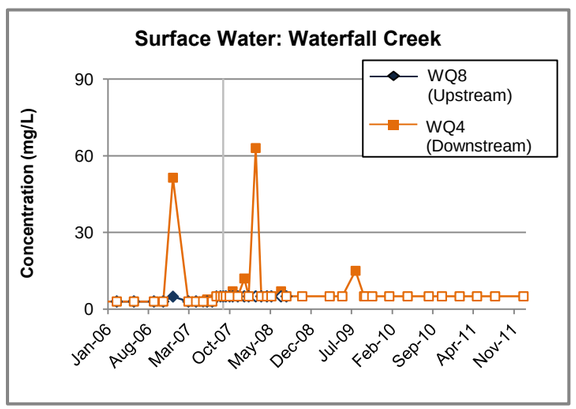
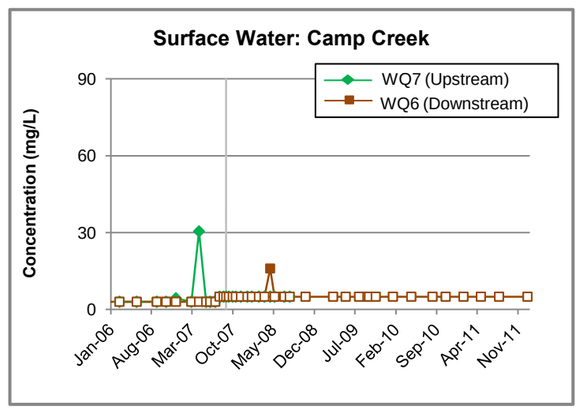
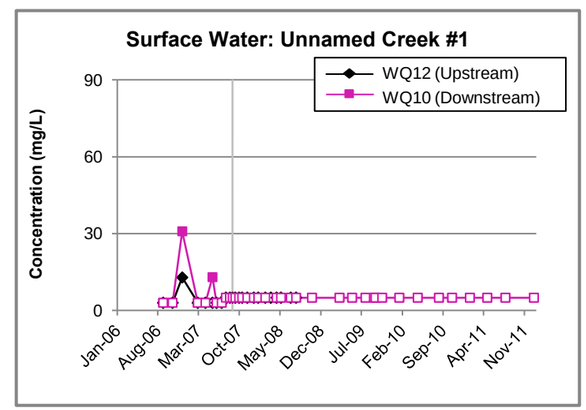
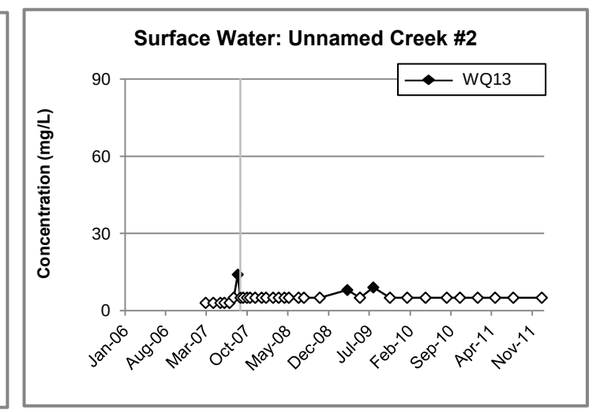
Surface Water Total Suspended Solids

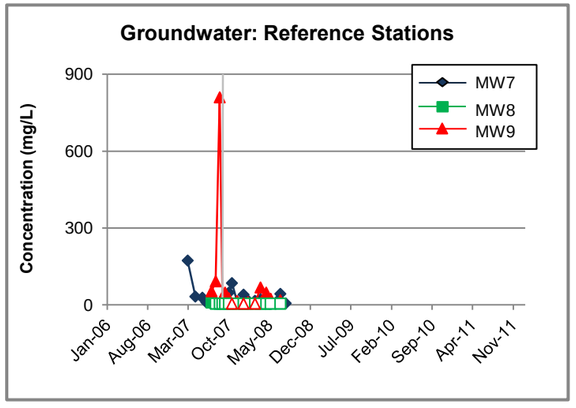


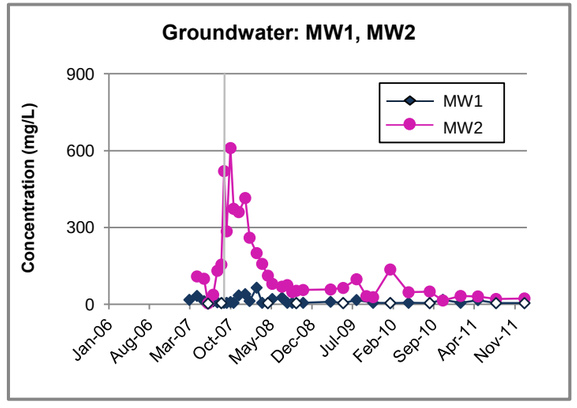


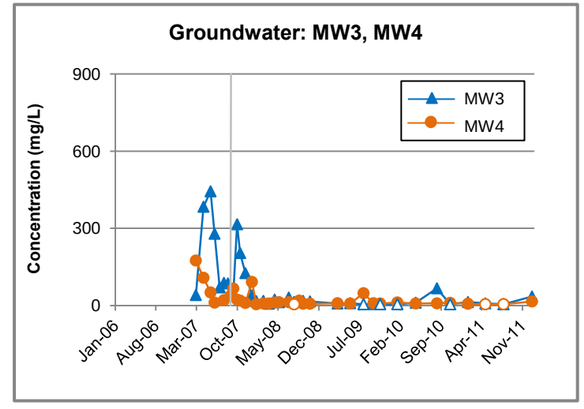


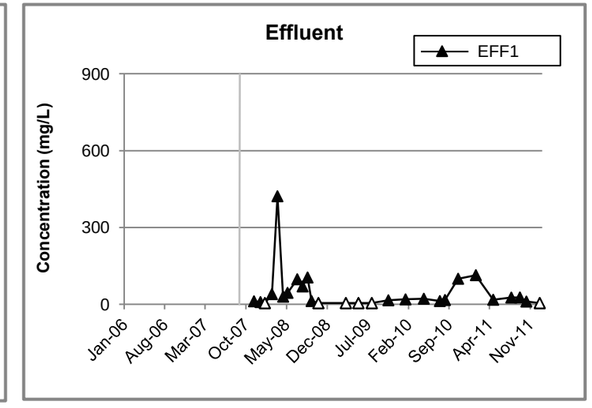


Groundwater Total Suspended Solids









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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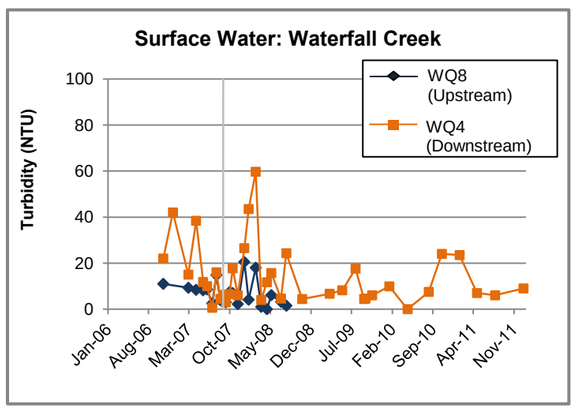
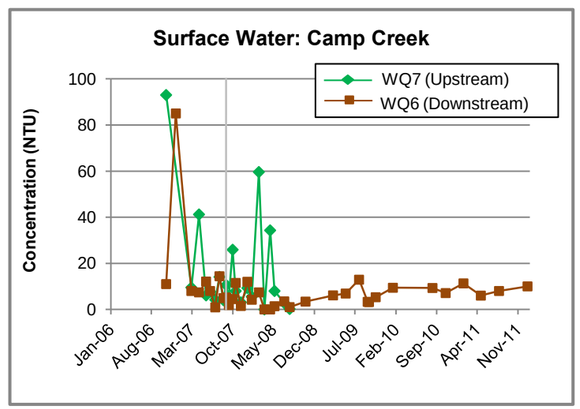
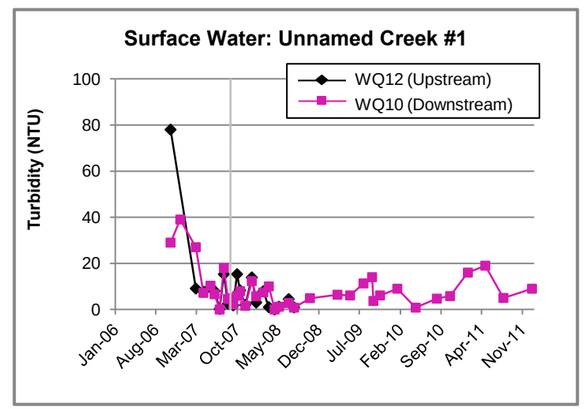
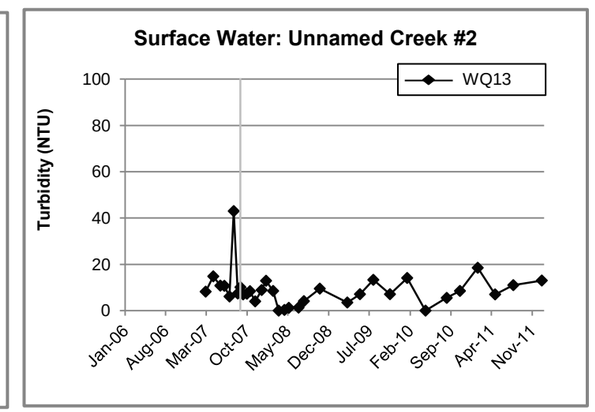
Figure 4-7
Time Series Plots: Total Suspended Solids
Surface Water and Groundwater
Niblack Exploration Project
2011 Annual Report

Surface Water Turbidity

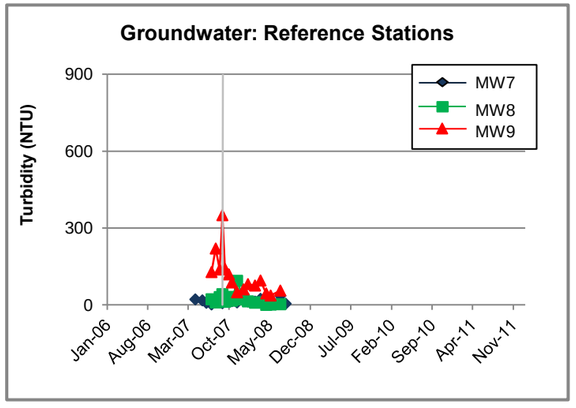


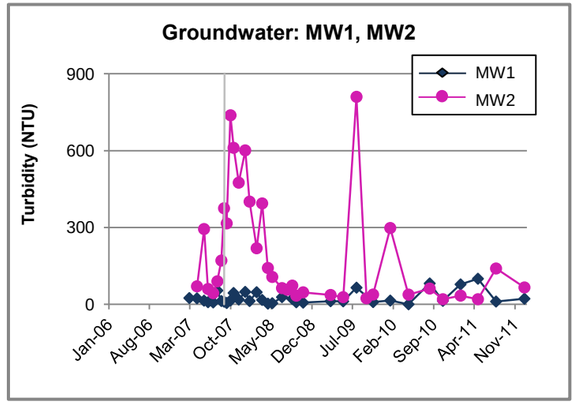


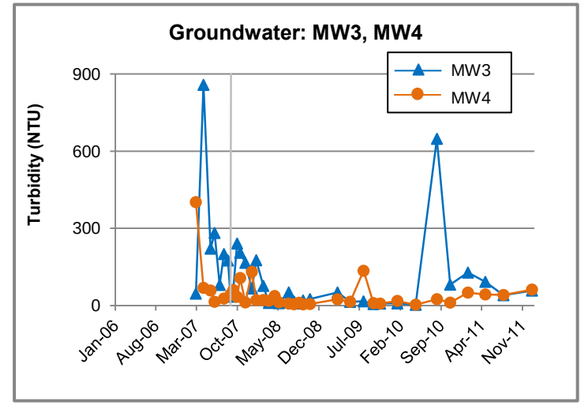


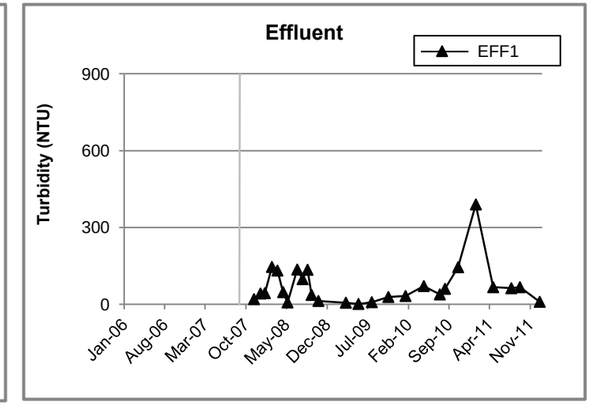


Groundwater Turbidity









Notes:
Nondetect values shown at full detection limits as hollow symbols.
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Figure 4-8
Time Series Plots: Turbidity
Surface Water and Groundwater
Niblack Exploration Project
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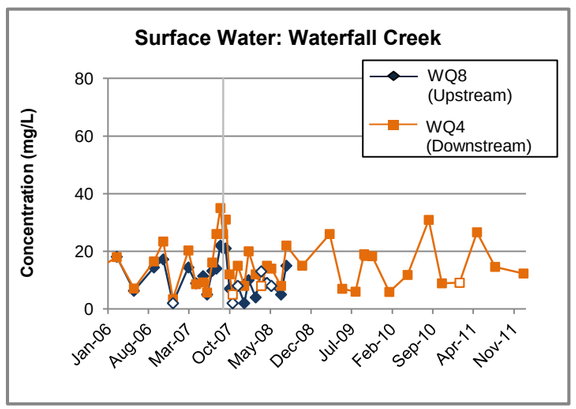
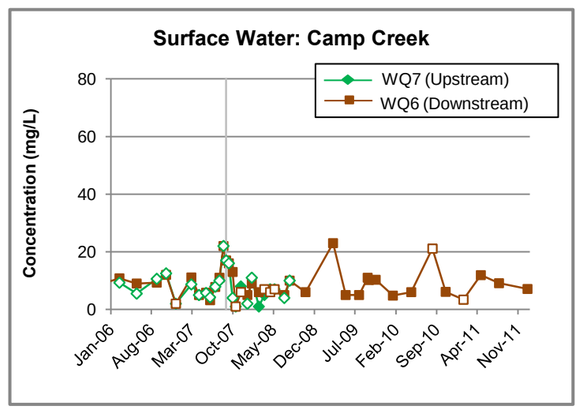
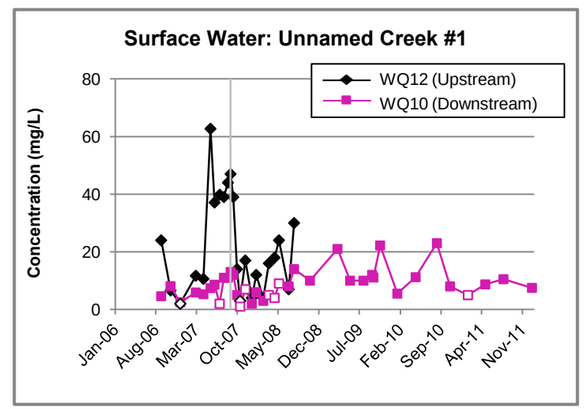
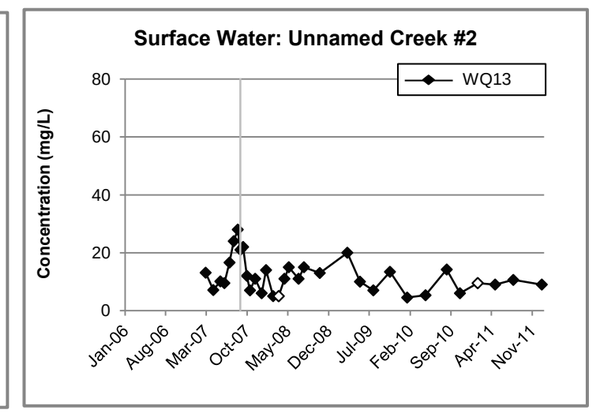
Surface Water Alkalinity

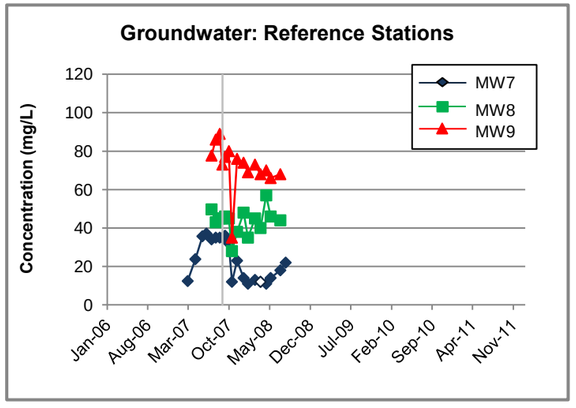


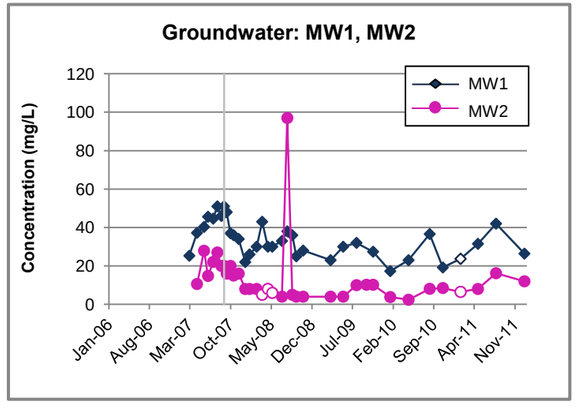


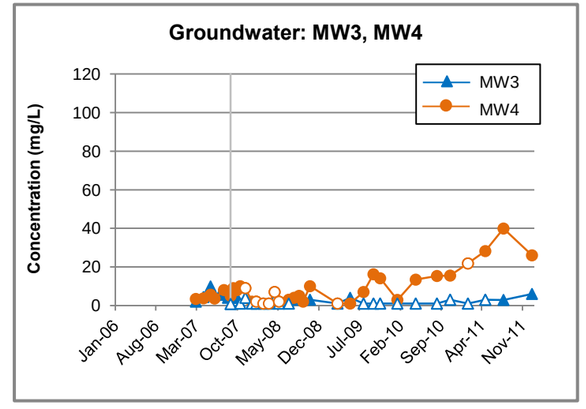


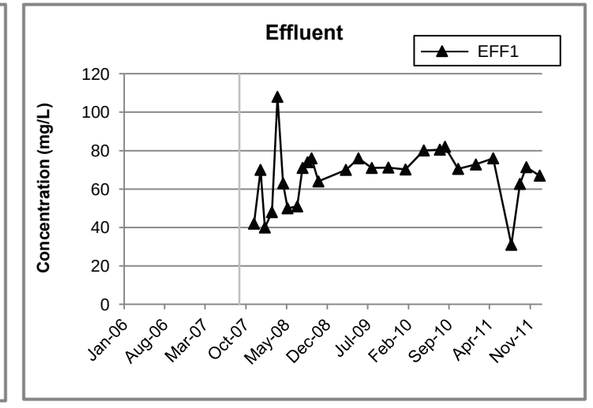


Groundwater Alkalinity









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-9
Time Series Plots: Alkalinity
Surface Water and Groundwater
Niblack Exploration Project
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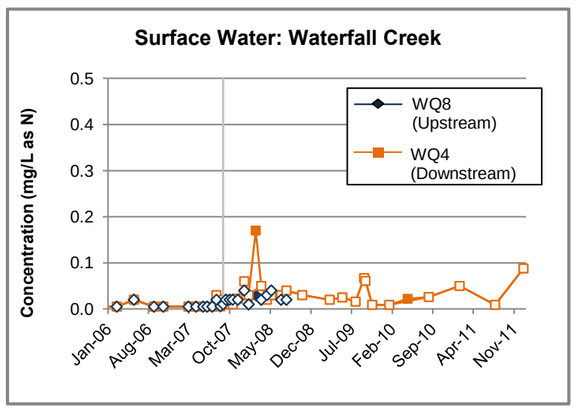
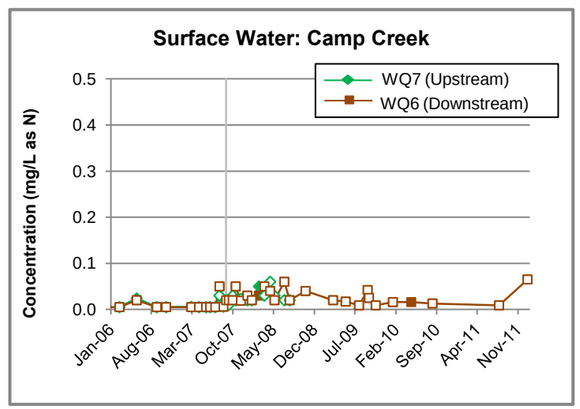
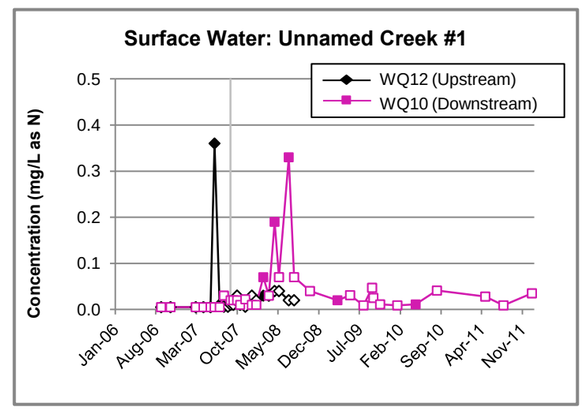
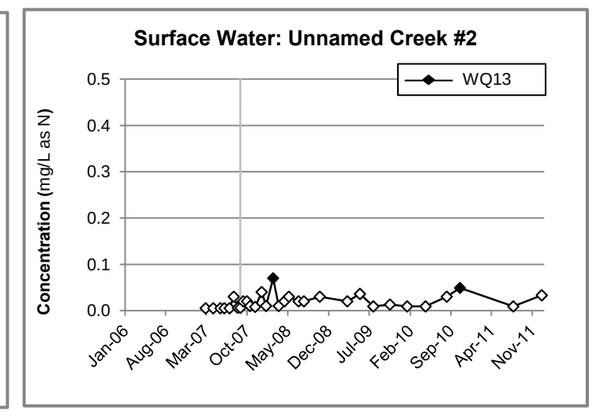
Surface Water Ammonia

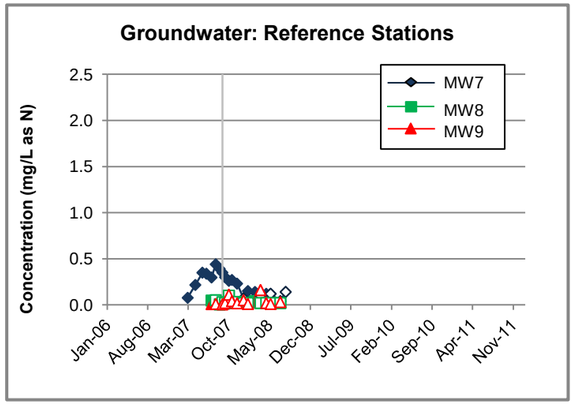


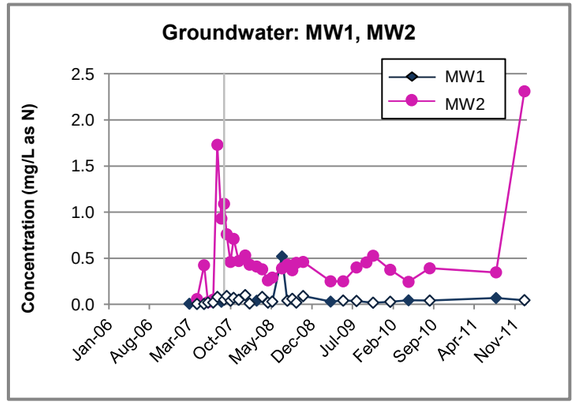


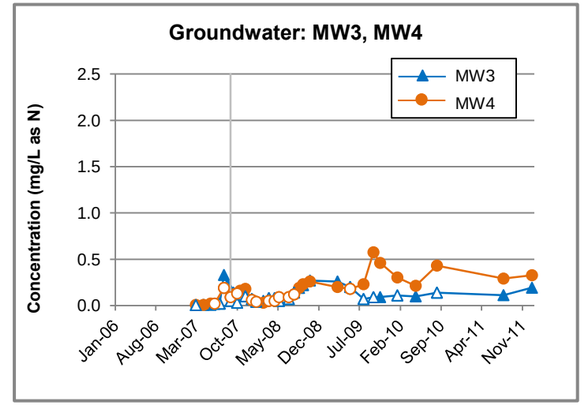


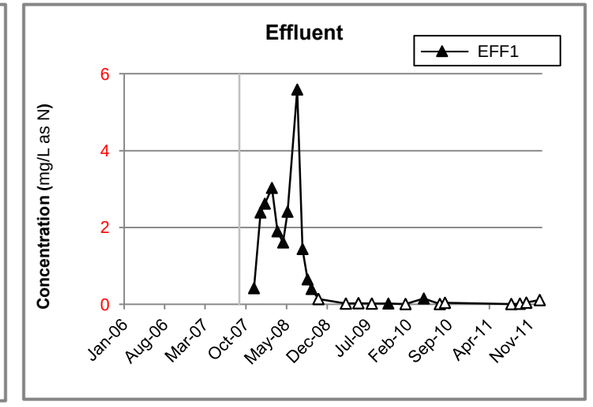


Groundwater Ammonia









Note: Effluent plot y-axis scale differs from other groundwater plots.

Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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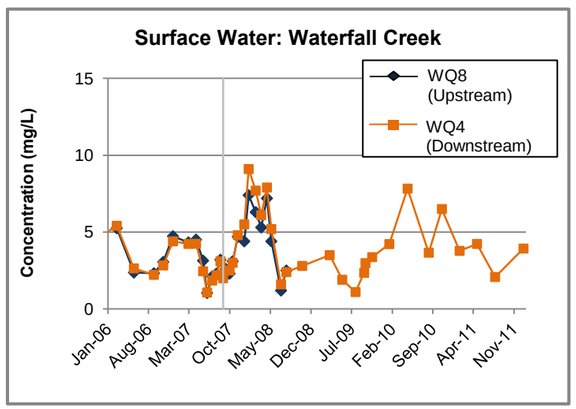
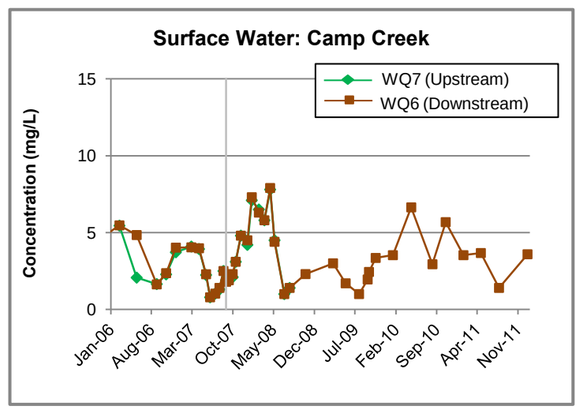
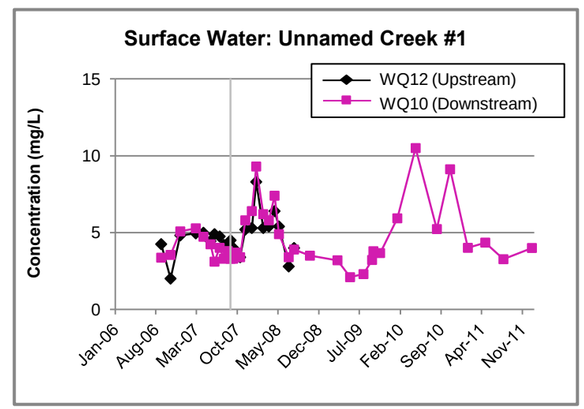
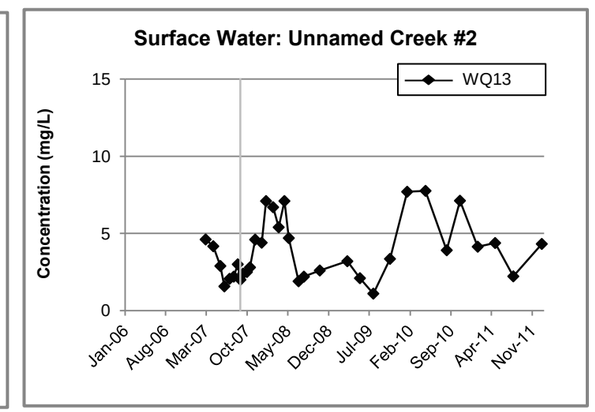
Figure 4-10
Time Series Plots: Ammonia
Surface Water and Groundwater
Niblack Exploration Project
2011 Annual Report

Surface Water Chloride

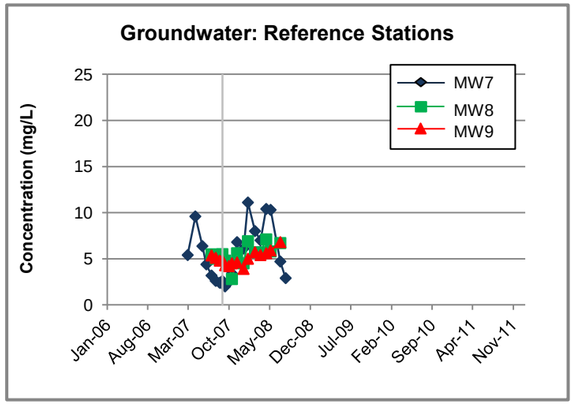


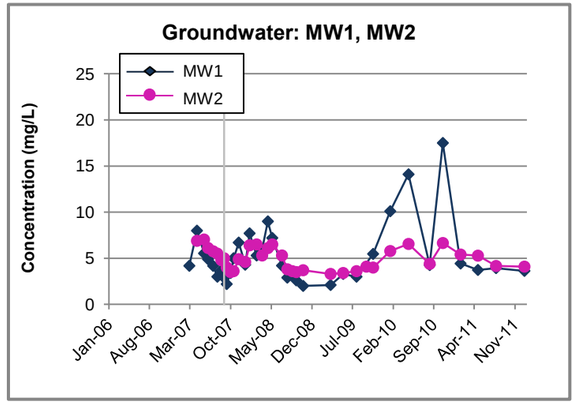


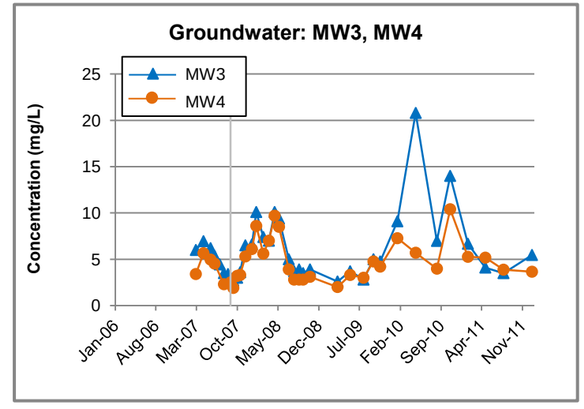


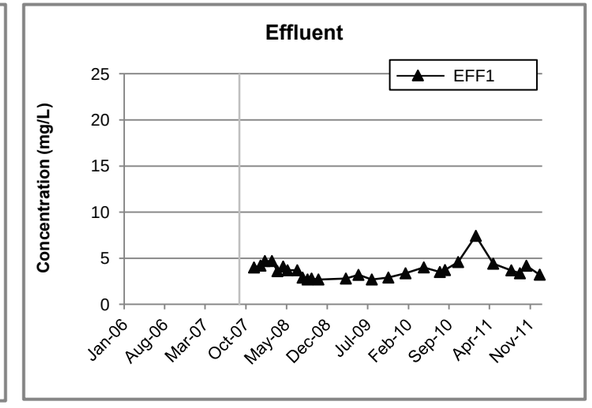


Groundwater Chloride









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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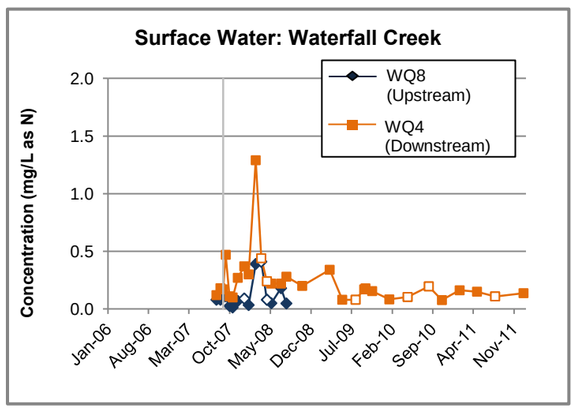
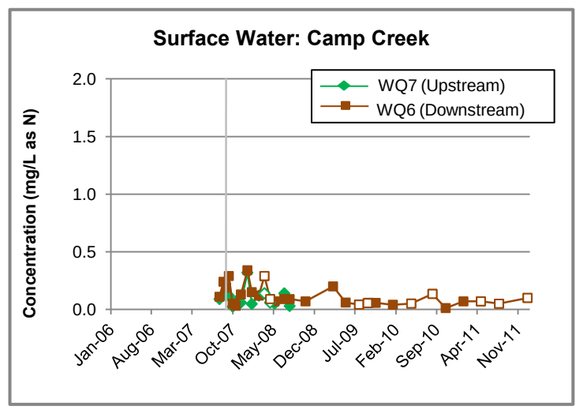
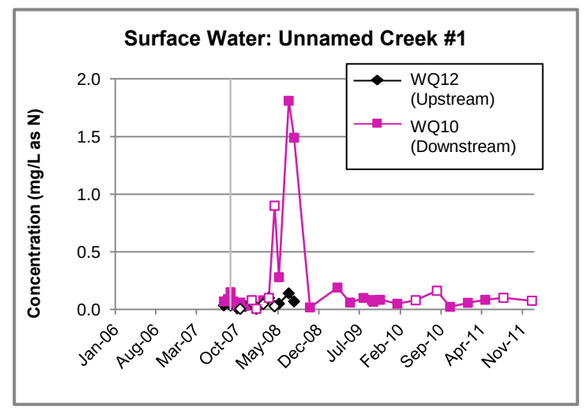
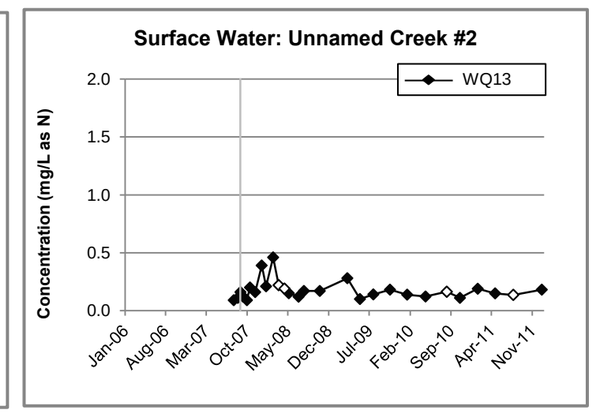
Figure 4-11
Time Series Plots: Chloride
Surface Water and Groundwater
Niblack Exploration Project
2011 Annual Report

Surface Water Nitrate + Nitrite

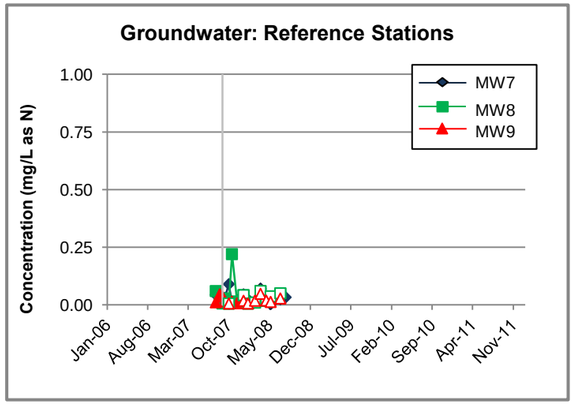


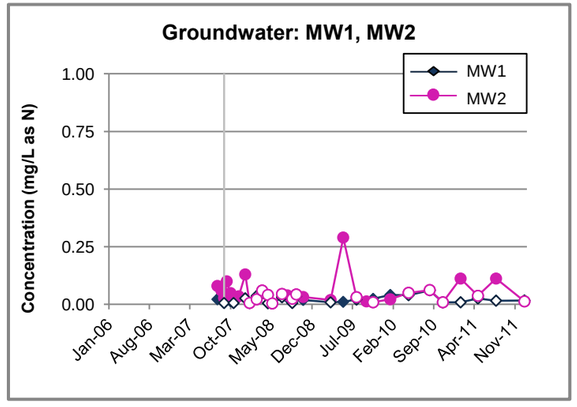


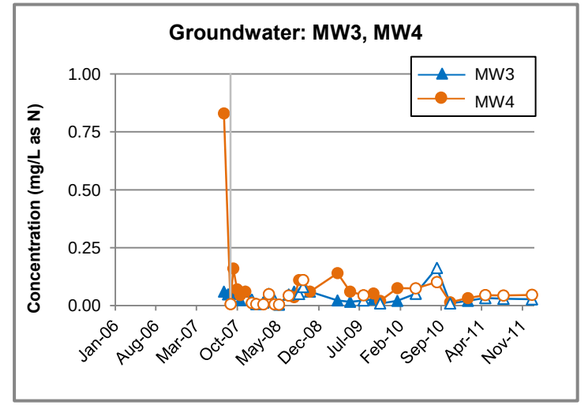


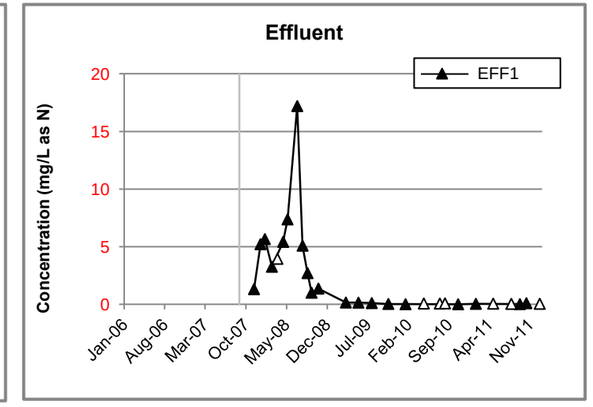


Groundwater Nitrate + Nitrite









Note: Effluent plot y-axis scale differs from other groundwater plots.

Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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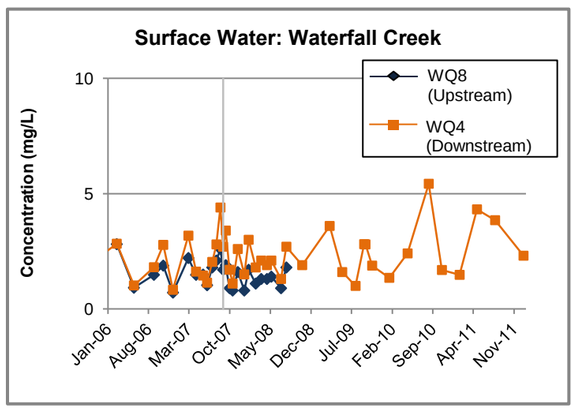
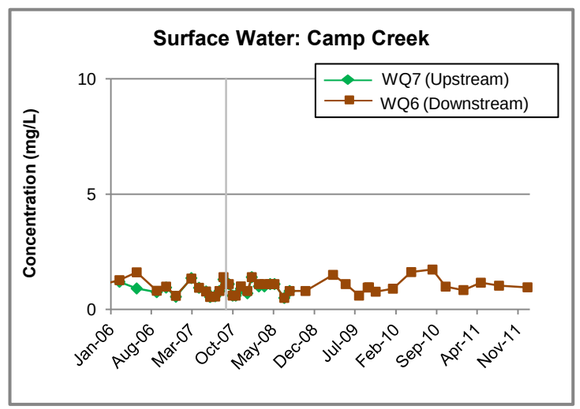
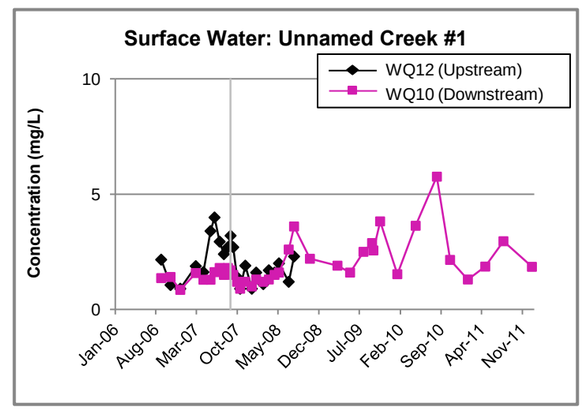
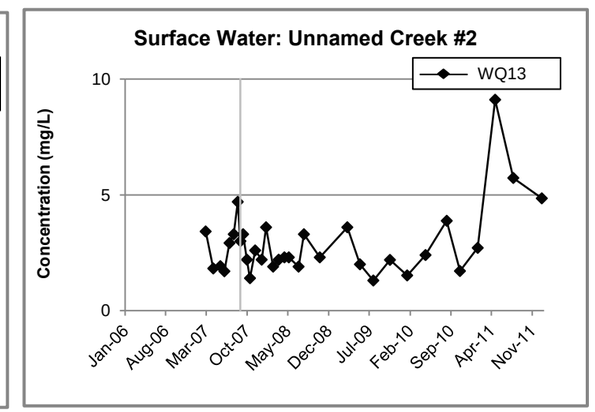
Figure 4-12
Time Series Plots: Nitrate + Nitrite as N
Surface Water and Groundwater
Niblack Exploration Project
2011 Annual Report

Surface Water Sulfate

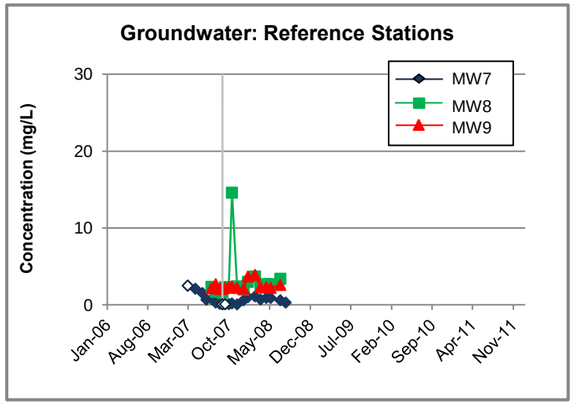


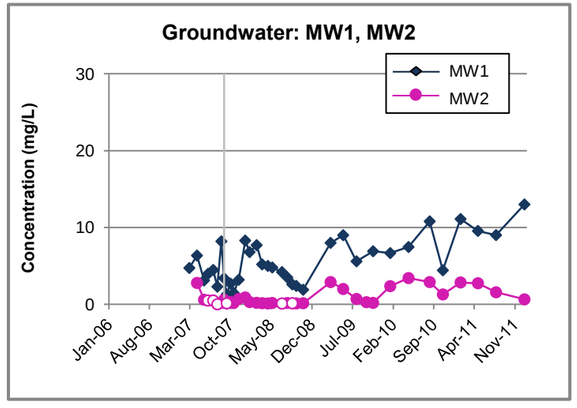


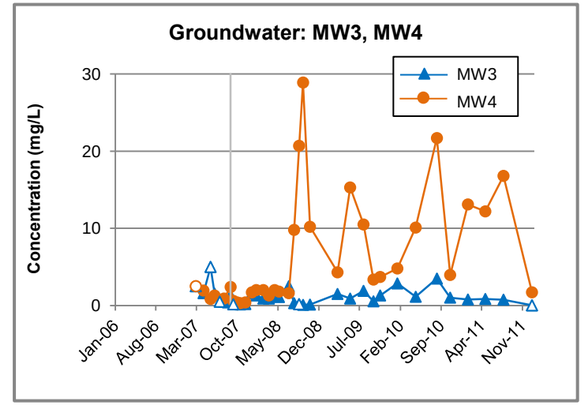


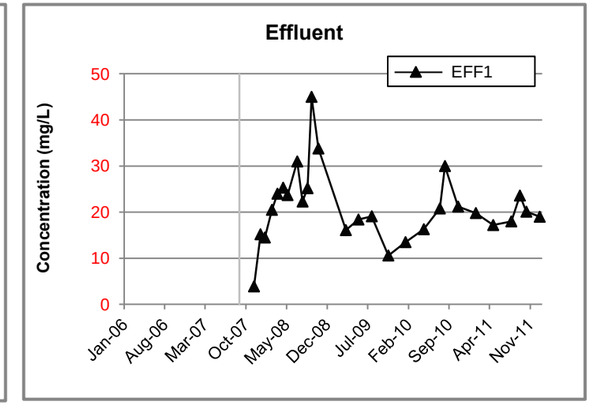


Groundwater Sulfate









Note: Effluent plot y-axis scale differs from other groundwater plots.

Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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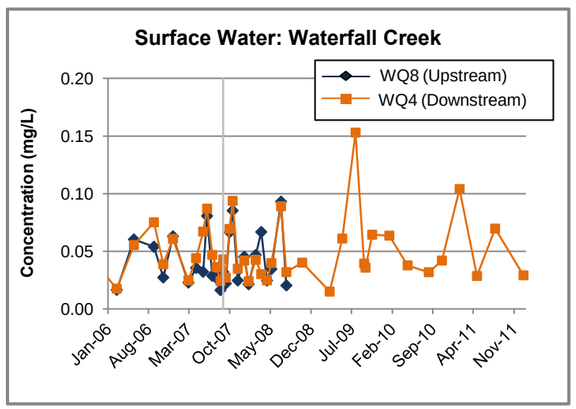
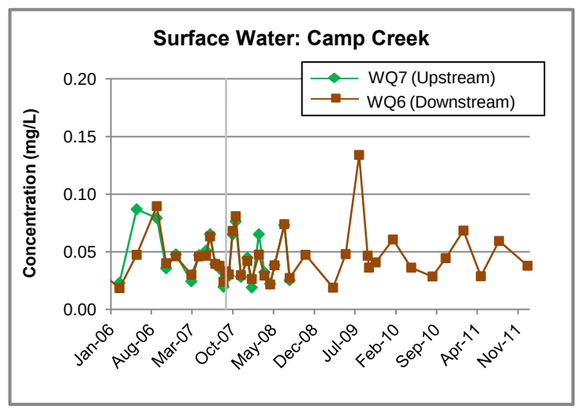
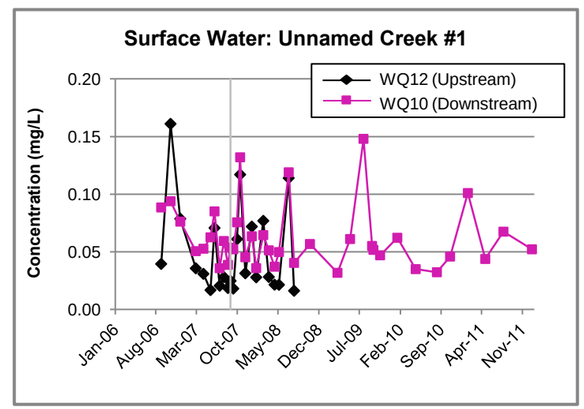
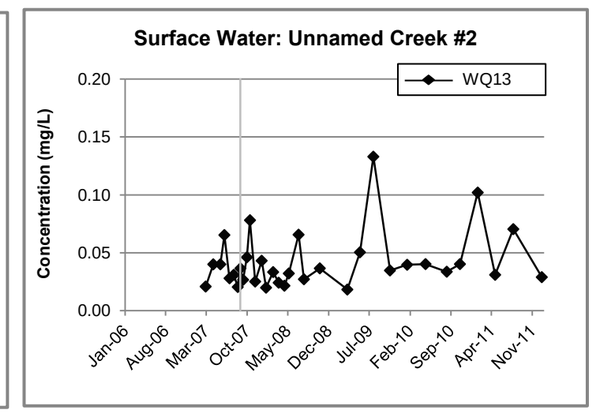
Figure 4-13
Time Series Plots: Sulfate
Surface Water and Groundwater
Niblack Exploration Project
2011 Annual Report

Surface Water Aluminum (Dissolved)

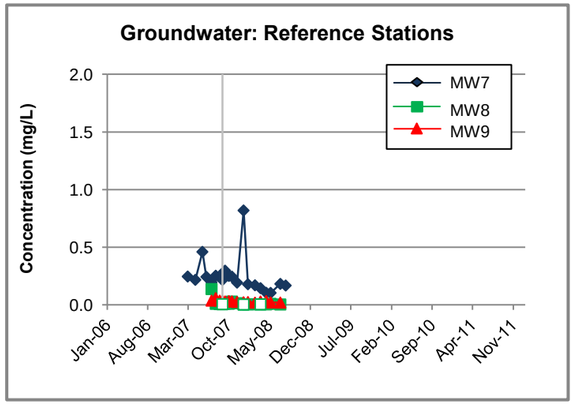


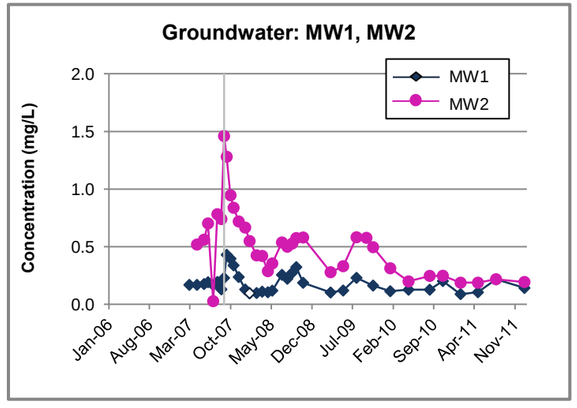


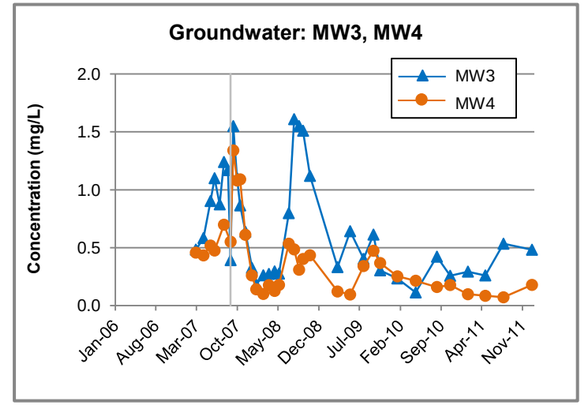


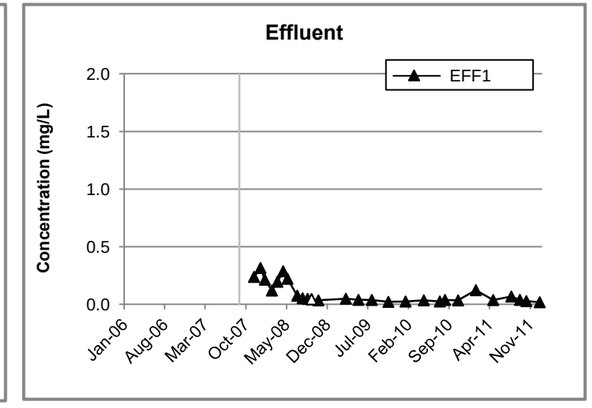


Groundwater Aluminum (Dissolved)









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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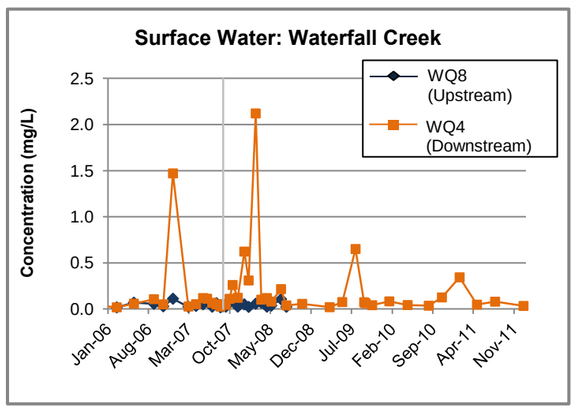
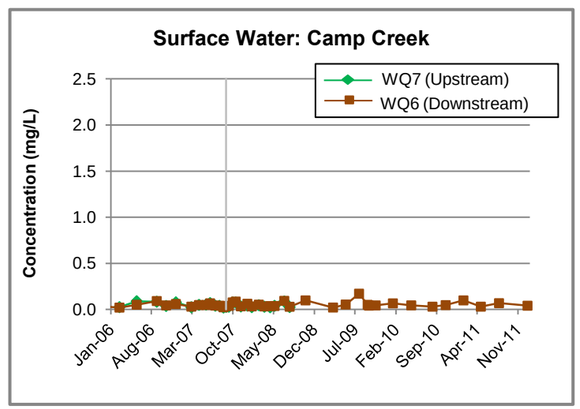
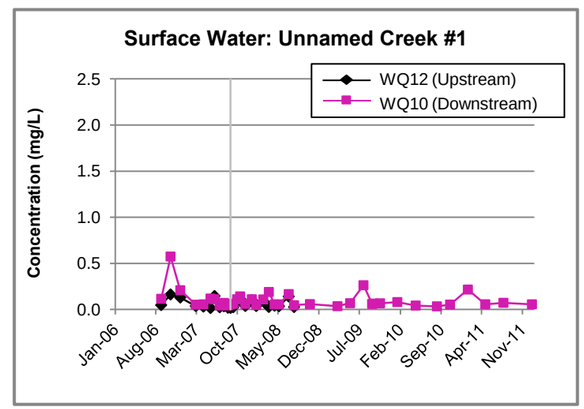
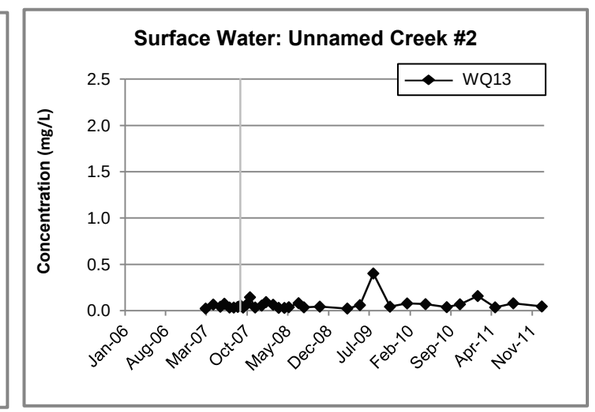
Figure 4-14
Time Series Plots: Dissolved Aluminum
Surface Water and Groundwater
Niblack Exploration Project
2011 Annual Report

Surface Water Aluminum (Total)

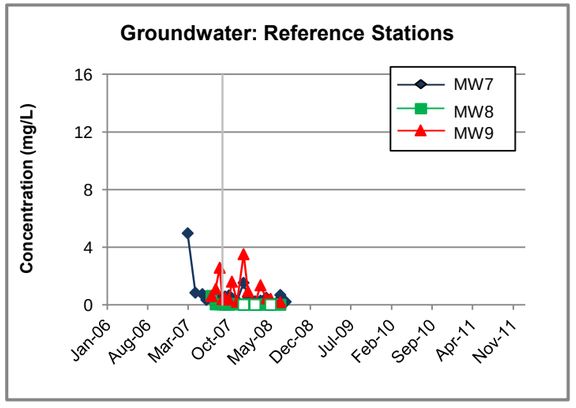


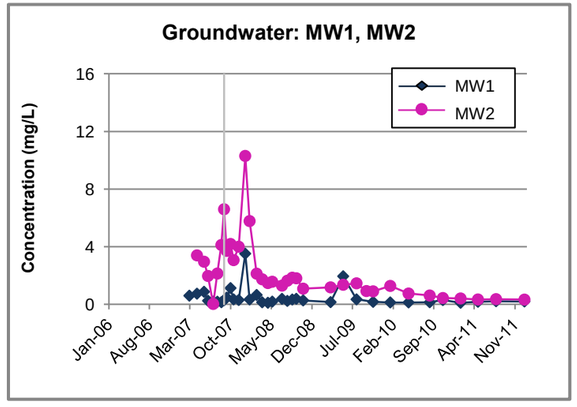


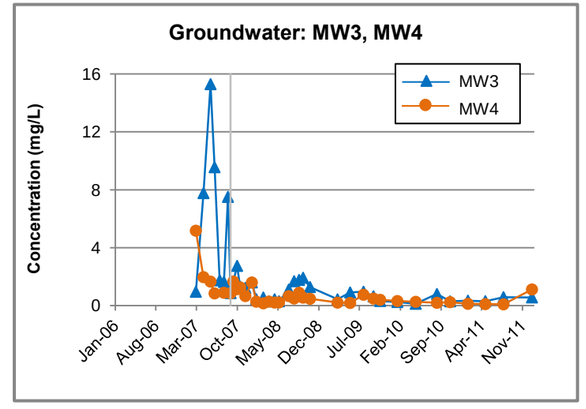


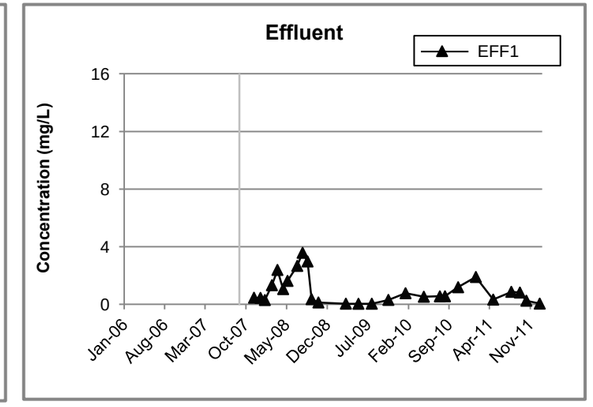


Groundwater Aluminum (Total)









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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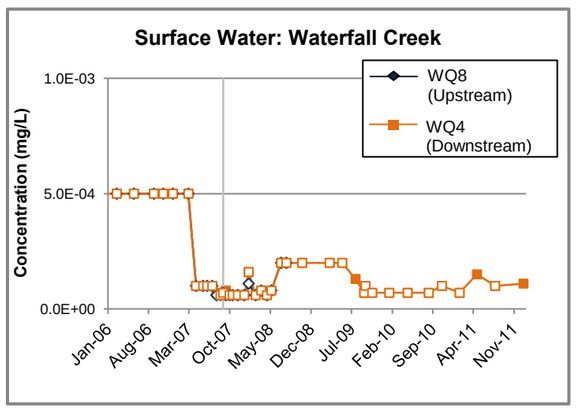
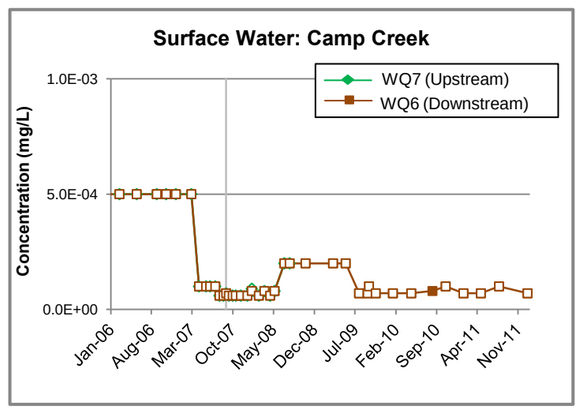
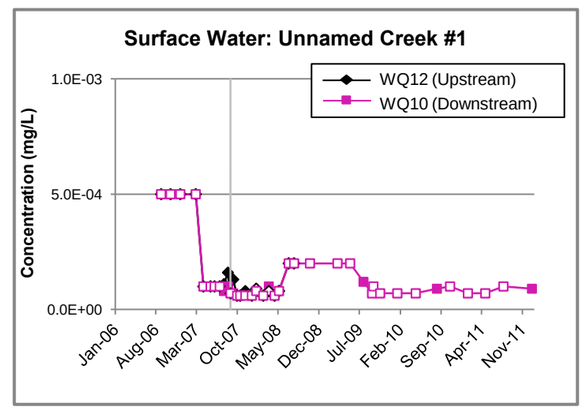
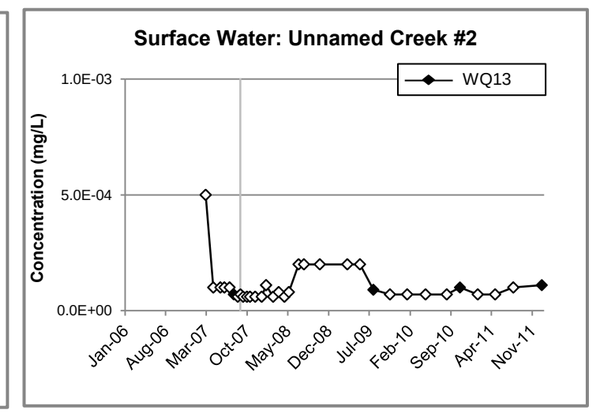
Figure 4-15
Time Series Plots: Total Aluminum
Surface Water and Groundwater
Niblack Exploration Project
2011 Annual Report

Surface Water Arsenic (Dissolved)

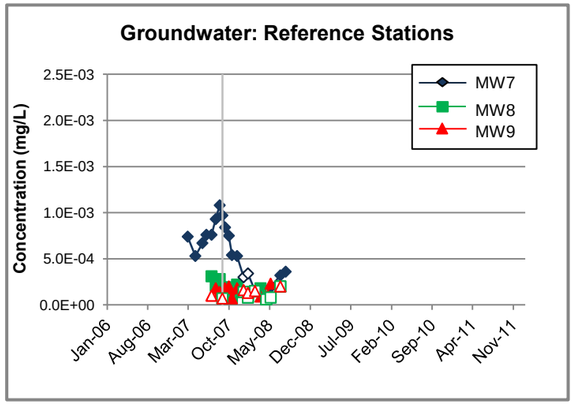


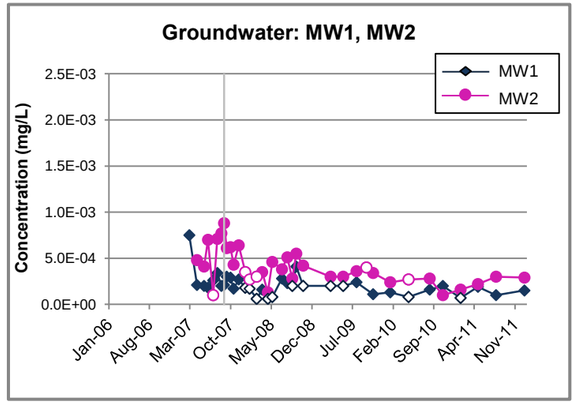


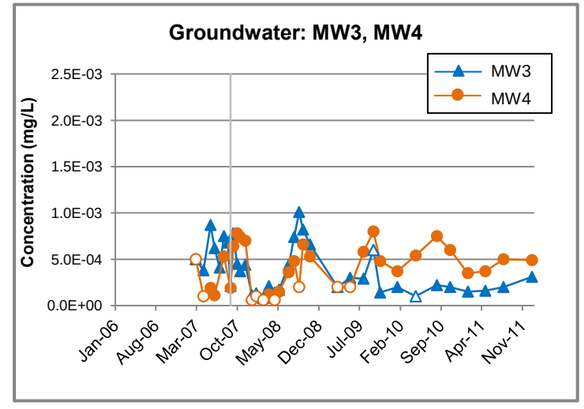


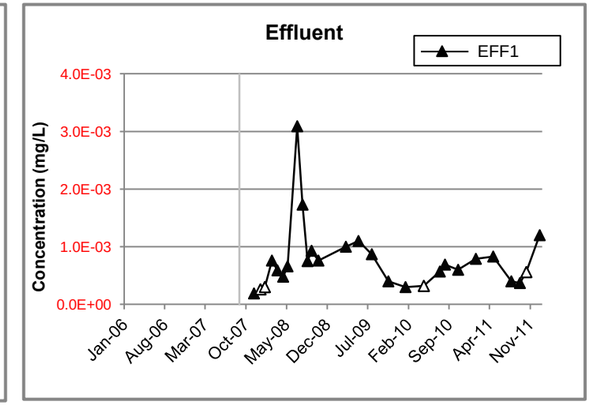


Groundwater Arsenic (Dissolved)









Note: Effluent plot y-axis scale differs from other groundwater plots.

Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-16
Time Series Plots: Dissolved Arsenic
Surface Water and Groundwater
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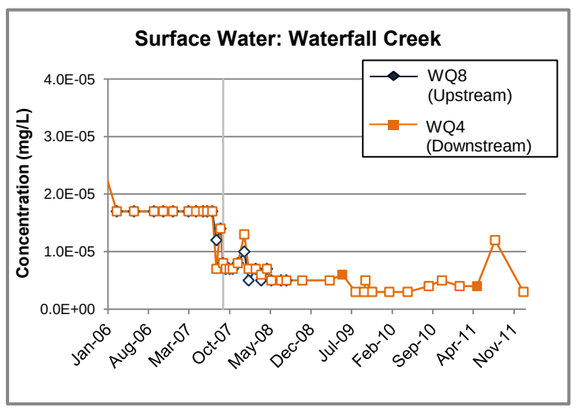
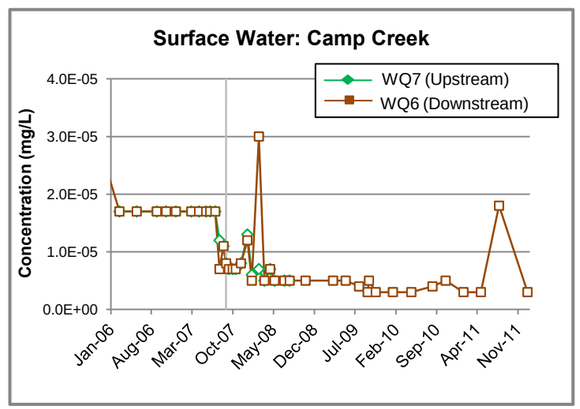
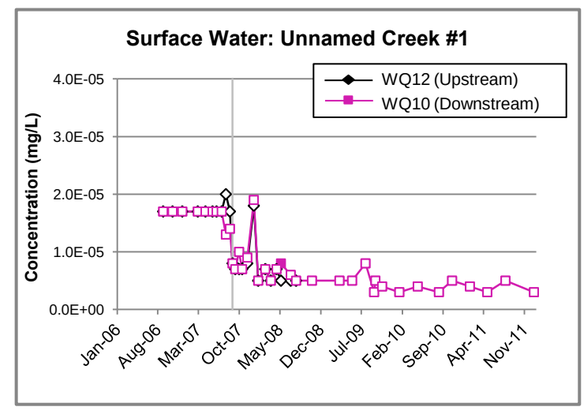
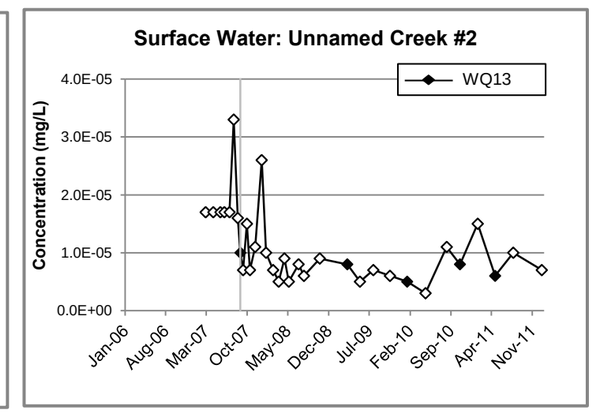
Surface Water Cadmium (Dissolved)

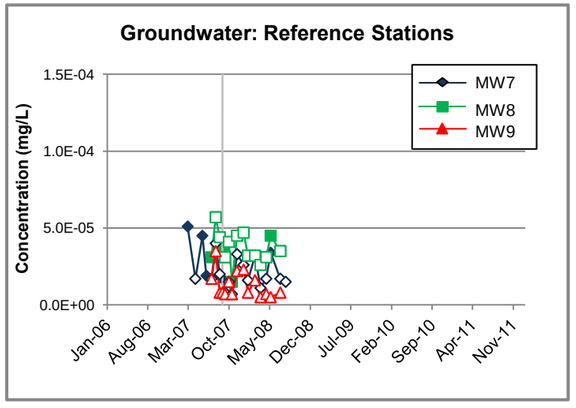


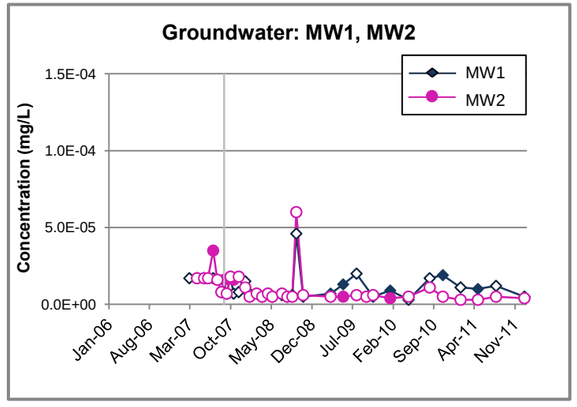


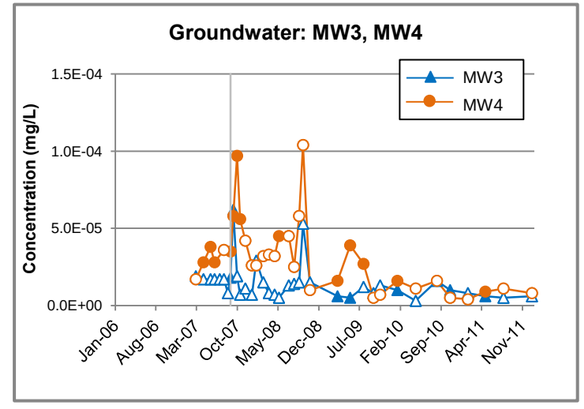


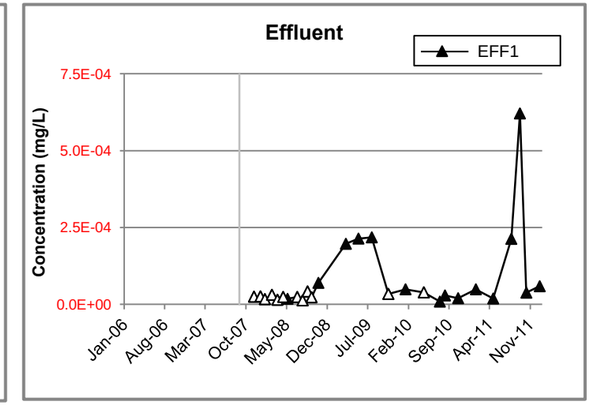


Groundwater Cadmium (Dissolved)









Note: Effluent plot y-axis scale differs from other groundwater plots.

Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-17
Time Series Plots: Dissolved Cadmium
Surface Water and Groundwater
Niblack Exploration Project
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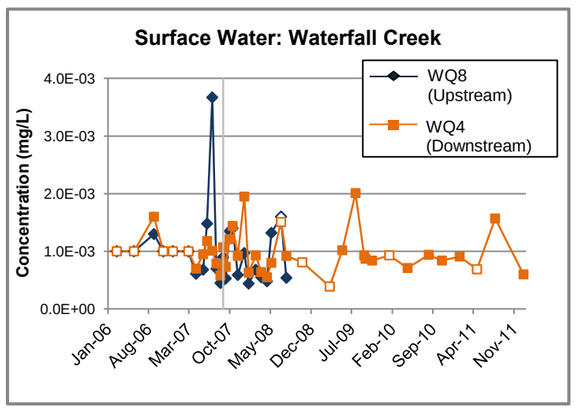
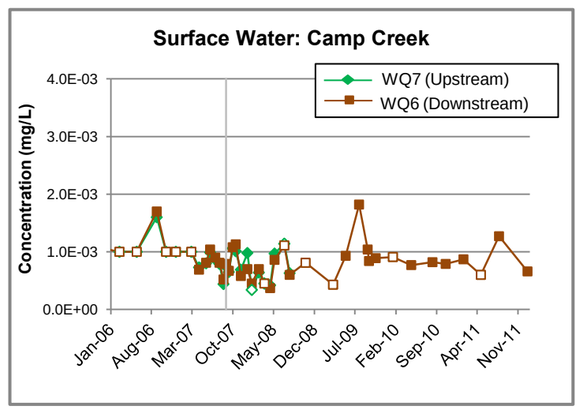
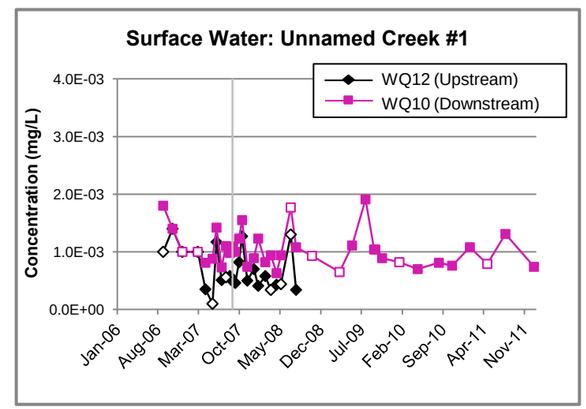
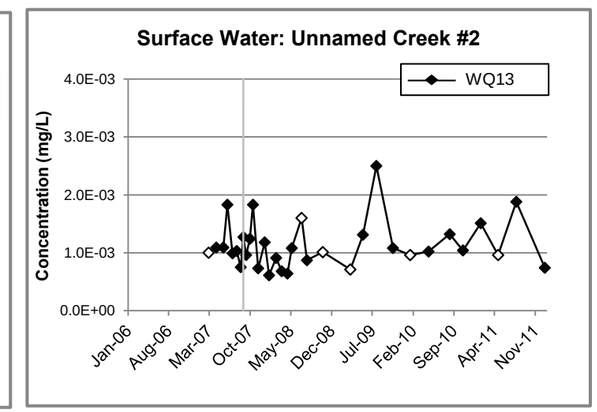
Surface Water Copper (Dissolved)

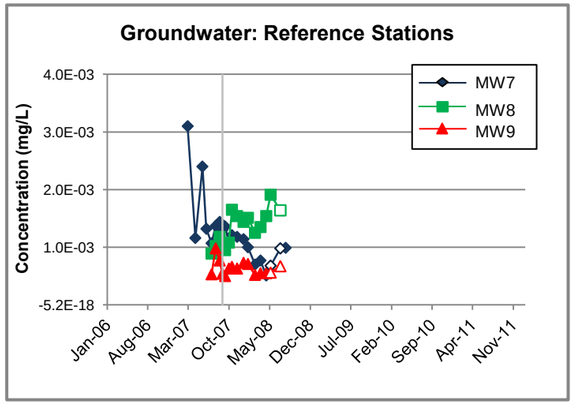


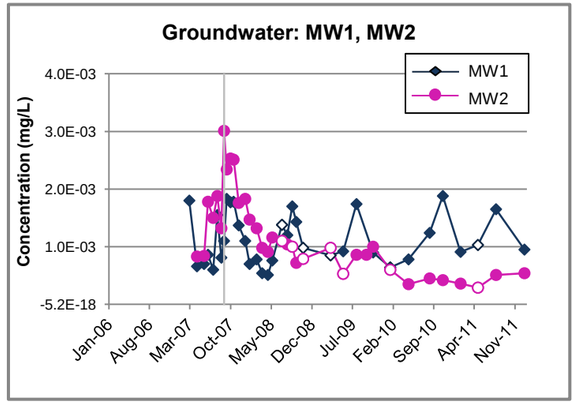


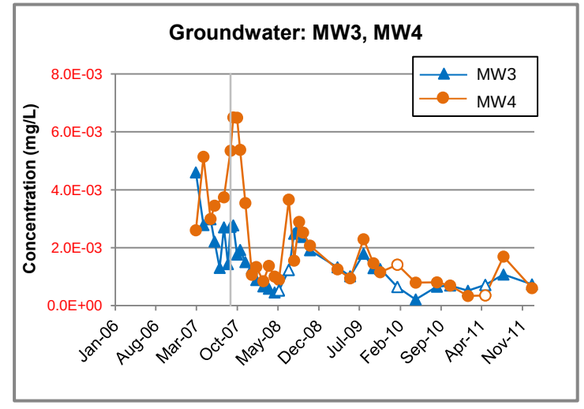




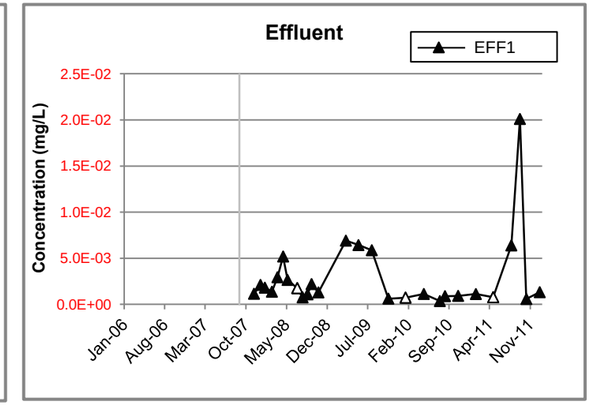
Groundwater Copper (Dissolved)







Note: MW3, MW4 plot y-axis scale differs from other groundwater plots.



Note: Effluent plot y-axis scale differs from other groundwater plots.

Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-18
Time Series Plots: Dissolved Copper
Surface Water and Groundwater
Niblack Exploration Project
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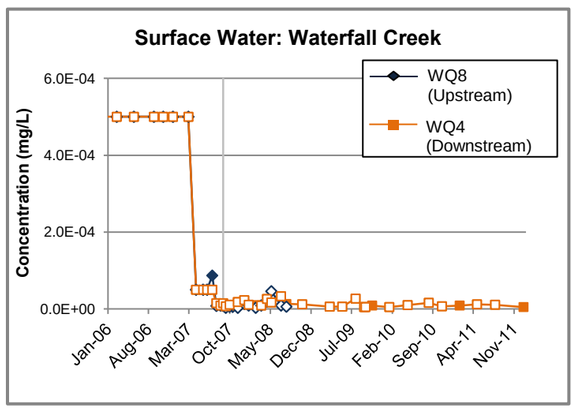
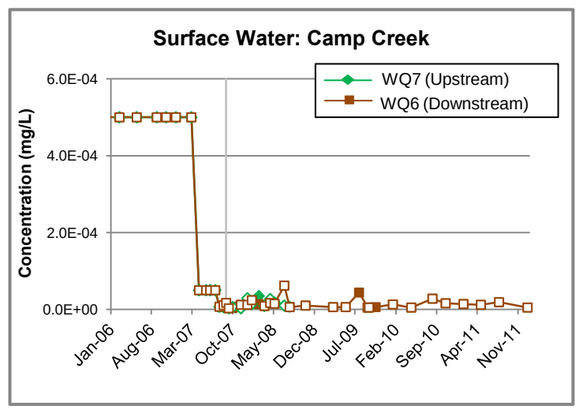
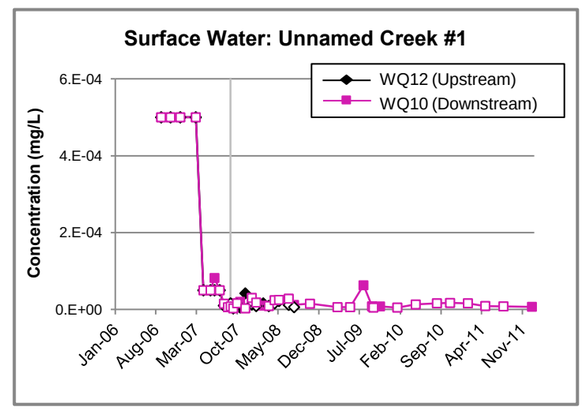
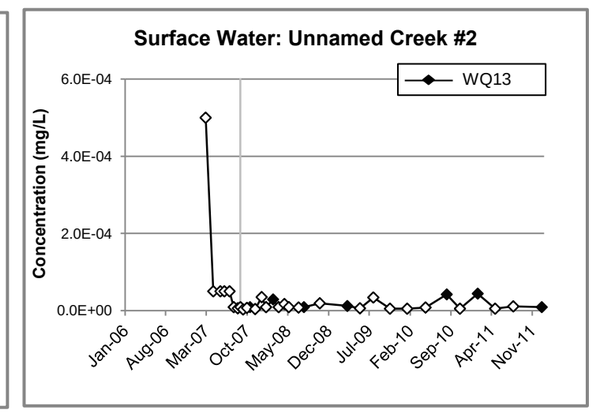
Surface Water Lead (Dissolved)

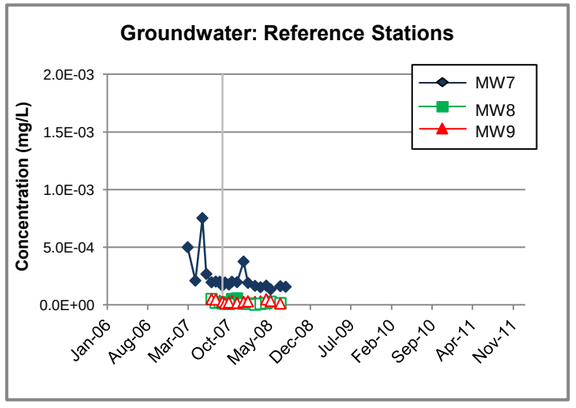


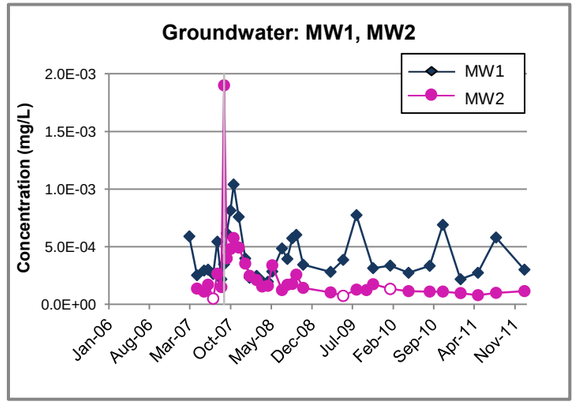


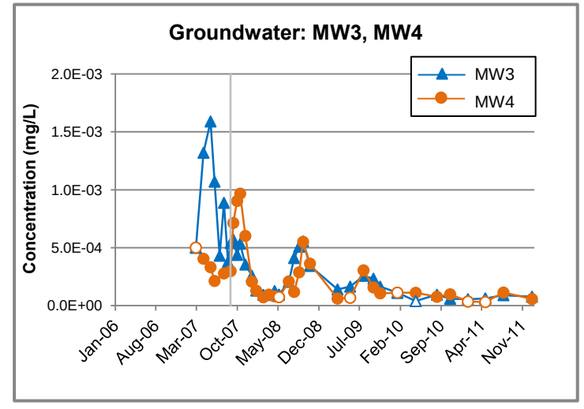


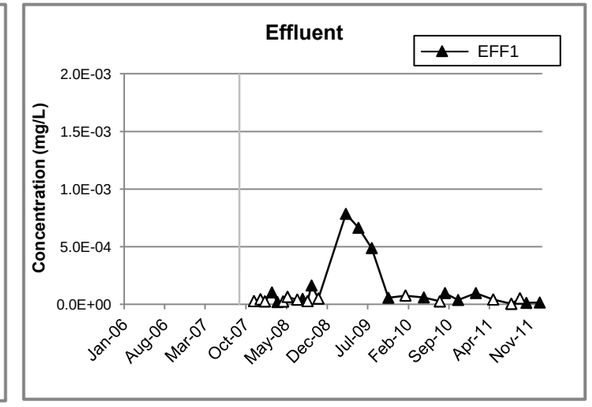


Groundwater Lead (Dissolved)









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-19
Time Series Plots: Dissolved Lead
Surface Water and Groundwater
Niblack Exploration Project
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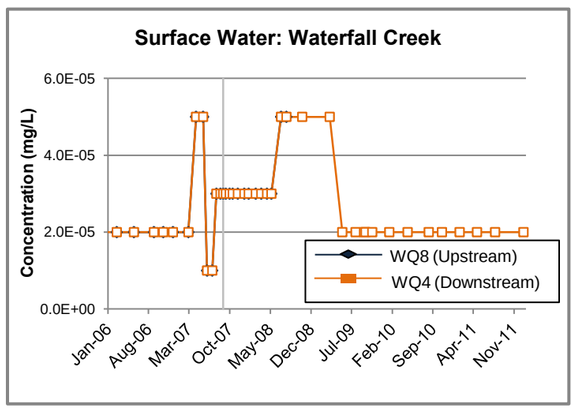
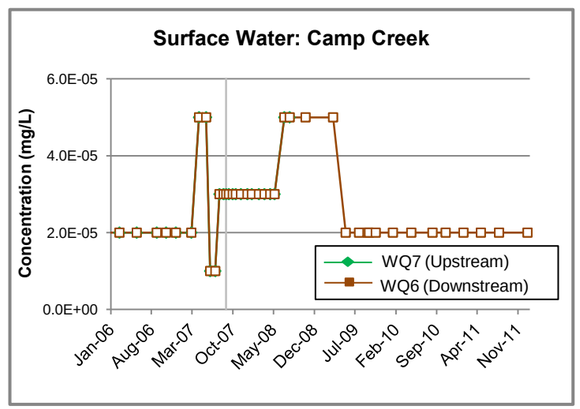
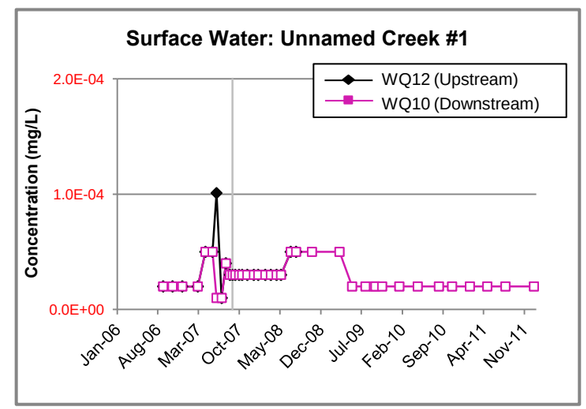
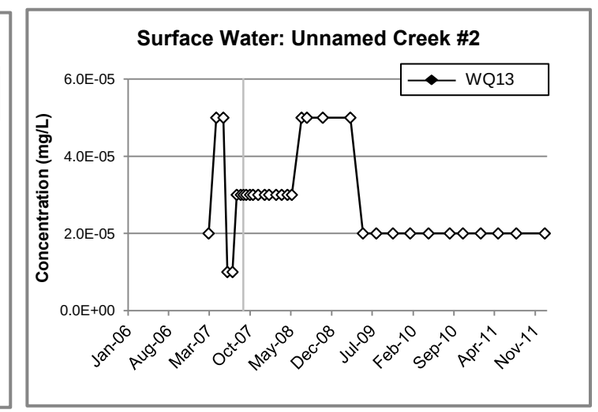
Surface Water Mercury (Dissolved)



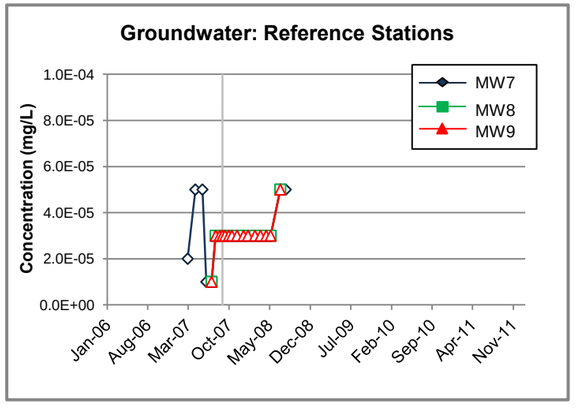


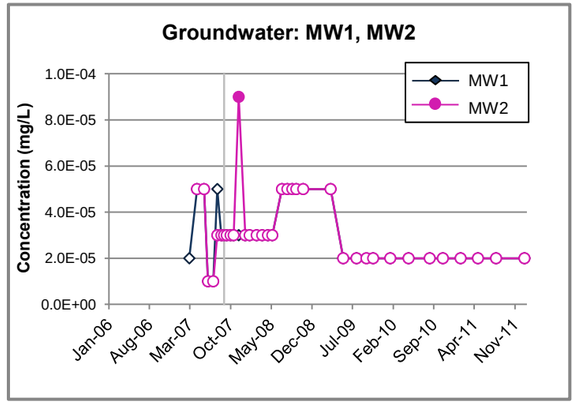


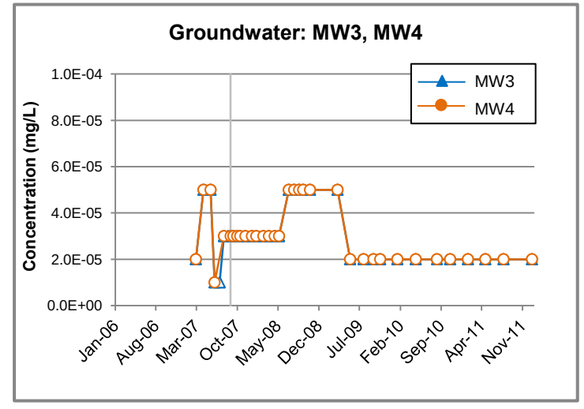


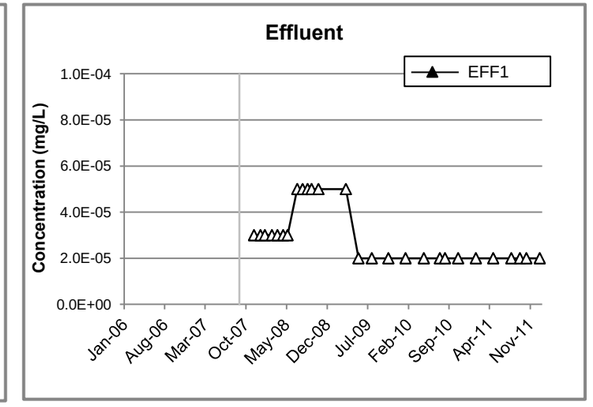
Note: Unnamed Creek #1 plot y-axis scale differs from other surface water plots.

Groundwater Mercury (Dissolved)









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-20
Time Series Plots: Dissolved Mercury
Surface Water and Groundwater
Niblack Exploration Project
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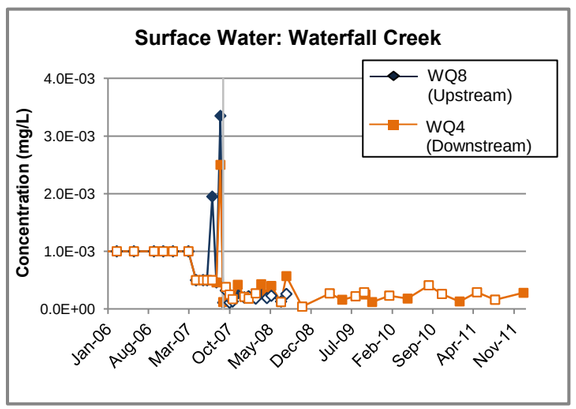
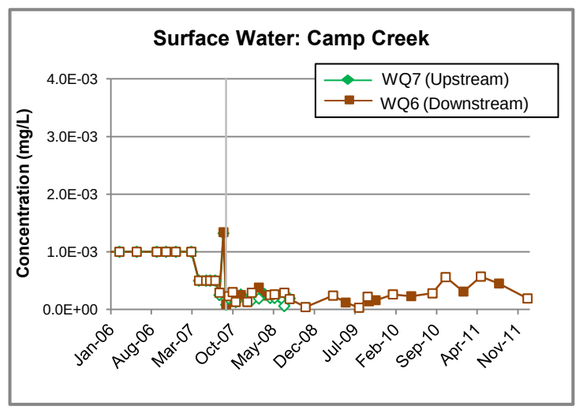
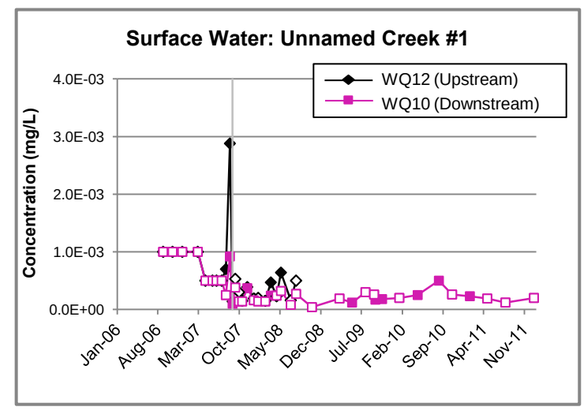
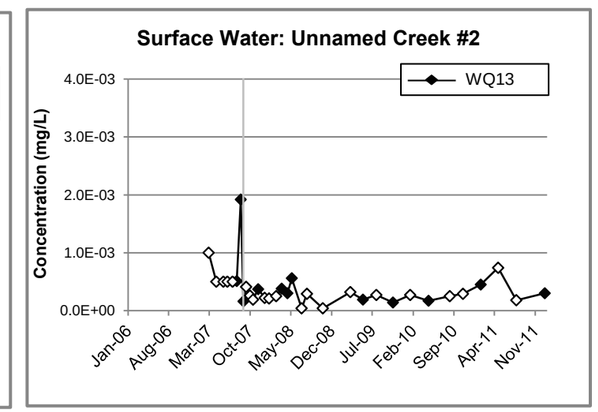
Surface Water Nickel (Dissolved)

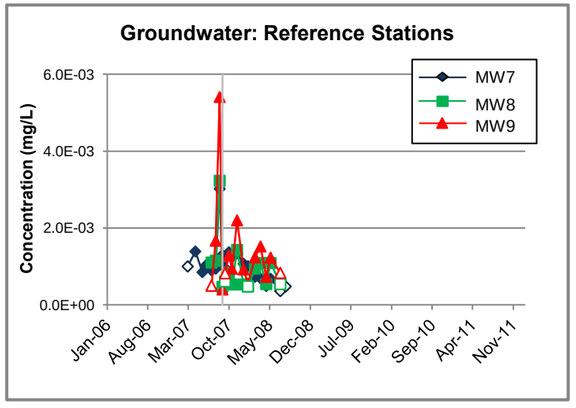


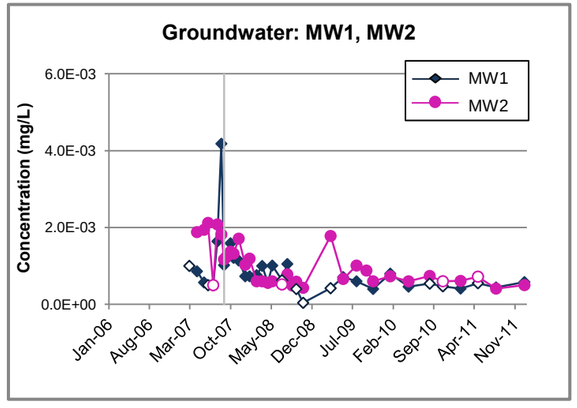


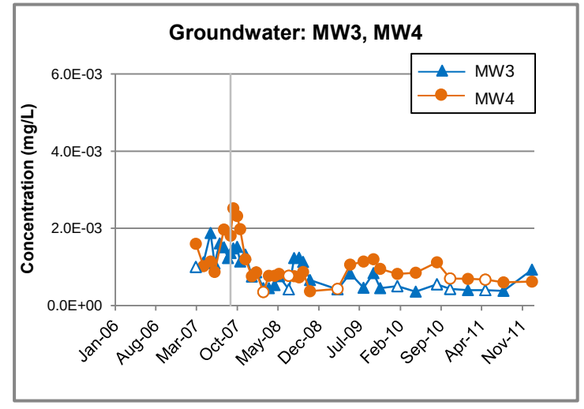


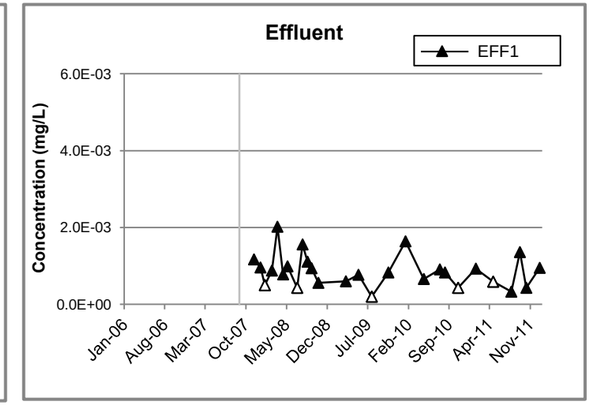


Groundwater Nickel (Dissolved)









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-21
Time Series Plots: Dissolved Nickel
Surface Water and Groundwater
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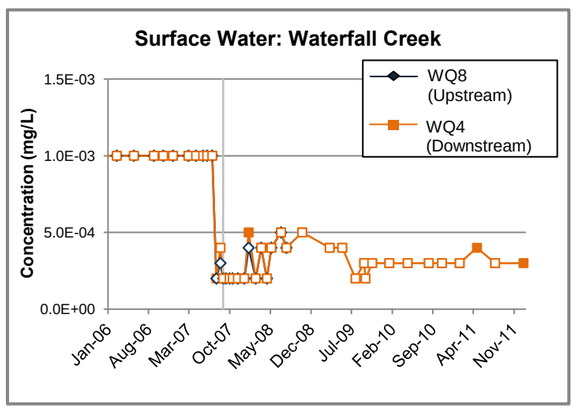
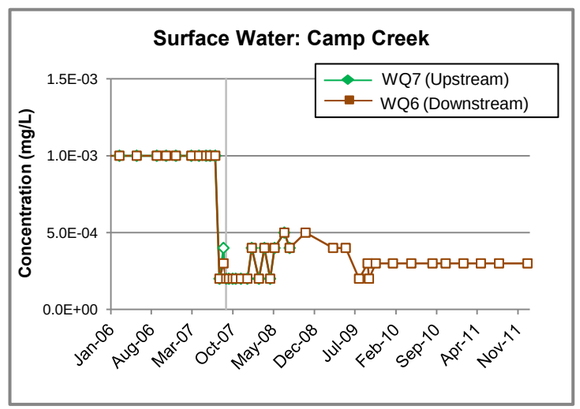
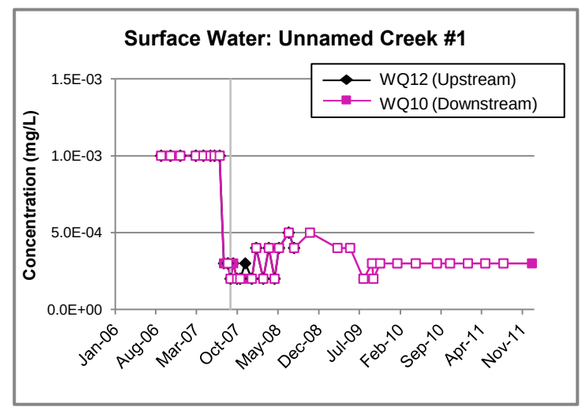
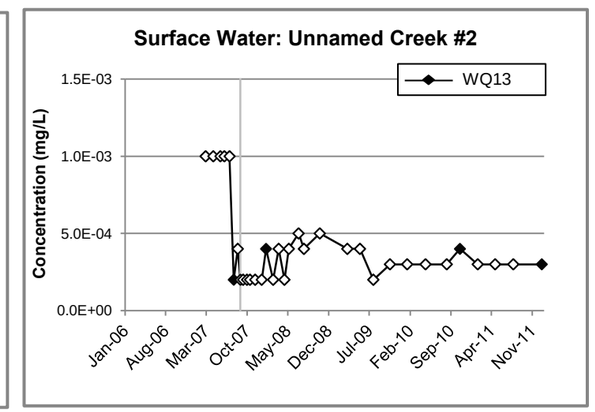
Surface Water Selenium (Dissolved)

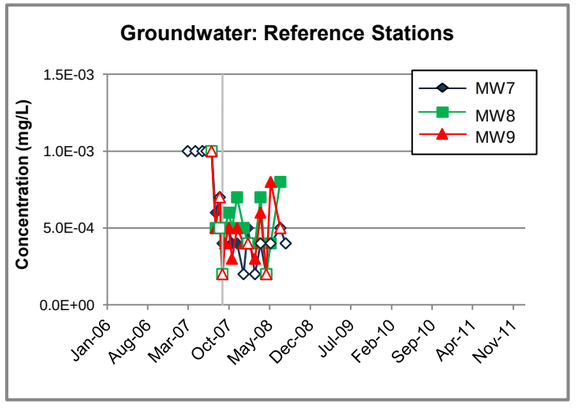


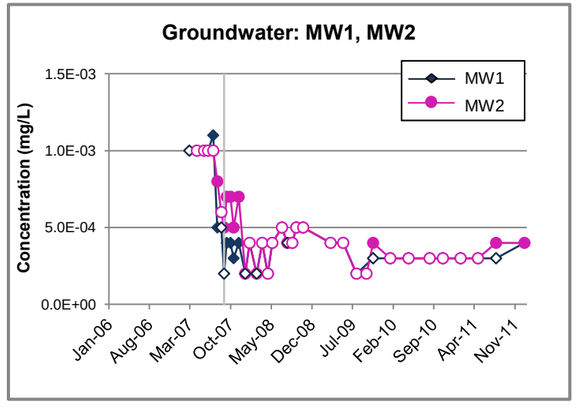


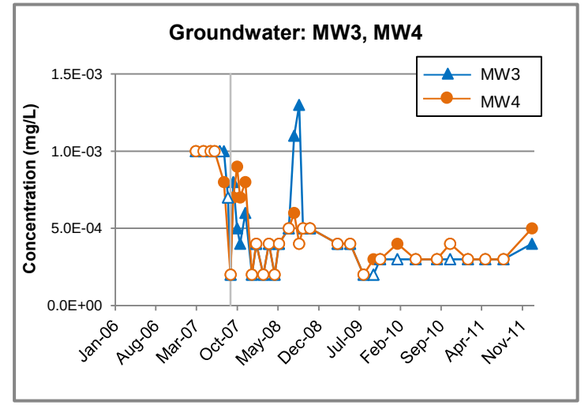


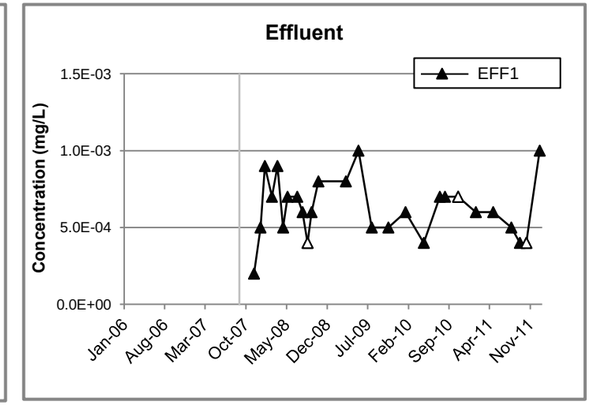


Groundwater Selenium (Dissolved)









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-22
Time Series Plots: Dissolved Selenium
Surface Water and Groundwater
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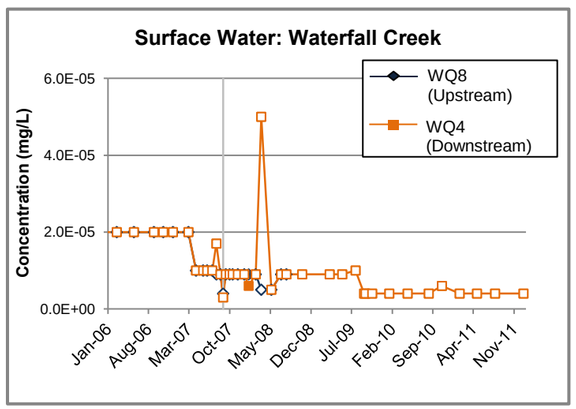
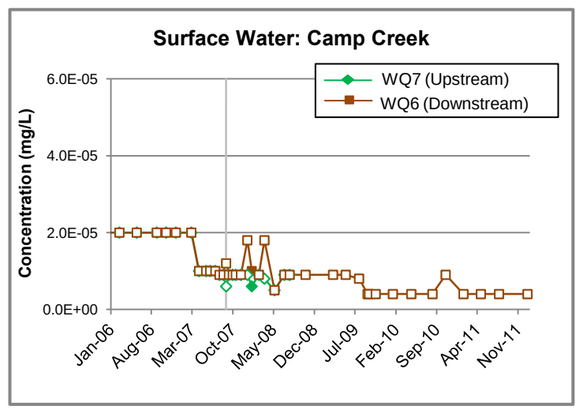
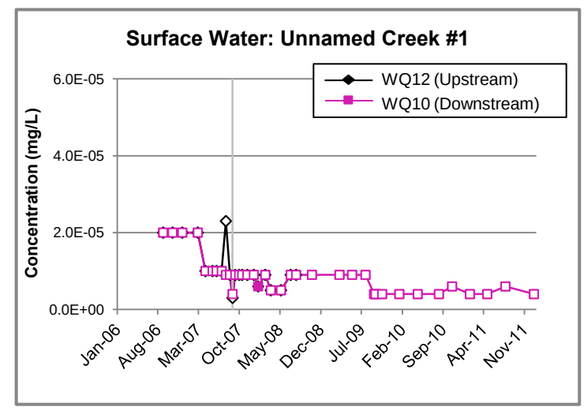
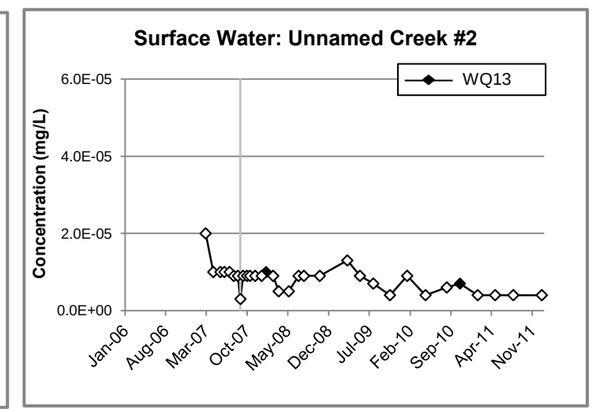
Surface Water Silver (Dissolved)

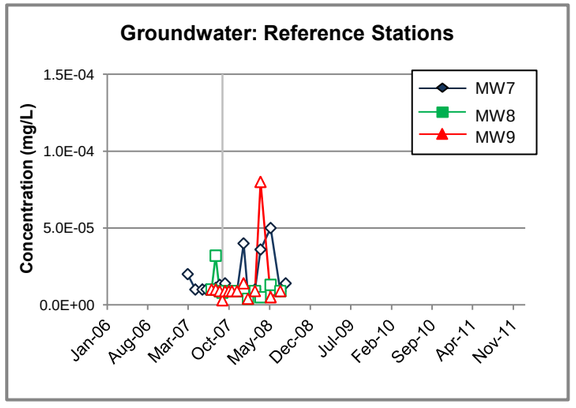


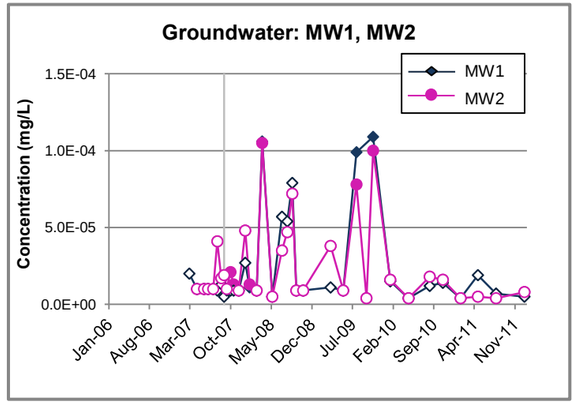


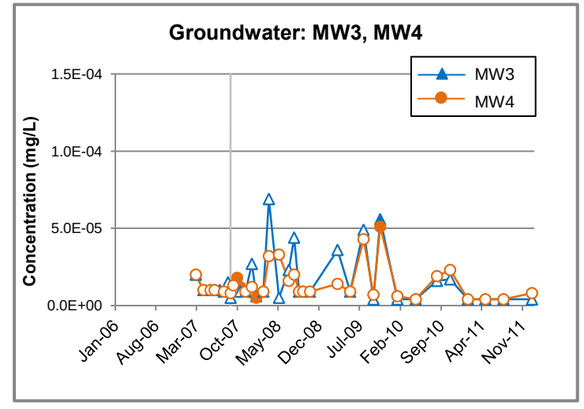


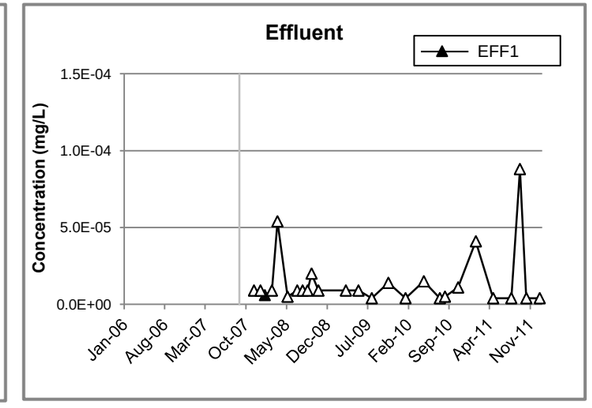


Groundwater Silver (Dissolved)









Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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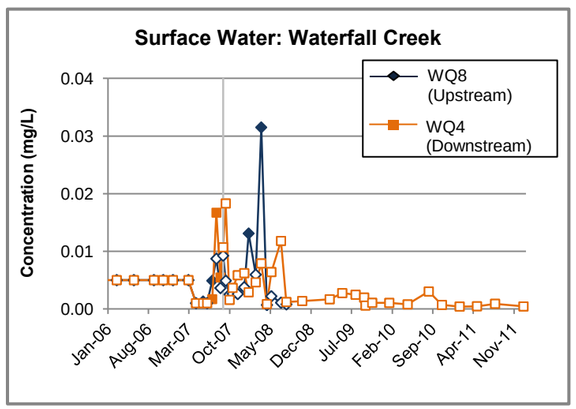
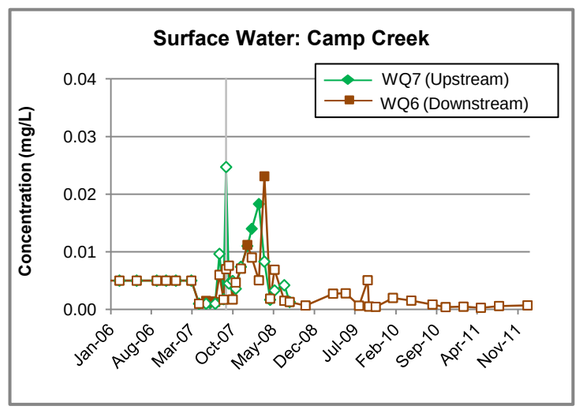
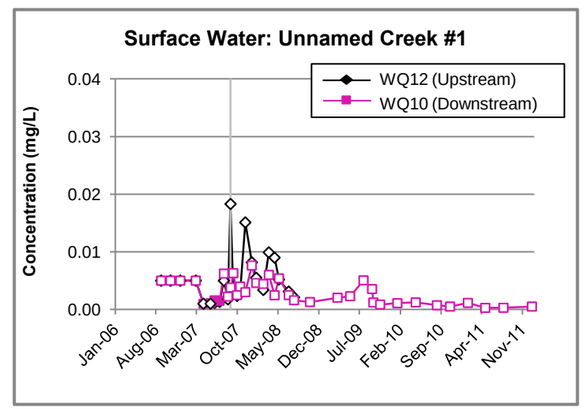
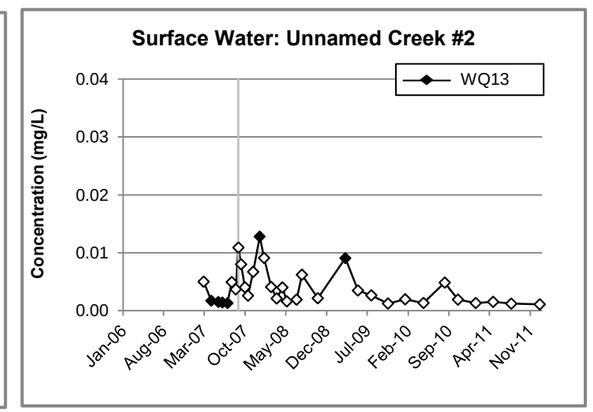
Figure 4-23
Time Series Plots: Dissolved Silver
Surface Water and Groundwater
Niblack Exploration Project
2011 Annual Report

Surface Water Zinc (Dissolved)

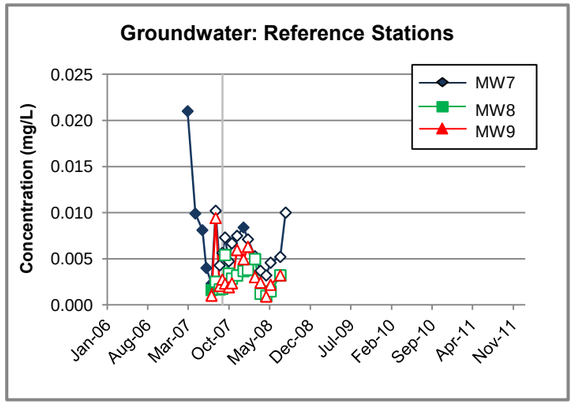


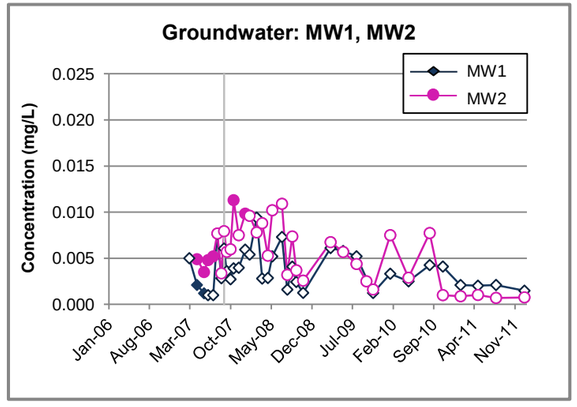


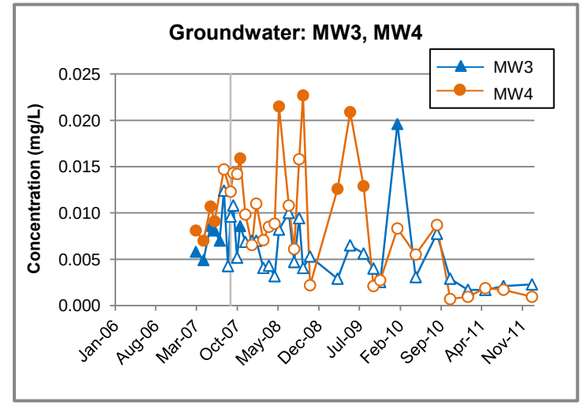


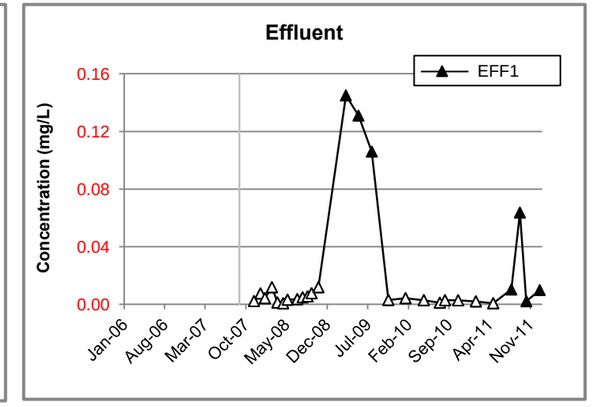


Groundwater Zinc (Dissolved)









Note: Effluent plot y-axis scale differs from other groundwater plots.

Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 4-24
Time Series Plots: Dissolved Zinc
Surface Water and Groundwater
Niblack Exploration Project
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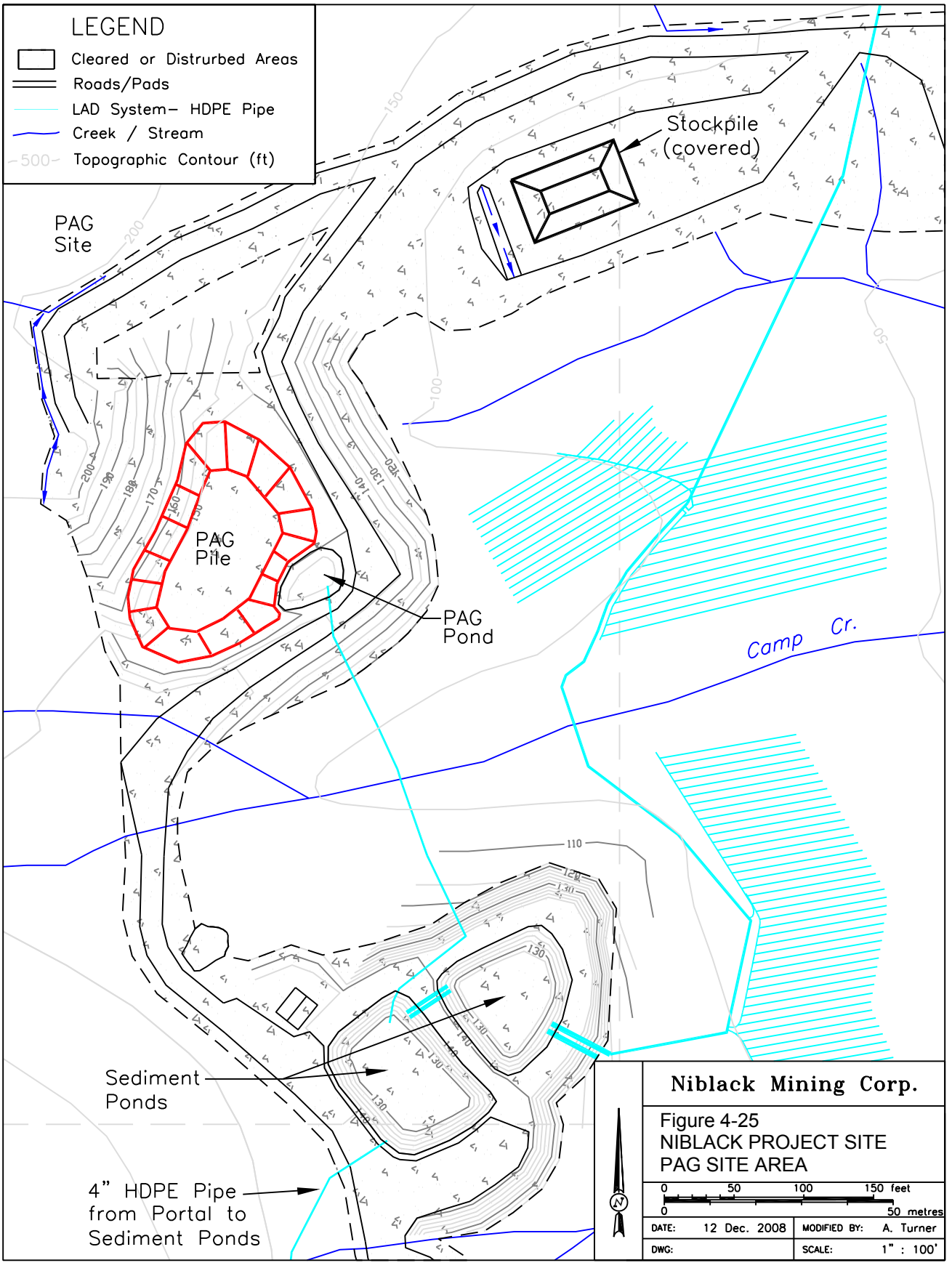
LEGEND
Cleared or Disturbed Areas
Roads/Pads
LAD System– HDPE Pipe
Creek / Stream
500 Topographic Contour (ft)
PAG Site
Stockpile (covered)
PAG Pile
PAG Pond
Camp Cr.
Sediment Ponds
4" HDPE Pipe from Portal to Sediment Ponds
Niblack Mining Corp.
Figure 4-25
NIBLACK PROJECT SITE
PAG SITE AREA
0 50 100 150 feet
0 50 metres
DATE: 12 Dec. 2008
MODIFIED BY: A. Turner
DWG:
SCALE: 1" : 100'

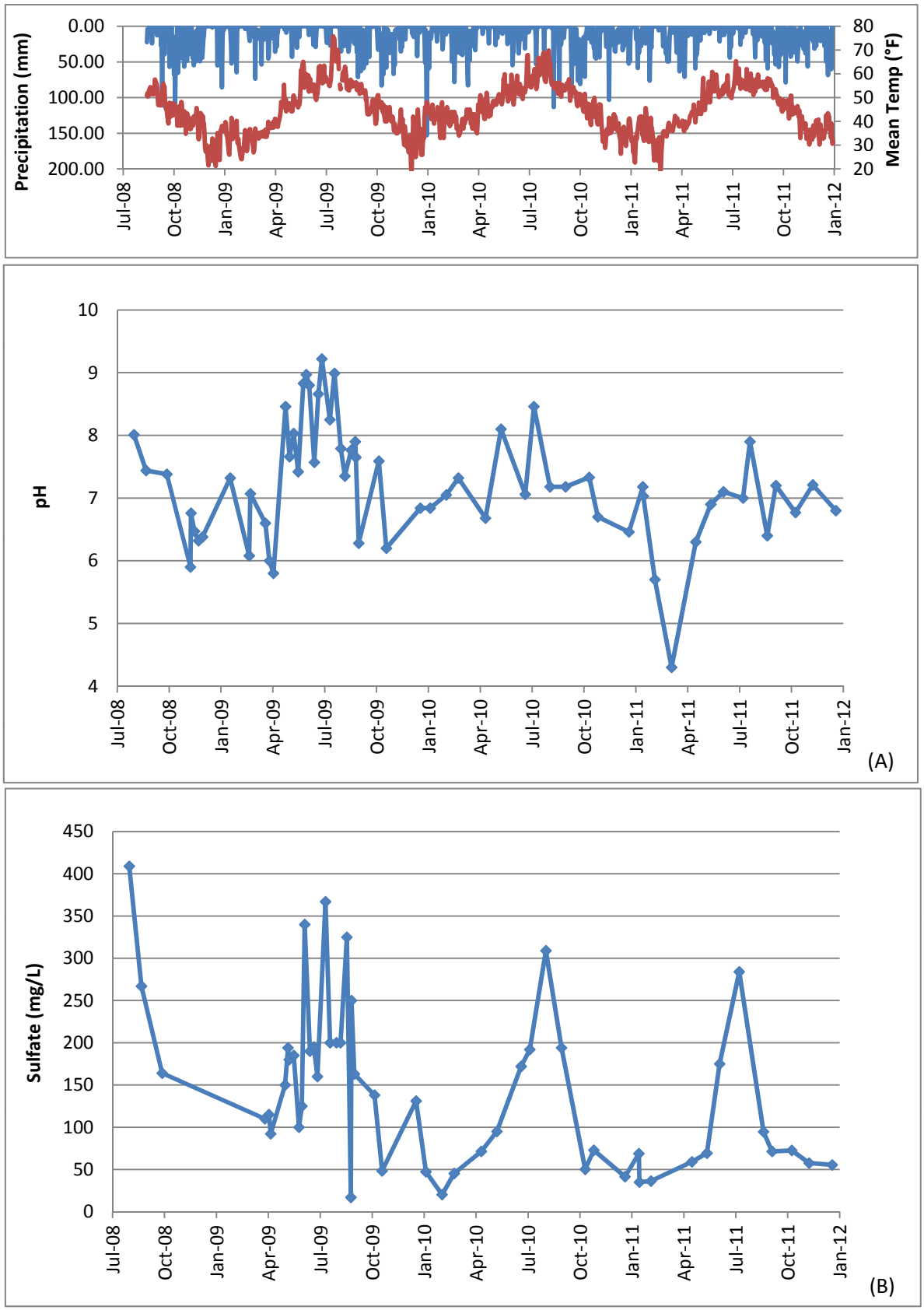

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Figure 4-26
Time Trends for (A) pH and (B) Dissolved Sulfate in the PAG Pond Shown with Precipitation and Temperature
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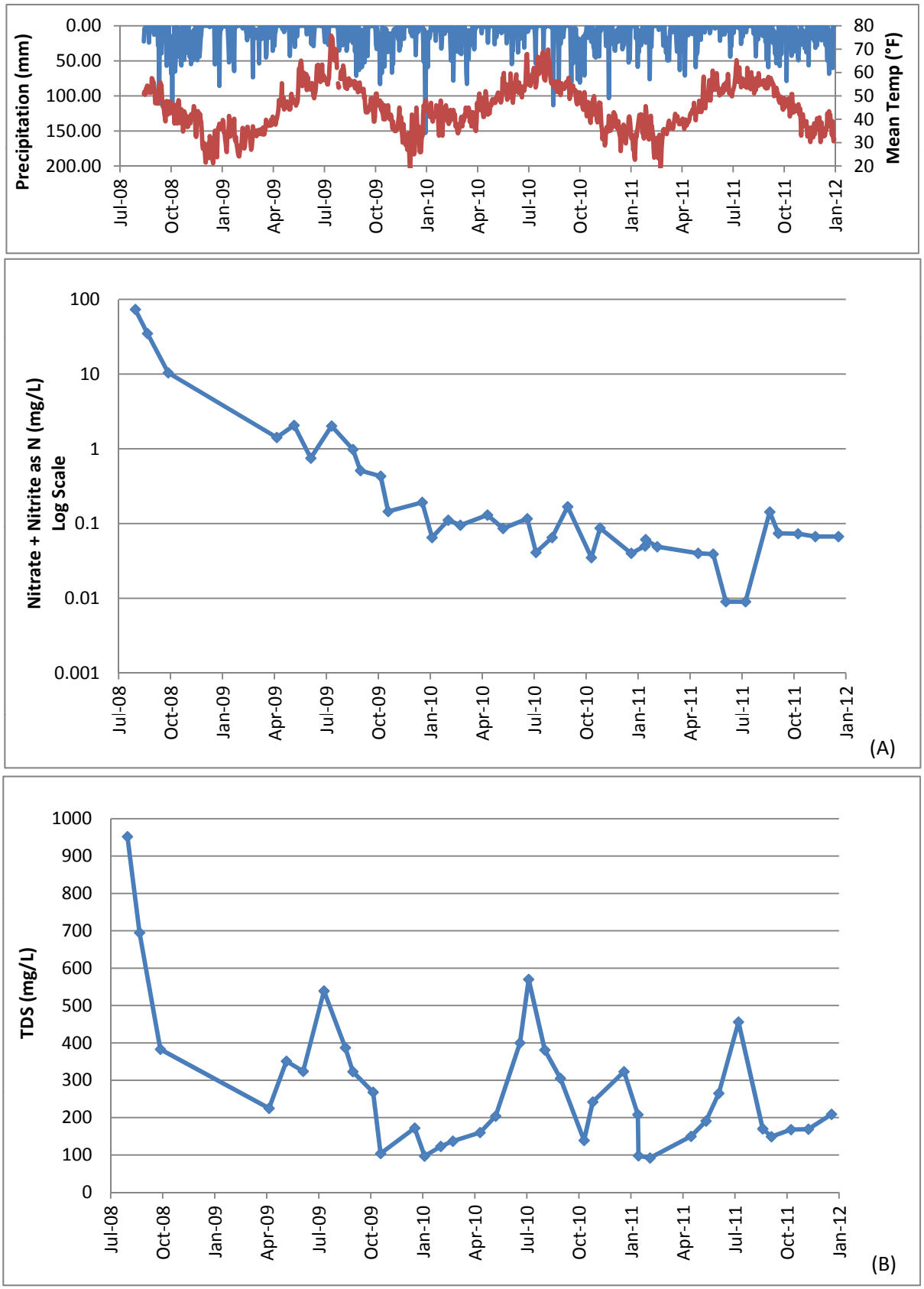

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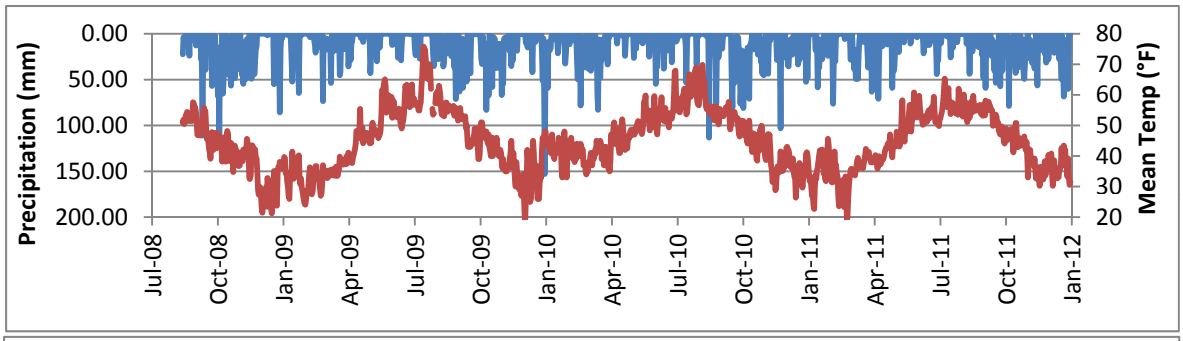
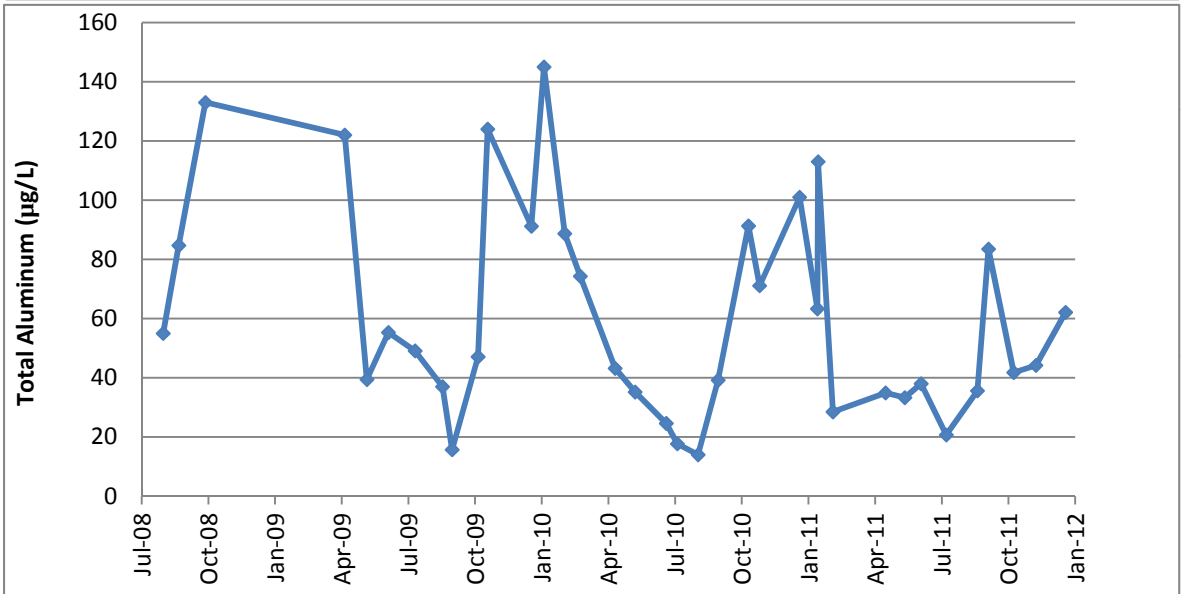
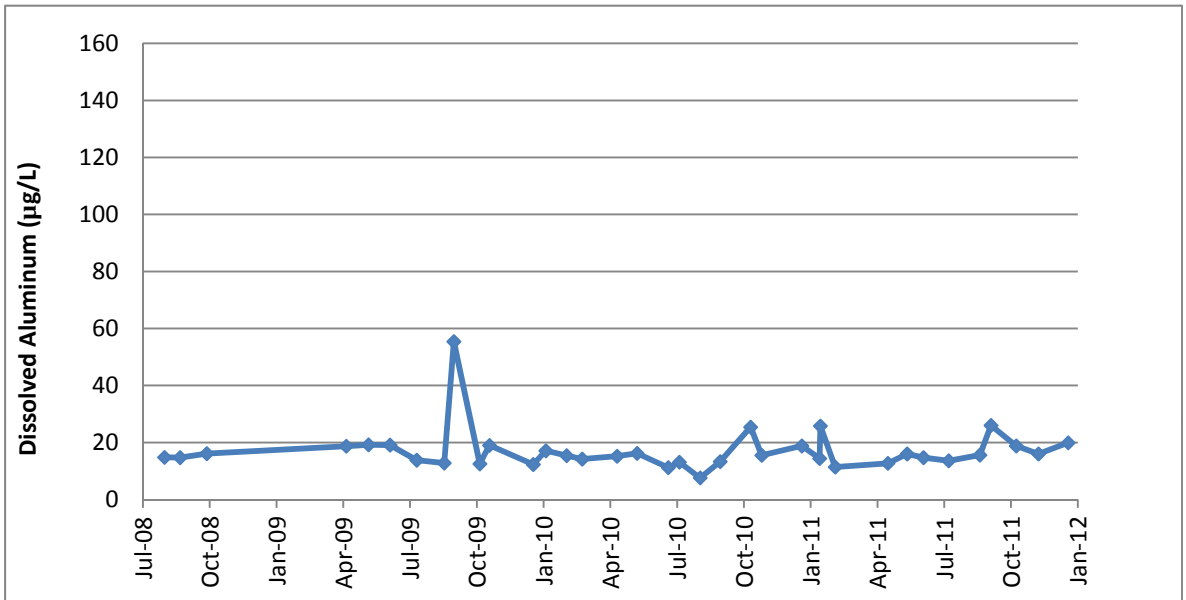
Figure 4-27
Time Trends for (A) Dissolved Nitrate + Nitrite and
(B) Dissolved TDS in the PAG Pond
Shown with Precipitation and Temperature
Niblack Exploration Project
2011 Annual Report





**Sept 2010 PAG results were rejected during data validation

(A)



Sept 2010 PAG Facility were "rejected" by the analytical lab but remain plotted as they were within range of previously accepted data

(B)

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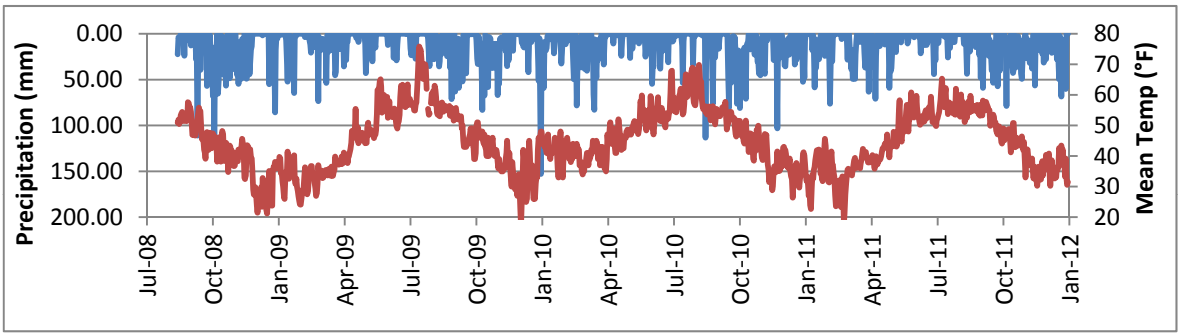
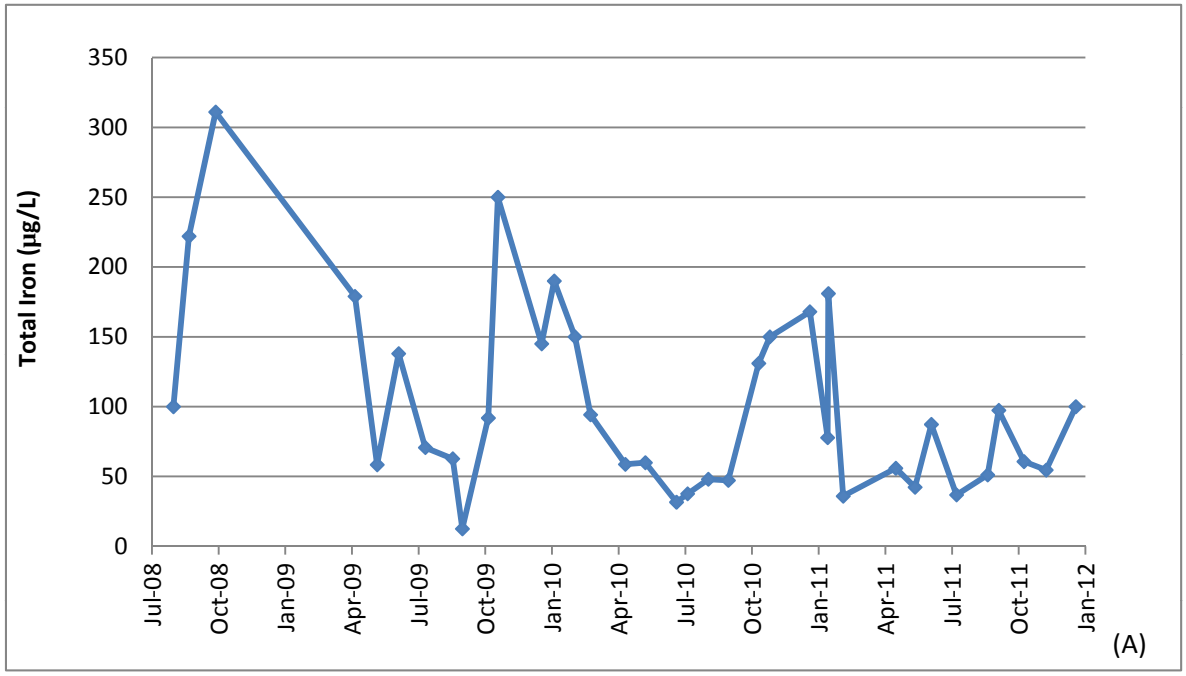
Figure 4-28
Time Trends for (A) Total Aluminum and (B) Dissolved Aluminum in the PAG Pond Shown with Precipitation and Temperature
Niblack Exploration Project
2011 Annual Report





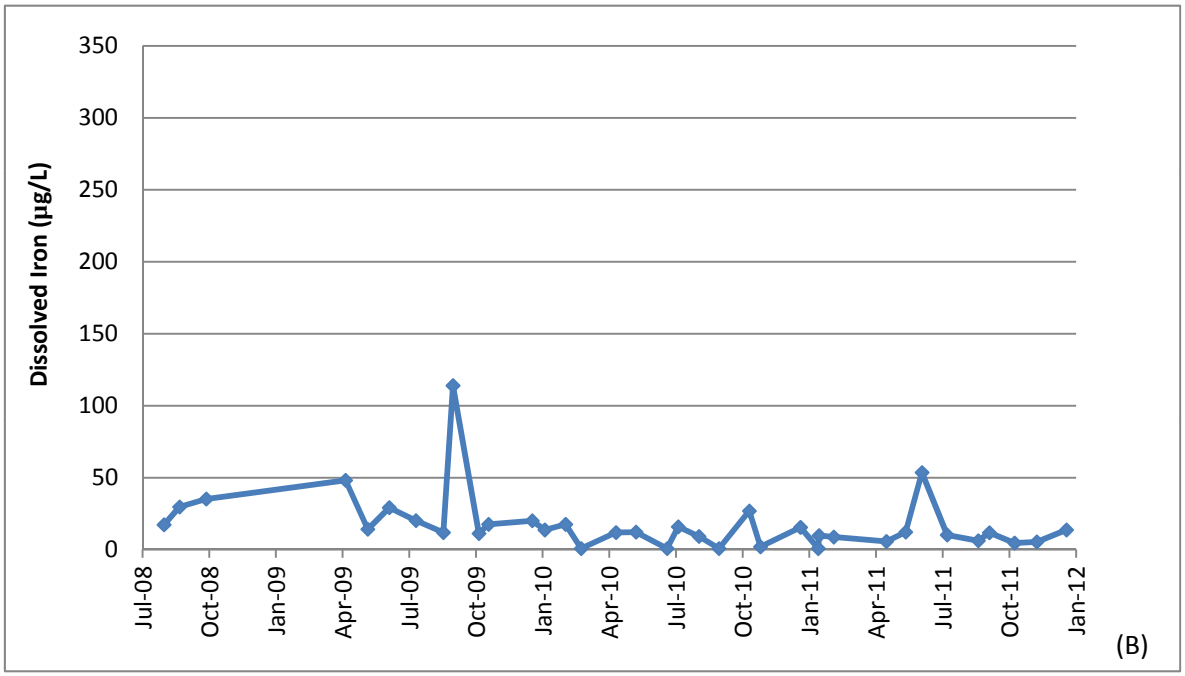


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Figure 4-29
Time Trends for (A) Total Iron and
(B) Dissolved Iron in the PAG Pond
Shown with Precipitation and Temperature
Niblack Exploration Project
2011 Annual Report

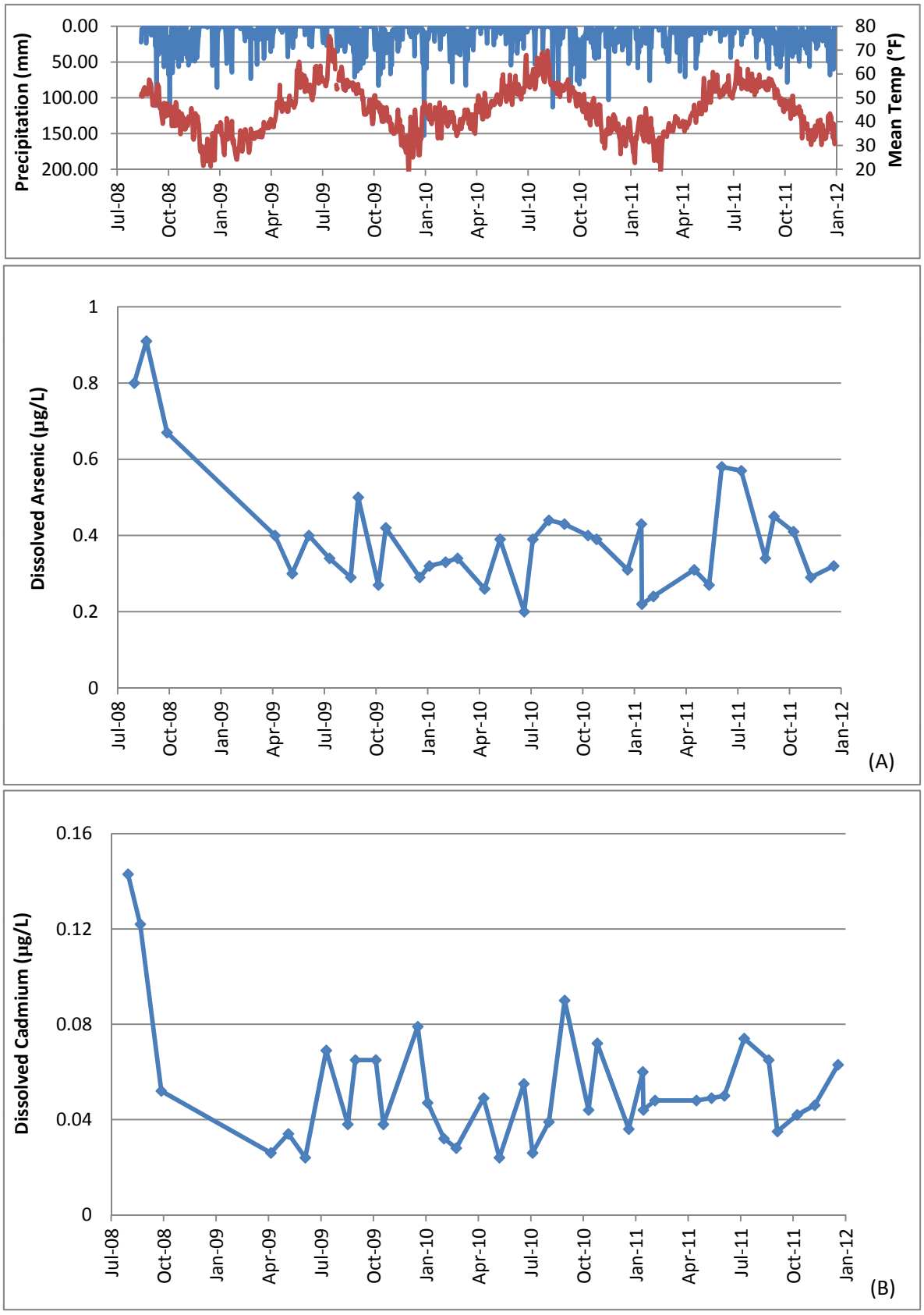

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Figure 4-30
Time Trends for (A) Dissolved Arsenic and (B) Dissolved Cadmium in the PAG Pond Shown with Precipitation and Temperature
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2011 Annual Report

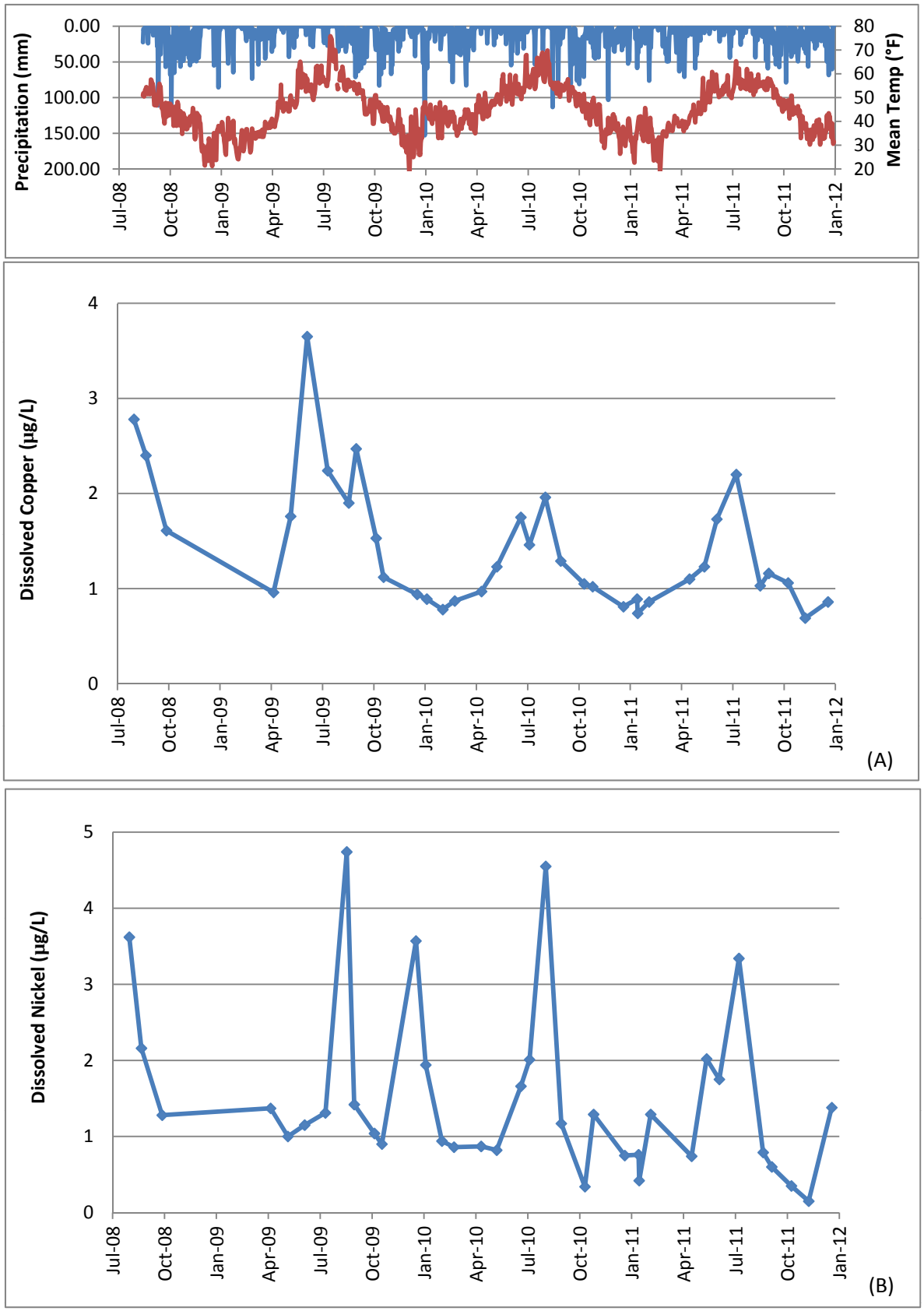

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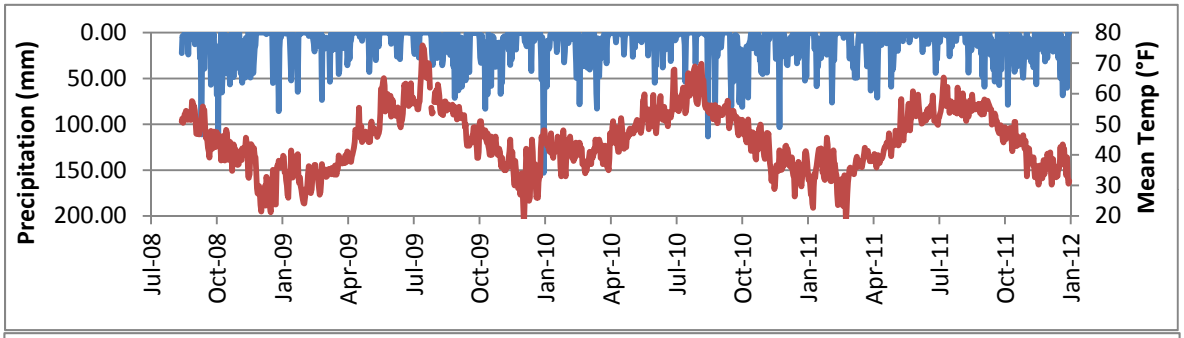
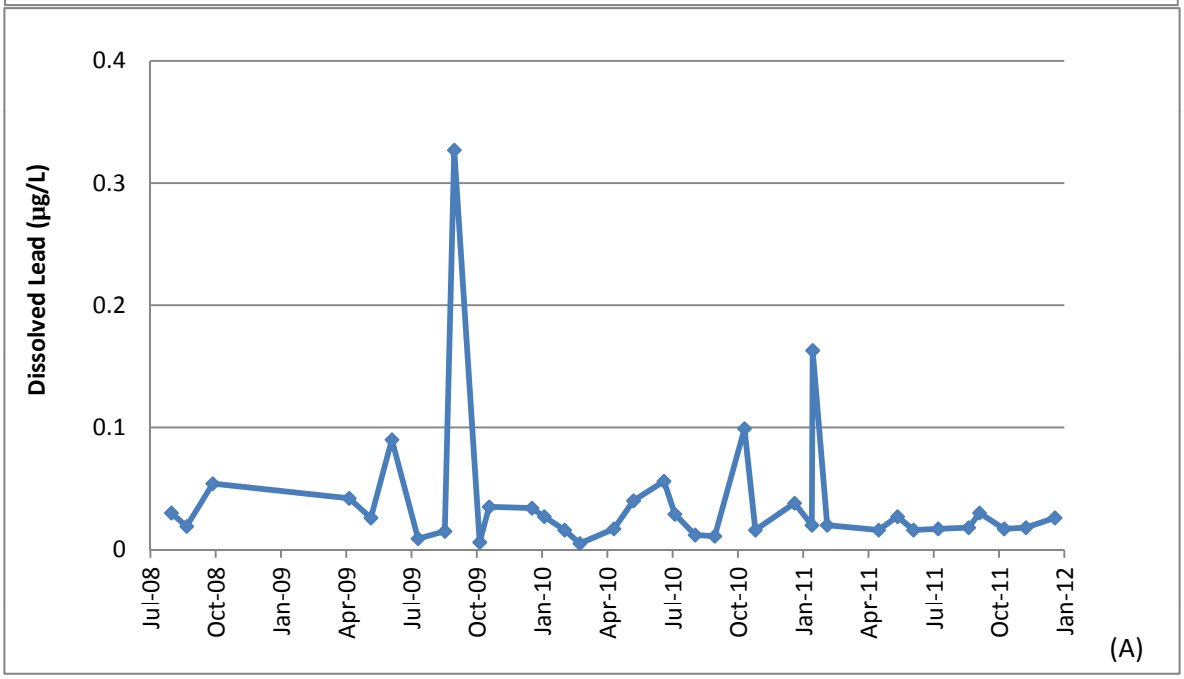
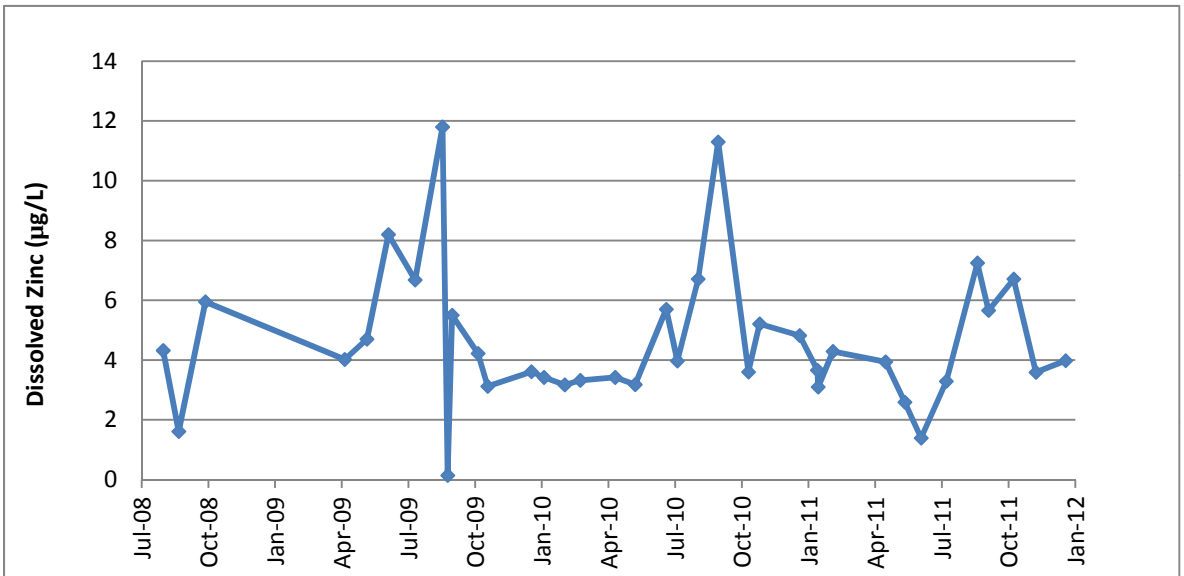
Figure 4-31
Time Trends for (A) Dissolved Copper and (B) Dissolved Nickel in the PAG Pond Shown with Precipitation and Temperature
Niblack Exploration Project
2011 Annual Report







Nov 2011 PAG Facility & Field Barrel results were "rejected" by the analytical lab but remain plotted as they were within range of previously accepted data

(B)

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Figure 4-32
Time Trends for (A) Dissolved Lead and (B) Dissolved Zinc in the PAG Pond Shown with Precipitation and Temperature
Niblack Exploration Project
2011 Annual Report

TABLES

Table 2-1. Water Balance Monthly Summary, 2011

Month	Flow from Portal [a]		Precipitation to Sediment Ponds [b]			Precipitation to PAG Site [b]			Total Flow to Sediment Ponds [c]		Flow to LAD Site [d]	
	(gal)	(gal/min)	(inches)	(gal)	(gal/min)	(inches)	(gal)	(gal/min)	(gal)	(gal/min)	(gal)	(gal/min)
Jan-11	*6,842,917*	*153*	15.2	*142,307*	*3.2*	15.2	*165,076*	*3.7*	*7,150,300*	*160*	7,150,300	*160*
Feb-11	*8,103,109*	*201*	11.7	*109,302*	*2.7*	11.7	*126,790*	*3.1*	*8,339,200*	*207*	8,339,200	*207*
Mar-11	*8,405,986*	*188*	17.9	*167,646*	*3.8*	17.9	*194,469*	*4.4*	*8,768,100*	*196*	8,768,100	*196*
Apr-11	*8,435,083*	*195*	11.3	*105,749*	*2.4*	11.3	*122,668*	*2.8*	*8,663,500*	*201*	8,663,500	*201*
May-11	*8,493,017*	*190*	10.6	*99,391*	*2.2*	10.6	*115,293*	*2.6*	*8,707,700*	*195*	8,707,700	*195*
Jun-11	*9,626,275*	*223*	3.2	*29,827*	*0.69*	3.2	*34,599*	*0.8*	*9,690,700*	*224*	9,690,700	*224*
Jul-11	*9,032,587*	*202*	7.2	*67,414*	*1.51*	7.2	*78,200*	*1.8*	*9,178,200*	*206*	9,178,200	*206*
Aug-11	*8,282,926*	*186*	6.5	*60,775*	*1.4*	6.5	*70,499*	*1.6*	*8,414,200*	*188*	8,414,200	*188*
Sep-11	*8,339,317*	*193*	21.3	*199,529*	*4.6*	21.3	*231,454*	*5.4*	*8,770,300*	*203*	8,770,300	*203*
Oct-11	*5,039,835*	*113*	23.8	*222,530*	*5.0*	23.8	*258,135*	*5.8*	*5,520,500*	*124*	5,520,500	*124*
Nov-11	*4,291,840*	*99*	15.1	*141,185*	*3.3*	15.1	*163,775*	*3.8*	*4,596,800*	*106*	4,596,800	*106*
Dec-11	*3,850,972*	*86*	18.0	*168,300*	*3.8*	18.0	*195,228*	*4.4*	*4,214,500*	*94*	4,214,500	*94*

Notes:

Italicized values indicate an estimated number.

LAD = Land Application Dispersion System

PAG = potentially acid-generating

[a] Portal flow estimated based on LAD system flow meter measurements and estimates of precipitation to the sediment ponds and PAG facility according to the following equation: Portal Flow = LAD Flow – (Precipitation to Sediment Ponds + Precipitation to PAG Site).

[b] Precipitation data from on-site weather station. On-site precipitation data not available because of instrument error from September 18 to December 16, 2009. National Weather Service data from the Ketchikan Airport station PAKT was used during this time period. Precipitation to settling ponds based on settling pond surface area of 15,000 ft^2; precipitation to PAG site based on PAG facility surface area of 17,400 ft^2.

[c] Flow to sediment ponds estimated as the sum of portal flow, precipitation to sediment ponds, and precipitation to PAG site.

[d] Flow to LAD site metered near the outlet of the sediment ponds.

Table 3-1. Sampling Event Summary, 2011

Date of Sampling Event	Stations Sampled	QA/QC Samples Collected
January 19 - 21, 2011	MW1, MW2, MW3, MW4, WQ4, WQ6, WQ10, WQ13, EFF1	Field duplicates of MW1 and WQ4, total and dissolved field blanks
April 20-21, 2011	MW1, MW2, MW3, MW4, WQ4, WQ6, WQ10, WQ13, EFF1	Field duplicates of MW4 and WQ10, total and dissolved field blanks
July 24-25, 2011	MW1, MW2, MW3, MW4, WQ4, WQ6, WQ10, WQ13, EFF1	Field duplicates of MW4 and EFF1, total and dissolved field blanks
September 7, 2011	EFF1	Field duplicate of EFF1, total and dissolved field blanks
October 11, 2011	EFF1	
December 20 - 21, 2011	MW1, MW2, MW3, MW4, WQ4, WQ6, WQ10, WQ13, EFF1	Field duplicates of MW4 and WQ13, total and dissolved field blanks

Notes:

The analyte list for each sampling event is presented in Tables 3-3 through 3-5.

QA/QC = quality assurance and quality control

Table 3-2. Water Quality Monitoring Stations

Monitoring Point	Location	Purpose				
		Pre-project Reference Conditions	Concurrent Reference Conditions	Compliance Location	Information Only	Post-closure Monitoring
Effluent						
EFF1	Discharge from the treatment ponds				X	
Surface Waters						
WQ4	Waterfall Creek – downstream	X		X		X
WQ6	Camp Creek – downstream	X		X		
WQ7[a]	Camp Creek – upstream	X	X[a]			
WQ8[a]	Waterfall Creek – upstream	X	X[a]			
WQ10	Unnamed Creek 1 – downstream	X		X		
WQ12[a]	Unnamed Creek 1 – upstream	X	X[a]			
WQ13	Unnamed Creek 2	X				X
PAG	PAG site under drain				See Note A1	

Table 3-2. Water Quality Monitoring Stations

Monitoring Point	Location	Purpose				
		Pre-project Reference Conditions	Concurrent Reference Conditions	Compliance Location	Information Only	Post-closure Monitoring
Groundwater Wells						
MW1	Wetlands below NAG site	X	See Note A2[a]	See Note A2		X
MW2	Wetlands below settlement/treatment ponds	X	See Note A2[a]	See Note A2		X
MW3	Wetlands below PAG site	X	See Note A2[a]	See Note A2		X
MW4	Wetlands below infiltration system area	X	See Note A2[a]	See Note A2		X
MW7[a]	Wetlands – offsite and to the east of the project	X	X[a]			
MW8[a]	Upgradient of land application area and MW3				See Note A3[a]	
MW9[a]	Upgradient of land application area and MW4				See Note A3[a]	

Notes:

ADEC = Alaska Department of Environmental Conservation

NAG = non-acid generating

PAG = potentially acid-generating

[a] Removed from the water quality monitoring network subsequent to Q3 2008, as per agreement with ADEC.

Note A1: Monitoring PAG site under drain is a component of the leak detection system, required to monitor potential degradation of groundwaters should a breach in the liner occur.

Note A2: MW1, MW2, MW3, and MW4 will be used to monitor changes to natural water quality in wetlands water when compared to historical values and remote wetland wells.

Note A3: MW8 and MW9 will be used to determine background groundwater quality for information purposes only.

Table 3-3. Water Quality Parameters Monitored in Surface Water, Groundwater, and Effluent

Characteristic	Sample Type	Notes
Field Parameters		
Conductivity	Field test	
Dissolved oxygen	Field test	
pH	Field test	
Temperature	Field test	
Turbidity	Field test	
Sulfate	Hach field test	Parameter monitored daily at station EFF1 as part of mine dewatering (8/26/2009 to 9/11/2009).
Dissolved zinc	Hach field test	Parameter monitored daily at station EFF1 as part of mine dewatering (8/26/2009 to 9/11/2009).
Conventional Analyses		
Hardness (as $CaCO_3$)	Grab	
Total dissolved solids (TDS)	Grab	
TDS cations/anions	Calculated value	
Total suspended solids	Grab	
Cations/Anions		
Alkalinity (as $CaCO_3$)	Grab	
Chloride	Grab	
Sulphate	Grab	
Ammonia	Grab	
Nitrogen (nitrate/nitrite)	Grab	
Metals (Total and Dissolved)		
Aluminum	Grab	
Arsenic	Grab	
Cadmium	Grab	
Calcium	Grab	
Chromium	Grab	Reported parameter for station EFF1 only
Copper	Grab	
Iron	Grab	
Lead	Grab	
Magnesium	Grab	
Mercury	Grab	
Nickel	Grab	
Sodium	Grab	
Potassium	Grab	
Selenium	Grab	
Silver	Grab	
Zinc	Grab	

Table 3-4. Laboratory Methods for Water Quality Samples

Analysis	Analyte Included on Reduced Monitoring List	Sample Preparation		Quantitative Analysis	
		Protocol	Procedure	Protocol	Procedure
Conventional Analyses					
Hardness as $CaCO_3$	X	--	--	EPA 130.2	Titrimetric
Total dissolved solids	X	--	--	SM 2540C	Gravimetric
Total suspended solids	X	--	--	SM 2540D	Gravimetric
Cations/Anions					
Alkalinity as $CaCO_3$	X	--	--	SM 2320	Titrimetric
Bromide, fluoride		--	--	EPA 300.0	Ion chromatography
Chloride, sulfate	X	--	--	EPA 300.0	Ion chromatography
Nitrate/nitrite as nitrogen	X	EPA 353.2	Cadmium reduction	EPA 353.2	Colorimetric
Ammonia as nitrogen	X	EPA 350.1	Buffered to pH 9.5	EPA 350.1	Colorimetric
o-Phosphate as phosphorus, dissolved			Persulfate digestion		
Phosphate as phosphorus, dissolved		EPA 365.3	Persulfate digestion and 0.45-mm filtration	EPA 365.3	Colorimetric
Phosphate as phosphorus, total			Persulfate digestion		
Total/Dissolved Metals					
Antimony, barium, beryllium, bismuth, cobalt, manganese, molybdenum, thallium, uranium, vanadium		EPA 3020A	Nitric acid digestion	EPA 200.8	ICP/MS
Aluminum, arsenic, cadmium, chromium, copper, lead, nickel, selenium, silver, zinc	X	EPA 3020A	Nitric acid digestion	EPA 200.8	ICP/MS
Boron, lithium, phosphorus, silicon, strontium, tin, titanium		EPA 3010A	Nitric/hydrochloric acid digestion	EPA 200.7	ICP/AES
Calcium, iron, magnesium, potassium, sodium	X	EPA 3010A	Nitric/hydrochloric acid digestion	EPA 200.7	ICP/AES
Mercury	X	EPA 7470A	Acid digestion/oxidation	EPA 245.1	CVAAS

Notes:
Field measurements collected for each event include dissolved oxygen, pH, temperature, conductivity, and turbidity.

-- = not applicable
CVAAS = cold vapor atomic absorption spectrometry
EPA = U.S. Environmental Protection Agency
ICP/AES = inductively-coupled plasma/atomic emission spectrometry
ICP/MS = inductively-coupled plasma/mass spectrometry
SM = Standard Method

Table 3-5. Water Quality Monitoring Station Analyte List Summary, 2007–2011

	Surface Water							Groundwater							Effluent
Sample Period	WQ4	WQ6	WQ7	WQ8	WQ10	WQ12	WQ13	MW1	MW2	MW3	MW4	MW7	MW8	MW9	EFF1
December 2011	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
October 2011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Reduced list and chromium
September 2011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Reduced list
July 2011	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
April 2010	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list
January 2011	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
October 2010	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
August 2010	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
July 2010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Reduced list and chromium
April 2010	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
January 2010	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list
October 2009	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
September 12–13, 2009	Reduced list	Reduced list	--	--	Reduced list	--	--	--	Reduced list	Reduced list	Reduced list	--	--	--	--
September 5, 2009	Reduced list	Reduced list	--	--	Reduced list	--	--	--	--	--	--	--	--	--	--
August 31–September 11, 2009 (mine dewatering monitoring)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Field parameters
July 2009	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
May 2009	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
March 2009	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium

Table 3-5. Water Quality Monitoring Station Analyte List Summary, 2007–2011

	Surface Water							Groundwater							Effluent
Sample Period	WQ4	WQ6	WQ7	WQ8	WQ10	WQ12	WQ13	MW1	MW2	MW3	MW4	MW7	MW8	MW9	EFF1
December 2008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	pH only
November 2008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	pH only
October 2008	Reduced list	Reduced list	--	--	Reduced list	--	Reduced list	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
September 2008	--	--	--	--	--	--	--	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
August 2008	--	--	--	--	--	--	--	Reduced list	Reduced list	Reduced list	Reduced list	--	--	--	Reduced list and chromium
January–July 2008 (monthly monitoring, seven sample events)	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list
February–December 2007 (monthly and bi-monthly monitoring, 13 sample events)	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list	Original list

Notes:

Water quality parameters included on the original and reduced analyte lists are specified in Tables 3-3 and 3-4.

-- = no sample collected

Table 3-6. Zinc Concentrations in Field Blanks, 2008–2011

				Blank Concentration[a]		95th Percentile		*U*-qualified 2 × 95th Percentile		*J*-qualified 5 × 95th Percentile		
Sampling Event	Quarter	Sample ID	Description	Total Zinc (µg/L)	Dissolved Zinc (µg/L)	Total	Dissolved	Total	Dissolved	Total	Dissolved	Notes
January 2008	Q1 2008	WQ21	DI blank, SW protocol	0.7	2.1	5.0	6.2	10.0	12.4	25.0	30.9	Qualifiers for January 2008 to March 2008 samples based on blank values from July 2007 to December 2007 analyzed by Columbia Analytical Services. These action levels were derived by calculating two times the 95th percentile of the distribution of blanks and five times the 95th percentile of the distribution for the *J* qualifiers.
February 2008		WQ24	DI blank, GW protocol	2	2.77	5.0	6.2	10.0	12.4	25.0	30.9	
February 2008		WQ21	DI blank, SW protocol	2.9	2.49	5.0	6.2	10.0	12.4	25.0	30.9	
February 2008		WQ22	DI blank, SW protocol	1.3	3.77	5.0	6.2	10.0	12.4	25.0	30.9	
February 2008		WQ23	DI blank, SW protocol	1.8	2.59	5.0	6.2	10.0	12.4	25.0	30.9	
March 2008		WQ21	DI blank, SW protocol	3	1	5.0	6.2	10.0	12.4	25.0	30.9	
March 2008		WQ22	DI blank, acid rinse, SW protocol	1.6	51.9	5.0	6.2	10.0	12.4	25.0	30.9	
March 2008		MW21	DI blank, GW protocol	1.7	0.7	5.0	6.2	10.0	12.4	25.0	30.9	
March 2008		MW22	DI blank, acid rinse, GW protocol	1	0.8	5.0	6.2	10.0	12.4	25.0	30.9	
April 2008	Q2 2008	WQ21	DI blank, GW protocol	1	0.5	3.0	3.4	5.9	6.8	14.8	17.1	Qualifiers for April 2008 to October 2008 samples based on blank values from January 2008 to March 2008 (excluding dissolved zinc blank outlier value of 51.9 µg/L). These action levels were derived by calculating two times the 95th percentile of the distribution of blanks and five times the 95th percentile of the distribution for the *J* qualifiers.
May 2008		WQ21	DI blank, GW protocol	3.3	0.5	3.0	3.4	5.9	6.8	14.8	17.1	
June 2008		WQ21	DI blank, GW protocol	2.6	2.7	3.0	3.4	5.9	6.8	14.8	17.1	
July 2008	Q3 2008	WQ21	DI blank, GW protocol	4	0.7	3.0	3.4	5.9	6.8	14.8	17.1	
August 2008		WQ21	DI blank, GW protocol	4.75	4.21	3.0	3.4	5.9	6.8	14.8	17.1	
September 2008		WQ21	DI blank, GW protocol	2.98	2.7	3.0	3.4	5.9	6.8	14.8	17.1	
October 2008	Q4 2008	WQ21	DI blank, GW protocol	1.17	1.55	3.0	3.4	5.9	6.8	14.8	17.1	
March 2009	Q1 2009	WQ21	DI blank, GW protocol	3.83	4.53	4.5	4.4	9.0	8.8	22.4	22.1	Qualifiers for samples collected after October 2008 calculated individually for each sample event based on 95th percentile calculations for all blank data collected starting in April 2008. These action levels were derived by calculating two times the 95th percentile of the distribution of blanks and five times the 95th percentile of the distribution for the *J* qualifiers.
May 2009	Q2 2009	WQ21	DI blank, GW protocol	0.92	2.07	4.5	4.4	8.9	8.8	22.3	22.0	
July 2009	Q3 2009	WQ21	DI blank, GW protocol	0.94	0.36	4.4	4.4	8.8	8.8	22.1	21.9	
September 2009		WQ21	DI blank, GW protocol	0.9	2.2	4.4	4.4	8.8	8.7	21.9	21.9	
September 2009		WQ21	DI blank, GW protocol	0.3	0.3	4.3	4.4	8.7	8.7	21.7	21.8	
September 2009		WQ21	DI blank, GW protocol	1.57	2.92	4.3	4.3	8.6	8.7	21.5	21.7	
October 2009	Q4 2009	WQ21	DI blank, GW protocol	1.32	0.58	4.3	4.3	8.5	8.6	21.3	21.6	
October/November 2009		WQ21	DI blank, GW protocol	0.61	0.53	4.2	4.3	8.5	8.6	21.1	21.5	
December 2009		WQ21	DI blank, GW protocol	0.49	0.48	4.2	4.3	8.4	8.6	20.9	21.5	
January 2010	Q1 2010	WQ21	DI blank, GW protocol	6.23	1.29	5.0	4.3	10.1	8.5	25.2	21.4	
February 2010		WQ21	DI blank, GW protocol	4.16	0.69	5.0	4.3	9.9	8.5	24.9	21.3	
March 2010		WQ21	DI blank, GW protocol	0.2	0.41	4.9	4.2	9.8	8.5	24.5	21.2	
April 2010	Q2 2010	WQ21	DI blank, GW protocol	1.55	0.7	4.8	4.2	9.6	8.5	24.1	21.1	
July 2010	Q3 2010	WQ21	DI blank, GW protocol	0.23	0.41	4.7	4.1	9.4	8.2	23.5	20.4	
August 2010		WQ21	DI blank, GW protocol	1.95	3.67	4.7	4.2	9.3	8.2	23.2	20.5	
September 2010		WQ21	DI blank, GW protocol	1.15	0.88	4.6	4.1	9.3	8.2	23.2	20.5	

Table 3-6. Zinc Concentrations in Field Blanks, 2008–2011

				Blank Concentration[a]		95th Percentile		*U*-qualified 2 × 95th Percentile		*J*-qualified 5 × 95th Percentile		
Sampling Event	Quarter	Sample ID	Description	Total Zinc (µg/L)	Dissolved Zinc (µg/L)	Total	Dissolved	Total	Dissolved	Total	Dissolved	Notes
October 2010		WQ21	DI blank, GW protocol	0.2	0.2	4.6	4.1	9.2	8.2	23.0	20.4	
November 2010	Q4 2010	WQ21	DI blank, GW protocol	0.82	0.29	4.6	4.0	9.1	8.1	22.9	20.2	
December 2010		WQ21	DI blank, GW protocol	0.2	0.2	4.5	4.0	9.1	8.0	22.7	20.1	
January 2011		WQ21	DI blank, GW protocol	0.4	0.27	4.5	4.0	9.0	8.0	22.6	20.0	
February 2011	Q1 2011	WQ21	DI blank, GW protocol	0.63	0.2	4.5	4.0	9.0	7.9	22.4	19.8	
March 2011		WQ21	DI blank, GW protocol	1.15	0.81	4.5	3.9	8.9	7.9	22.3	19.7	
April 2011		WQ21	DI blank, GW protocol	0.2	0.92	4.4	3.9	8.9	7.8	22.1	19.6	
May 2011	Q2 2011	WQ21	DI blank, GW protocol	0.2	0.2	4.4	3.9	8.8	7.8	22.0	19.4	
June 2011		WQ21	DI blank, GW protocol	0.2	3.85	4.4	4.0	8.7	8.0	21.8	19.9	
July 2011		WQ21	DI blank, GW protocol	0.2	0.25	4.3	4.0	8.7	7.9	21.7	19.8	
July/August 2011	Q3 2011	WQ21	DI blank, GW protocol	0.2	0.3	4.3	3.9	8.6	7.9	21.5	19.7	
September 2011		WQ21	DI blank, GW protocol	3	0.32	4.3	3.9	8.6	7.8	21.4	19.6	
December 2011	Q4 2011	WQ21	DI blank, GW protocol	0.2	0.24	4.2	3.9	8.5	7.8	21.2	19.5	

Notes:
Data Qualifiers:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quanititation limit.

DI = deionized water
GW = groundwater
SW = surface water

[a]All concentrations are presented as reported by the laboratory. Validation qualifiers have not been applied.

Table 3-7. Surface Water Quality Assurance and Quality Control Replicate Results Precision Summary, 2006–2011

Analyte Group	Analyte	Quality Assurance Measures Calculated (count)	Quality Assurance Measures Not Calculated[a] (count)	Relative Percent Difference [b]					Sample Difference		
				Maximum RPD (percent)	Minimum RPD (percent)	Mean RPD (percent)	RPD > ±20% (count)	RPD > ±50% (count)	Maximum Sample Difference (value)	Minimum Sample Difference (value)	Mean Sample Difference (value)
In situ (field measurements)	Temperature (°C)	0	35	--	--	--	--	--	--	--	--
	Conductivity (mS/cm)	0	35	--	--	--	--	--	--	--	--
	DO (mg/L)	0	35	--	--	--	--	--	--	--	--
	Turbidity (NTU)	0	35	--	--	--	--	--	--	--	--
	pH (SU)	0	35	--	--	--	--	--	--	--	--
Analytical Physical Tests	TDS (mg/L)	28	7	111%	-84%	5%	9	4	39	-46	-0.05
	Hardness as $CaCO_3$ (mg/L)	26	9	33%	-61%	-1%	5	1	11	-4.0	0.33
	TSS (mg/L)	0	35	--	--	--	--	--	--	--	--
Dissolved Anions and Nutrients	Alkalinity as $CaCO_3$ (mg/L)	26	9	31%	-79%	-3%	4	1	13.00	-2.40	0.51
	Chloride (mg/L)	35	0	2%	-5%	0%	0	0	0.10	-0.10	0.0054
	Sulphate (mg/L)	34	1	8%	-7%	0%	0	0	0.10	-0.10	0.0041
	Ammonia as nitrogen (mg/L)	1	34	-10%	-10%	-10%	0	0	0.037	0.037	0.037
	Nitrate+Nitrite as nitrogen	20	15	52%	-33%	0%	3	1	0.066	-0.14	0.00
	Nitrate (mg/L)	7	28	2%	-3%	0%	0	0	0.040	-0.0016	0.0054
	Nitrite (mg/L)	1	34	-6%	-6%	-6%	0	0	0.0014	0.0014	0.0014
Trace Elements	Aluminum (mg/L), total	26	9	45%	-16%	2%	2	0	25	-34	-0.95
	Aluminum (mg/L), dissolved	28	7	54%	-12%	1%	1	1	4.40	-45	-1.11
	Arsenic (mg/L), total	0	35	--	--	--	--	--	--	--	--
	Arsenic (mg/L), dissolved	0	35	--	--	--	--	--	--	--	--
	Cadmium (mg/L), total	0	35	--	--	--	--	--	--	--	--
	Cadmium (mg/L), dissolved	0	35	--	--	--	--	--	--	--	--
	Calcium (mg/L), total	32	3	12%	-8%	1%	0	0	250	-1010	-42
	Calcium (mg/L), dissolved	32	3	6%	-14%	0%	0	0	340	-290	7.8
	Chromium (mg/L), total	0	35	--	--	--	--	--	--	--	--
	Chromium (mg/L), dissolved	0	35	--	--	--	--	--	--	--	--
	Copper (mg/L), total	27	8	30%	-16%	0%	1	0	0.30	-0.30	0.0074
	Copper (mg/L), dissolved	25	10	24%	-85%	-1%	2	1	0.65	-0.15	0.013
	Iron (mg/L), total	20	15	39%	-15%	3%	3	0	31	-32	-1.41
	Iron (mg/L), dissolved	5	30	14%	-9%	-1%	0	0	12	-4.7	2.08
	Lead (mg/L), total	4	31	2%	-16%	-7%	0	0	0.009	-0.0010	0.0045
	Lead (mg/L), dissolved	0	35	--	--	--	--	--	--	--	--
	Magnesium (mg/L), total	30	5	10%	-6%	0%	0	0	60	-65	1.63
	Magnesium (mg/L), dissolved	30	5	4%	-13%	0%	0	0	56	-26	1.37
	Mercury (mg/L), total	0	35	--	--	--	--	--	--	--	--
	Mercury (mg/L), dissolved	0	35	--	--	--	--	--	--	--	--
	Nickel (mg/L), total	6	29	12%	-29%	-5%	1	0	0.25	-0.09	0.04
	Nickel (mg/L), dissolved	6	29	13%	-26%	-2%	1	0	0.14	-0.03	0.02
	Potassium (mg/L), total	0	35	--	--	--	--	--	--	--	--

Table 3-7. Surface Water Quality Assurance and Quality Control Replicate Results Precision Summary, 2006–2011

Analyte Group	Analyte	Quality Assurance Measures Calculated (count)	Quality Assurance Measures Not Calculated[a] (count)	Relative Percent Difference [b]					Sample Difference		
				Maximum RPD (percent)	Minimum RPD (percent)	Mean RPD (percent)	RPD > ±20% (count)	RPD > ±50% (count)	Maximum Sample Difference (value)	Minimum Sample Difference (value)	Mean Sample Difference (value)
	Potassium (mg/L), dissolved	0	35	--	--	--	--	--	--	--	--
	Selenium (mg/L), total	0	35	--	--	--	--	--	--	--	--
	Selenium (mg/L), dissolved	0	35	--	--	--	--	--	--	--	--
	Silver (mg/L), total	1	34	24%	24%	24%	1	0	-0.006	-0.006	-0.006
	Silver (mg/L), dissolved	0	35	--	--	--	--	--	--	--	--
	Sodium (mg/L), total	33	2	13%	-7%	1%	0	0	180	-400	-30
	Sodium (mg/L), dissolved	34	1	5%	-12%	0%	0	0	210	-170	9.12
	Zinc (mg/L), total	1	34	-10%	-10%	-10%	0	0	0.10	0.10	0.10
	Zinc (mg/L), dissolved	2	33	34%	-27%	4%	2	0	0.40	-0.50	-0.05

Notes:
-- = data not available
DO = dissolved oxygen
RPD = Relative Percent Difference, calculated by:
RPD = [X1 – X2] / [Xavg × 100]
where:
X1 = concentration of normal sample
X2 = concentration of duplicate
Xavg = average concentration [(X1 + X2)/2]

Sample Difference = (replicate sample - primary sample)
TDS = total dissolved solids
TSS = total suspended solids

This table includes replicate results collected at stations WQ4, WQ6, WQ7, WQ8, WQ10, WQ12, and WQ13 from 5/16/2006 - 12/21/2011.

[a] Relative percent difference and sample difference not calculated in cases where one or more concentrations were below reporting limits or not available (i.e., *J* , *U* , *UJ* , or *R* qualified data not included in RPD calculation).

[b] As specified in the Niblack QAPP (2007), Section D1: "Results for field splits and replicates will be evaluated against a control limit of 50 RPD. Data will not be qualified as estimated if this control limit is exceeded, but RPD results will be tabulated, and any exceedances will be discussed in the annual report."

Table 3-8. Groundwater Quality Assurance and Quality Control Replicate Results Precision Summary, 2007–2011

				Relative Percent Difference [b]					Sample Difference		
Analyte Group	Analyte	QA measures calculated (count)	QA measures not calculated[a] (count)	Maximum RPD (percent)	Minimum RPD (percent)	Mean RPD (percent)	RPD > ±20% (count)	RPD > ±50% (count)	Maximum Sample Difference (value)	Minimum Sample Difference (value)	Mean Sample Difference (value)
In situ (field measurements)	Temperature (°C)	0	40	--	--	--	--	--	--	--	--
	Conductivity (mS/cm)	0	40	--	--	--	--	--	--	--	--
	DO (mg/L)	0	40	--	--	--	--	--	--	--	--
	Turbidity (NTU)	0	40	--	--	--	--	--	--	--	--
	pH (SU)	0	40	--	--	--	--	--	--	--	--
Analytical Physical Tests	TDS (mg/L)	36	5	91%	-117%	-2%	14	5	67	-52	2.2
	Hardness as $CaCO_3$ (mg/L)	37	4	99%	-132%	-6%	10	5	154	-69	7.7
	TSS (mg/L)	26	15	132%	-45%	12%	9	3	11	-158	-10
Dissolved Anions and Nutrients	Alkalinity as $CaCO_3$ (mg/L)	36	5	50%	-59%	-3%	8	1	26	-3.2	1.8
	Chloride (mg/L)	41	0	10%	-75%	-1%	1	1	2.40	-0.32	0.032
	Sulphate (mg/L)	37	4	36%	-9%	2%	1	0	4.20	-1.70	0.044
	Ammonia as nitrogen (mg/L)	15	26	17%	-31%	0%	2	0	0.120	-0.049	-0.001
	Nitrate+Nitrite as nitrogen (mg/L)	6	35	18%	-24%	-1%	1	0	0.030	-0.14	-0.031
	Nitrate (mg/L)	1	40	28%	28%	28%	1	0	-0.0042	-0.0042	-0.004
	Nitrite (mg/L)	1	40	-35%	-35%	-35%	1	0	0.0032	0.0032	0.003
Trace Elements	Aluminum (mg/L), total	27	14	96%	-16%	9%	4	3	890	-9140	-340
	Aluminum (mg/L), dissolved	27	14	35%	-11%	3%	1	0	9	-136	-9.28
	Arsenic (mg/L), total	16	25	18%	-29%	1%	1	0	0.11	-0.16	-0.01
	Arsenic (mg/L), dissolved	10	31	7%	-18%	-5%	0	0	0.10	-0.06	0.02
	Cadmium (mg/L), total	17	24	27%	-34%	3%	3	0	0.02	-0.04	-0.0045
	Cadmium (mg/L), dissolved	3	38	14%	0%	4%	0	0	0.0010	-0.0050	-0.0013
	Calcium (mg/L), total	39	2	25%	-25%	0%	2	0	1300	-2780	-3.6
	Calcium (mg/L), dissolved	39	2	13%	-12%	0%	0	0	600	-1000	13
	Chromium (mg/L), total	11	30	47%	-28%	2%	2	0	14.7	-1.8	1.1
	Chromium (mg/L), dissolved	6	35	30%	-3%	8%	1	0	0.04	-0.60	-0.20
	Copper (mg/L), total	34	7	81%	-69%	4%	5	2	1.6	-7.3	-0.56
	Copper (mg/L), dissolved	31	10	93%	-34%	5%	5	1	0.55	-1.07	-0.096
	Iron (mg/L), total	35	6	102%	-42%	6%	5	2	3220	-3200	-198
	Iron (mg/L), dissolved	31	10	41%	-19%	2%	2	0	1180	-600	19
	Lead (mg/L), total	33	8	174%	-28%	6%	5	1	0.66	-10.78	-0.33
	Lead (mg/L), dissolved	25	16	26%	-28%	4%	4	0	0.11	-0.076	-0.0074
	Magnesium (mg/L), total	36	5	59%	-35%	2%	3	1	1610	-1590	-19.17
	Magnesium (mg/L), dissolved	36	5	6%	-5%	0%	0	0	50	-80	1.4
	Mercury (mg/L), total	1	40	-18%	-18%	-18%	0	0	0.005	0.005	0.005
	Mercury (mg/L), dissolved	0	41	--	--	--	--	--	--	--	--
	Nickel (mg/L), total	27	14	142%	-21%	20%	10	3	2.30	-4.2	-0.4
	Nickel (mg/L), dissolved	27	14	63%	-24%	14%	12	2	0.32	-0.78	-0.13
	Potassium (mg/L), total	11	30	8%	-3%	1%	0	0	15	-90	-14
	Potassium (mg/L), dissolved	11	30	7%	-8%	0.5%	0	0	100	-46	2.5
	Selenium (mg/L), total	0	41	--	--	--	--	--	--	--	--
	Selenium (mg/L), dissolved	0	41	--	--	--	--	--	--	--	--
	Silver (mg/L), total	8	33	85%	-28%	10%	2	1	0.008	-0.074	-0.014
	Silver (mg/L), dissolved	0	41	--	--	--	--	--	--	--	--
	Sodium (mg/L), total	41	0	7%	-8%	-1%	0	0	700	-320	64

Table 3-8. Groundwater Quality Assurance and Quality Control Replicate Results Precision Summary, 2007–2011

Analyte Group	Analyte	QA measures calculated (count)	QA measures not calculated[a] (count)	Relative Percent Difference [b] Maximum RPD (percent)	Minimum RPD (percent)	Mean RPD (percent)	RPD > ±20% (count)	RPD > ±50% (count)	Sample Difference Maximum Sample Difference (value)	Minimum Sample Difference (value)	Mean Sample Difference (value)
	Sodium (mg/L), dissolved	41	0	8%	-5%	0%	0	0	400	-370	-5.4
	Zinc (mg/L), total	6	35	35%	-30%	-2%	2	0	4.2	-6.8	-0.37
	Zinc (mg/L), dissolved	4	37	37%	0%	18%	2	0	0.0	-2.7	-1.35

Notes:
DO = dissolved oxygen
RPD = relative percent difference, calculated by:
RPD = [X1 – X2] / [Xavg × 100]
where:
X1 = concentration of normal sample
X2 = concentration of duplicate
Xavg = average concentration [(X1 + X2)/2]
Sample Difference = (replicate sample – primary sample)
TDS = total dissolved solids
TSS = total suspended solids
-- = data not available

This table includes replicate results collected at stations MW1, MW3, MW4, MW7, MW8, MW9, and EFF1 from 2/27/2007 - 12/21/2011.

[a] Relative percent difference and sample difference not calculated in cases where one or more concentrations were below reporting limits or not available (i.e., *J*, *U*, *UJ*, or *R* qualified data not included in RPD calculation).

[b] As specified in the Niblack QAPP (2007), Section D1: "Results for field splits and replicates will be evaluated against a control limit of 50 RPD. Data will not be qualified as estimated if this control limit is exceeded, but RPD results will be tabulated, and any exceedances will be discussed in the annual report."

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
WQ4	7/24/2007	µg/L	Barium	2000	2060	102.9	--	--	76-127	--
		µg/L	Boron	1000	1020	102	--	--	76-132	--
		µg/L	Iron	1000	1060	103.5	--	--	58-142	--
		µg/L	Lithium	10000	10600	106	--	--	75-125	--
		µg/L	Silicon	10000	11400	101.7	--	--	70-130	--
		µg/L	Strontium	10000	10100	100.7	--	--	75-125	--
		µg/L	Titanium	10000	10500	105	--	--	70-130	--
		µg/L	Aluminum, Dissolved	20	54.4	90	--	--	34-161	--
		µg/L	Antimony, Dissolved	20	20.4	102	--	--	81-116	--
		µg/L	Arsenic, Dissolved	20	21.4	106.6	--	--	73-125	--
		µg/L	Beryllium, Dissolved	20	20.2	101	--	--	70-120	--
		µg/L	Bismuth, Dissolved	20	21.2	106	--	--	70-130	--
		µg/L	Cadmium, Dissolved	20	21.1	105.5	--	--	81-113	--
		µg/L	Chromium, Dissolved	20	20.7	101.8	--	--	72-120	--
		µg/L	Cobalt, Dissolved	20	20.5	102.3	--	--	63-128	--
		µg/L	Copper, Dissolved	20	21.3	102.6	--	--	70-116	--
		µg/L	Lead, Dissolved	20	21.2	105.9	--	--	60-127	--
		µg/L	Manganese, Dissolved	20	22.2	102.9	--	--	52-152	--
		µg/L	Molybdenum, Dissolved	20	21.7	107.6	--	--	71-134	--
		µg/L	Nickel, Dissolved	20	20.8	101.7	--	--	70-118	--
		µg/L	Selenium, Dissolved	20	21.6	107	--	--	67-127	--
		µg/L	Silver, Dissolved	20	20.1	100.4	--	--	64-122	--
		µg/L	Thallium, Dissolved	20	21.3	106.5	--	--	72-117	--
		µg/L	Tin, Dissolved	20	20.5	102.5	--	--	70-130	--
		µg/L	Uranium, Dissolved	20	20.9	104.4	--	--	70-130	--
		µg/L	Vanadium, Dissolved	20	20.6	101.4	--	--	85-116	--
		µg/L	Zinc, Dissolved	20	29.7	65	--	--	64-120	--
WQ4	08/14/2007	µg/L	Barium	2000	2090	104	--	--	76-127	--
		µg/L	Boron	1000	1050	105	--	--	76-132	--
		µg/L	Iron	1000	1030	102	--	--	58-142	--
		µg/L	Lithium	10000	10900	109	--	--	75-125	--
		µg/L	Silicon	10000	11800	102	--	--	70-130	--
		µg/L	Strontium	10000	10400	104	--	--	70-130	--
		µg/L	Titanium	10000	10800	108	--	--	70-130	--
		µg/L	Barium, Dissolved	2000	1950	97	--	--	76-127	--
		µg/L	Boron, Dissolved	1000	978	98	--	--	76-132	--
		µg/L	Iron, Dissolved	1000	977	97	--	--	58-142	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Lithium, Dissolved	10000	10400	104	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	11400	99	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	9660	96	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	10200	102	--	--	70-130	--
WQ4	08/27/2007	mg/L	Bromide	4.0	4.0	100	--	--	80-120	--
		mg/L	Chloride	4.0	6.2	105	--	--	80-120	--
		mg/L	Fluoride	4.0	4.0	100	--	--	80-120	--
		mg/L	Sulfate	4.0	6.7	100	--	--	80-120	--
		µg/L	Barium	2000	1950	97.2	--	--	76-127	--
		µg/L	Boron	1000	983	98.3	--	--	76-132	--
		µg/L	Iron	1000	1020	98.9	--	--	58-142	--
		µg/L	Lithium	10000	9930	99.2	--	--	75-125	--
		µg/L	Silicon	10000	11000	98.3	--	--	70-130	--
		µg/L	Strontium	10000	9750	97.2	--	--	75-125	--
		µg/L	Titanium	10000	9950	99.5	--	--	70-130	--
		µg/L	Barium, Dissolved	2000	1990	99.4	--	--	76-127	--
		µg/L	Boron, Dissolved	1000	939	93.9	--	--	76-132	--
		µg/L	Iron, Dissolved	1000	1010	99	--	--	58-142	--
		µg/L	Lithium, Dissolved	10000	10100	100.9	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	11100	99.6	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	9860	98.3	--	--	75-125	--
		µg/L	Titanium, Dissolved	10000	10100	101	--	--	70-130	--
WQ4	9/11/2007	µg/L	Barium	2000	2120	106	--	--	76-127	--
		µg/L	Boron	1000	1070	107	--	--	76-132	--
		µg/L	Iron	1000	1090	105	--	--	58-142	--
		µg/L	Lithium	10000	10700	107	--	--	75-125	--
		µg/L	Silicon	10000	11900	103	--	--	70-130	--
		µg/L	Strontium	10000	10600	106	--	--	70-130	--
		µg/L	Titanium	10000	10700	107	--	--	70-130	--
		µg/L	Barium, Dissolved	2000	2040	102	--	--	76-127	--
		µg/L	Boron, Dissolved	1000	1030	103	--	--	76-132	--
		µg/L	Iron, Dissolved	1000	1030	101	--	--	58-142	--
		µg/L	Lithium, Dissolved	10000	10300	103	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	11500	100	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	10300	103	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	10300	103	--	--	70-130	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
WQ4	11/13/2007	µg/L	Barium, Dissolved	2000	2060	103	--	--	76-127	--
		µg/L	Boron, Dissolved	1000	1010	101	--	--	76-132	--
		µg/L	Iron, Dissolved	1000	1030	101	--	--	58-142	--
		µg/L	Lithium, Dissolved	10000	10100	101	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	10900	99	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	10100	100	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	10200	102	--	--	70-130	--
WQ4	12/15/2007	µg/L	Aluminum, Dissolved	2000	2080	104	--	--	83-119	--
		µg/L	Barium, Dissolved	2000	2020	101	--	--	76-127	--
		µg/L	Boron, Dissolved	1000	1040	104	--	--	76-132	--
		µg/L	Iron, Dissolved	1000	983	97	--	--	58-142	--
		µg/L	Lithium, Dissolved	10000	10300	103	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	10600	101	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	10300	103	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	10100	100	--	--	70-130	--
WQ4	1/9/2008	mg/L	Ammonia as Nitrogen	10.0	10.0	100	--	--	75-125	--
		mg/L	Bromide	4.0	3.8	95	--	--	80-120	--
		mg/L	Chloride	4.0	13.1	100	--	--	80-120	--
		mg/L	Fluoride	4.0	4.2	106	--	--	80-120	--
		mg/L	Orthophosphate as Phosphorus, Dissolved	0.20	0.20	100	--	--	89-110	--
		mg/L	Phosphorus, Dissolved	0.50	0.56	110	--	--	75-125	--
		mg/L	Sulfate	4.0	6.6	90	--	--	80-120	--
WQ4	2/14/2008	mg/L	Bromide	4.0	4.0	99	--	--	80-120	--
		mg/L	Chloride	4.0	11.7	100	--	--	80-120	--
		mg/L	Fluoride	4.0	4.3	108	--	--	80-120	--
		mg/L	Orthophosphate as Phosphorus, Dissolved	0.20	0.20	98	--	--	75-125	--
		mg/L	Phosphorus, Dissolved	0.50	0.51	100	--	--	75-125	--
		mg/L	Phosphorus, Total	0.50	0.53	98	--	--	75-115	--
		mg/L	Sulfate	4.0	5.8	99	--	--	80-120	--
		µg/L	Mercury	1	0.99	99	--	--	79-118	--
WQ4	3/15/2008	µg/L	Barium	2000	2050	102.4	--	--	80-125	--
		µg/L	Boron	1000	995	99.5	--	--	79-128	--
		µg/L	Iron	1000	1160	102	--	--	68-135	--
		µg/L	Lithium	10000	10200	102	--	--	70-130	--
		µg/L	Silicon	10000	12000	109.9	--	--	75-125	--
		µg/L	Strontium	10000	10100	100.8	--	--	70-130	--
		µg/L	Titanium	10000	11100	111	--	--	70-130	--
		µg/L	Barium, Dissolved	2000	2070	103.5	--	--	80-125	--
		µg/L	Boron, Dissolved	1000	1000	100	--	--	79-128	--
		µg/L	Iron, Dissolved	1000	1030	102.4	--	--	68-135	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Lithium, Dissolved	10000	10300	103	--	--	70-130	--
		µg/L	Silicon, Dissolved	10000	12200	112.8	--	--	75-125	--
		µg/L	Strontium, Dissolved	10000	10100	100.8	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	11300	113	--	--	70-130	--
WQ4	4/14/2008	mg/L	Ammonia as Nitrogen	10.0	10.0	100	--	--	75-125	--
		mg/L	Bromide	4.0	3.6	91	--	--	80-120	--
		mg/L	Chloride	4.0	12.1	104	--	--	80-120	--
		mg/L	Fluoride	4.0	4.0	99	--	--	80-120	--
		mg/L	Orthophosphate as Phosphorus, Dissolved	0.20	0.20	100	--	--	89-110	--
		mg/L	Phosphorus, Dissolved	0.50	0.52	103	--	--	75-125	--
		mg/L	Sulfate	4.0	5.7	93	--	--	80-120	--
		µg/L	Mercury	1	1.13	113	--	--	78-122	--
WQ4	5/8/2008	µg/L	Barium, Total	2000	1980	98.9	--	--	80-125	--
		µg/L	Boron, Total	1000	961	96.1	--	--	79-128	--
		µg/L	Iron, Total	1000	1130	102.2	--	--	68-135	--
		µg/L	Silicon, Total	10000	11100	102.3	--	--	70-130	--
		µg/L	Strontium, Total	10000	10300	102.8	--	--	70-130	--
		µg/L	Titanium, Total	10000	10200	102	--	--	70-130	--
		µg/L	Barium, Dissolved	2000	2110	105.2	--	--	80-125	--
		µg/L	Boron, Dissolved	1000	1020	102	--	--	79-128	--
		µg/L	Iron, Dissolved	1000	1110	109.1	--	--	68-135	--
		µg/L	Silicon, Dissolved	10000	11600	108	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	11000	109.8	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	10900	109	--	--	70-130	--
WQ4	7/24/2008	mg/L	Orthophosphate as Phosphorus, Dissolved	0.2	0.21	103	--	--	89-110	--
		mg/L	Phosphorus, Dissolved	0.5	0.52	102	--	--	75-125	--
		mg/L	Phosphorus, Total	0.5	0.54	106	--	--	75-115	--
WQ4	03/09/2009	µg/L	Mercury	1	0.91	91	--	--	78-122	--
		µg/L	Mercury, Dissolved	1	1	100	--	--	78-122	--
WQ4	09/05/2009	mg/L	Ammonia as Nitrogen	10.0	10.1	100	--	--	75-125	--
		mg/L	Nitrate+Nitrite as Nitrogen	2.00	2.19	101	--	--	90-110	--
		mg/L	Nitrate+Nitrite as Nitrogen	2.00	--	--	2.26	104	90-110	3
		µg/L	Aluminum, Total	20	90.9	91.5	--	--	56-143	--
		µg/L	Arsenic, Total	20	21.1	105.1	--	--	72-129	--
		µg/L	Cadmium, Total	20	20.3	101.5	--	--	87-113	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Copper, Total	20	21.4	100.1	--	--	62-130	--
		µg/L	Lead, Total	20	20.7	103.4	--	--	76-117	--
		µg/L	Nickel, Total	20	19.9	98	--	--	78-117	--
		µg/L	Selenium, Total	20	21.2	104.5	--	--	47-150	--
		µg/L	Silver, Total	20	20.3	101.3	--	--	55-136	--
		µg/L	Zinc, Total	20	20.9	89.7	--	--	65-126	--
WQ4	9/12/2009	mg/L	Ammonia as Nitrogen	10	9.8	97	--	--	80-115	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.25	104	--	--	86-117	--
		µg/L	Mercury, Total	1	0.99	99	--	--	76-126	--
WQ4	1/15/2010	mg/L	Chloride	3	7.24	101	--	--	80-120	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.16	104	--	--	86-117	--
		mg/L	Sulfate	3	4.22	96	--	--	80-120	--
WQ4	4/22/2010	mg/L	Chloride	3	10.8	99	--	--	80-120	--
		mg/L	Chloride	3	--	--	10.8	99	80-120	<1
		mg/L	Sulfate	3	5.51	103	--	--	80-120	--
		mg/L	Sulfate	3	--	--	5.51	103	80-120	<1
WQ4	1/19/2011	mg/L	Orthophosphate as Phosphorus	0.2	0.2	100	--	--	94-106	--
		mg/L	Phosphorus, Dissolved	0.5	0.529	106	--	--	50-144	--
		µg/L	Barium, Total	2000	1990	99.5	--	--	80-124	--
		µg/L	Boron, Total	1000	1020	102	--	--	75-130	--
		µg/L	Calcium, Total	10000	14000	104.6	--	--	75-125	--
		µg/L	Iron, Total	1000	1600	103.2	--	--	72-131	--
		µg/L	Lithium, Total	10000	10900	109	--	--	70-130	--
		µg/L	Magnesium, Total	10000	11100	103.7	--	--	75-125	--
		µg/L	Potassium, Total	10000	10600	104	--	--	75-125	--
		µg/L	Silicon, Total	10000	12500	113.9	--	--	75-125	--
		µg/L	Sodium, Total	10000	13300	103.7	--	--	75-125	--
		µg/L	Strontium, Total	10000	10500	104.9	--	--	75-125	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.21	103	2.21	102	86-117	<1
		mg/L	Ammonia as Nitrogen	10	10.2	102	--	--	80-115	--
WQ4	7/25/2011	µg/L	Aluminum, Total	20	99.7	104.5	--	--	75-125	--
		µg/L	Arsenic, Total	20	20	99.5	--	--	75-125	--
		µg/L	Cadmium, Total	20	20.3	101.4	--	--	87-113	--
		µg/L	Chromium, Total	20	19.9	98	--	--	76-115	--
		µg/L	Copper, Total	20	21.1	96.4	--	--	75-125	--
		µg/L	Lead, Total	20	20.1	100.5	--	--	76-117	--
		µg/L	Nickel, Total	20	19.3	95.7	--	--	78-117	--
		µg/L	Selenium, Total	20	20.7	103.5	--	--	75-125	--
		µg/L	Silver, Total	20	18	89.9	--	--	76-114	--
		µg/L	Zinc, Total	20	20.8	98.5	--	--	75-125	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
WQ6	10/02/2007	mg/L	Orthophosphate as Phosphorus, Dissolved	0.20	0.21	101	--	--	89-110	--
		mg/L	Total Phosphorus, Dissolved	0.50	0.52	102	--	--	75-125	--
		µg/L	Zinc	20	27.1	113	--	--	57-126	--
WQ6	10/17/2007	µg/L	Mercury	1	1.02	102	--	--	79-118	--
WQ6	1/9/2008	µg/L	Aluminum	20	52.5	99	--	--	73-123	--
		µg/L	Antimony	20	20.1	100	--	--	63-131	--
		µg/L	Arsenic	20	20.7	103	--	--	68-128	--
		µg/L	Beryllium	20	21.2	106	--	--	56-134	--
		µg/L	Bismuth	20	19.5	98	--	--	75-125	--
		µg/L	Cadmium	20	19.9	99	--	--	82-114	--
		µg/L	Chromium	20	21.3	105	--	--	62-121	--
		µg/L	Cobalt	20	20.5	102	--	--	80-119	--
		µg/L	Copper	20	20.4	99	--	--	52-129	--
		µg/L	Lead	20	19.9	99	--	--	72-116	--
		µg/L	Manganese	20	22.2	96	--	--	73-121	--
		µg/L	Mercury	1	1	100	--	--	79-118	--
		µg/L	Molybdenum	20	20.3	101	--	--	78-125	--
		µg/L	Nickel	20	20.8	102	--	--	66-121	--
		µg/L	Selenium	20	20.7	102	--	--	70-121	--
		µg/L	Silver	20	16.6	83	--	--	46-136	--
		µg/L	Thallium	20	20.1	101	--	--	79-112	--
		µg/L	Tin	20	19.9	100	--	--	75-125	--
		µg/L	Uranium	20	19.6	98	--	--	75-125	--
		µg/L	Vanadium	20	21.1	105	--	--	75-120	--
		µg/L	Zinc	20	27.6	103	--	--	57-126	--
WQ6	2/14/2008	mg/L	Ammonia as Nitrogen	10.0	9.59	96	--	--	75-125	--
		µg/L	Aluminum	20	67.4	76	--	--	73-123	--
		µg/L	Antimony	20	20.5	102.3	--	--	63-131	--
		µg/L	Arsenic	20	20.9	103.8	--	--	68-128	--
		µg/L	Beryllium	20	21.1	105.5	--	--	56-134	--
		µg/L	Bismuth	20	23.7	118.5	--	--	75-125	--
		µg/L	Cadmium	20	20.6	103	--	--	82-114	--
		µg/L	Chromium	20	20.8	101.4	--	--	62-121	--
		µg/L	Cobalt	20	20.4	101.8	--	--	80-119	--
		µg/L	Copper	20	20.9	101.6	--	--	52-129	--
		µg/L	Lead	20	21.6	108	--	--	72-116	--
		µg/L	Manganese	20	21.2	102	--	--	73-121	--
		µg/L	Molybdenum	20	20.2	100.2	--	--	75-125	--
		µg/L	Nickel	20	20.5	99.6	--	--	66-121	--
		µg/L	Selenium	20	21	103	--	--	70-121	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Silver	20	20.2	101	--	--	46-136	--
		µg/L	Thallium	20	21.3	106.5	--	--	79-112	--
		µg/L	Tin	20	21.9	109.5	--	--	75-125	--
		µg/L	Uranium	20	20.7	103.5	--	--	75-125	--
		µg/L	Vanadium	20	19.8	99	--	--	75-120	--
		µg/L	Zinc	20	23.5	99	--	--	57-126	--
		µg/L	Aluminum, Dissolved	20	66.9	38	--	--	34-161	--
		µg/L	Antimony, Dissolved	20	21.2	105.8	--	--	81-116	--
		µg/L	Arsenic, Dissolved	20	20.7	103.5	--	--	73-125	--
		µg/L	Beryllium, Dissolved	20	21.1	105.5	--	--	70-120	--
		µg/L	Bismuth, Dissolved	20	21.2	106	--	--	70-130	--
		µg/L	Cadmium, Dissolved	20	20.9	104.4	--	--	81-113	--
		µg/L	Chromium, Dissolved	20	20.6	100.1	--	--	72-120	--
		µg/L	Cobalt, Dissolved	20	20.9	104.4	--	--	63-128	--
		µg/L	Copper, Dissolved	20	21.3	103	--	--	70-116	--
		µg/L	Lead, Dissolved	20	21.9	109.4	--	--	60-127	--
		µg/L	Manganese, Dissolved	20	22	107	--	--	52-152	--
		µg/L	Molybdenum, Dissolved	20	20.7	103.4	--	--	71-134	--
		µg/L	Nickel, Dissolved	20	20.3	99.6	--	--	70-118	--
		µg/L	Selenium, Dissolved	20	20.3	101.5	--	--	67-127	--
		µg/L	Silver, Dissolved	20	20	100	--	--	64-122	--
		µg/L	Thallium, Dissolved	20	21.7	108.5	--	--	72-117	--
		µg/L	Tin, Dissolved	20	21.1	105.5	--	--	70-130	--
		µg/L	Uranium, Dissolved	20	21.6	108	--	--	70-130	--
		µg/L	Vanadium, Dissolved	20	20.6	102.6	--	--	85-116	--
		µg/L	Zinc, Dissolved	20	26.1	105.2	--	--	64-120	--
WQ6	4/14/2008	mg/L	Nitrate+Nitrite as Nitrogen	2.00	2.10	101.00	--	--	90-110	--
		mg/L	Phosphorus, Total	0.50	0.53	106	--	--	75-115	--
		µg/L	Aluminum	20	55.8	97	--	--	61-140	--
		µg/L	Antimony	20	20.5	102.5	--	--	59-135	--
		µg/L	Arsenic	20	20.8	104	--	--	74-126	--
		µg/L	Beryllium	20	20.3	101.5	--	--	66-128	--
		µg/L	Bismuth	20	19.5	97.5	--	--	75-125	--
		µg/L	Cadmium	20	20.6	103	--	--	84-113	--
		µg/L	Chromium	20	20.2	99.3	--	--	68-126	--
		µg/L	Cobalt	20	20.1	100.4	--	--	82-117	--
		µg/L	Copper	20	20.7	101.2	--	--	63-126	--
		µg/L	Lead	20	19.8	99	--	--	71-119	--
		µg/L	Manganese	20	21.5	98.6	--	--	69-134	--
		µg/L	Molybdenum	20	21	105	--	--	57-145	--
		µg/L	Nickel	20	19.9	98.6	--	--	74-119	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Selenium	20	21.1	105.5	--	--	63-132	--
		µg/L	Silver	20	20	100	--	--	57-130	--
		µg/L	Thallium	20	20.3	101.5	--	--	68-125	--
		µg/L	Tin	20	19	95	--	--	75-125	--
		µg/L	Uranium	20	20.2	101	--	--	75-125	--
		µg/L	Vanadium	20	20.3	100.7	--	--	76-124	--
		µg/L	Zinc	20	22.7	105.8	--	--	62-126	--
		µg/L	Aluminum, Dissolved	20	41.4	98.5	--	--	61-140	--
		µg/L	Antimony, Dissolved	20	20	99.8	--	--	59-135	--
		µg/L	Arsenic, Dissolved	20	20.4	102	--	--	74-126	--
		µg/L	Beryllium, Dissolved	20	19.7	98.5	--	--	66-128	--
		µg/L	Bismuth, Dissolved	20	20.4	102	--	--	75-125	--
		µg/L	Cadmium, Dissolved	20	20.5	102.5	--	--	84-113	--
		µg/L	Chromium, Dissolved	20	20	97	--	--	68-126	--
		µg/L	Cobalt, Dissolved	20	19.7	97.3	--	--	82-117	--
		µg/L	Copper, Dissolved	20	20	98.2	--	--	63-126	--
		µg/L	Lead, Dissolved	20	19.9	99.4	--	--	71-119	--
		µg/L	Manganese, Dissolved	20	20.3	98	--	--	69-134	--
		µg/L	Molybdenum, Dissolved	20	21.3	106.3	--	--	57-145	--
		µg/L	Nickel, Dissolved	20	19.9	98.2	--	--	74-119	--
		µg/L	Selenium, Dissolved	20	20.7	103.5	--	--	63-132	--
		µg/L	Silver, Dissolved	20	20	100	--	--	57-130	--
		µg/L	Thallium, Dissolved	20	20.1	100.5	--	--	68-125	--
		µg/L	Tin, Dissolved	20	19.7	98.5	--	--	75-125	--
		µg/L	Uranium, Dissolved	20	20.2	101	--	--	75-125	--
		µg/L	Vanadium, Dissolved	20	19.3	95.8	--	--	76-124	--
		µg/L	Zinc, Dissolved	20	22.6	103.6	--	--	62-126	--
WQ6	6/28/2008	µg/L	Barium	2000	2070	103.5	--	--	80-125	--
		µg/L	Boron	1000	1030	102.5	--	--	79-128	--
		µg/L	Iron	1000	1080	102.9	--	--	68-135	--
		µg/L	Lithium	10000	10300	103	--	--	75-125	--
		µg/L	Silicon	10000	10300	99.9	--	--	70-130	--
		µg/L	Strontium	10000	9930	99.3	--	--	70-130	--
		µg/L	Titanium	10000	10100	101	--	--	70-130	--
		µg/L	Barium, Dissolved	2000	2070	103.5	--	--	80-125	--
		µg/L	Boron, Dissolved	1000	1020	102	--	--	79-128	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Iron, Dissolved	1000	1020	99.9	--	--	68-135	--
		µg/L	Lithium, Dissolved	10000	10200	102	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	10100	98.2	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	9780	97.8	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	9980	99.8	--	--	70-130	--
WQ6	7/24/2008	µg/L	Aluminum, Total	20	46.4	86	--	--	61-140	--
		µg/L	Antimony, Total	20	20.7	103.4	--	--	59-135	--
		µg/L	Arsenic, Total	20	20.9	104.5	--	--	74-126	--
		µg/L	Beryllium, Total	20	23	115	--	--	66-128	--
		µg/L	Bismuth, Total	20	21.5	107.5	--	--	75-125	--
		µg/L	Cadmium, Total	20	20.6	103	--	--	84-113	--
		µg/L	Chromium, Total	20	21	102.5	--	--	68-126	--
		µg/L	Cobalt, Total	20	20.2	100.9	--	--	82-117	--
		µg/L	Copper, Total	20	20.6	99.6	--	--	63-126	--
		µg/L	Lead, Total	20	20.4	102	--	--	71-119	--
		µg/L	Manganese, Total	20	20.7	100.8	--	--	69-134	--
		µg/L	Molybdenum, Total	20	20.6	102.6	--	--	57-145	--
		µg/L	Nickel, Total	20	20.1	100	--	--	74-119	--
		µg/L	Selenium, Total	20	22.7	113.5	--	--	63-132	--
		µg/L	Silver, Total	20	21.1	105.5	--	--	57-130	--
		µg/L	Thallium, Total	20	20.3	101.5	--	--	68-125	--
		µg/L	Tin, Total	20	22.8	114	--	--	75-125	--
		µg/L	Uranium, Total	20	20.3	101.5	--	--	75-125	--
		µg/L	Vanadium, Total	20	20.4	101.1	--	--	76-124	--
		µg/L	Zinc, Total	20	21.6	97	--	--	62-126	--
		µg/L	Aluminum, Dissolved	20	43.9	83	--	--	61-140	--
		µg/L	Antimony, Dissolved	20	21.2	105.9	--	--	59-135	--
		µg/L	Arsenic, Dissolved	20	20.8	104	--	--	74-126	--
		µg/L	Beryllium, Dissolved	20	24	120	--	--	66-128	--
		µg/L	Bismuth, Dissolved	20	21.8	109	--	--	75-125	--
		µg/L	Cadmium, Dissolved	20	20.8	104	--	--	84-113	--
		µg/L	Chromium, Dissolved	20	21.2	103.9	--	--	68-126	--
		µg/L	Cobalt, Dissolved	20	20.8	103.4	--	--	82-117	--
		µg/L	Copper, Dissolved	20	20.9	101.5	--	--	63-126	--
		µg/L	Lead, Dissolved	20	20.3	101.5	--	--	71-119	--
		µg/L	Manganese, Dissolved	20	21.1	103.4	--	--	69-134	--
		µg/L	Molybdenum, Dissolved	20	20.8	103.9	--	--	57-145	--
		µg/L	Nickel, Dissolved	20	20.3	100.6	--	--	74-119	--
		µg/L	Selenium, Dissolved	20	19.5	97.5	--	--	63-132	--
		µg/L	Silver, Dissolved	20	21.4	107	--	--	57-130	--
		µg/L	Thallium, Dissolved	20	20.3	101.5	--	--	68-125	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Tin, Dissolved	20	23.5	117.5	--	--	75-125	--
		µg/L	Uranium, Dissolved	20	20.3	101.5	--	--	75-125	--
		µg/L	Vanadium, Dissolved	20	20.7	102.6	--	--	76-124	--
		µg/L	Zinc, Dissolved	20	21.4	100.5	--	--	62-126	--
WQ6	09/05/2009	µg/L	Calcium, Total	10000	12600	96.5	--	--	75-125	--
		µg/L	Iron, Total	1000	960	94.6	--	--	72-131	--
		µg/L	Magnesium, Total	10000	10500	100.4	--	--	75-125	--
		µg/L	Potassium, Total	10000	10100	99.7	--	--	75-125	--
		µg/L	Sodium, Total	10000	11600	98.1	--	--	75-125	--
WQ6	10/19/2010	µg/L	Aluminum, Total	20	66.2	96.5	--	--	56-143	--
		µg/L	Arsenic, Total	20	19.8	98.5	--	--	72-129	--
		µg/L	Cadmium, Total	20	19.7	98.5	--	--	87-113	--
		µg/L	Copper, Total	20	20.7	99.4	--	--	74-114	--
		µg/L	Lead, Total	20	19.8	99	--	--	76-117	--
		µg/L	Manganese, Total	20	21	100.1	--	--	25-180	--
		µg/L	Nickel, Total	20	20.2	98.2	--	--	78-117	--
		µg/L	Selenium, Total	20	20	100	--	--	58-131	--
		µg/L	Silver, Total	20	20.1	100.4	--	--	76-114	--
		µg/L	Zinc, Total	20	20.5	100.5	--	--	65-126	--
WQ6	1/21/2011	mg/L	Chloride	4	6.99	87	6.96	86	80-120	<1
		mg/L	Sulfate	4	4.64	95	4.56	93	80-120	2
WQ7	7/24/2007	mg/L	Phosphorus, Dissolved Orthophosphate as Phosphorus	0.20	0.20	96	--	--	89-110	--
WQ7	08/27/2007	µg/L	Aluminum	20	48.5	100.5	--	--	73-123	--
		µg/L	Antimony	20	20.4	102	--	--	63-131	--
		µg/L	Arsenic	20	20.9	104.5	--	--	68-128	--
		µg/L	Beryllium	20	20	100	--	--	56-134	--
		µg/L	Bismuth	20	19.9	99.5	--	--	75-125	--
		µg/L	Cadmium	20	20.3	101.5	--	--	82-114	--
		µg/L	Chromium	20	20.7	101.1	--	--	62-121	--
		µg/L	Cobalt	20	20.3	101.4	--	--	80-119	--
		µg/L	Copper	20	21.1	102	--	--	52-129	--
		µg/L	Lead	20	19.7	98.5	--	--	72-116	--
		µg/L	Manganese	20	20.5	100.6	--	--	73-121	--
		µg/L	Molybdenum	20	20.4	101.8	--	--	75-125	--
		µg/L	Nickel	20	20.1	99.4	--	--	66-121	--
		µg/L	Selenium	20	21	105	--	--	70-121	--
		µg/L	Silver	20	20.3	101.5	--	--	46-136	--
		µg/L	Thallium	20	19.9	99.5	--	--	79-112	--
		µg/L	Tin	20	19.5	97.5	--	--	75-125	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Uranium	20	19.6	98	--	--	75-125	--
		µg/L	Vanadium	20	20.4	101.4	--	--	75-120	--
		µg/L	Zinc	20	24.2	98.5	--	--	57-126	--
WQ7	11/13/2007	mg/L	Orthophosphate as Phosphorus, Dissolved	0.20	0.20	98	--	--	75-125	--
		mg/L	Phosphorus, Dissolved	0.50	0.53	104	--	--	75-125	--
		µg/L	Barium	2000	2070	104	--	--	76-127	--
		µg/L	Boron	1000	1010	101	--	--	76-132	--
		µg/L	Iron	1000	1030	102	--	--	58-142	--
		µg/L	Lithium	10000	10600	106	--	--	75-125	--
		µg/L	Silicon	10000	10800	102	--	--	70-130	--
		µg/L	Strontium	10000	10300	103	--	--	70-130	--
		µg/L	Titanium	10000	10800	108	--	--	70-130	--
WQ7	12/15/2007	µg/L	Aluminum	20	61.6	101	--	--	73-123	--
		µg/L	Antimony	20	21.1	106	--	--	63-131	--
		µg/L	Arsenic	20	21.2	106	--	--	68-128	--
		µg/L	Beryllium	20	21	105	--	--	56-134	--
		µg/L	Bismuth	20	21.4	107	--	--	75-125	--
		µg/L	Cadmium	20	21.5	107	--	--	82-114	--
		µg/L	Chromium	20	21	103	--	--	62-121	--
		µg/L	Cobalt	20	21.1	105	--	--	80-119	--
		µg/L	Copper	20	21.7	105	--	--	52-129	--
		µg/L	Lead	20	21.2	106	--	--	72-116	--
		µg/L	Manganese	20	21.7	105	--	--	73-121	--
		µg/L	Molybdenum	20	21	105	--	--	78-125	--
		µg/L	Nickel	20	20.8	103	--	--	66-121	--
		µg/L	Selenium	20	21.8	109	--	--	70-121	--
		µg/L	Silver	40	42	105	--	--	46-136	--
		µg/L	Thallium	20	21	105	--	--	79-112	--
		µg/L	Tin	20	21.2	106	--	--	75-125	--
		µg/L	Uranium	20	20.9	104	--	--	75-125	--
		µg/L	Vanadium	20	20.6	103	--	--	75-120	--
		µg/L	Zinc	20	26.4	110	--	--	57-126	--
		mg/L	Ammonia as Nitrogen	10.0	9.99	100	--	--	75-125	--
WQ7	2/14/2008	µg/L	Aluminum	2000	2050	98.8	--	--	83-119	--
		µg/L	Barium	2000	2000	100	--	--	76-127	--
		µg/L	Boron	1000	969	96.9	--	--	76-132	--
		µg/L	Calcium	10000	11800	93.3	--	--	75-125	--
		µg/L	Iron	1000	998	98	--	--	58-142	--
		µg/L	Lithium	10000	10200	102	--	--	75-125	--
		µg/L	Magnesium	10000	9660	90.9	--	--	75-125	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Potassium	10000	8280	82.8	--	--	75-125	--
		µg/L	Silicon	10000	10300	97.8	--	--	70-130	--
		µg/L	Sodium	10000	12900	92.2	--	--	75-125	--
		µg/L	Strontium	10000	9650	96.4	--	--	75-125	--
		µg/L	Titanium	10000	10300	103	--	--	70-130	--
		µg/L	Aluminum, Dissolved	2000	2050	99.4	--	--	83-119	--
		µg/L	Barium, Dissolved	2000	1970	98.5	--	--	76-127	--
		µg/L	Boron, Dissolved	1000	949	94.9	--	--	76-132	--
		µg/L	Calcium, Dissolved	10000	11600	92	--	--	75-125	--
		µg/L	Iron, Dissolved	1000	982	97.1	--	--	58-142	--
		µg/L	Lithium, Dissolved	10000	9860	98.6	--	--	75-125	--
		µg/L	Magnesium, Dissolved	10000	9490	89.4	--	--	75-125	--
		µg/L	Potassium, Dissolved	10000	9320	93.2	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	10200	97.1	--	--	70-130	--
		µg/L	Sodium, Dissolved	10000	13000	93.5	--	--	75-125	--
		µg/L	Strontium, Dissolved	10000	9470	94.6	--	--	75-125	--
		µg/L	Titanium, Dissolved	10000	10200	102	--	--	70-130	--
WQ7	6/28/2008	mg/L	Phosphorus, Total	0.50	0.50	99	--	--	75-115	--
WQ7	7/24/2008	mg/L	Nitrate+Nitrite as Nitrogen	2	2.13	105	--	--	90-110	--
WQ8	10/17/2007	µg/L	Barium	2000	1970	99	--	--	76-127	--
		µg/L	Boron	1000	967	97	--	--	76-132	--
		µg/L	Iron	1000	997	96	--	--	58-142	--
		µg/L	Lithium	10000	10500	104	--	--	75-125	--
		µg/L	Silicon	10000	10500	100	--	--	70-130	--
		µg/L	Strontium	10000	9730	97	--	--	70-130	--
		µg/L	Titanium	10000	9890	99	--	--	70-130	--
		µg/L	Barium, Dissolved	2000	2060	103	--	--	76-127	--
		µg/L	Boron, Dissolved	1000	1010	101	--	--	76-132	--
		µg/L	Iron, Dissolved	1000	1030	101	--	--	58-142	--
		µg/L	Lithium, Dissolved	10000	10500	105	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	10900	104	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	10300	103	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	10300	103	--	--	70-130	--
WQ8	1/9/2008	µg/L	Aluminum	2000	2200	110	--	--	83-119	--
		µg/L	Barium	2000	2320	116	--	--	76-127	--
		µg/L	Boron	1000	1120	112	--	--	76-132	--
		µg/L	Iron	1000	1090	108	--	--	58-142	--
		µg/L	Lithium	10000	11400	114	--	--	75-125	--
		µg/L	Silicon	10000	12800	119	--	--	75-125	--
		µg/L	Strontium	10000	11200	112	--	--	75-125	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Titanium	10000	11500	115	--	--	75-125	--
		µg/L	Aluminum, Dissolved	2000	2110	105	--	--	83-119	--
		µg/L	Barium, Dissolved	2000	2090	104	--	--	76-127	--
		µg/L	Boron, Dissolved	1000	1060	106	--	--	76-132	--
		µg/L	Iron, Dissolved	1000	1030	102	--	--	58-142	--
		µg/L	Lithium, Dissolved	10000	11000	110	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	12400	115	--	--	75-125	--
		µg/L	Strontium, Dissolved	10000	10800	108	--	--	75-125	--
		µg/L	Titanium, Dissolved	10000	11400	114	--	--	75-125	--
WQ8	4/14/2008	µg/L	Barium	2000	2130	106.5	--	--	80-125	--
		µg/L	Boron	1000	1000	100	--	--	79-128	--
		µg/L	Iron	1000	1040	103.2	--	--	68-135	--
		µg/L	Lithium	10000	9640	96.4	--	--	70-130	--
		µg/L	Silicon	10000	11600	109.8	--	--	75-125	--
		µg/L	Strontium	10000	9910	99	--	--	70-130	--
		µg/L	Titanium	10000	11200	112	--	--	70-130	--
		µg/L	Barium, Dissolved	2000	2140	107	--	--	80-125	--
		µg/L	Boron, Dissolved	1000	1020	102	--	--	79-128	--
		µg/L	Iron, Dissolved	1000	1050	104	--	--	68-135	--
		µg/L	Lithium, Dissolved	10000	9800	98	--	--	70-130	--
		µg/L	Silicon, Dissolved	10000	11800	111.7	--	--	75-125	--
		µg/L	Strontium, Dissolved	10000	9730	97.2	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	11300	113	--	--	70-130	--
WQ8	7/24/2008	mg/L	Nitrate+Nitrite as Nitrogen	2	2.09	102	--	--	90-110	--
		µg/L	Aluminum, Total	2000	2160	106.5	--	--	80-124	--
		µg/L	Barium, Total	2000	1860	93	--	--	80-125	--
		µg/L	Boron, Total	1000	964	96.4	--	--	79-128	--
		µg/L	Iron, Total	1000	923	90.5	--	--	68-135	--
		µg/L	Lithium, Total	10000	10100	101	--	--	75-125	--
		µg/L	Silicon, Total	10000	10200	92.3	--	--	70-130	--
		µg/L	Strontium, Total	10000	9880	98.6	--	--	70-130	--
		µg/L	Titanium, Total	10000	9950	99.5	--	--	70-130	--
		µg/L	Aluminum, Dissolved	2000	2220	109.6	--	--	80-124	--
		µg/L	Barium, Dissolved	2000	1840	92	--	--	80-125	--
		µg/L	Boron, Dissolved	1000	997	99.7	--	--	79-128	--
		µg/L	Iron, Dissolved	1000	925	91.8	--	--	68-135	--
		µg/L	Lithium, Dissolved	10000	10500	105	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	10200	92	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	9910	98.9	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	10300	103	--	--	70-130	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
WQ10	12/15/2007	µg/L	Aluminum	2000	2130	101	--	--	83-119	--
		µg/L	Barium	2000	1980	99	--	--	76-127	--
		µg/L	Boron	1000	1000	100	--	--	76-132	--
		µg/L	Iron	1000	1060	95	--	--	58-142	--
		µg/L	Lithium	10000	10300	103	--	--	75-125	--
		µg/L	Mercury	1	0.96	96	--	--	79-118	--
		µg/L	Silicon	10000	10500	100	--	--	70-130	--
		µg/L	Strontium	10000	10000	100	--	--	70-130	--
		µg/L	Titanium	10000	9890	99	--	--	70-130	--
WQ10	4/20/2011	mg/L	Orthophosphate as Phosphorus, Dissolved	0.2	0.204	102	0.411	103	60-130	<1
		mg/L	Phosphorus, Dissolved	0.5	0.495	98	0.947	94	60-135	4
		mg/L	Sulfate	4	5.57	93	5.61	94	80-120	<1
		µg/L	Aluminum, Total	20	78.2	107.5	--	--	75-125	--
		µg/L	Antimony, Total	20	20	99.9	--	--	75-125	--
		µg/L	Arsenic, Total	20	20	100	--	--	75-125	--
		µg/L	Beryllium, Total	20	20.1	100.5	--	--	75-125	--
		µg/L	Bismuth, Total	20	21.2	106	--	--	75-125	--
		µg/L	Cadmium, Total	20	20	100	--	--	87-113	--
		µg/L	Chromium, Total	20	20.9	102	--	--	76-115	--
		µg/L	Cobalt, Total	20	20.4	101.8	--	--	84-115	--
		µg/L	Copper, Total	20	21.2	101.4	--	--	75-125	--
		µg/L	Lead, Total	20	20.7	103.4	--	--	76-117	--
		µg/L	Manganese, Total	20	23.8	101.8	--	--	75-125	--
		µg/L	Molybdenum, Total	20	20.3	101.2	--	--	75-125	--
		µg/L	Nickel, Total	20	20.4	100.3	--	--	78-117	--
		µg/L	Selenium, Total	20	20	100	--	--	75-125	--
		µg/L	Silver, Total	20	19.5	97.5	--	--	76-114	--
		µg/L	Thallium, Total	20	20.9	104.5	--	--	86-108	--
		µg/L	Tin, Total	20	20.4	102	--	--	75-125	--
		µg/L	Uranium, Total	40	40.3	100.8	--	--	75-125	--
		µg/L	Vanadium, Total	20	20.7	102.6	--	--	82-119	--
		µg/L	Zinc, Total	20	20.4	100	--	--	75-125	--
		µg/L	Phosphorus, Total	10000	9690	96.9	--	--	75-125	--
WQ10	7/25/2011	µg/L	Mercury, Total	1	1.05	105	--	--	76-126	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
WQ12	1/9/2008	mg/L	Nitrate+Nitrite as Nitrogen	2.00	1.86	95	--	--	90-110	--
		µg/L	Aluminum, Dissolved	20	48.8	104	--	--	73-123	--
		µg/L	Antimony, Dissolved	20	20.3	102	--	--	73-123	--
		µg/L	Arsenic, Dissolved	20	19.7	98	--	--	68-128	--
		µg/L	Beryllium, Dissolved	20	20.4	102	--	--	56-134	--
		µg/L	Bismuth, Dissolved	20	20	100	--	--	75-125	--
		µg/L	Cadmium, Dissolved	20	20.1	101	--	--	82-114	--
		µg/L	Chromium, Dissolved	20	20.9	103	--	--	62-121	--
		µg/L	Cobalt, Dissolved	20	20.6	102	--	--	80-119	--
		µg/L	Copper, Dissolved	20	20.8	102	--	--	52-129	--
		µg/L	Lead, Dissolved	20	20.4	102	--	--	72-116	--
		µg/L	Manganese, Dissolved	20	48.7	103	--	--	73-121	--
		µg/L	Molybdenum, Dissolved	20	20.8	104	--	--	78-125	--
		µg/L	Nickel, Dissolved	20	20.6	102	--	--	66-121	--
		µg/L	Selenium, Dissolved	20	18.9	95	--	--	70-121	--
		µg/L	Silver, Dissolved	20	20.5	102	--	--	46-136	--
		µg/L	Thallium, Dissolved	20	20.3	102	--	--	79-112	--
		µg/L	Tin, Dissolved	20	20.2	101	--	--	70-130	--
		µg/L	Uranium, Dissolved	20	20.5	103	--	--	70-130	--
		µg/L	Vanadium, Dissolved	20	20.8	103	--	--	75-120	--
		µg/L	Zinc, Dissolved	20	25.3	99	--	--	57-126	--
WQ13	8/27/2007	µg/L	Mercury	1	0.99	99	--	--	79-118	--
WQ13	4/22/2010	µg/L	Mercury, Total	1	1.01	101	--	--	76-126	--
		µg/L	Mercury, Dissolved	1	0.96	96	--	--	76-126	--
WQ13	8/10/2010	mg/L	Nitrate+Nitrite as Nitrogen	2	2.13	98	--	--	86-117	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	--	--	2.12	98	86-117	<1
WQ13	10/18/2010	µg/L	Aluminum, Total	20	85.5	87	--	--	56-143	--
		µg/L	Antimony, Total	20	19.6	97.9	--	--	66-133	--
		µg/L	Arsenic, Total	20	19.6	97.5	--	--	72-129	--
		µg/L	Beryllium, Total	20	20	100	--	--	73-125	--
		µg/L	Bismuth, Total	20	19.7	98.5	--	--	75-125	--
		µg/L	Cadmium, Total	20	19.5	97.4	--	--	87-113	--
		µg/L	Chromium, Total	20	20	96.2	--	--	76-115	--
		µg/L	Cobalt, Total	20	19.2	95.7	--	--	84-115	--
		µg/L	Copper, Total	20	20.6	96.2	--	--	74-114	--
		µg/L	Lead, Total	20	19.4	96.9	--	--	76-117	--
		µg/L	Manganese, Total	20	22.7	97.2	--	--	25-180	--
		µg/L	Molybdenum, Total	20	19.3	96.3	--	--	67-138	--
		µg/L	Nickel, Total	20	19.5	95.6	--	--	78-117	--
		µg/L	Selenium, Total	20	19.6	96	--	--	58-131	--

Table 3-9. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
		µg/L	Silver, Total	20	19.5	97.4	--	--	76-114	--
		µg/L	Thallium, Total	20	19.3	96.4	--	--	86-108	--
		µg/L	Tin, Total	20	20	100	--	--	75-125	--
		µg/L	Uranium, Total	20	20.2	101	--	--	75-125	--
		µg/L	Vanadium, Total	20	19.8	97.9	--	--	82-119	--
		µg/L	Zinc, Total	20	23.4	100	--	--	65-126	--

Notes:
mg/L = milligrams per liter
µg/L = micrograms per liter
RPD = relative percent difference

Percent recovery = spike concentration/(sample concentration + spike concentration) × 100
RPD = (((replicate sample - primary sample)/(replicate sample + primary sample))/2) × 100

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
EFF1	11/13/2007	mg/L	Phosphorus, Total	0.50	0.51	100	--	--	75-125	--
EFF1	3/17/2008	µg/L	Aluminum	20	3030	**3200**	--	--	61-140	--
		µg/L	Antimony	20	20	93	--	--	59-135	--
		µg/L	Arsenic	20	20.8	98.3	--	--	74-126	--
		µg/L	Beryllium	20	20.2	100.9	--	--	66-128	--
		µg/L	Bismuth	20	22.4	112	--	--	75-125	--
		µg/L	Cadmium	20	19.3	96.1	--	--	84-113	--
		µg/L	Chromium	20	60	112.5	--	--	68-126	--
		µg/L	Cobalt	20	23.2	103.7	--	--	82-117	--
		µg/L	Copper	20	33.7	104.5	--	--	63-126	--
		µg/L	Lead	20	23.7	103.4	--	--	71-119	--
		µg/L	Manganese	20	159	**145**	--	--	69-134	--
		µg/L	Molybdenum	20	29.8	100.7	--	--	57-145	--
		µg/L	Nickel	20	25.2	99.6	--	--	74-119	--
		µg/L	Selenium	20	19.5	92.5	--	--	63-132	--
		µg/L	Silver	20	19.5	96.4	--	--	57-130	--
		µg/L	Thallium	20	21.1	105.4	--	--	68-125	--
		µg/L	Tin	20	16.5	81.1	--	--	75-125	--
		µg/L	Uranium	20	23.1	114.4	--	--	75-125	--
		µg/L	Vanadium	20	36.4	104.5	--	--	76-124	--
		µg/L	Zinc	20	37.9	103.5	--	--	62-126	--
EFF1	4/15/2008	µg/L	Chromium, Hexavalent	10	46.5	108	--	--	85-115	--
EFF1	5/14/2009	µg/L	Aluminum	20	61.5	96.5	--	--	61-140	--
		µg/L	Arsenic	20	21.8	103.5	--	--	74-126	--
		µg/L	Cadmium	20	20.4	100.9	--	--	84-113	--
		µg/L	Chromium	20	20.5	97.2	--	--	68-126	--
		µg/L	Copper	20	26.4	95	--	--	63-126	--
		µg/L	Lead	20	20.7	96.1	--	--	71-119	--
		µg/L	Manganese	20	23.6	98.4	--	--	69-134	--
		µg/L	Nickel	20	20.4	99	--	--	74-119	--
		µg/L	Selenium	20	21	100.5	--	--	63-132	--
		µg/L	Silver	20	20.1	100.5	--	--	57-130	--
		µg/L	Zinc	20	148	95	--	--	62-126	--
		µg/L	Aluminum, Dissolved	20	55.9	84.5	--	--	61-140	--
		µg/L	Arsenic, Dissolved	20	21.2	100.5	--	--	74-126	--
		µg/L	Cadmium, Dissolved	20	20.3	100.4	--	--	84-113	--
		µg/L	Chromium, Dissolved	20	20.2	95.2	--	--	68-126	--
		µg/L	Copper, Dissolved	20	25	92.8	--	--	63-126	--
		µg/L	Lead, Dissolved	20	20.3	98.2	--	--	71-119	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike			Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result		Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Manganese, Dissolved	20	23.3		96.2	--	--	69-134	--
		µg/L	Nickel, Dissolved	20	19.8		95.2	--	--	74-119	--
		µg/L	Selenium, Dissolved	20	20.7		98.5	--	--	63-132	--
		µg/L	Silver, Dissolved	20	19.7		98.5	--	--	57-130	--
		µg/L	Zinc, Dissolved	20	140		**45**	--	--	62-126	--
EFF1	10/18/2009	µg/L	Mercury, Total	1	0.98		98	--	--	76-126	--
EFF1	7/14/2010	µg/L	Boron, Total	1000	989		98.4	--	--	75-130	--
EFF1	10/18/2010	µg/L	Chromium, Total	10	10.9		103	--	--	85-115	--
EFF1	4/21/2011	µg/L	Calcium, Total	10000	42200		103	--	--	75-125	--
		µg/L	Iron, Total	1000	2590	J	**170.9**	--	--	75-125	--
		µg/L	Magnesium, Total	10000	13900		111.1	--	--	75-125	--
		µg/L	Potassium, Total	10000	11100		105.8	--	--	75-125	--
		µg/L	Sodium, Total	10000	14900		101	--	--	75-125	--
EFF1	9/7/2011	µg/L	Mercury, Total	1	1		100	--	--	76-126	--
		mg/L	Ammonia as Nitrogen	10	10.1		101	--	--	80-115	--
		mg/L	Chloride	10	12.9		95	12.9	95	90-110	<1
		mg/L	Sulfate	10	35.5	J	**117**	35.5 J	**117**	90-110	<1
		µg/L	Calcium, Total	10000	38300		92	--	--	75-125	--
		µg/L	Iron, Total	1000	2880		**141**	--	--	75-125	--
		µg/L	Magnesium, Total	10000	12500		102.3	--	--	75-125	--
		µg/L	Potassium, Total	10000	10700		100.7	--	--	75-125	--
		µg/L	Sodium, Total	10000	14100		95.6	--	--	75-125	--
EFF1	10/11/2011	µg/L	Aluminum, Total	100	386		**132**	--	--	75-125	--
		µg/L	Arsenic, Total	50	52.1		103.2	--	--	75-125	--
		µg/L	Cadmium, Total	25	26.1		104.1	--	--	87-113	--
		µg/L	Chromium, Total	10	11.8		101.7	--	--	76-115	--
		µg/L	Copper, Total	12.5	15.8		100.6	--	--	75-125	--
		µg/L	Lead, Total	50	49.9		99.4	--	--	76-117	--
		µg/L	Nickel, Total	25	25.2		98.2	--	--	78-117	--
		µg/L	Selenium, Total	50	51.6		102	--	--	75-125	--
		µg/L	Silver, Total	12.5	12.7		100.8	--	--	76-114	--
		µg/L	Zinc, Total	25	34.9		100.9	--	--	75-125	--
EFF1	12/21/2011	µg/L	Calcium, Total	10000	37700		95	--	--	75-125	--
		µg/L	Chromium, Hexavalent, Total	10	10.6		106	--	--	85-115	--
		µg/L	Iron, Total	1000	1110		103.2	--	--	75-125	--
		µg/L	Magnesium, Total	10000	12200		95.5	--	--	75-125	--
		µg/L	Potassium, Total	10000	10800		103.2	--	--	75-125	--
		µg/L	Sodium, Total	10000	14900		96.5	--	--	75-125	--
MW1	8/14/2007	µg/L	Aluminum	2000	2200		100	**--**	**--**	83-119	**--**

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Barium	2000	2020	101	--	--	76-127	--
		µg/L	Boron	1000	997	100	--	--	76-132	--
		µg/L	Iron	1000	2740	98	--	--	58-142	--
		µg/L	Lithium	10000	10600	106	--	--	75-125	--
		µg/L	Silicon	10000	12800	101	--	--	70-130	--
		µg/L	Strontium	10000	10000	99	--	--	70-130	--
		µg/L	Titanium	10000	10500	105	--	--	70-130	--
		µg/L	Aluminum, Dissolved	2000	2160	100	--	--	83-119	--
		µg/L	Barium, Dissolved	2000	2030	101	--	--	76-127	--
		µg/L	Boron, Dissolved	1000	1000	100	--	--	76-132	--
		µg/L	Iron, Dissolved	1000	2800	107	--	--	58-142	--
		µg/L	Lithium, Dissolved	10000	10500	105	--	--	75-125	--
		µg/L	Silicon, Dissolved	10000	12800	103	--	--	70-130	--
		µg/L	Strontium, Dissolved	10000	9960	99	--	--	70-130	--
		µg/L	Titanium, Dissolved	10000	10600	106	--	--	70-130	--
MW1	10/16/2007	µg/L	Mercury	1	1.08	108	--	--	79-118	--
		mg/L	Ammonia as Nitrogen	10	10.0	99	--	--	73-117	--
MW1	12/14/2007	mg/L	Nitrate+Nitrite as Nitrogen	2.0	1.96	97	--	--	90-110	--
		mg/L	Orthophosphate as Phosphorus, Dissolved	0.20	0.22	95	--	--	89-110	--
		mg/L	Phosphorus, Dissolved	0.50	0.54	102	--	--	75-125	--
		mg/L	Phosphorus, Total	0.50	0.55	94	--	--	75-115	--
MW1	1/9/2008	µg/L	Mercury	1	0.97	97	--	--	79-118	--
MW1	4/15/2008	µg/L	Mercury	1	1	97	--	--	78-122	--
MW1	6/26/2008	mg/L	Bromide	4.0	3.8	96	--	--	80-120	--
		mg/L	Chloride	4.0	8.2	99	--	--	80-120	--
		mg/L	Fluoride	4.0	4.3	108	--	--	80-120	--
		mg/L	Sulfate	4.0	8.2	100	--	--	80-120	--
		µg/L	Mercury	1	0.99	99	--	--	78-122	--
		µg/L	Mercury, Dissolved	1	1	100	--	--	78-122	--
MW1	7/24/2008	mg/L	Ammonia as Nitrogen	10	9.74	97	--	--	75-125	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
MW1	7/24/2009	mg/L	Ammonia as Nitrogen	10.0	9.78	97	--	--	75-125	--
		mg/L	Chloride	4.0	6.9	98	--	--	80-120	--
		mg/L	Sulfate	4.0	9.7	102	--	--	80-120	--
MW1	10/17/2009	mg/L	Nitrate+Nitrite as Nitrogen	2	2.01	99	--	--	86-117	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	--	--	2.09	103	86-117	4
		µg/L	Aluminum, Total	2000	2100	96.1	--	--	79-125	--
		µg/L	Barium, Total	2000	1940	96.8	--	--	80-124	--
		µg/L	Boron, Total	1000	955	95.5	--	--	75-130	--
		µg/L	Iron, Total	1000	2130	92	--	--	72-131	--
		µg/L	Aluminum, Dissolved	2000	2160	100.8	--	--	79-125	--
		µg/L	Barium, Dissolved	2000	2000	99.8	--	--	80-124	--
		µg/L	Boron, Dissolved	1000	989	98.5	--	--	75-130	--
		µg/L	Iron, Dissolved	1000	2180	97	--	--	72-131	--
MW1	1/17/2010	mg/L	Ammonia as Nitrogen	10	9.79	98	--	--	80-115	--
		µg/L	Aluminum, Total	20	150	75	--	--	56-143	--
		µg/L	Antimony, Total	20	20.9	104.5	--	--	66-133	--
		µg/L	Arsenic, Total	20	21.3	105.9	--	--	72-129	--
		µg/L	Barium, Total	20	25.1	102.6	--	--	86-117	--
		µg/L	Beryllium, Total	20	20.4	102	--	--	73-125	--
		µg/L	Bismuth, Total	20	19.7	98.5	--	--	75-125	--
		µg/L	Boron, Total	20	25	98.8	--	--	75-125	--
		µg/L	Cadmium, Total	20	20.9	104.4	--	--	87-113	--
		µg/L	Chromium, Total	20	20.9	102	--	--	60-136	--
		µg/L	Cobalt, Total	20	20.9	102.9	--	--	84-115	--
		µg/L	Copper, Total	20	21.4	102.2	--	--	62-130	--
		µg/L	Iron, Total	1000	2010	96	--	--	72-131	--
		µg/L	Lead, Total	20	20.8	101.6	--	--	76-117	--
		µg/L	Manganese, Total	20	45	96.5	--	--	25-180	--
		µg/L	Molybdenum, Total	20	21.3	105.8	--	--	67-138	--
		µg/L	Nickel, Total	20	21	101.4	--	--	78-117	--
		µg/L	Selenium, Total	20	20	100	--	--	47-150	--
		µg/L	Silicon, Total	10000	12300	107.4	--	--	75-125	--
		µg/L	Silver, Total	20	19.7	98.5	--	--	55-136	--
		µg/L	Strontium, Total	10000	10200	101.6	--	--	75-125	--
		µg/L	Thallium, Total	20	20.5	102.5	--	--	75-121	--
		µg/L	Tin, Total	20	16.2	80.9	--	--	75-125	--
		µg/L	Uranium, Total	20	20.7	103.4	--	--	75-125	--
		µg/L	Vanadium, Total	20	20.8	101.6	--	--	82-119	--
		µg/L	Zinc, Total	20	23	103.8	--	--	65-126	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Aluminum, Dissolved	20	131	85	--	--	56-143	--
		µg/L	Antimony, Dissolved	20	21.4	106.6	--	--	66-133	--
		µg/L	Arsenic, Dissolved	20	21.3	105.8	--	--	72-129	--
		µg/L	Barium, Dissolved	20	25.6	105.1	--	--	86-117	--
		µg/L	Beryllium, Dissolved	20	20.5	102.5	--	--	73-125	--
		µg/L	Bismuth, Dissolved	20	19.8	99	--	--	75-125	--
		µg/L	Boron, Dissolved	20	25	99	--	--	75-125	--
		µg/L	Cadmium, Dissolved	20	21	105	--	--	87-113	--
		µg/L	Chromium, Dissolved	20	20.9	102.2	--	--	60-136	--
		µg/L	Cobalt, Dissolved	20	22.4	101.8	--	--	84-115	--
		µg/L	Copper, Dissolved	20	20.8	100.8	--	--	62-130	--
		µg/L	Iron, Dissolved	1000	1920	93.2	--	--	72-131	--
		µg/L	Lead, Dissolved	20	21.1	103.8	--	--	76-117	--
		µg/L	Manganese, Dissolved	20	46.8	98	--	--	25-180	--
		µg/L	Molybdenum, Dissolved	20	21.7	107.9	--	--	67-138	--
		µg/L	Nickel, Dissolved	20	20.9	100.5	--	--	78-117	--
		µg/L	Selenium, Dissolved	20	20.3	100	--	--	47-150	--
		µg/L	Silicon, Dissolved	10000	12400	110.4	--	--	75-125	--
		µg/L	Silver, Dissolved	20	19.6	97.9	--	--	55-136	--
		µg/L	Strontium, Dissolved	10000	10300	102.6	--	--	75-125	--
		µg/L	Thallium, Dissolved	20	20.7	103.5	--	--	75-121	--
		µg/L	Tin, Dissolved	20	20.3	101.3	--	--	75-125	--
		µg/L	Uranium, Dissolved	20	20.9	104.4	--	--	75-125	--
		µg/L	Vanadium, Dissolved	20	20.7	101.3	--	--	82-119	--
		µg/L	Zinc, Dissolved	20	23	98.4	--	--	65-126	--
MW1	4/22/2010	mg/L	Ammonia as Nitrogen	10	9.39	93	--	--	85-115	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	2	98	--	--	86-117	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	--	--	2.02	99	86-117	<1
		µg/L	Aluminum, Total	20	145	**50**	--	--	56-143	--
		µg/L	Arsenic, Total	20	21.1	104.8	--	--	72-129	--
		µg/L	Cadmium, Total	20	20.7	103.5	--	--	87-113	--
		µg/L	Copper, Total	20	21.1	99.6	--	--	62-130	--
		µg/L	Lead, Total	20	20.5	100.3	--	--	76-117	--
		µg/L	Nickel, Total	20	20.3	99.8	--	--	78-117	--
		µg/L	Selenium, Total	20	19.6	98	--	--	47-150	--
		µg/L	Silver, Total	20	22.1	110.5	--	--	55-136	--
		µg/L	Zinc, Total	20	21.9	102.2	--	--	65-126	--
MW1	10/19/2010	µg/L	Calcium, Total	10000	20900	95	--	--	75-125	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Iron, Total	1000	1830	85.2	--	--	72-131	--
		µg/L	Magnesium, Total	10000	11200	99.6	--	--	75-125	--
		µg/L	Potassium, Total	10000	10500	102.5	--	--	75-125	--
		µg/L	Sodium, Total	10000	17600	96.4	--	--	75-125	--
MW1	1/20/2011	µg/L	Calcium, Total	10000	21700	104	--	--	75-125	--
		µg/L	Iron, Total	1000	1350	96.4	--	--	72-131	--
		µg/L	Magnesium, Total	10000	11300	102.4	--	--	75-125	--
		µg/L	Potassium, Total	10000	10100	100.6	--	--	75-125	--
		µg/L	Sodium, Total	10000	15400	104.4	--	--	75-125	--
		mg/L	Chloride	4	8.18	94	8.18	94	80-120	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.06	103	2.05	103	86-117	<1
		mg/L	Sulfate	4	15.7	114	15.6	113	80-120	<1
MW1	4/20/2011	mg/L	Chloride	4	7.77	101	7.79	101	80-120	<1
		mg/L	Sulfate	4	13.9	110	13.8	107	80-120	<1
		µg/L	Aluminum, Total	20	209	**150**	--	--	75-125	--
		µg/L	Arsenic, Total	20	20.7	102.7	--	--	75-125	--
		µg/L	Cadmium, Total	20	20.8	103.9	--	--	87-113	--
		µg/L	Copper, Total	20	19.5	88	--	--	75-125	--
		µg/L	Lead, Total	20	19.4	93.9	--	--	76-117	--
		µg/L	Nickel, Total	20	19.5	95.2	--	--	78-117	--
		µg/L	Selenium, Total	20	22.4	112	--	--	75-125	--
		µg/L	Silver, Total	20	19.9	99.5	--	--	76-114	--
		µg/L	Zinc, Total	20	21.7	97.4	--	--	75-125	--
MW1	7/25/2011	mg/L	Ammonia as Nitrogen	10	10.1	100	--	--	80-115	--
		mg/L	Chloride	4	8.15	105	8.1	104	80-120	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2	99	2.01	100	86-117	<1
		mg/L	Sulfate	4	13.4	108	13.5	111	80-120	<1
MW1	12/20/2011	mg/L	Ammonia as Nitrogen	10	10.3	103	--	--	80-115	--
		mg/L	Chloride	4	7.55	98	7.57	99	90-110	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.03	101	2.02	100	86-117	<1
		mg/L	Sulfate	4	17.6	**114**	17.5	**113**	90-110	<1
MW2	9/12/2009	mg/L	Chloride	3	7.23	105	--	--	80-120	--
		mg/L	Sulfate	3	2.99	90	--	--	80-120	--
		µg/L	Iron, Total	1000	5180	76	--	--	72-131	--
MW2	10/17/2009	µg/L	Mercury, Dissolved	1	0.95	95	--	--	76-126	--
MW2	1/15/2010	µg/L	Mercury, Total	1	0.94	94	--	--	76-126	--
		µg/L	Mercury, Dissolved	1	0.97	97	--	--	76-126	--
MW2	4/22/2010	µg/L	Aluminum, Dissolved	20	209	**50**	--	--	56-143	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike			Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result		Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Arsenic, Dissolved	20	20.8		102.6	--	--	72-129	--
		µg/L	Cadmium, Dissolved	20	21		105	--	--	87-113	--
		µg/L	Copper, Dissolved	20	20.5		100.8	--	--	62-130	--
		µg/L	Lead, Dissolved	20	20.9		103.9	--	--	76-117	--
		µg/L	Nickel, Dissolved	20	20.5		99.5	--	--	78-117	--
		µg/L	Selenium, Dissolved	20	18.3		90	--	--	47-150	--
		µg/L	Silver, Dissolved	20	22.5		112.5	--	--	55-136	--
		µg/L	Zinc, Dissolved	20	23.3		102	--	--	65-126	--
MW2	1/20/2011	µg/L	Aluminum, Total	20	415		**25**	--	--	56-143	--
		µg/L	Arsenic, Total	20	20.6		101.8	--	--	72-129	--
		µg/L	Cadmium, Total	20	20.6		102.9	--	--	87-113	--
		µg/L	Chromium, Total	20	21.5		101	--	--	76-115	--
		µg/L	Copper, Total	20	21.6		101.3	--	--	74-114	--
		µg/L	Lead, Total	20	20.4		100.8	--	--	76-117	--
		µg/L	Nickel, Total	20	21.1		102.3	--	--	78-117	--
		µg/L	Selenium, Total	20	11.1	J	**54**	--	--	58-131	--
		µg/L	Silver, Total	20	21		104.9	--	--	76-114	--
		µg/L	Zinc, Total	20	21.1		101.3	--	--	65-126	--
MW3	05/13/2009	µg/L	Mercury	1	1.02		100	--	--	78-122	--
		µg/L	Mercury, Dissolved	1	0.99		99	--	--	78-122	--
MW3	9/12/2009	µg/L	Aluminum, Total	20	655		75	--	--	56-143	--
		µg/L	Arsenic, Total	20	20.1		97.5	--	--	72-129	--
		µg/L	Cadmium, Total	20	19.6		97.9	--	--	87-113	--
		µg/L	Copper, Total	20	20.6		95.9	--	--	62-130	--
		µg/L	Lead, Total	20	19.5		96.3	--	--	76-117	--
		µg/L	Manganese, Total	20	43.4		124.5	--	--	25-180	--
		µg/L	Nickel, Total	20	19.7		95.8	--	--	78-117	--
		µg/L	Selenium, Total	20	18.5		92.5	--	--	47-150	--
		µg/L	Silver, Total	20	19.9		99.5	--	--	55-136	--
		µg/L	Zinc, Total	20	23.2		98	--	--	65-126	--
MW3	10/17/2009	µg/L	Mercury, Total	1	0.97		97	--	--	76-126	--
MW3	4/22/2010	µg/L	Iron, Total	1000	5720		126	--	--	72-131	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
MW3	1/20/2011	µg/L	Mercury, Dissolved	1	0.99	99	--	--	76-126	--
		µg/L	Mercury, Total	1	0.99	99	--	--	76-126	--
MW3	4/20/2011	µg/L	Mercury, Dissolved	1	0.97	97	--	--	76-126	--
		µg/L	Mercury, Total	1	0.98	98	--	--	76-126	--
MW3	7/24/2011	µg/L	Mercury, Total	1	1.01	101	--	--	76-126	--
MW3	12/20/2011	µg/L	Mercury, Dissolved	1	0.99	99	--	--	76-126	--
		µg/L	Aluminum, Total	100	638	**55**	--	--	75-125	--
		µg/L	Aluminum, Total	2000	2690	106.6	--	--	75-125	--
		µg/L	Arsenic, Total	50	50.6	100.5	--	--	75-125	--
		µg/L	Cadmium, Total	25	24.6	98.2	--	--	92-111	--
		µg/L	Calcium, Total	10000	10800	98.2	--	--	75-125	--
		µg/L	Copper, Total	12.5	12.9	95.6	--	--	89-113	--
		µg/L	Iron, Total	1000	4050	100	--	--	75-125	--
		µg/L	Lead, Total	50	48.4	96.5	--	--	90-112	--
		µg/L	Magnesium, Total	10000	10700	101.6	--	--	75-125	--
		µg/L	Mercury, Total	1	1	100	--	--	76-126	--
		µg/L	Nickel, Total	25	24.4	95.5	--	--	89-113	--
		µg/L	Potassium, Total	10000	10700	105.1	--	--	75-125	--
		µg/L	Selenium, Total	50	49.5	98.2	--	--	87-115	--
		µg/L	Silver, Total	12.5	12.1	96.3	--	--	75-125	--
		µg/L	Sodium, Total	10000	14000	101.7	--	--	75-125	--
		µg/L	Zinc, Total	25	25.9	95.3	--	--	86-119	--
MW4	08/27/2007	µg/L	Aluminum	20	979	**670**	--	--	73-123	--
		µg/L	Antimony	20	18.8	93.8	--	--	63-131	--
		µg/L	Arsenic	20	21	103.6	--	--	68-128	--
		µg/L	Beryllium	20	21.3	106.3	--	--	56-134	--
		µg/L	Bismuth	20	27.7	**138.2**	--	--	75-125	--
		µg/L	Cadmium	20	21.3	106.2	--	--	82-114	--
		µg/L	Chromium	20	24.4	104.6	--	--	62-121	--
		µg/L	Cobalt	20	21.4	103.7	--	--	80-119	--
		µg/L	Copper	20	27.5	103.4	--	--	52-129	--
		µg/L	Lead	20	20.7	100.4	--	--	72-116	--
		µg/L	Manganese	20	97.7	109	--	--	73-121	--
		µg/L	Molybdenum	20	20.3	100.8	--	--	78-125	--
		µg/L	Nickel	20	22	104.2	--	--	66-121	--
		µg/L	Selenium	20	21.2	105	--	--	70-121	--
		µg/L	Silver	20	21.3	106.4	--	--	46-136	--
		µg/L	Thallium	20	20.3	101.5	--	--	79-112	--
		µg/L	Tin	20	6.7	**33.5**	--	--	75-125	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Uranium	20	19.9	98.9	**--**	**--**	75-125	**--**
		µg/L	Vanadium	20	26.5	104.8	**--**	**--**	75-120	**--**
		µg/L	Zinc	20	47.9	106	**--**	**--**	57-126	**--**
MW4	12/15/2007	µg/L	Mercury	1	1.02	102	--	--	79-118	--
MW4	2/13/2008	mg/L	Ammonia as Nitrogen	10.0	9.42	94	--	--	75-125	--
MW4	5/8/2008	mg/L	Ammonia as Nitrogen	10	10	99	--	--	75-125	--
MW4	4/22/2010	µg/L	Iron, Dissolved	1000	11000	105	--	--	72-131	--
MW4	8/10/2010	µg/L	Aluminum, Total	2000	2170	98.4	--	--	79-125	--
		µg/L	Calcium, Total	10000	17200	97.1	--	--	75-125	--
		µg/L	Iron, Total	1000	9880	**21**	--	--	72-131	--
		µg/L	Magnesium, Total	10000	13400	107.8	--	--	75-125	--
		µg/L	Potassium, Total	10000	10900	101.8	--	--	75-125	--
		µg/L	Sodium, Total	10000	15700	95.7	--	--	75-125	--
MW4	4/20/2011	mg/L	Nitrate+Nitrite as Nitrogen	2	2.03	99	2.05	100	86-117	1
MW4	7/24/2011	µg/L	Calcium, Total	10000	25700	107	--	--	75-125	--
		µg/L	Iron, Total	1000	7360	121	--	--	75-125	--
		µg/L	Magnesium, Total	10000	13000	105.2	--	--	75-125	--
		µg/L	Potassium, Total	10000	11100	104.9	--	--	75-125	--
		µg/L	Sodium, Total	10000	15400	105.9	--	--	75-125	--
		µg/L	Aluminum, Total	20	98.7	95.5	--	--	75-125	--
		µg/L	Arsenic, Total	20	20.3	99	--	--	75-125	--
		µg/L	Cadmium, Total	20	20.1	100.4	--	--	87-113	--
		µg/L	Chromium, Total	20	20.1	96.2	--	--	76-115	--
		µg/L	Copper, Total	20	19.6	94.4	--	--	75-125	--
		µg/L	Lead, Total	20	19.7	98.4	--	--	76-117	--
		µg/L	Nickel, Total	20	19.1	92.5	--	--	78-117	--
		µg/L	Selenium, Total	20	19.7	98.5	--	--	75-125	--
		µg/L	Silver, Total	20	18.8	93.9	--	--	76-114	--
		µg/L	Zinc, Total	20	21	97	--	--	75-125	--
MW7	7/23/2007	µg/L	Aluminum	20	384	**-15**	**--**	**--**	34-161	**--**
		µg/L	Antimony	20	19.7	98.5	**--**	**--**	81-116	**--**
		µg/L	Arsenic	20	21.1	100.6	**--**	**--**	73-125	**--**
		µg/L	Beryllium	20	20	100	**--**	**--**	70-120	**--**
		µg/L	Bismuth	20	19.2	96	**--**	**--**	70-130	**--**
		µg/L	Cadmium	20	20.2	100.6	**--**	**--**	81-113	**--**
		µg/L	Chromium	20	21	98.4	**--**	**--**	72-120	**--**
		µg/L	Cobalt	20	21.2	97	**--**	**--**	63-128	**--**

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Copper	20	22.6	98.5	--	--	70-116	--
		µg/L	Lead	20	20.3	98.6	--	--	60-127	--
		µg/L	Manganese	20	158	**20**	--	--	52-152	--
		µg/L	Molybdenum	20	20.4	100.6	--	--	71-134	--
		µg/L	Nickel	20	20.4	97.4	--	--	70-118	--
		µg/L	Selenium	20	19.6	95	--	--	67-127	--
		µg/L	Silver	20	19.9	99.4	--	--	64-122	--
		µg/L	Thallium	20	19.7	98.5	--	--	72-117	--
		µg/L	Tin	20	14.3	71.5	--	--	70-130	--
		µg/L	Uranium	20	20	99.7	--	--	70-130	--
		µg/L	Vanadium	20	21.5	99	--	--	85-116	--
		µg/L	Zinc	20	28.7	91	--	--	64-120	--
MW7	5/6/2008	µg/L	Aluminum, Total	20	220	**305**	--	--	61-140	--
		µg/L	Antimony, Total	20	19.9	99.5	--	--	59-135	--
		µg/L	Arsenic, Total	20	20.5	101.2	--	--	74-126	--
		µg/L	Beryllium, Total	20	19.7	98.5	--	--	66-128	--
		µg/L	Bismuth, Total	20	18	90	--	--	75-125	--
		µg/L	Cadmium, Total	20	20.3	101.3	--	--	84-113	--
		µg/L	Chromium, Total	20	21.9	106.7	--	--	68-126	--
		µg/L	Cobalt, Total	20	21.8	102.5	--	--	82-117	--
		µg/L	Copper, Total	20	21	97.4	--	--	63-126	--
		µg/L	Lead, Total	20	20.5	100.8	--	--	71-119	--
		µg/L	Manganese, Total	20	216	**-50**	--	--	69-134	--
		µg/L	Molybdenum, Total	20	20.6	102.8	--	--	57-145	--
		µg/L	Nickel, Total	20	21.3	103.7	--	--	74-119	--
		µg/L	Selenium, Total	20	18.7	93.5	--	--	63-132	--
		µg/L	Silver, Total	20	19.5	97.5	--	--	57-130	--
		µg/L	Thallium, Total	20	20.5	102.5	--	--	68-125	--
		µg/L	Tin, Total	20	11.5	**57.5**	--	--	75-125	--
		µg/L	Uranium, Total	20	21.4	106.9	--	--	75-125	--
		µg/L	Vanadium, Total	20	21.8	106.3	--	--	76-124	--
		µg/L	Zinc, Total	20	26.7	100.3	--	--	62-126	--
		µg/L	Lead, Dissolved	20	21	104.3	--	--	71-119	--
		µg/L	Zinc, Dissolved	20	25.8	106.2	--	--	62-126	--
MW7	7/25/2008	µg/L	Mercury, Total	1	1.09	109	--	--	78-122	--
		µg/L	Mercury, Dissolved	1	1.06	106	--	--	78-122	--
MW8	08/28/2007	mg/L	Bromide	4.0	4.1	101	--	--	80-120	--
		mg/L	Chloride	4.0	9.9	110	--	--	80-120	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		mg/L	Fluoride	4.0	4.1	103	**--**	**--**	80-120	**--**
		mg/L	Sulfate	4.0	5.5	98	**--**	**--**	80-120	**--**
		µg/L	Barium	2000	1920	95.5	**--**	**--**	76-127	**--**
		µg/L	Boron	1000	923	92.3	**--**	**--**	76-132	**--**
		µg/L	Iron	1000	998	95.8	**--**	**--**	58-142	**--**
		µg/L	Lithium	10000	9850	98.4	**--**	**--**	75-125	**--**
		µg/L	Silicon	10000	12800	95.5	**--**	**--**	70-130	**--**
		µg/L	Strontium	10000	9490	94.7	**--**	**--**	75-125	**--**
		µg/L	Titanium	10000	9750	97.5	**--**	**--**	70-130	**--**
MW8	9/10/2007	µg/L	Aluminum	20	43.3	118	--	--	73-123	--
		µg/L	Antimony	20	20.9	104	--	--	63-131	--
		µg/L	Arsenic	20	21.3	105	--	--	68-128	--
		µg/L	Beryllium	20	20.1	100	--	--	56-134	--
		µg/L	Bismuth	20	21.1	106	--	--	75-125	--
		µg/L	Cadmium	20	20.2	101	--	--	82-114	--
		µg/L	Chromium	20	20.2	100	--	--	62-121	--
		µg/L	Cobalt	20	20.4	101	--	--	80-119	--
		µg/L	Copper	20	21.3	99	--	--	52-129	--
		µg/L	Lead	20	20.6	103	--	--	72-116	--
		µg/L	Manganese	20	87.9	**68**	--	--	73-121	--
		µg/L	Molybdenum	20	20.9	104	--	--	78-125	--
		µg/L	Nickel	20	20.3	99	--	--	66-121	--
		µg/L	Selenium	20	21.8	106	--	--	70-121	--
		µg/L	Silver	20	20.1	101	--	--	46-136	--
		µg/L	Thallium	20	21.3	106	--	--	79-112	--
		µg/L	Tin	20	20.9	104	--	--	75-125	--
		µg/L	Uranium	20	22.3	111	--	--	75-125	--
		µg/L	Vanadium	20	20.6	102	--	--	75-120	--
		µg/L	Zinc	20	22.5	94	--	--	57-126	--
MW8	10/16/2007	mg/L	Orthophosphate as Phosphorus	0.20	0.21	100	--	--	89-110	--
		mg/L	Phosphorus, Dissolved	0.50	0.54	104	--	--	75-125	--
		mg/L	Bromide	4.0	3.8	95	--	--	80-120	--
		mg/L	Chloride	4.0	6.7	98	--	--	80-120	--
		mg/L	Fluoride	4.0	4.0	100	--	--	80-120	--
		mg/L	Sulfate	4.0	19.1	113	--	--	80-120	--
MW8	12/14/2007	mg/L	Bromide	4.0	3.7	92	--	--	80-120	--
		mg/L	Chloride	4.0	8.4	98	--	--	80-120	--
		mg/L	Fluoride	4.0	4.0	100	--	--	80-120	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		mg/L	Sulfate	4.0	5.8	95	--	--	80-120	--
MW8	3/13/2008	mg/L	Ammonia as Nitrogen	10.0	9.85	98	--	--	75-125	--
MW8	5/6/2008	mg/L	Bromide	4	3.8	94	--	--	80-120	--
		mg/L	Chloride	4	9.9	102	--	--	80-120	--
		mg/L	Fluoride	4	4.1	101	--	--	80-120	--
		mg/L	Sulfate	4	6.5	93	--	--	80-120	--
MW8	6/26/2008	mg/L	Ammonia as Nitrogen	10.0	9.67	97	--	--	75-125	--
		mg/L	Nitrate+Nitrite as Nitrogen	2.00	2.09	102	--	--	90-110	--
		mg/L	Orthophosphate as Phosphorus	0.20	0.20	100	--	--	89-110	--
		mg/L	Phosphorus, Dissolved	0.50	0.49	97	--	--	75-125	--
MW9	7/23/2007	µg/L	Barium	2000	2100	104.7	--	--	76-127	--
		µg/L	Boron	1000	1030	103	--	--	76-132	--
		µg/L	Iron	1000	4530	113	--	--	58-142	--
		µg/L	Lithium	10000	11000	110	--	--	75-125	--
		µg/L	Silicon	10000	15900	106	--	--	70-130	--
		µg/L	Strontium	10000	10200	101.6	--	--	75-125	--
		µg/L	Titanium	10000	11200	110.5	--	--	70-130	--
MW9	8/13/2007	mg/L	Phosphorus, Total, Dissolved	0.50	0.48	94	--	--	75-125	--
MW9	08/28/2007	mg/L	Orthophosphate as Phosphorus	0.20	0.20	99	--	--	80-120	--
		µg/L	Mercury	1	1.1	110	--	--	79-118	--
MW9	10/16/2007	µg/L	Aluminum	20	1610	**0**	--	--	73-123	--
		µg/L	Antimony	20	19.3	97	--	--	63-131	--
		µg/L	Arsenic	20	19.8	97	--	--	68-128	--
		µg/L	Beryllium	20	19.9	99	--	--	56-134	--
		µg/L	Bismuth	20	19.9	99	--	--	75-125	--
		µg/L	Cadmium	20	20.1	100	--	--	82-114	--
		µg/L	Chromium	20	21.3	94	--	--	62-121	--
		µg/L	Cobalt	20	21.2	98	--	--	80-119	--
		µg/L	Copper	20	33.9	100	--	--	52-129	--
		µg/L	Lead	20	21.6	100	--	--	72-116	--
		µg/L	Manganese	20	230	100	--	--	73-121	--
		µg/L	Molybdenum	20	19.3	90	--	--	78-125	--
		µg/L	Nickel	20	20.6	94	--	--	66-121	--
		µg/L	Selenium	20	19.9	98	--	--	70-121	--
		µg/L	Silver	20	18.7	94	--	--	46-136	--
		µg/L	Thallium	20	19.6	98	--	--	79-112	--
		µg/L	Tin	20	17.2	86	--	--	75-125	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Uranium	20	20	100	--	--	75-125	--
		µg/L	Vanadium	20	31.9	96	--	--	75-120	--
		µg/L	Zinc	20	28.9	98	--	--	57-126	--
		µg/L	Aluminum, Dissolved	20	52.1	110	--	--	73-123	--
		µg/L	Antimony, Dissolved	20	20.8	103	--	--	63-131	--
		µg/L	Arsenic, Dissolved	20	20.7	103	--	--	68-128	--
		µg/L	Beryllium, Dissolved	20	20.3	102	--	--	56-134	--
		µg/L	Bismuth, Dissolved	20	20.8	104	--	--	75-125	--
		µg/L	Cadmium, Dissolved	20	20.3	102	--	--	82-114	--
		µg/L	Chromium, Dissolved	20	20.4	100	--	--	62-121	--
		µg/L	Cobalt, Dissolved	20	24.5	102	--	--	80-119	--
		µg/L	Copper, Dissolved	20	21.2	103	--	--	52-129	--
		µg/L	Lead, Dissolved	20	20.5	102	--	--	72-116	--
		µg/L	Manganese, Dissolved	20	134	105	--	--	73-121	--
		µg/L	Molybdenum, Dissolved	20	20.8	97	--	--	78-125	--
		µg/L	Nickel, Dissolved	20	20.7	99	--	--	66-121	--
		µg/L	Selenium, Dissolved	20	21.2	104	--	--	70-121	--
		µg/L	Silver, Dissolved	20	19.5	98	--	--	46-136	--
		µg/L	Thallium, Dissolved	20	21.1	106	--	--	79-112	--
		µg/L	Tin, Dissolved	20	20.8	104	--	--	75-125	--
		µg/L	Uranium, Dissolved	20	18.3	91	--	--	75-125	--
		µg/L	Vanadium, Dissolved	20	20.1	96	--	--	75-120	--
		µg/L	Zinc, Dissolved	20	23.2	104	--	--	57-126	--
MW9	11/12/2007	µg/L	Aluminum	20	219	**40**	--	--	73-123	--
		µg/L	Antimony	20	20.2	101	--	--	81-116	--
		µg/L	Arsenic	20	22.2	110	--	--	68-128	--
		µg/L	Beryllium	20	20.8	104	--	--	56-134	--
		µg/L	Bismuth	20	22.3	112	--	--	75-125	--
		µg/L	Cadmium	20	20.9	104	--	--	82-114	--
		µg/L	Chromium	20	22.2	107	--	--	62-121	--
		µg/L	Cobalt	20	21.7	107	--	--	80-119	--
		µg/L	Copper	20	23.5	105	--	--	52-129	--
		µg/L	Lead	20	20.8	103	--	--	72-116	--
		µg/L	Manganese	20	146	90	--	--	73-121	--
		µg/L	Molybdenum	20	22.8	105	--	--	78-125	--
		µg/L	Nickel	20	23.3	106	--	--	66-121	--
		µg/L	Selenium	20	22.6	110	--	--	70-121	--
		µg/L	Silver	20	21.1	106	--	--	46-136	--
		µg/L	Thallium	20	21.8	109	--	--	79-112	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Tin	20	21.8	109	--	--	75-125	--
		µg/L	Uranium	20	21.5	107	--	--	75-125	--
		µg/L	Vanadium	20	23.6	107	--	--	75-120	--
		µg/L	Zinc	20	26.4	110	--	--	57-126	--
MW9	12/14/2007	µg/L	Aluminum, Dissolved	20	47.2	122	--	--	73-123	--
		µg/L	Antimony, Dissolved	20	21.1	105	--	--	63-131	--
		µg/L	Arsenic, Dissolved	20	21.2	105	--	--	68-128	--
		µg/L	Beryllium, Dissolved	20	19.7	99	--	--	56-134	--
		µg/L	Bismuth, Dissolved	20	19.5	98	--	--	75-125	--
		µg/L	Cadmium, Dissolved	20	20.8	104	--	--	82-114	--
		µg/L	Chromium, Dissolved	20	21.5	105	--	--	62-121	--
		µg/L	Cobalt, Dissolved	20	22.8	103	--	--	80-119	--
		µg/L	Copper, Dissolved	20	20.9	101	--	--	52-129	--
		µg/L	Lead, Dissolved	20	20.8	104	--	--	72-116	--
		µg/L	Manganese, Dissolved	20	125	90	--	--	73-121	--
		µg/L	Molybdenum, Dissolved	20	22.5	106	--	--	78-125	--
		µg/L	Nickel, Dissolved	20	21.2	101	--	--	66-121	--
		µg/L	Selenium, Dissolved	20	21.6	106	--	--	70-121	--
		µg/L	Silver, Dissolved	40	41.1	103	--	--	46-136	--
		µg/L	Thallium, Dissolved	20	20.9	104	--	--	79-112	--
		µg/L	Tin, Dissolved	20	21.1	105	--	--	75-125	--
		µg/L	Uranium, Dissolved	20	20.9	104	--	--	75-125	--
		µg/L	Vanadium, Dissolved	20	21.1	102	--	--	75-125	--
		µg/L	Zinc, Dissolved	20	28.9	120	--	--	57-126	--
MW9	2/13/2008	mg/L	Bromide	4.0	4.0	99	--	--	80-120	--
		mg/L	Chloride	4.0	9.7	100	--	--	80-120	--
		mg/L	Fluoride	4.0	4.4	110	--	--	80-120	--
		mg/L	Sulfate	4.0	7.7	96	--	--	80-120	--
		µg/L	Mercury	1	0.95	95	--	--	79-118	--
		µg/L	Antimony, Dissolved	20	20.5	101.5	--	--	81-116	--
		µg/L	Arsenic, Dissolved	20	20.6	102.2	--	--	73-125	--
		µg/L	Beryllium, Dissolved	20	23	115	--	--	70-120	--
		µg/L	Bismuth, Dissolved	20	20.3	101.5	--	--	70-130	--
		µg/L	Cadmium, Dissolved	20	20.5	102.4	--	--	81-113	--
		µg/L	Chromium, Dissolved	20	21.1	102.7	--	--	72-120	--
		µg/L	Cobalt, Dissolved	20	21.6	104.6	--	--	63-128	--
		µg/L	Copper, Dissolved	20	20.5	99.9	--	--	70-116	--
		µg/L	Lead, Dissolved	20	21.1	105.4	--	--	60-127	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Manganese, Dissolved	20	103	79.5	--	--	52-152	--
		µg/L	Molybdenum, Dissolved	20	21.5	103.9	--	--	71-134	--
		µg/L	Nickel, Dissolved	20	21.2	99.8	--	--	70-118	--
		µg/L	Selenium, Dissolved	20	20.4	100.5	--	--	67-127	--
		µg/L	Silver, Dissolved	20	19.5	97.5	--	--	64-122	--
		µg/L	Thallium, Dissolved	20	21	105	--	--	72-117	--
		µg/L	Uranium, Dissolved	20	21.4	106.8	--	--	70-130	--
		µg/L	Vanadium, Dissolved	20	21.6	104.7	--	--	85-116	--
MW9	3/13/2008	mg/L	Orthophosphate as Phosphorus	0.20	0.20	100	--	--	89-110	--
		µg/L	Mercury	1	1.04	104	--	--	78-122	--
MW9	5/6/2008	µg/L	Barium, Total	2000	2090	104.4	--	--	80-125	--
		µg/L	Boron, Total	1000	1000	100	--	--	79-128	--
		µg/L	Iron, Total	1000	2080	104	--	--	68-135	--
		µg/L	Silicon, Total	10000	13400	106.1	--	--	70-130	--
		µg/L	Strontium, Total	10000	10800	107.6	--	--	70-130	--
		µg/L	Titanium, Total	10000	10400	103.6	--	--	70-130	--
MW9	6/26/2008	µg/L	Aluminum	20	220	130	--	--	61-140	--
		µg/L	Antimony	20	20.9	104.4	--	--	59-135	--
		µg/L	Arsenic	20	21.4	105.9	--	--	74-126	--
		µg/L	Beryllium	20	22	110	--	--	66-128	--
		µg/L	Bismuth	20	19.4	97	--	--	75-125	--
		µg/L	Cadmium	20	20.9	104.5	--	--	84-113	--
		µg/L	Chromium	20	22.1	107.6	--	--	68-126	--
		µg/L	Cobalt	20	21.4	105.7	--	--	82-117	--
		µg/L	Copper	20	22.4	102	--	--	63-126	--
		µg/L	Lead	20	20.5	101.4	--	--	71-119	--
		µg/L	Manganese	20	79.7	106	--	--	69-134	--
		µg/L	Molybdenum	20	21.4	104.2	--	--	57-145	--
		µg/L	Nickel	20	21.8	103.5	--	--	74-119	--
		µg/L	Selenium	20	20.7	103.5	--	--	63-132	--
		µg/L	Silver	40	41.1	102.8	--	--	57-130	--
		µg/L	Thallium	20	20.4	102	--	--	68-125	--
		µg/L	Tin	20	18.9	94.3	--	--	75-125	--
		µg/L	Uranium	20	20.5	102.3	--	--	75-125	--
		µg/L	Vanadium	20	23.7	108.8	--	--	76-124	--
		µg/L	Zinc	20	23.7	97	--	--	62-126	--
		µg/L	Aluminum, Dissolved	20	41.1	106	--	--	61-140	--
		µg/L	Antimony, Dissolved	20	21.3	106.1	--	--	59-135	--

Table 3-10. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2007–2011

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery [a]	Sample Result	Percent Recovery [a]	Acceptance Limits	RPD
		µg/L	Arsenic, Dissolved	20	21.7	108.5	--	--	74-126	--
		µg/L	Beryllium, Dissolved	20	23	115	--	--	66-128	--
		µg/L	Bismuth, Dissolved	20	20.2	101	--	--	75-125	--
		µg/L	Cadmium, Dissolved	20	21.3	106.5	--	--	84-113	--
		µg/L	Chromium, Dissolved	20	21.5	105.2	--	--	68-126	--
		µg/L	Cobalt, Dissolved	20	21.5	106.8	--	--	82-117	--
		µg/L	Copper, Dissolved	20	21.6	104.6	--	--	63-126	--
		µg/L	Lead, Dissolved	20	20.6	102.9	--	--	71-119	--
		µg/L	Manganese, Dissolved	20	63.8	102.5	--	--	69-134	--
		µg/L	Molybdenum, Dissolved	20	21.7	106.6	--	--	57-145	--
		µg/L	Nickel, Dissolved	20	21.6	103.8	--	--	74-119	--
		µg/L	Selenium, Dissolved	20	21.7	108.5	--	--	63-132	--
		µg/L	Silver, Dissolved	40	41.9	105	--	--	57-130	--
		µg/L	Thallium, Dissolved	20	20.8	104	--	--	68-125	--
		µg/L	Tin, Dissolved	20	21	104.9	--	--	75-125	--
		µg/L	Uranium, Dissolved	20	21.1	105.4	--	--	75-125	--
		µg/L	Vanadium, Dissolved	20	22	107	--	--	76-124	--
		µg/L	Zinc, Dissolved	20	23.7	102.5	--	--	62-126	--

Notes:

[a] Bold font indicates a case where the percent recovery falls outside of acceptance limits.

mg/L = milligrams per liter
µg/L = micrograms per liter
RPD = relative percent difference

Percent recovery = spike concentration/(sample concentration + spike concentration) × 100
RPD = (((replicate sample - primary sample)/(replicate sample + primary sample))/2) × 100

Table 3-11. Percent Completeness for Surface Water

Year	Event Quarter	Analyte Group [b]	Surface Water [a]			
			Total # of Data Points [c]	Number of Data Points		Completeness (%)
				Accepted	Rejected	
1996	Q4	Anions	6	6	0	100
		Field	6	6	0	100
		Metals	52	52	0	100
1997	Q3	Anions	9	9	0	100
		Field	8	8	0	100
		Metals	72	72	0	100
2005	Q2	Anions	6	6	0	100
		Metals	60	60	0	100
		Nutrients	2	2	0	100
2006	Q1	Anions	12	12	0	100
		Field	16	16	0	100
		Metals	120	120	0	100
		Nutrients	4	4	0	100
	Q2	Anions	15	15	0	100
		Field	16	16	0	100
		Metals	150	150	0	100
		Nutrients	5	5	0	100
	Q3	Anions	21	21	0	100
		Field	24	24	0	100
		Metals	210	210	0	100
		Nutrients	7	7	0	100
	Q4	Anions	36	36	0	100
		Field	44	44	0	100
		Metals	360	360	0	100
		Nutrients	6	6	0	100

Table 3-11. Percent Completeness for Surface Water

Year	Event Quarter	Analyte Group [b]	Surface Water [a]			
			Total # of Data Points [c]	Number of Data Points		Completeness (%)
				Accepted	Rejected	
2007	Q1	Anions	24	24	0	100
		Field	35	35	0	100
		Metals	240	240	0	100
		Nutrients	8	8	0	100
	Q2	Anions	72	72	0	100
		Field	105	105	0	100
		Metals	720	720	0	100
		Nutrients	24	24	0	100
	Q3	Anions	144	144	0	100
		Field	210	210	0	100
		Metals	1440	1440	0	100
		Nutrients	88	88	0	100
	Q4	Anions	72	72	0	100
		Field	105	105	0	100
		Metals	720	720	0	100
		Nutrients	48	48	0	100
2008	Q1	Anions	72	72	0	100
		Field	105	105	0	100
		Metals	720	720	0	100
		Nutrients	48	48	0	100
	Q2	Anions	72	72	0	100
		Field	105	105	0	100
		Metals	720	704	16	98
		Nutrients	48	48	0	100
	Q3	Anions	24	24	0	100
		Field	35	35	0	100
		Metals	240	224	16	93
		Nutrients	16	16	0	100
	Q4	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100

Table 3-11. Percent Completeness for Surface Water

Year	Event Quarter	Analyte Group [b]	Surface Water [a]			
			Total # of Data Points [c]	Number of Data Points		Completeness (%)
				Accepted	Rejected	
2009	Q1	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100
	Q2	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100
	Q3	Anions	36	36	0	100
		Field	50	50	0	100
		Metals	336	336	0	100
		Nutrients	24	24	0	100
	Q4	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100
2010	Q1	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100
	Q2	Anions	15	15	0	100
		Field	19	19	0	100
		Metals	142	142	0	100
		Nutrients	10	10	0	100
	Q3	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	144	144	0	100
		Nutrients	10	10	0	100
	Q4	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	144	144	0	100
		Nutrients	7	7	0	100

Table 3-11. Percent Completeness for Surface Water

Year	Event Quarter	Analyte Group [b]	Surface Water [a]			
			Total # of Data Points [c]	Number of Data Points		Completeness (%)
				Accepted	Rejected	
2011	Q1	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	144	144	0	100
		Nutrients	7	7	0	100
	Q2	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	144	144	0	100
		Nutrients	7	7	0	100
	Q3	Anions	12	12	0	100
		Field	20	20	0	100
		Metals	112	112	0	100
		Nutrients	8	8	0	100
	Q4	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100

Notes:

[a] Surface water stations WQ4, WQ6, WQ7, WQ8, WQ10, WQ12, WQ13

[b] Analyte groups are as follows:

Anions - chloride, sulfate, and alkalinity as $CaCO_3$.

Metals - Al, As, Cd, Ca, Cr, Cu, Pb, Mg, Hg, Ni, K, Se, Ag, Na, and Zn.

Nutrients - nitrate/nitrite as N and ammonia as N.

Field - conductivity, dissolved oxygen, pH, temperature, and turbidity.

[c] Sample counts exclude field blanks and include field replicate samples and filtered and unfiltered samples.

Table 3-12. Percent Completeness for Groundwater and EFF1

Year	Event Quarter	Analyte Group [c]	Groundwater [a]				Mine Water [b]			
			Total # of Data Points [d]	Number of Data Points		Completeness (%)	Total # of Data Points [d]	Number of Data Points		Completeness (%)
				Accepted	Rejected			Accepted	Rejected	
1	Q1	Anions	15	15	0	100	--	--	--	--
		Field	19	19	0	100	--	--	--	--
		Metals	150	150	0	100	--	--	--	--
		Nutrients	5	5	0	100	--	--	--	--
	Q2	Anions	54	54	0	100	--	--	--	--
		Field	75	75	0	100	--	--	--	--
		Metals	540	540	0	100	--	--	--	--
		Nutrients	18	18	0	100	--	--	--	--
	Q3	Anions	138	138	0	100	--	--	--	--
		Field	200	200	0	100	--	--	--	--
		Metals	1380	1380	0	100	--	--	--	--
		Nutrients	85	85	0	100	--	--	--	--
	Q4	Anions	72	72	0	100	6	6	0	100
		Field	105	105	0	100	10	10	0	100
		Metals	720	720	0	100	60	60	0	100
		Nutrients	48	48	0	100	4	4	0	100
2008	Q1	Anions	72	72	0	100	9	9	0	100
		Field	105	105	0	100	15	15	0	100
		Metals	720	720	0	100	90	90	0	100
		Nutrients	48	48	0	100	6	6	0	100
	Q2	Anions	72	72	0	100	12	12	0	100
		Field	105	105	0	100	15	15	0	100
		Metals	720	704	16	98	120	116	4	97
		Nutrients	48	48	0	100	8	8	0	100
	Q3	Anions	48	48	0	100	12	12	0	100
		Field	64	64	0	100	15	15	0	100
		Metals	460	448	12	97	120	118	2	98
		Nutrients	32	32	0	100	8	8	0	100
	Q4	Anions	15	15	0	100	3	3	0	100
		Field	20	20	0	100	5	5	0	100
		Metals	140	140	0	100	30	30	0	100
		Nutrients	10	10	0	100	2	2	0	100

Table 3-12. Percent Completeness for Groundwater and EFF1

Year	Event Quarter	Analyte Group [c]	Groundwater [a]				Mine Water [b]			
			Total # of Data Points [d]	Number of Data Points		Completeness (%)	Total # of Data Points [d]	Number of Data Points		Completeness (%)
				Accepted	Rejected			Accepted	Rejected	
2009	Q1	Anions	15	15	0	100	3	3	0	100
		Field	19	19	0	100	5	5	0	100
		Metals	140	140	0	100	30	30	0	100
		Nutrients	10	10	0	100	2	2	0	100
	Q2	Anions	15	15	0	100	3	3	0	100
		Field	20	20	0	100	5	5	0	100
		Metals	140	140	0	100	30	30	0	100
		Nutrients	10	10	0	100	2	2	0	100
	Q3	Anions	27	27	0	100	3	3	0	100
		Field	34	34	0	100	5	5	0	100
		Metals	252	252	0	100	30	30	0	100
		Nutrients	18	18	0	100	2	2	0	100
	Q4	Anions	15	15	0	100	3	3	0	100
		Field	20	20	0	100	5	5	0	100
		Metals	140	140	0	100	28	28	0	100
		Nutrients	10	10	0	100	2	2	0	100
2010	Q1	Anions	15	15	0	100	3	3	0	100
		Field	20	20	0	100	5	5	0	100
		Metals	140	140	0	100	28	28	0	100
		Nutrients	10	10	0	100	2	2	0	100
	Q2	Anions	15	15	0	100	3	3	0	100
		Field	20	20	0	100	5	5	0	100
		Metals	140	140	0	100	28	28	0	100
		Nutrients	10	10	0	100	2	2	0	100
	Q3	Anions	15	15	0	100	9	9	0	100
		Field	20	20	0	100	10	10	0	100
		Metals	140	140	0	100	90	90	0	100
		Nutrients	10	10	0	100	6	6	0	100
	Q4	Anions	15	15	0	100	3	3	0	100
		Field	20	20	0	100	5	5	0	100
		Metals	140	140	0	100	29	29	0	100
		Nutrients	5	5	0	100	1	1	0	100

Table 3-12. Percent Completeness for Groundwater and EFF1

Year	Event Quarter	Analyte Group [c]	Groundwater [a]				Mine Water [b]			
			Total # of Data Points [d]	Number of Data Points		Completeness (%)	Total # of Data Points [d]	Number of Data Points		Completeness (%)
				Accepted	Rejected			Accepted	Rejected	
2011	Q1	Anions	15	15	0	100	3	3	0	100
		Field	20	20	0	100	5	5	0	100
		Metals	140	140	0	100	30	30	0	100
		Nutrients	5	5	0	100	1	1	0	100
	Q2	Anions	15	15	0	100	3	3	0	100
		Field	20	20	0	100	5	5	0	100
		Metals	140	140	0	100	28	28	0	100
		Nutrients	5	5	0	100	1	1	0	100
	Q3	Anions	15	15	0	100	12	12	0	100
		Field	20	20	0	100	10	10	0	100
		Metals	140	140	0	100	118	118	0	100
		Nutrients	10	10	0	100	8	8	0	100
	Q4	Anions	15	15	0	100	6	6	0	100
		Field	20	20	0	100	5	5	0	100
		Metals	140	140	0	100	60	60	0	100
		Nutrients	10	10	0	100	4	4	0	100

Notes:

[a] Groundwater stations MW1, MW2, MW3, MW4, MW7, MW8, MW9

[b] Mine water station EFF1

[c] Analyte groups are as follows:

Anions - chloride, sulfate, and alkalinity as $CaCO_3$.

Metals - Al, As, Cd, Ca, Cr, Cu, Pb, Mg, Hg, Ni, K, Se, Ag, Na, and Zn.

Nutrients - nitrate/nitrite as N and ammonia as N.

Field - conductivity, dissolved oxygen, pH, temperature, and turbidity.

[d] Sample counts exclude field blanks and include field replicate samples and filtered and unfiltered samples.

Table 4-1. ADEC Criteria Screening Summary

			Site Data						Screening Criteria						
Analyte	Fraction	Units	Number of Samples	Number of Detected Samples (n_{det})	Minimum Detected Value	Maximum Detected Value	Minimum Detection Limit	Maximum Detection Limit	Criteria	Exceedance Flag	Minimum Screening Value[a]	Maximum Screening Value[a]	Exceedance Count[b]	Exceedance Frequency[b]	Stations Where Exceedances Have Been Recorded
Surface Water															
Aluminum	Total	µg/L	224	224	15.6	2120	--	--	Freshwater chronic Al[c, d]	Yes	87	750	52	23%	WQ4; WQ6; WQ7; WQ8; WQ10; WQ12; WQ13
Arsenic	Dissolved	µg/L	224	22	0.06	0.16	0.06	0.5	Freshwater chronic AL[c]	--	150	150	0	0%	--
Cadmium	Dissolved	µg/L	224	8	0.004	0.01	0.003	0.033	Freshwater chronic AL[c]	--	0.0098	0.17	0	0%	--
Copper	Dissolved	µg/L	224	168	0.34	3.7	0.1	1.8	Freshwater chronic AL[c]	Yes	0.18	5.9	27	16%	WQ4; WQ6; WQ7; WQ8; WQ10; WQ12; WQ13
Lead	Dissolved	µg/L	224	33	0.004	0.087	0.003	0.5	Freshwater chronic AL[c]	--	0.013	1.5	0	0%	WQ6
Mercury	Dissolved	µg/L	224	1	0.10	0.10	0.01	0.05	HH aquatic consumption[c]	Yes	0.05	0.05	1	100%	WQ12
Nickel	Dissolved	µg/L	224	63	0.08	3.4	0.03	1	Freshwater chronic AL[c]	--	1.1	34	0	0%	--
Selenium	Dissolved	µg/L	224	16	0.2	0.5	0.2	1	Freshwater chronic AL[c]	--	4.6	4.6	0	0%	--
Silver	Dissolved	µg/L	224	8	0.006	0.01	0.003	0.05	--	--	--	--	--	--	--
Zinc	Dissolved	µg/L	224	28	1	31.5	0.28	24.7	Freshwater chronic AL[c]	--	2.4	78	0	0%	--
Groundwater															
Aluminum	Total	µg/L	217	214	8	15300	9.7	11.1	Freshwater chronic Al[c, d]	Yes	87	750	181	85%	EFF1; MW1; MW2; MW3; MW4; MW7; MW8; MW9
Arsenic	Dissolved	µg/L	217	163	0.07	3.1	0.06	0.6	Freshwater chronic AL[c]	--	150	150	0	0%	--
Cadmium	Dissolved	µg/L	217	55	0.004	0.6	0.003	0.104	Freshwater chronic AL[c]	Yes	0.0098	0.41	5	9%	EFF1; MW4
Copper	Dissolved	µg/L	217	191	0.21	20.1	0.29	1.8	Freshwater chronic AL[c]	Yes	0.18	17	32	17%	EFF1; MW1; MW2; MW3; MW4; MW7
Lead	Dissolved	µg/L	217	166	0.013	1.9	0.003	0.5	Freshwater chronic AL[c]	Yes	0.013	5.5	29	17%	MW1; MW2; MW3; MW4; MW7
Mercury	Dissolved	µg/L	217	2	0.02	0.09	0.01	0.05	HH aquatic consumption[c]	Yes	0.05	0.05	1	50%	MW2
Nickel	Dissolved	µg/L	217	177	0.33	5.4	0.04	1	Freshwater chronic AL[c]	--	1.1	96	0	0%	--
Selenium	Dissolved	µg/L	217	89	0.2	1.3	0.2	1	Freshwater chronic AL[c]	--	4.6	4.6	0	0%	--
Silver	Dissolved	µg/L	217	19	0.005	0.11	0.003	0.088	--	--	--	--	--	--	--
Zinc	Dissolved	µg/L	217	39	1.2	145	0.7	15.8	Freshwater chronic AL[c]	Yes	2.4	219	9	23%	EFF1; MW3; MW4

Notes:
Summary based on January 2006 - December 2011 natural samples.
Stations included in the surface water evaluation are WQ4, WQ6, WQ7, WQ10, WQ12, WQ13.
Stations included in the groundwater evaluation are EFF1, MW1, MW2, MW3, MW4, MW7, MW8, MW9.

-- = value either not applicable or not available
HH = human health
AL = aquatic life

[a] Criteria for Cd, Cu, Pb, Ni, and Zn are calculated based on the hardness of the sample.
[b] Values below detection limits were not included in screening.
[c] Criterion Source: Alaska Department of Environmental Conservation (ADEC), 2008. Alaska Water Quality Manual for Toxic and Deleterious Organic and Inorganic Substances. State of Alaska. As amended through December 12, 2008.
[d] Where the pH is greater than or equal to 7.0 and the hardness is greater than or equal to 50 ppm as $CaCO_3$, the chronic aluminum standard will then be equal to the acute aluminum standard, 750 µg/L as total recoverable aluminum.

Table 4-2. ADEC Chronic Aquatic Life Criteria Screening Results — Surface Water

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ4	10/16/1996	October 1996 II	Historical	ND	Pass	**Fail**	ND	ND	ND	ND	ND	ND	**Fail**
WQ4	9/3/1997	September 1997	Historical	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	4/20/2005	April 2005 II	Historical	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	2/15/2006	February 2006 II	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	5/16/2006	May 2006 II	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	8/29/2006	August 2006 II	Reference	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	10/17/2006	October 2006	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	12/7/2006	December 2006	Reference	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	2/26/2007	February 2007	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	2/26/2007	February 2007	Field Replicate	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	4/10/2007	April 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	5/14/2007	May 2007	Reference	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	5/14/2007	May 2007	Field Replicate	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	6/4/2007	June 2007	Reference	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ4	7/1/2007	July 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ4	7/24/2007	July 2007 II	Reference	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	Pass
WQ4	7/24/2007	July 2007 II	Field Replicate	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
WQ4	8/14/2007	August 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	Pass
WQ4	8/27/2007	August 2007 II	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ4	9/11/2007	September 2007	Reference	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ4	10/2/2007	September 2007	Compliance	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	10/17/2007	October 2007	Compliance	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ4	11/13/2007	November 2007	Compliance	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ4	12/15/2007	December 2007 I	Compliance	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	1/9/2008	January 2008	Compliance	**Fail**	ND	ND	Pass	ND	ND	ND	Pass	NA	ND
WQ4	2/14/2008	February 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ4	3/15/2008	March 2008	Compliance	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ4	4/14/2008	April 2008	Compliance	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	R	ND
WQ4	5/8/2008	May 2008	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ4	6/28/2008	June 2008	Compliance	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	7/24/2008	July 2008	Compliance	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ4	10/15/2008	October 2008	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	3/9/2009	March 2009	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	5/13/2009	May 2009	Compliance	Pass	ND	Pass	**Fail**	ND	ND	Pass	ND	ND	ND
WQ4	7/23/2009	July 2009	Compliance	**Fail**	Pass	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ4	9/5/2009	September 2009	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND

Table 4-2. ADEC Chronic Aquatic Life Criteria Screening Results — Surface Water

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ4	9/5/2009	September 2009	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	9/12/2009	September 2009	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ4	9/12/2009	September 2009	Field Replicate	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ4	10/17/2009	October 2009	Compliance	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ4	1/15/2010	January 2010	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ4	4/22/2010	April 2010	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ4	8/10/2010	August 2010	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	10/18/2010	October 2010	Compliance	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	1/19/2011	January 2011	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ4	1/19/2011	January 2011	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ4	4/20/2011	April 2011	Compliance	Pass	Pass	Pass	ND	ND	ND	ND	Pass	ND	ND
WQ4	7/25/2011	July 2011 II	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	12/21/2011	December 2011	Compliance	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
WQ6	10/16/1996	October 1996 II	Historical	ND	ND	ND	ND	**Fail**	ND	ND	ND	ND	ND
WQ6	9/3/1997	September 1997	Historical	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	9/3/1997	September 1997	Field Replicate	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	4/20/2005	April 2005 II	Historical	Pass	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ6	2/15/2006	February 2006 II	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	5/16/2006	May 2006 II	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	5/16/2006	May 2006 II	Field Replicate	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	8/29/2006	August 2006 II	Reference	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ6	10/17/2006	October 2006	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	12/7/2006	December 2006	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	2/26/2007	February 2007	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	4/10/2007	April 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	5/14/2007	May 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ6	6/4/2007	June 2007	Reference	Pass	ND	ND	**Fail**	ND	ND	ND	ND	ND	Pass
WQ6	7/1/2007	July 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ6	7/24/2007	July 2007 II	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	8/14/2007	August 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ6	8/27/2007	August 2007 II	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ6	9/11/2007	September 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	10/2/2007	September 2007	Compliance	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ6	10/17/2007	October 2007	Compliance	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ6	10/17/2007	October 2007	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ6	11/13/2007	November 2007	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND

Table 4-2. ADEC Chronic Aquatic Life Criteria Screening Results — Surface Water

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ6	12/15/2007	December 2007 I	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ6	12/15/2007	December 2007 I	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	1/9/2008	January 2008	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	2/14/2008	February 2008	Compliance	Pass	ND	ND	Pass	Pass	ND	Pass	ND	NA	ND
WQ6	3/15/2008	March 2008	Compliance	Pass	ND	ND	ND	ND	ND	Pass	ND	ND	Pass
WQ6	4/14/2008	April 2008	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	R	ND
WQ6	5/8/2008	May 2008	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	6/28/2008	June 2008	Compliance	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	7/24/2008	July 2008	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	10/15/2008	October 2008	Compliance	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	10/15/2008	October 2008	Field Replicate	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	3/9/2009	March 2009	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	5/13/2009	May 2009	Compliance	Pass	ND	ND	**Fail**	ND	ND	Pass	ND	ND	ND
WQ6	7/23/2009	July 2009	Compliance	**Fail**	ND	ND	**Fail**	Pass	ND	ND	ND	ND	ND
WQ6	9/5/2009	September 2009	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	9/12/2009	September 2009	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ6	10/17/2009	October 2009	Compliance	Pass	ND	ND	**Fail**	Pass	ND	Pass	ND	ND	ND
WQ6	1/15/2010	January 2010	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	4/22/2010	April 2010	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ6	8/10/2010	August 2010	Compliance	Pass	Pass	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	10/19/2010	October 2010	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	1/21/2011	January 2011	Compliance	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ6	4/20/2011	April 2011	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	7/25/2011	July 2011 II	Compliance	Pass	ND	ND	**Fail**	ND	ND	Pass	ND	ND	ND
WQ6	12/21/2011	December 2011	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ7	2/15/2006	February 2006 II	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	5/16/2006	May 2006 II	Reference	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	8/29/2006	August 2006 II	Reference	Pass	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ7	10/17/2006	October 2006	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	12/7/2006	December 2006	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	2/26/2007	February 2007	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	4/10/2007	April 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ7	5/14/2007	May 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ7	6/4/2007	June 2007	Reference	Pass	ND	ND	**Fail**	ND	ND	ND	ND	ND	Pass
WQ7	7/1/2007	July 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ7	7/24/2007	July 2007 II	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND

Table 4-2. ADEC Chronic Aquatic Life Criteria Screening Results — Surface Water

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ7	8/14/2007	August 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ7	8/14/2007	August 2007 I	Field Replicate	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ7	8/27/2007	August 2007 II	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ7	9/11/2007	September 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ7	10/2/2007	September 2007	Reference	Pass	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ7	10/17/2007	October 2007	Reference	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ7	11/13/2007	November 2007	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ7	12/15/2007	December 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ7	1/9/2008	January 2008	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	NA	Pass
WQ7	2/14/2008	February 2008	Reference	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	Pass
WQ7	3/15/2008	March 2008	Reference	Pass	ND	ND	ND	ND	ND	Pass	ND	ND	ND
WQ7	4/14/2008	April 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	R	ND
WQ7	4/14/2008	April 2008	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	R	ND
WQ7	5/8/2008	May 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ7	5/8/2008	May 2008	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ7	6/28/2008	June 2008	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ7	7/24/2008	July 2008	Reference	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ8	2/15/2006	February 2006 II	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	5/17/2006	May 2006 II	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	8/29/2006	August 2006 II	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ8	8/29/2006	August 2006 II	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ8	10/17/2006	October 2006	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	12/7/2006	December 2006	Reference	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	2/26/2007	February 2007	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	4/10/2007	April 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ8	5/14/2007	May 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ8	6/4/2007	June 2007	Reference	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ8	7/1/2007	July 2007 I	Reference	Pass	ND	ND	**Fail**	Pass	ND	Pass	ND	ND	Pass
WQ8	7/24/2007	July 2007 II	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ8	8/14/2007	August 2007 I	Reference	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ8	8/27/2007	August 2007 II	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ8	9/11/2007	September 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ8	10/2/2007	September 2007	Reference	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ8	10/17/2007	October 2007	Reference	**Fail**	ND	ND	**Fail**	Pass	ND	ND	ND	ND	ND
WQ8	11/13/2007	November 2007	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ8	11/13/2007	November 2007	Field Replicate	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND

Table 4-2. ADEC Chronic Aquatic Life Criteria Screening Results — Surface Water

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ8	12/15/2007	December 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ8	1/9/2008	January 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	NA	Pass
WQ8	2/14/2008	February 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ8	3/15/2008	March 2008	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	Pass
WQ8	4/14/2008	April 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	R	ND
WQ8	5/8/2008	May 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ8	6/28/2008	June 2008	Reference	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ8	7/24/2008	July 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ10	8/29/2006	August 2006 II	Reference	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ10	10/17/2006	October 2006	Reference	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ10	12/7/2006	December 2006	Reference	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	2/26/2007	February 2007	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	4/10/2007	April 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ10	5/14/2007	May 2007	Reference	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ10	6/4/2007	June 2007	Reference	**Fail**	ND	ND	**Fail**	Pass	ND	ND	ND	ND	Pass
WQ10	7/1/2007	July 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ10	7/24/2007	July 2007 II	Reference	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ10	8/14/2007	August 2007 I	Reference	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	8/27/2007	August 2007 II	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	9/11/2007	September 2007	Reference	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ10	9/11/2007	September 2007	Field Replicate	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ10	10/1/2007	September 2007	Compliance	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ10	10/17/2007	October 2007	Compliance	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ10	11/13/2007	November 2007	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ10	12/15/2007	December 2007 I	Compliance	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ10	1/9/2008	January 2008	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	NA	ND
WQ10	2/14/2008	February 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ10	3/15/2008	March 2008	Compliance	**Fail**	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	3/15/2008	March 2008	Field Replicate	**Fail**	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	4/14/2008	April 2008	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	R	ND
WQ10	5/8/2008	May 2008	Compliance	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ10	6/28/2008	June 2008	Compliance	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	7/24/2008	July 2008	Compliance	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ10	10/15/2008	October 2008	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	3/9/2009	March 2009	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	5/13/2009	May 2009	Compliance	Pass	ND	ND	**Fail**	ND	ND	Pass	ND	ND	ND

Table 4-2. ADEC Chronic Aquatic Life Criteria Screening Results — Surface Water

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ10	5/13/2009	May 2009	Field Replicate	Pass	ND	ND	**Fail**	ND	ND	Pass	ND	ND	ND
WQ10	7/23/2009	July 2009	Compliance	**Fail**	Pass	ND	**Fail**	Pass	ND	ND	ND	ND	ND
WQ10	9/5/2009	September 2009	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ10	9/12/2009	September 2009	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	10/17/2009	October 2009	Compliance	Pass	ND	ND	Pass	Pass	ND	Pass	ND	NA	ND
WQ10	10/17/2009	October 2009	Field Replicate	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ10	1/15/2010	January 2010	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	1/15/2010	January 2010	Field Replicate	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	4/22/2010	April 2010	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	4/22/2010	April 2010	Field Replicate	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	8/10/2010	August 2010	Compliance	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	8/10/2010	August 2010	Field Replicate	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	10/19/2010	October 2010	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ10	1/21/2011	January 2011	Compliance	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	4/20/2011	April 2011	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	4/20/2011	April 2011	Field Replicate	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ10	7/25/2011	July 2011 II	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ10	12/21/2011	December 2011	Compliance	Pass	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND
WQ12	8/29/2006	August 2006 II	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	10/17/2006	October 2006	Reference	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ12	12/7/2006	December 2006	Reference	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	2/26/2007	February 2007	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	4/10/2007	April 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ12	5/14/2007	May 2007	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	6/4/2007	June 2007	Reference	**Fail**	ND	ND	Pass	ND	**Fail**	ND	ND	ND	Pass
WQ12	6/4/2007	June 2007	Field Replicate	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ12	7/1/2007	July 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ12	7/24/2007	July 2007 II	Reference	Pass	Pass	ND	ND	ND	ND	Pass	Pass	ND	ND
WQ12	8/14/2007	August 2007 I	Reference	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ12	8/27/2007	August 2007 II	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ12	9/11/2007	September 2007	Reference	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ12	10/1/2007	September 2007	Reference	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ12	10/1/2007	September 2007	Field Replicate	**Fail**	ND	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ12	10/17/2007	October 2007	Reference	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ12	11/13/2007	November 2007	Reference	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
WQ12	12/15/2007	December 2007 I	Reference	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND

Table 4-2. ADEC Chronic Aquatic Life Criteria Screening Results — Surface Water

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ12	1/9/2008	January 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	NA	ND
WQ12	2/14/2008	February 2008	Reference	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ12	3/15/2008	March 2008	Reference	Pass	ND	ND	ND	ND	ND	Pass	ND	ND	ND
WQ12	4/14/2008	April 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	R	ND
WQ12	5/8/2008	May 2008	Reference	Pass	ND	ND	ND	ND	ND	Pass	ND	ND	ND
WQ12	6/28/2008	June 2008	Reference	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ12	7/24/2008	July 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ13	2/26/2007	February 2007	Reference	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	4/10/2007	April 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ13	4/10/2007	April 2007	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ13	5/14/2007	May 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ13	6/4/2007	June 2007	Reference	Pass	ND	ND	**Fail**	ND	ND	ND	ND	ND	Pass
WQ13	7/1/2007	July 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ13	7/1/2007	July 2007 I	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ13	7/24/2007	July 2007 II	Reference	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ13	8/14/2007	August 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ13	8/27/2007	August 2007 II	Reference	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND	ND
WQ13	8/27/2007	August 2007 II	Field Replicate	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND	ND
WQ13	9/11/2007	September 2007	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ13	10/1/2007	September 2007	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ13	10/17/2007	October 2007	Compliance	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ13	11/13/2007	November 2007	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ13	12/16/2007	December 2007 I	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ13	1/9/2008	January 2008	Compliance	**Fail**	ND	ND	Pass	ND	ND	ND	Pass	NA	ND
WQ13	1/9/2008	January 2008	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	NA	ND
WQ13	2/14/2008	February 2008	Compliance	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ13	2/14/2008	February 2008	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ13	3/15/2008	March 2008	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ13	4/15/2008	April 2008	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	R	ND
WQ13	5/8/2008	May 2008	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ13	6/27/2008	June 2008	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	6/27/2008	June 2008	Field Replicate	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	7/25/2008	July 2008	Compliance	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ13	7/25/2008	July 2008	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ13	10/15/2008	October 2008	Compliance	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ13	3/8/2009	March 2009	Compliance	Pass	ND	Pass	ND	Pass	ND	ND	ND	ND	Pass

Table 4-2. ADEC Chronic Aquatic Life Criteria Screening Results — Surface Water

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ13	3/8/2009	March 2009	Field Replicate	Pass	ND	ND	ND	Pass	ND	ND	ND	ND	Pass
WQ13	5/13/2009	May 2009	Compliance	Pass	ND	ND	**Fail**	ND	ND	Pass	ND	ND	ND
WQ13	7/23/2009	July 2009	Compliance	**Fail**	Pass	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ13	10/17/2009	October 2009	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ13	1/17/2010	January 2010	Compliance	Pass	ND	Pass	ND	ND	ND	ND	ND	ND	ND
WQ13	4/22/2010	April 2010	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ13	8/10/2010	August 2010	Compliance	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ13	10/18/2010	October 2010	Compliance	Pass	Pass	Pass	Pass	ND	ND	ND	Pass	NA	ND
WQ13	10/18/2010	October 2010	Field Replicate	Pass	ND	Pass	Pass	ND	ND	ND	ND	NA	ND
WQ13	1/19/2011	January 2011	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ13	4/20/2011	April 2011	Compliance	Pass	ND	Pass	ND	ND	ND	ND	ND	ND	ND
WQ13	7/25/2011	July 2011 II	Compliance	Pass	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ13	12/21/2011	December 2011	Compliance	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
WQ13	12/21/2011	December 2011	Field Replicate	Pass	Pass	ND	Pass	ND	ND	ND	ND	ND	ND
			Count of Exceedances - All Data	**58**	**0**	**1**	**29**	**1**	**1**	**0**	**0**	**0**	**1**
			Count of Exceedances - Compliance Samples Only	**28**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
Shaded cells indicate samples collected in 2011.
Fail = Indicates that a detected sample concentration exceeds ADEC chronic aquatic life criterion.
Pass = Indicates that a detected sample concentration is equal to or below ADEC chronic aquatic life criterion.

-- = sample not collected
ADEC = Alaska Department of Environmental Conservation
NA = ADEC chronic aquatic life criterion does not exist for silver
ND = Concentration below laboratory detection limit. Nondetect values were not screened against ADEC chronic aquatic life criteria.
R = The sample results are rejected. Rejected values were not screened against ADEC chronic aquatic life criteria.

Table 4-3. ADEC Chronic Aquatic Life Criteria Screening Results — Groundwater

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
MW1	2/28/2007	February 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND
MW1	4/10/2007	April 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
MW1	5/14/2007	May 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
MW1	6/4/2007	June 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND
MW1	6/4/2007	June 2007	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	Pass
MW1	7/2/2007	July 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND
MW1	7/24/2007	July 2007 II	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW1	8/14/2007	August 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	8/14/2007	August 2007 I	Field Replicate	ND	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	8/28/2007	August 2007 II	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	9/11/2007	September 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW1	9/30/2007	September 2007 II	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW1	10/16/2007	October 2007	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW1	10/16/2007	October 2007	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW1	11/12/2007	November 2007	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW1	12/14/2007	December 2007 I	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	12/14/2007	December 2007 I	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	1/9/2008	January 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	NA	ND
MW1	2/14/2008	February 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	3/14/2008	March 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	NA	ND
MW1	4/15/2008	April 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	R	ND
MW1	5/7/2008	May 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	6/26/2008	June 2008	Compliance	**Fail**	Pass	ND	ND	Pass	ND	ND	ND	ND	ND
MW1	7/24/2008	July 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	7/24/2008	July 2008	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	8/19/2008	August 2008	Compliance	**Fail**	ND	ND	**Fail**	**Fail**	ND	Pass	ND	ND	ND
MW1	9/9/2008	September 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND
MW1	9/9/2008	September 2008	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND
MW1	10/15/2008	October 2008	Compliance	**Fail**	ND	ND	ND	Pass	ND	ND	ND	ND	ND
MW1	10/15/2008	October 2008	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
MW1	3/9/2009	March 2009	Compliance	**Fail**	ND	Pass	ND	Pass	ND	ND	ND	ND	ND
MW1	3/9/2009	March 2009	Field Replicate	**Fail**	ND	ND	ND	Pass	ND	ND	ND	ND	ND
MW1	5/13/2009	May 2009	Compliance	**Fail**	ND	Pass	Pass	Pass	ND	Pass	ND	ND	ND
MW1	7/24/2009	July 2009	Compliance	**Fail**	Pass	ND	Pass	**Fail**	ND	Pass	ND	NA	ND
MW1	10/17/2009	October 2009	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	NA	ND
MW1	10/17/2009	October 2009	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	1/17/2010	January 2010	Compliance	**Fail**	Pass	Pass	ND	Pass	ND	Pass	Pass	ND	ND
MW1	4/22/2010	April 2010	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	8/10/2010	August 2010	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND

Table 4-3. ADEC Chronic Aquatic Life Criteria Screening Results — Groundwater

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
MW1	8/10/2010	August 2010	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND
MW1	10/19/2010	October 2010	Compliance	**Fail**	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND
MW1	1/20/2011	January 2011	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	1/20/2011	January 2011	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	4/20/2011	April 2011	Compliance	**Fail**	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND
MW1	7/25/2011	July 2011 II	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	12/20/2011	December 2011	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW2	4/10/2007	April 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
MW2	5/14/2007	May 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
MW2	6/4/2007	June 2007	Reference	**Fail**	Pass	ND	**Fail**	Pass	ND	Pass	ND	ND	Pass
MW2	7/2/2007	July 2007 I	Reference	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND	Pass
MW2	7/24/2007	July 2007 II	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW2	8/14/2007	August 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW2	8/28/2007	August 2007 II	Reference	**Fail**	Pass	Pass	Pass	**Fail**	ND	Pass	Pass	ND	ND
MW2	9/11/2007	September 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW2	9/30/2007	September 2007 II	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	NA	ND
MW2	10/16/2007	October 2007	Compliance	**Fail**	Pass	Pass	Pass	Pass	ND	Pass	Pass	NA	Pass
MW2	11/12/2007	November 2007	Compliance	**Fail**	Pass	ND	Pass	Pass	**Fail**	Pass	Pass	ND	ND
MW2	12/14/2007	December 2007 I	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	Pass	ND	Pass
MW2	1/8/2008	January 2008	Compliance	**Fail**	ND	ND	**Fail**	**Fail**	ND	Pass	ND	NA	ND
MW2	2/13/2008	February 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW2	3/14/2008	March 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	NA	ND
MW2	4/14/2008	April 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	R	ND
MW2	5/7/2008	May 2008	Compliance	**Fail**	Pass	ND	Pass	**Fail**	ND	Pass	ND	ND	ND
MW2	6/26/2008	June 2008	Compliance	**Fail**	Pass	ND	ND	Pass	ND	ND	ND	ND	ND
MW2	7/24/2008	July 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW2	8/19/2008	August 2008	Compliance	**Fail**	Pass	ND	ND	Pass	ND	Pass	ND	ND	ND
MW2	9/9/2008	September 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW2	10/15/2008	October 2008	Compliance	**Fail**	Pass	ND	ND	Pass	ND	Pass	ND	ND	ND
MW2	3/8/2009	March 2009	Compliance	**Fail**	Pass	ND	ND	Pass	ND	Pass	ND	ND	ND
MW2	5/13/2009	May 2009	Compliance	**Fail**	Pass	Pass	ND	ND	ND	Pass	ND	ND	ND
MW2	7/24/2009	July 2009	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	NA	ND
MW2	9/12/2009	September 2009 II	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW2	10/17/2009	October 2009	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	NA	ND
MW2	1/15/2010	January 2010	Compliance	**Fail**	Pass	Pass	ND	ND	ND	Pass	ND	ND	ND
MW2	4/22/2010	April 2010	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW2	8/10/2010	August 2010	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW2	10/19/2010	October 2010	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND

Table 4-3. ADEC Chronic Aquatic Life Criteria Screening Results — Groundwater

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
MW2	1/20/2011	January 2011	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW2	4/20/2011	April 2011	Compliance	**Fail**	Pass	ND	ND	Pass	ND	ND	ND	ND	ND
MW2	7/24/2011	July 2011 II	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW2	12/20/2011	December 2011	Compliance	**Fail**	Pass	ND	Pass	**Fail**	ND	Pass	Pass	ND	ND
MW3	2/28/2007	February 2007	Reference	**Fail**	ND	Pass	**Fail**	ND	ND	ND	ND	ND	Pass
MW3	4/10/2007	April 2007	Reference	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	**Fail**
MW3	5/14/2007	May 2007	Reference	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	Pass
MW3	5/14/2007	May 2007	Field Replicate	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	Pass
MW3	6/4/2007	June 2007	Reference	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	Pass
MW3	7/2/2007	July 2007 I	Reference	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	Pass
MW3	7/24/2007	July 2007 II	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW3	8/14/2007	August 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW3	8/28/2007	August 2007 II	Reference	**Fail**	Pass	Pass	**Fail**	**Fail**	ND	Pass	ND	ND	ND
MW3	9/10/2007	September 2007 I	Reference	**Fail**	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
MW3	9/30/2007	September 2007 II	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW3	10/17/2007	October 2007	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	Pass
MW3	11/12/2007	November 2007	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW3	12/15/2007	December 2007 I	Compliance	**Fail**	ND	ND	Pass	**Fail**	ND	Pass	ND	ND	ND
MW3	1/8/2008	January 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW3	1/8/2008	January 2008	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	NA	ND
MW3	2/13/2008	February 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW3	3/14/2008	March 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW3	4/14/2008	April 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	R	ND
MW3	5/7/2008	May 2008	Compliance	**Fail**	Pass	ND	ND	ND	ND	Pass	ND	ND	ND
MW3	6/27/2008	June 2008	Compliance	**Fail**	Pass	ND	ND	Pass	ND	ND	ND	ND	ND
MW3	7/24/2008	July 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW3	8/19/2008	August 2008	Compliance	**Fail**	Pass	ND	**Fail**	Pass	ND	Pass	Pass	ND	ND
MW3	9/9/2008	September 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW3	10/15/2008	October 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	NA	ND
MW3	3/8/2009	March 2009	Compliance	**Fail**	ND	Pass	**Fail**	**Fail**	ND	ND	ND	ND	ND
MW3	5/13/2009	May 2009	Compliance	**Fail**	Pass	Pass	**Fail**	**Fail**	ND	Pass	ND	ND	ND
MW3	7/24/2009	July 2009	Compliance	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	ND
MW3	9/12/2009	September 2009 II	Compliance	**Fail**	ND	ND	**Fail**	**Fail**	ND	Pass	ND	ND	ND
MW3	10/17/2009	October 2009	Compliance	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	NA	ND
MW3	1/15/2010	January 2010	Compliance	**Fail**	Pass	Pass	ND	ND	ND	ND	ND	ND	**Fail**
MW3	4/22/2010	April 2010	Compliance	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
MW3	8/10/2010	August 2010	Compliance	**Fail**	Pass	ND	Pass	Pass	Pass	ND	ND	ND	ND
MW3	10/19/2010	October 2010	Compliance	**Fail**	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND

Table 4-3. ADEC Chronic Aquatic Life Criteria Screening Results — Groundwater

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
MW3	1/20/2011	January 2011	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW3	4/20/2011	April 2011	Compliance	**Fail**	Pass	Pass	ND	ND	ND	ND	ND	ND	ND
MW3	7/24/2011	July 2011 II	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW3	12/20/2011	December 2011	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW4	2/27/2007	February 2007	Reference	**Fail**	ND	ND	**Fail**	ND	ND	Pass	ND	ND	**Fail**
MW4	2/27/2007	February 2007	Field Replicate	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	Pass
MW4	4/10/2007	April 2007	Reference	**Fail**	ND	**Fail**	**Fail**	**Fail**	ND	Pass	ND	ND	**Fail**
MW4	5/14/2007	May 2007	Reference	**Fail**	Pass	**Fail**	**Fail**	**Fail**	ND	Pass	ND	ND	Pass
MW4	6/4/2007	June 2007	Reference	**Fail**	Pass	Pass	**Fail**	**Fail**	ND	Pass	ND	ND	Pass
MW4	7/2/2007	July 2007 I	Reference	--	--	--	--	--	--	--	--	--	--
MW4	7/23/2007	July 2007 II	Reference	**Fail**	Pass	ND	**Fail**	Pass	ND	Pass	Pass	ND	ND
MW4	8/14/2007	August 2007 I	Reference	--	--	--	--	--	--	--	--	--	--
MW4	8/27/2007	August 2007 II	Reference	**Fail**	Pass	Pass	**Fail**	**Fail**	ND	Pass	ND	ND	ND
MW4	9/10/2007	September 2007 I	Reference	**Fail**	Pass	Pass	**Fail**	**Fail**	ND	Pass	Pass	ND	ND
MW4	9/30/2007	September 2007 II	Compliance	**Fail**	Pass	Pass	**Fail**	Pass	ND	Pass	Pass	NA	ND
MW4	10/16/2007	October 2007	Compliance	**Fail**	Pass	Pass	**Fail**	**Fail**	ND	Pass	Pass	NA	Pass
MW4	11/12/2007	November 2007	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW4	11/12/2007	November 2007	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW4	12/15/2007	December 2007 I	Compliance	**Fail**	ND	ND	Pass	**Fail**	ND	Pass	ND	ND	ND
MW4	1/8/2008	January 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	NA	ND
MW4	2/13/2008	February 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
MW4	3/15/2008	March 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW4	4/14/2008	April 2008	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	R	ND
MW4	5/8/2008	May 2008	Compliance	**Fail**	Pass	Pass	Pass	ND	ND	Pass	ND	ND	Pass
MW4	5/8/2008	May 2008	Field Replicate	**Fail**	Pass	Pass	Pass	ND	ND	Pass	ND	ND	ND
MW4	6/27/2008	June 2008	Compliance	**Fail**	Pass	ND	**Fail**	Pass	ND	ND	ND	ND	ND
MW4	7/24/2008	July 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW4	8/19/2008	August 2008	Compliance	**Fail**	ND	ND	**Fail**	**Fail**	ND	Pass	ND	ND	ND
MW4	8/19/2008	August 2008	Field Replicate	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	ND
MW4	9/9/2008	September 2008	Compliance	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	Pass
MW4	10/15/2008	October 2008	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW4	3/8/2009	March 2009	Compliance	**Fail**	ND	Pass	**Fail**	Pass	ND	ND	ND	ND	**Fail**
MW4	5/13/2009	May 2009	Compliance	**Fail**	ND	Pass	Pass	ND	ND	Pass	ND	ND	**Fail**
MW4	5/13/2009	May 2009	Field Replicate	**Fail**	ND	Pass	Pass	ND	ND	Pass	ND	ND	Pass
MW4	7/23/2009	July 2009	Compliance	**Fail**	Pass	Pass	**Fail**	**Fail**	ND	Pass	ND	ND	Pass
MW4	7/23/2009	July 2009	Field Replicate	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	ND
MW4	9/13/2009	September 2009 II	Compliance	**Fail**	Pass	ND	**Fail**	Pass	ND	Pass	Pass	ND	ND
MW4	9/13/2009	September 2009 II	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW4	10/17/2009	October 2009	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	NA	ND

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Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
MW4	1/15/2010	January 2010	Compliance	**Fail**	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND
MW4	1/15/2010	January 2010	Field Replicate	**Fail**	Pass	Pass	ND	ND	ND	Pass	Pass	ND	Pass
MW4	4/22/2010	April 2010	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW4	4/22/2010	April 2010	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW4	8/10/2010	August 2010	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW4	10/19/2010	October 2010	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND
MW4	10/19/2010	October 2010	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND
MW4	1/20/2011	January 2011	Compliance	**Fail**	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
MW4	4/20/2011	April 2011	Compliance	**Fail**	Pass	Pass	ND	ND	ND	ND	ND	ND	ND
MW4	4/20/2011	April 2011	Field Replicate	**Fail**	Pass	Pass	ND	ND	ND	ND	ND	ND	ND
MW4	7/24/2011	July 2011 II	Compliance	Pass	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW4	7/24/2011	July 2011 II	Field Replicate	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW4	12/20/2011	December 2011	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW4	12/20/2011	December 2011	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW7	2/28/2007	February 2007	Reference	**Fail**	Pass	Pass	**Fail**	**Fail**	ND	ND	ND	ND	Pass
MW7	4/10/2007	April 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
MW7	4/10/2007	April 2007	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
MW7	5/15/2007	May 2007	Reference	**Fail**	Pass	Pass	Pass	**Fail**	ND	Pass	ND	ND	Pass
MW7	6/5/2007	June 2007	Reference	**Fail**	Pass	Pass	Pass	Pass	ND	Pass	ND	ND	Pass
MW7	7/1/2007	July 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
MW7	7/23/2007	July 2007 II	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW7	8/13/2007	August 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW7	8/28/2007	August 2007 II	Reference	**Fail**	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
MW7	9/10/2007	September 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW7	9/10/2007	September 2007 I	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	ND	Pass	ND	Pass
MW7	9/30/2007	September 2007 II	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW7	10/16/2007	October 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW7	11/13/2007	November 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW7	12/15/2007	December 2007 I	Reference	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	Pass
MW7	1/9/2008	January 2008	Reference	**Fail**	ND	ND	Pass	Pass	ND	Pass	Pass	NA	ND
MW7	2/14/2008	February 2008	Reference	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW7	3/13/2008	March 2008	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW7	4/13/2008	April 2008	Reference	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	R	ND
MW7	4/13/2008	April 2008	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	R	ND
MW7	5/6/2008	May 2008	Reference	**Fail**	Pass	Pass	ND	Pass	ND	Pass	ND	ND	ND
MW7	6/26/2008	June 2008	Reference	**Fail**	Pass	ND	ND	Pass	ND	ND	ND	ND	ND
MW7	6/26/2008	June 2008	Field Replicate	**Fail**	Pass	ND	ND	Pass	ND	ND	ND	ND	ND
MW7	7/25/2008	July 2008	Reference	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND

Table 4-3. ADEC Chronic Aquatic Life Criteria Screening Results — Groundwater

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
MW8	7/2/2007	July 2007 I	Reference - Infor	**Fail**	Pass	Pass	Pass	ND	ND	Pass	ND	ND	Pass
MW8	7/23/2007	July 2007 II	Reference - Infor	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	7/23/2007	July 2007 II	Field Replicate	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	8/13/2007	August 2007 I	Reference - Infor	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
MW8	8/28/2007	August 2007 II	Reference - Infor	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND	ND
MW8	8/28/2007	August 2007 II	Field Replicate	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND	ND
MW8	9/10/2007	September 2007 I	Reference - Infor	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
MW8	9/30/2007	September 2007 II	Reference - Infor	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	9/30/2007	September 2007 II	Field Replicate	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	10/16/2007	October 2007	Reference - Infor	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
MW8	11/12/2007	November 2007	Reference - Infor	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW8	12/14/2007	December 2007 I	Reference - Infor	ND	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	1/8/2008	January 2008	Reference - Infor	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
MW8	2/13/2008	February 2008	Reference - Infor	ND	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	2/13/2008	February 2008	Field Replicate	ND	ND	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW8	3/13/2008	March 2008	Reference - Infor	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	4/14/2008	April 2008	Reference - Infor	Pass	ND	ND	Pass	ND	ND	Pass	ND	R	ND
MW8	5/6/2008	May 2008	Reference - Infor	ND	ND	Pass	Pass	ND	ND	Pass	Pass	ND	ND
MW8	6/26/2008	June 2008	Reference - Infor	Pass	ND	ND	ND	ND	ND	ND	Pass	ND	ND
MW9	7/2/2007	July 2007 I	Reference - Infor	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
MW9	7/2/2007	July 2007 I	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
MW9	7/23/2007	July 2007 II	Reference - Infor	**Fail**	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW9	8/13/2007	August 2007 I	Reference - Infor	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW9	8/28/2007	August 2007 II	Reference - Infor	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
MW9	9/10/2007	September 2007 I	Reference - Infor	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
MW9	9/30/2007	September 2007 II	Reference - Infor	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW9	10/16/2007	October 2007	Reference - Infor	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW9	11/12/2007	November 2007	Reference - Infor	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW9	12/14/2007	December 2007 I	Reference - Infor	**Fail**	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW9	1/8/2008	January 2008	Reference - Infor	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
MW9	2/13/2008	February 2008	Reference - Infor	Pass	ND	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW9	3/13/2008	March 2008	Reference - Infor	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW9	3/13/2008	March 2008	Field Replicate	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW9	4/14/2008	April 2008	Reference - Infor	Pass	Pass	ND	Pass	ND	ND	Pass	ND	R	ND
MW9	5/6/2008	May 2008	Reference - Infor	Pass	Pass	ND	ND	ND	ND	Pass	Pass	ND	ND
MW9	6/26/2008	June 2008	Reference - Infor	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
EFF1	11/13/2007	November 2007	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
EFF1	12/16/2007	December 2007 I	Information only	Pass	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
EFF1	1/9/2008	January 2008	Information only	Pass	ND	ND	Pass	ND	ND	ND	Pass	NA	ND

Table 4-3. ADEC Chronic Aquatic Life Criteria Screening Results — Groundwater

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
EFF1	2/13/2008	February 2008	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF1	3/17/2008	March 2008	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF1	4/15/2008	April 2008	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	Pass	R	ND
EFF1	4/15/2008	April 2008	Field Replicate	**Fail**	Pass	ND	Pass	ND	ND	Pass	Pass	R	ND
EFF1	5/8/2008	May 2008	Information only	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
EFF1	6/27/2008	June 2008	Information only	**Fail**	Pass	ND	ND	ND	ND	ND	Pass	ND	ND
EFF1	7/25/2008	July 2008	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF1	8/19/2008	August 2008	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
EFF1	9/9/2008	September 2008	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF1	9/9/2008	September 2008	Field Replicate	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF1	10/15/2008	October 2008	Information only	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
EFF1	3/9/2009	March 2009	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	**Fail**
EFF1	5/14/2009	May 2009	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	**Fail**
EFF1	7/23/2009	July 2009	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	ND	Pass	ND	**Fail**
EFF1	10/18/2009	October 2009	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	NA	ND
EFF1	1/16/2010	January 2010	Information only	**Fail**	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND
EFF1	4/21/2010	April 2010	Information only	Pass	ND	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF1	7/14/2010	July 2010	Information only	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
EFF1	7/14/2010	July 2010	Field Replicate	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
EFF1	8/11/2010	August 2010	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
EFF1	10/18/2010	October 2010	Information only	**Fail**	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND
EFF1	1/19/2011	January 2011	Information only	**Fail**	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
EFF1	4/21/2011	April 2011	Information only	Pass	Pass	Pass	ND	ND	ND	ND	Pass	ND	ND
EFF1	7/24/2011	July 2011 II	Information only	**Fail**	Pass	**Fail**	Pass	ND	ND	Pass	Pass	ND	Pass
EFF1	7/24/2011	July 2011 II	Field Replicate	**Fail**	Pass	**Fail**	Pass	ND	ND	Pass	Pass	ND	Pass
EFF1	9/7/2011	September 2011	Information only	**Fail**	Pass	**Fail**	**Fail**	ND	ND	Pass	Pass	ND	Pass
EFF1	9/7/2011	September 2011	Field Replicate	**Fail**	Pass	**Fail**	**Fail**	ND	ND	Pass	Pass	ND	Pass
EFF1	10/11/2011	October 2011	Information only	Pass	ND	Pass	Pass	Pass	ND	Pass	ND	ND	Pass
EFF1	12/21/2011	December 2011	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	Pass
			Count of Exceedances - All Data	**213**	**0**	**7**	**37**	**32**	**1**	**0**	**0**	**0**	**9**
			Count of Exceedances - Compliance Samples Only	**105**	**0**	**0**	**16**	**16**	**1**	**0**	**0**	**0**	**3**

Notes:
Shaded cells indicate samples collected in 2011.
Fail = Indicates that a detected sample concentration exceeds ADEC chronic aquatic life criterion.
Pass = Indicates that a detected sample concentration is equal to or below ADEC chronic aquatic life criterion.

-- = sample not collected
ADEC = Alaska Department of Environmental Conservation
NA = ADEC chronic aquatic life criterion does not exist for silver.
ND = Concentration below laboratory detection limit. Nondetect values were not screened against ADEC chronic aquatic life criteria.
R = The sample results are rejected. Rejected values were not screened against ADEC chronic aquatic life criteria.

Table 4-4. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ4	10/16/1996	October 1996 II	Historical	--	--
WQ4	9/3/1997	September 1997	Historical	--	--
WQ4	4/20/2005	April 2005 II	Historical	--	--
WQ4	2/15/2006	February 2006 II	Reference	--	--
WQ4	5/16/2006	May 2006 II	Reference	--	--
WQ4	8/29/2006	August 2006 II	Reference	NC, Alt, UPL	--
WQ4	10/17/2006	October 2006	Reference	--	--
WQ4	12/7/2006	December 2006	Reference	NC, Alt, UPL	--
WQ4	2/26/2007	February 2007	Reference	--	--
WQ4	2/26/2007	February 2007	Field Replicate	--	--
WQ4	4/10/2007	April 2007	Reference	--	--
WQ4	5/14/2007	May 2007	Reference	NC, Alt, UPL	--
WQ4	5/14/2007	May 2007	Field Replicate	NC, Alt, UPL	--
WQ4	6/4/2007	June 2007	Reference	NC, Alt, UPL	NC, Alt, UPL
WQ4	7/1/2007	July 2007 I	Reference	--	--
WQ4	7/24/2007	July 2007 II	Reference	--	--
WQ4	7/24/2007	July 2007 II	Field Replicate	--	--
WQ4	8/14/2007	August 2007 I	Reference	--	--
WQ4	8/27/2007	August 2007 II	Reference	--	--
WQ4	9/11/2007	September 2007 I	Reference	--	--
WQ4	10/2/2007	September 2007 II	Compliance	NC, Alt, UPL	--
WQ4	10/17/2007	October 2007	Compliance	NC, Alt, UPL	--
WQ4	11/13/2007	November 2007	Compliance	NC, Alt, UPL	--
WQ4	12/15/2007	December 2007 I	Compliance	NC, Alt, UPL	--
WQ4	1/9/2008	January 2008	Compliance	NC, Alt, UPL	--
WQ4	2/14/2008	February 2008	Compliance	NC, Alt, UPL	--
WQ4	3/15/2008	March 2008	Compliance	NC, Alt, UPL	--
WQ4	4/14/2008	April 2008	Compliance	NC, Alt, UPL	--
WQ4	5/8/2008	May 2008	Compliance	--	--
WQ4	6/28/2008	June 2008	Compliance	NC, Alt, UPL	--
WQ4	7/24/2008	July 2008	Compliance	--	--
WQ4	10/15/2008	October 2008	Compliance	--	--
WQ4	3/9/2009	March 2009	Compliance	--	--
WQ4	5/13/2009	May 2009	Compliance	--	NC, Alt, UPL
WQ4	7/23/2009	July 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL
WQ4	9/5/2009	September 2009 I	Compliance	--	--
WQ4	9/5/2009	September 2009 I	Field Replicate	--	--
WQ4	9/12/2009	September 2009 II	Compliance	--	--
WQ4	9/12/2009	September 2009 II	Field Replicate	--	--
WQ4	10/17/2009	October 2009	Compliance	--	--
WQ4	1/15/2010	January 2010	Compliance	--	--
WQ4	4/22/2010	April 2010	Compliance	--	--
WQ4	8/10/2010	August 2010	Compliance	--	--
WQ4	10/18/2010	October 2010	Compliance	NC, Alt, UPL	--
WQ4	1/19/2011	January 2011	Compliance	NC, Alt, UPL	--
WQ4	1/19/2011	January 2011	Field Replicate	NC, Alt, UPL	--

Table 4-4. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ4	4/20/2011	April 2011	Compliance	--	--
WQ4	7/25/2011	July 2011 II	Compliance	--	--
WQ4	12/21/2011	December 2011	Compliance	--	--
WQ6	10/16/1996	October 1996 II	Historical	--	--
WQ6	9/3/1997	September 1997	Historical	--	--
WQ6	9/3/1997	September 1997	Field Replicate	--	--
WQ6	4/20/2005	April 2005 II	Historical	--	NC, Alt, UPL
WQ6	2/15/2006	February 2006 II	Reference	--	--
WQ6	5/16/2006	May 2006 II	Reference	--	--
WQ6	5/16/2006	May 2006 II	Field Replicate	--	--
WQ6	8/29/2006	August 2006 II	Reference	NC, Alt, UPL	NC, Alt, UPL
WQ6	10/17/2006	October 2006	Reference	--	--
WQ6	12/7/2006	December 2006	Reference	--	--
WQ6	2/26/2007	February 2007	Reference	--	--
WQ6	4/10/2007	April 2007	Reference	--	--
WQ6	5/14/2007	May 2007	Reference	--	--
WQ6	6/4/2007	June 2007	Reference	--	NC, Alt, UPL
WQ6	7/1/2007	July 2007 I	Reference	--	--
WQ6	7/24/2007	July 2007 II	Reference	--	--
WQ6	8/14/2007	August 2007 I	Reference	--	--
WQ6	8/27/2007	August 2007 II	Reference	--	--
WQ6	9/11/2007	September 2007 I	Reference	--	--
WQ6	10/2/2007	September 2007 II	Compliance	--	--
WQ6	10/17/2007	October 2007	Compliance	--	--
WQ6	10/17/2007	October 2007	Field Replicate	NC, Alt, UPL	--
WQ6	11/13/2007	November 2007	Compliance	--	--
WQ6	12/15/2007	December 2007 I	Compliance	--	--
WQ6	12/15/2007	December 2007 I	Field Replicate	--	--
WQ6	1/9/2008	January 2008	Compliance	--	--
WQ6	2/14/2008	February 2008	Compliance	--	--
WQ6	3/15/2008	March 2008	Compliance	--	--
WQ6	4/14/2008	April 2008	Compliance	--	--
WQ6	5/8/2008	May 2008	Compliance	--	--
WQ6	6/28/2008	June 2008	Compliance	NC, Alt, UPL	--
WQ6	7/24/2008	July 2008	Compliance	--	--
WQ6	10/15/2008	October 2008	Compliance	NC, Alt, UPL	--
WQ6	10/15/2008	October 2008	Field Replicate	--	--
WQ6	3/9/2009	March 2009	Compliance	--	--
WQ6	5/13/2009	May 2009	Compliance	--	NC, Alt, UPL
WQ6	7/23/2009	July 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL
WQ6	9/5/2009	September 2009 I	Compliance	--	--
WQ6	9/12/2009	September 2009 II	Compliance	--	--
WQ6	10/17/2009	October 2009	Compliance	--	NC, Alt, UPL
WQ6	1/15/2010	January 2010	Compliance	--	--
WQ6	4/22/2010	April 2010	Compliance	--	--
WQ6	8/10/2010	August 2010	Compliance	--	--

Table 4-4. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ6	10/19/2010	October 2010	Compliance	--	--
WQ6	1/21/2011	January 2011	Compliance	NC, Alt, UPL	--
WQ6	4/20/2011	April 2011	Compliance	--	--
WQ6	7/25/2011	July 2011 II	Compliance	--	NC, Alt, UPL
WQ6	12/21/2011	December 2011	Compliance	--	--
WQ7	2/15/2006	February 2006 II	Reference	--	--
WQ7	5/16/2006	May 2006 II	Reference	NC, Alt, UPL	--
WQ7	8/29/2006	August 2006 II	Reference	--	NC, Alt, UPL
WQ7	10/17/2006	October 2006	Reference	--	--
WQ7	12/7/2006	December 2006	Reference	--	--
WQ7	2/26/2007	February 2007	Reference	--	--
WQ7	4/10/2007	April 2007	Reference	--	--
WQ7	5/14/2007	May 2007	Reference	--	--
WQ7	6/4/2007	June 2007	Reference	--	NC, Alt, UPL
WQ7	7/1/2007	July 2007 I	Reference	--	--
WQ7	7/24/2007	July 2007 II	Reference	--	--
WQ7	8/14/2007	August 2007 I	Reference	--	--
WQ7	8/14/2007	August 2007 I	Field Replicate	--	--
WQ7	8/27/2007	August 2007 II	Reference	--	--
WQ7	9/11/2007	September 2007 I	Reference	--	--
WQ7	10/2/2007	September 2007 II	Reference	--	NC, Alt, UPL
WQ7	10/17/2007	October 2007	Reference	--	--
WQ7	11/13/2007	November 2007	Reference	--	--
WQ7	12/15/2007	December 2007 I	Reference	--	--
WQ7	1/9/2008	January 2008	Reference	--	--
WQ7	2/14/2008	February 2008	Reference	--	--
WQ7	3/15/2008	March 2008	Reference	--	--
WQ7	4/14/2008	April 2008	Reference	--	--
WQ7	4/14/2008	April 2008	Field Replicate	--	--
WQ7	5/8/2008	May 2008	Reference	--	--
WQ7	5/8/2008	May 2008	Field Replicate	--	--
WQ7	6/28/2008	June 2008	Reference	--	--
WQ7	7/24/2008	July 2008	Reference	--	--
WQ8	2/15/2006	February 2006 II	Reference	--	--
WQ8	5/17/2006	May 2006 II	Reference	--	--
WQ8	8/29/2006	August 2006 II	Reference	--	--
WQ8	8/29/2006	August 2006 II	Field Replicate	--	--
WQ8	10/17/2006	October 2006	Reference	--	--
WQ8	12/7/2006	December 2006	Reference	NC, Alt, UPL	--
WQ8	2/26/2007	February 2007	Reference	--	--
WQ8	4/10/2007	April 2007	Reference	--	--
WQ8	5/14/2007	May 2007	Reference	--	--
WQ8	6/4/2007	June 2007	Reference	NC, Alt, UPL	NC, Alt, UPL
WQ8	7/1/2007	July 2007 I	Reference	--	NC, Alt, UPL
WQ8	7/24/2007	July 2007 II	Reference	--	--
WQ8	8/14/2007	August 2007 I	Reference	--	--

Table 4-4. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ8	8/27/2007	August 2007 II	Reference	--	--
WQ8	9/11/2007	September 2007 I	Reference	--	--
WQ8	10/2/2007	September 2007 II	Reference	NC, Alt, UPL	NC, Alt, UPL
WQ8	10/17/2007	October 2007	Reference	NC, Alt, UPL	NC, Alt, UPL
WQ8	11/13/2007	November 2007	Reference	--	--
WQ8	11/13/2007	November 2007	Field Replicate	--	--
WQ8	12/15/2007	December 2007 I	Reference	--	--
WQ8	1/9/2008	January 2008	Reference	--	--
WQ8	2/14/2008	February 2008	Reference	--	--
WQ8	3/15/2008	March 2008	Reference	--	--
WQ8	4/14/2008	April 2008	Reference	--	--
WQ8	5/8/2008	May 2008	Reference	--	--
WQ8	6/28/2008	June 2008	Reference	NC, Alt, UPL	--
WQ8	7/24/2008	July 2008	Reference	--	--
WQ10	8/29/2006	August 2006 II	Reference	NC, Alt, UPL	NC, Alt, UPL
WQ10	10/17/2006	October 2006	Reference	NC, Alt, UPL	NC, Alt, UPL
WQ10	12/7/2006	December 2006	Reference	NC, Alt, UPL	--
WQ10	2/26/2007	February 2007	Reference	--	--
WQ10	4/10/2007	April 2007	Reference	--	--
WQ10	5/14/2007	May 2007	Reference	NC, Alt, UPL	--
WQ10	6/4/2007	June 2007	Reference	NC, Alt, UPL	NC, Alt, UPL
WQ10	7/1/2007	July 2007 I	Reference	--	--
WQ10	7/24/2007	July 2007 II	Reference	--	--
WQ10	8/14/2007	August 2007 I	Reference	--	--
WQ10	8/27/2007	August 2007 II	Reference	--	--
WQ10	9/11/2007	September 2007 I	Reference	--	--
WQ10	9/11/2007	September 2007 I	Field Replicate	--	--
WQ10	10/1/2007	September 2007 II	Compliance	NC, Alt, UPL	NC, Alt, UPL
WQ10	10/17/2007	October 2007	Compliance	NC, Alt, UPL	--
WQ10	11/13/2007	November 2007	Compliance	--	--
WQ10	12/15/2007	December 2007 I	Compliance	NC, Alt, UPL	--
WQ10	1/9/2008	January 2008	Compliance	--	--
WQ10	2/14/2008	February 2008	Compliance	NC, Alt, UPL	--
WQ10	3/15/2008	March 2008	Compliance	NC, Alt, UPL	--
WQ10	3/15/2008	March 2008	Field Replicate	NC, Alt, UPL	--
WQ10	4/14/2008	April 2008	Compliance	--	--
WQ10	5/8/2008	May 2008	Compliance	--	--
WQ10	6/28/2008	June 2008	Compliance	NC, Alt, UPL	--
WQ10	7/24/2008	July 2008	Compliance	--	--
WQ10	10/15/2008	October 2008	Compliance	--	--
WQ10	3/9/2009	March 2009	Compliance	--	--
WQ10	5/13/2009	May 2009	Compliance	--	NC, Alt, UPL
WQ10	5/13/2009	May 2009	Field Replicate	--	NC, Alt, UPL
WQ10	7/23/2009	July 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL
WQ10	9/5/2009	September 2009 I	Compliance	--	--
WQ10	9/12/2009	September 2009 II	Compliance	--	--

Table 4-4. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ10	10/17/2009	October 2009	Compliance	--	--
WQ10	10/17/2009	October 2009	Field Replicate	--	--
WQ10	1/15/2010	January 2010	Compliance	--	--
WQ10	1/15/2010	January 2010	Field Replicate	--	--
WQ10	4/22/2010	April 2010	Compliance	--	--
WQ10	4/22/2010	April 2010	Field Replicate	--	--
WQ10	8/10/2010	August 2010	Compliance	--	--
WQ10	8/10/2010	August 2010	Field Replicate	--	--
WQ10	10/19/2010	October 2010	Compliance	--	--
WQ10	1/21/2011	January 2011	Compliance	NC, Alt, UPL	--
WQ10	4/20/2011	April 2011	Compliance	--	--
WQ10	4/20/2011	April 2011	Field Replicate	--	--
WQ10	7/25/2011	July 2011 II	Compliance	--	--
WQ10	12/21/2011	December 2011	Compliance	--	--
WQ12	8/29/2006	August 2006 II	Reference	--	--
WQ12	10/17/2006	October 2006	Reference	NC, Alt, UPL	NC, Alt, UPL
WQ12	12/7/2006	December 2006	Reference	NC, Alt, UPL	--
WQ12	2/26/2007	February 2007	Reference	--	--
WQ12	4/10/2007	April 2007	Reference	--	--
WQ12	5/14/2007	May 2007	Reference	--	--
WQ12	6/4/2007	June 2007	Reference	NC, Alt, UPL	--
WQ12	6/4/2007	June 2007	Field Replicate	NC, Alt, UPL	--
WQ12	7/1/2007	July 2007 I	Reference	--	--
WQ12	7/24/2007	July 2007 II	Reference	--	--
WQ12	8/14/2007	August 2007 I	Reference	--	--
WQ12	8/27/2007	August 2007 II	Reference	--	--
WQ12	9/11/2007	September 2007 I	Reference	--	--
WQ12	10/1/2007	September 2007 II	Reference	NC, Alt, UPL	--
WQ12	10/1/2007	September 2007 II	Field Replicate	NC, Alt, UPL	--
WQ12	10/17/2007	October 2007	Reference	NC, Alt, UPL	--
WQ12	11/13/2007	November 2007	Reference	--	--
WQ12	12/15/2007	December 2007 I	Reference	NC, Alt, UPL	--
WQ12	1/9/2008	January 2008	Reference	--	--
WQ12	2/14/2008	February 2008	Reference	NC, Alt, UPL	--
WQ12	3/15/2008	March 2008	Reference	--	--
WQ12	4/14/2008	April 2008	Reference	--	--
WQ12	5/8/2008	May 2008	Reference	--	--
WQ12	6/28/2008	June 2008	Reference	NC, Alt, UPL	--
WQ12	7/24/2008	July 2008	Reference	--	--
WQ13	2/26/2007	February 2007	Reference	--	--
WQ13	4/10/2007	April 2007	Reference	--	--
WQ13	4/10/2007	April 2007	Field Replicate	--	--
WQ13	5/14/2007	May 2007	Reference	--	--
WQ13	6/4/2007	June 2007	Reference	--	NC, Alt, UPL
WQ13	7/1/2007	July 2007 I	Reference	--	--
WQ13	7/1/2007	July 2007 I	Field Replicate	--	--

Table 4-4. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ13	7/24/2007	July 2007 II	Reference	--	--
WQ13	8/14/2007	August 2007 I	Reference	--	--
WQ13	8/27/2007	August 2007 II	Reference	--	--
WQ13	8/27/2007	August 2007 II	Field Replicate	--	--
WQ13	9/11/2007	September 2007 I	Reference	--	--
WQ13	10/1/2007	September 2007 II	Compliance	--	--
WQ13	10/17/2007	October 2007	Compliance	NC, Alt, UPL	--
WQ13	11/13/2007	November 2007	Compliance	--	--
WQ13	12/16/2007	December 2007 I	Compliance	--	--
WQ13	1/9/2008	January 2008	Compliance	NC, Alt, UPL	--
WQ13	1/9/2008	January 2008	Field Replicate	--	--
WQ13	2/14/2008	February 2008	Compliance	--	--
WQ13	2/14/2008	February 2008	Field Replicate	--	--
WQ13	3/15/2008	March 2008	Compliance	--	--
WQ13	4/15/2008	April 2008	Compliance	--	--
WQ13	5/8/2008	May 2008	Compliance	--	--
WQ13	6/27/2008	June 2008	Compliance	--	--
WQ13	6/27/2008	June 2008	Field Replicate	--	--
WQ13	7/25/2008	July 2008	Compliance	--	--
WQ13	7/25/2008	July 2008	Field Replicate	--	--
WQ13	10/15/2008	October 2008	Compliance	--	--
WQ13	3/8/2009	March 2009	Compliance	--	--
WQ13	3/8/2009	March 2009	Field Replicate	--	--
WQ13	5/13/2009	May 2009	Compliance	--	NC, Alt, UPL
WQ13	7/23/2009	July 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL
WQ13	10/17/2009	October 2009	Compliance	--	--
WQ13	1/17/2010	January 2010	Compliance	--	--
WQ13	4/22/2010	April 2010	Compliance	--	--
WQ13	8/10/2010	August 2010	Compliance	--	--
WQ13	10/18/2010	October 2010	Compliance	--	--
WQ13	10/18/2010	October 2010	Field Replicate	--	--
WQ13	1/19/2011	January 2011	Compliance	NC, Alt, UPL	--
WQ13	4/20/2011	April 2011	Compliance	--	--
WQ13	7/25/2011	July 2011 II	Compliance	--	NC, Alt, UPL
WQ13	12/21/2011	December 2011	Compliance	--	--
WQ13	12/21/2011	December 2011	Field Replicate	--	--

Notes:

No surface water compliance samples exceeded ADEC criteria for ammonia or the following trace elements: As, Cd, Pb, Hg, Ni, Se, Ag, Zn.

-- = sample did not exceed ADEC criteria
ADEC = Alaska Department of Environmental Conservation
Alt = Integral Alternative Population Approach
NC = ADEC Natural Conditions Tool
UPL = upper prediction limit screen

Table 4-5. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Zinc Dissolved
MW1	2/28/2007	February 2007	Reference	NC, Alt, UPL	--	--	--	--
MW1	4/10/2007	April 2007	Reference	NC, Alt, UPL	--	--	--	--
MW1	5/14/2007	May 2007	Reference	NC, Alt, UPL	--	--	--	--
MW1	6/4/2007	June 2007	Reference	NC, Alt, UPL	--	--	--	--
MW1	6/4/2007	June 2007	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	7/2/2007	July 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW1	7/24/2007	July 2007 II	Reference	NC, Alt, UPL	--	--	--	--
MW1	8/14/2007	August 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW1	8/14/2007	August 2007 I	Field Replicate	--	--	--	--	--
MW1	8/28/2007	August 2007 II	Reference	NC, Alt, UPL	--	--	--	--
MW1	9/11/2007	September 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW1	9/30/2007	September 2007 II	Compliance	NC, Alt, UPL	--	--	--	--
MW1	10/16/2007	October 2007	Compliance	NC, Alt, UPL	--	--	--	--
MW1	10/16/2007	October 2007	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	11/12/2007	November 2007	Compliance	NC, Alt, UPL	--	--	--	--
MW1	12/14/2007	December 2007 I	Compliance	NC, Alt, UPL	--	--	--	--
MW1	12/14/2007	December 2007 I	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	1/9/2008	January 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW1	2/14/2008	February 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW1	3/14/2008	March 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW1	4/15/2008	April 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW1	5/7/2008	May 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW1	6/26/2008	June 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW1	7/24/2008	July 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW1	7/24/2008	July 2008	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	8/19/2008	August 2008	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW1	9/9/2008	September 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW1	9/9/2008	September 2008	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	10/15/2008	October 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW1	10/15/2008	October 2008	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	3/9/2009	March 2009	Compliance	NC, Alt, UPL	--	--	--	--

Table 4-5. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Zinc Dissolved
MW1	3/9/2009	March 2009	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	5/13/2009	May 2009	Compliance	NC, Alt, UPL	--	--	--	--
MW1	7/24/2009	July 2009	Compliance	NC, Alt, UPL	--	NC, Alt, UPL	--	--
MW1	10/17/2009	October 2009	Compliance	NC, Alt, UPL	--	--	--	--
MW1	10/17/2009	October 2009	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	1/17/2010	January 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW1	4/22/2010	April 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW1	8/10/2010	August 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW1	8/10/2010	August 2010	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	10/19/2010	October 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW1	1/20/2011	January 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW1	1/20/2011	January 2011	Field Replicate	NC, Alt, UPL	--	--	--	--
MW1	4/20/2011	April 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW1	7/25/2011	July 2011 II	Compliance	NC, Alt, UPL	--	--	--	--
MW1	12/20/2011	December 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW2	4/10/2007	April 2007	Reference	NC, Alt, UPL	--	--	--	--
MW2	5/14/2007	May 2007	Reference	NC, Alt, UPL	--	--	--	--
MW2	6/4/2007	June 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	--	--	--
MW2	7/2/2007	July 2007 I	Reference	--	--	--	--	--
MW2	7/24/2007	July 2007 II	Reference	NC, Alt, UPL	--	--	--	--
MW2	8/14/2007	August 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW2	8/28/2007	August 2007 II	Reference	NC, Alt, UPL	--	NC, Alt, UPL	--	--
MW2	9/11/2007	September 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW2	9/30/2007	September 2007 II	Compliance	NC, Alt, UPL	--	--	--	--
MW2	10/16/2007	October 2007	Compliance	NC, Alt, UPL	--	--	--	--
MW2	11/12/2007	November 2007	Compliance	NC, Alt, UPL	--	--	< 5 detected	--
MW2	12/14/2007	December 2007 I	Compliance	NC, Alt, UPL	--	--	--	--
MW2	1/8/2008	January 2008	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW2	2/13/2008	February 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW2	3/14/2008	March 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW2	4/14/2008	April 2008	Compliance	NC, Alt, UPL	--	--	--	--

Table 4-5. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Zinc Dissolved
MW2	5/7/2008	May 2008	Compliance	NC, Alt, UPL	--	NC, Alt, UPL	--	--
MW2	6/26/2008	June 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW2	7/24/2008	July 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW2	8/19/2008	August 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW2	9/9/2008	September 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW2	10/15/2008	October 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW2	3/8/2009	March 2009	Compliance	NC, Alt, UPL	--	--	--	--
MW2	5/13/2009	May 2009	Compliance	NC, Alt, UPL	--	--	--	--
MW2	7/24/2009	July 2009	Compliance	NC, Alt, UPL	--	--	--	--
MW2	9/12/2009	September 2009 II	Compliance	NC, Alt, UPL	--	--	--	--
MW2	10/17/2009	October 2009	Compliance	NC, Alt, UPL	--	--	--	--
MW2	1/15/2010	January 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW2	4/22/2010	April 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW2	8/10/2010	August 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW2	10/19/2010	October 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW2	1/20/2011	January 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW2	4/20/2011	April 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW2	7/24/2011	July 2011 II	Compliance	NC, Alt, UPL	--	--	--	--
MW2	12/20/2011	December 2011	Compliance	NC, Alt, UPL	--	NC, Alt, UPL	--	--
MW3	2/28/2007	February 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	--	--	--
MW3	4/10/2007	April 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	NC, Alt, UPL
MW3	5/14/2007	May 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	5/14/2007	May 2007	Field Replicate	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	6/4/2007	June 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	7/2/2007	July 2007 I	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	7/24/2007	July 2007 II	Reference	NC, Alt, UPL	--	--	--	--
MW3	8/14/2007	August 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW3	8/28/2007	August 2007 II	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	9/10/2007	September 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW3	9/30/2007	September 2007 II	Compliance	NC, Alt, UPL	--	--	--	--
MW3	10/17/2007	October 2007	Compliance	NC, Alt, UPL	--	--	--	--

Table 4-5. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Zinc Dissolved
MW3	11/12/2007	November 2007	Compliance	NC, Alt, UPL	--	--	--	--
MW3	12/15/2007	December 2007 I	Compliance	NC, Alt, UPL	--	NC, Alt, UPL	--	--
MW3	1/8/2008	January 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW3	1/8/2008	January 2008	Field Replicate	NC, Alt, UPL	--	--	--	--
MW3	2/13/2008	February 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW3	3/14/2008	March 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW3	4/14/2008	April 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW3	5/7/2008	May 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW3	6/27/2008	June 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW3	7/24/2008	July 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW3	8/19/2008	August 2008	Compliance	NC, Alt, UPL	NC, Alt, UPL	--	--	--
MW3	9/9/2008	September 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW3	10/15/2008	October 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW3	3/8/2009	March 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	5/13/2009	May 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	7/24/2009	July 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	9/12/2009	September 2009 II	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	10/17/2009	October 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW3	1/15/2010	January 2010	Compliance	NC, Alt, UPL	--	--	--	NC, Alt, UPL
MW3	4/22/2010	April 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW3	8/10/2010	August 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW3	10/19/2010	October 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW3	1/20/2011	January 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW3	4/20/2011	April 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW3	7/24/2011	July 2011 II	Compliance	NC, Alt, UPL	--	--	--	--
MW3	12/20/2011	December 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW4	2/27/2007	February 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	--	--	NC, Alt, UPL
MW4	2/27/2007	February 2007	Field Replicate	NC, Alt, UPL	NC, Alt, UPL	--	--	--
MW4	4/10/2007	April 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	NC, Alt, UPL
MW4	5/14/2007	May 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW4	6/4/2007	June 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--

Table 4-5. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Zinc Dissolved
MW4	7/2/2007	July 2007 I	Reference	--	--	--	--	--
MW4	7/23/2007	July 2007 II	Reference	NC, Alt, UPL	NC, Alt, UPL	--	--	--
MW4	8/14/2007	August 2007 I	Reference	--	--	--	--	--
MW4	8/27/2007	August 2007 II	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW4	9/10/2007	September 2007 I	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW4	9/30/2007	September 2007 II	Compliance	NC, Alt, UPL	NC, Alt, UPL	--	--	--
MW4	10/16/2007	October 2007	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW4	11/12/2007	November 2007	Compliance	NC, Alt, UPL	--	--	--	--
MW4	11/12/2007	November 2007	Field Replicate	NC, Alt, UPL	--	--	--	--
MW4	12/15/2007	December 2007 I	Compliance	NC, Alt, UPL	--	NC, Alt, UPL	--	--
MW4	1/8/2008	January 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW4	2/13/2008	February 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW4	3/15/2008	March 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW4	4/14/2008	April 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW4	5/8/2008	May 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW4	5/8/2008	May 2008	Field Replicate	NC, Alt, UPL	--	--	--	--
MW4	6/27/2008	June 2008	Compliance	NC, Alt, UPL	NC, Alt, UPL	--	--	--
MW4	7/24/2008	July 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW4	8/19/2008	August 2008	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW4	8/19/2008	August 2008	Field Replicate	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW4	9/9/2008	September 2008	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW4	10/15/2008	October 2008	Compliance	NC, Alt, UPL	--	--	--	--
MW4	3/8/2009	March 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL	--	--	NC, Alt, UPL
MW4	5/13/2009	May 2009	Compliance	NC, Alt, UPL	--	--	--	NC, Alt, UPL
MW4	5/13/2009	May 2009	Field Replicate	NC, Alt, UPL	--	--	--	--
MW4	7/23/2009	July 2009	Compliance	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW4	7/23/2009	July 2009	Field Replicate	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW4	9/13/2009	September 2009 II	Compliance	NC, Alt, UPL	NC, Alt, UPL	--	--	--
MW4	9/13/2009	September 2009 II	Field Replicate	NC, Alt, UPL	--	--	--	--
MW4	10/17/2009	October 2009	Compliance	NC, Alt, UPL	--	--	--	--
MW4	1/15/2010	January 2010	Compliance	NC, Alt, UPL	--	--	--	--

Table 4-5. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Zinc Dissolved
MW4	1/15/2010	January 2010	Field Replicate	NC, Alt, UPL	--	--	--	--
MW4	4/22/2010	April 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW4	4/22/2010	April 2010	Field Replicate	NC, Alt, UPL	--	--	--	--
MW4	8/10/2010	August 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW4	10/19/2010	October 2010	Compliance	NC, Alt, UPL	--	--	--	--
MW4	10/19/2010	October 2010	Field Replicate	NC, Alt, UPL	--	--	--	--
MW4	1/20/2011	January 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW4	4/20/2011	April 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW4	4/20/2011	April 2011	Field Replicate	NC, Alt, UPL	--	--	--	--
MW4	7/24/2011	July 2011 II	Compliance	--	--	--	--	--
MW4	7/24/2011	July 2011 II	Field Replicate	--	--	--	--	--
MW4	12/20/2011	December 2011	Compliance	NC, Alt, UPL	--	--	--	--
MW4	12/20/2011	December 2011	Field Replicate	NC, Alt, UPL	--	--	--	--
MW7	2/28/2007	February 2007	Reference	NC, Alt, UPL	NC, Alt, UPL	NC, Alt, UPL	--	--
MW7	4/10/2007	April 2007	Reference	NC, Alt, UPL	--	--	--	--
MW7	4/10/2007	April 2007	Field Replicate	NC, Alt, UPL	--	--	--	--
MW7	5/15/2007	May 2007	Reference	NC, Alt, UPL	--	NC, Alt, UPL	--	--
MW7	6/5/2007	June 2007	Reference	NC, Alt, UPL	--	--	--	--
MW7	7/1/2007	July 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW7	7/23/2007	July 2007 II	Reference	NC, Alt, UPL	--	--	--	--
MW7	8/13/2007	August 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW7	8/28/2007	August 2007 II	Reference	NC, Alt, UPL	--	--	--	--
MW7	9/10/2007	September 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW7	9/10/2007	September 2007 I	Field Replicate	NC, Alt, UPL	--	--	--	--
MW7	9/30/2007	September 2007 II	Reference	NC, Alt, UPL	--	--	--	--
MW7	10/16/2007	October 2007	Reference	NC, Alt, UPL	--	--	--	--
MW7	11/13/2007	November 2007	Reference	NC, Alt, UPL	--	--	--	--
MW7	12/15/2007	December 2007 I	Reference	NC, Alt, UPL	--	--	--	--
MW7	1/9/2008	January 2008	Reference	NC, Alt, UPL	--	--	--	--
MW7	2/14/2008	February 2008	Reference	NC, Alt, UPL	--	--	--	--
MW7	3/13/2008	March 2008	Reference	NC, Alt, UPL	--	--	--	--

Table 4-5. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Zinc Dissolved
MW7	4/13/2008	April 2008	Reference	NC, Alt, UPL	--	--	--	--
MW7	4/13/2008	April 2008	Field Replicate	NC, Alt, UPL	--	--	--	--
MW7	5/6/2008	May 2008	Reference	NC, Alt, UPL	--	--	--	--
MW7	6/26/2008	June 2008	Reference	NC, Alt, UPL	--	--	--	--
MW7	6/26/2008	June 2008	Field Replicate	NC, Alt, UPL	--	--	--	--
MW7	7/25/2008	July 2008	Reference	NC, Alt, UPL	--	--	--	--
MW8	7/2/2007	July 2007 I	Reference - Information only	NC, Alt, UPL	--	--	--	--
MW8	7/23/2007	July 2007 II	Reference - Information only	--	--	--	--	--
MW8	7/23/2007	July 2007 II	Field Replicate	--	--	--	--	--
MW8	8/13/2007	August 2007 I	Reference - Information only	--	--	--	--	--
MW8	8/28/2007	August 2007 II	Reference - Information only	--	--	--	--	--
MW8	8/28/2007	August 2007 II	Field Replicate	--	--	--	--	--
MW8	9/10/2007	September 2007 I	Reference - Information only	--	--	--	--	--
MW8	9/30/2007	September 2007 II	Reference - Information only	--	--	--	--	--
MW8	9/30/2007	September 2007 II	Field Replicate	--	--	--	--	--
MW8	10/16/2007	October 2007	Reference - Information only	--	--	--	--	--
MW8	11/12/2007	November 2007	Reference - Information only	--	--	--	--	--
MW8	12/14/2007	December 2007 I	Reference - Information only	--	--	--	--	--
MW8	1/8/2008	January 2008	Reference - Information only	--	--	--	--	--
MW8	2/13/2008	February 2008	Reference - Information only	--	--	--	--	--
MW8	2/13/2008	February 2008	Field Replicate	--	--	--	--	--
MW8	3/13/2008	March 2008	Reference - Information only	--	--	--	--	--
MW8	4/14/2008	April 2008	Reference - Information only	--	--	--	--	--
MW8	5/6/2008	May 2008	Reference - Information only	--	--	--	--	--
MW8	6/26/2008	June 2008	Reference - Information only	--	--	--	--	--
MW9	7/2/2007	July 2007 I	Reference - Information only	--	--	--	--	--
MW9	7/2/2007	July 2007 I	Field Replicate	--	--	--	--	--
MW9	7/23/2007	July 2007 II	Reference - Information only	NC, Alt, UPL	--	--	--	--
MW9	8/13/2007	August 2007 I	Reference - Information only	NC, Alt, UPL	--	--	--	--
MW9	8/28/2007	August 2007 II	Reference - Information only	NC, Alt, UPL	--	--	--	--
MW9	9/10/2007	September 2007 I	Reference - Information only	--	--	--	--	--

Table 4-5. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Zinc Dissolved
MW9	9/30/2007	September 2007 II	Reference - Information only	--	--	--	--	--
MW9	10/16/2007	October 2007	Reference - Information only	NC, Alt, UPL	--	--	--	--
MW9	11/12/2007	November 2007	Reference - Information only	--	--	--	--	--
MW9	12/14/2007	December 2007 I	Reference - Information only	NC, Alt, UPL	--	--	--	--
MW9	1/8/2008	January 2008	Reference - Information only	NC, Alt, UPL	--	--	--	--
MW9	2/13/2008	February 2008	Reference - Information only	--	--	--	--	--
MW9	3/13/2008	March 2008	Reference - Information only	NC, Alt, UPL	--	--	--	--
MW9	3/13/2008	March 2008	Field Replicate	--	--	--	--	--
MW9	4/14/2008	April 2008	Reference - Information only	--	--	--	--	--
MW9	5/6/2008	May 2008	Reference - Information only	--	--	--	--	--
MW9	6/26/2008	June 2008	Reference - Information only	--	--	--	--	--
EFF1	11/13/2007	November 2007	Information only	NC, Alt, UPL	--	--	--	--
EFF1	12/16/2007	December 2007 I	Information only	--	--	--	--	--
EFF1	1/9/2008	January 2008	Information only	--	--	--	--	--
EFF1	2/13/2008	February 2008	Information only	NC, Alt, UPL	--	--	--	--
EFF1	3/17/2008	March 2008	Information only	NC, Alt, UPL	--	--	--	--
EFF1	4/15/2008	April 2008	Information only	NC, Alt, UPL	--	--	--	--
EFF1	4/15/2008	April 2008	Field Replicate	NC, Alt, UPL	--	--	--	--
EFF1	5/8/2008	May 2008	Information only	NC, Alt, UPL	--	--	--	--
EFF1	6/27/2008	June 2008	Information only	NC, Alt, UPL	--	--	--	--
EFF1	7/25/2008	July 2008	Information only	NC, Alt, UPL	--	--	--	--
EFF1	8/19/2008	August 2008	Information only	NC, Alt, UPL	--	--	--	--
EFF1	9/9/2008	September 2008	Information only	--	--	--	--	--
EFF1	9/9/2008	September 2008	Field Replicate	--	--	--	--	--
EFF1	10/15/2008	October 2008	Information only	NC, Alt, UPL	--	--	--	--
EFF1	3/9/2009	March 2009	Information only	--	--	--	--	NC, Alt, UPL
EFF1	5/14/2009	May 2009	Information only	--	--	--	--	NC, Alt, UPL
EFF1	7/23/2009	July 2009	Information only	--	--	--	--	NC, Alt, UPL
EFF1	10/18/2009	October 2009	Information only	--	--	--	--	--
EFF1	1/16/2010	January 2010	Information only	NC, Alt, UPL	--	--	--	--
EFF1	4/21/2010	April 2010	Information only	--	--	--	--	--

Table 4-5. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Zinc Dissolved
EFF1	7/14/2010	July 2010	Information only	NC, Alt, UPL	--	--	--	--
EFF1	7/14/2010	July 2010	Field Replicate	NC, Alt, UPL	--	--	--	--
EFF1	8/11/2010	August 2010	Information only	--	--	--	--	--
EFF1	10/18/2010	October 2010	Information only	NC, Alt, UPL	--	--	--	--
EFF1	1/19/2011	January 2011	Information only	NC, Alt, UPL	--	--	--	--
EFF1	4/21/2011	April 2011	Information only	--	--	--	--	--
EFF1	7/24/2011	July 2011 II	Information only	NC, Alt, UPL	--	--	--	--
EFF1	7/24/2011	July 2011 II	Field Replicate	NC, Alt, UPL	--	--	--	--
EFF1	9/7/2011	September 2011	Information only	NC, Alt, UPL	NC, Alt, UPL	--	--	--
EFF1	9/7/2011	September 2011	Field Replicate	NC, Alt, UPL	NC, Alt, UPL	--	--	--
EFF1	10/11/2011	October 2011	Information only	--	--	--	--	--
EFF1	12/21/2011	December 2011	Information only	--	--	--	--	--

Notes:

No groundwater compliance samples exceeded ADEC criteria for ammonia or the following trace elements: As, Cd, Ni, Se, Ag.

-- = sample did not exceed ADEC criteria
< 5 detected = Fewer than five reference values detected; cannot run statistical screening tests.
ADEC = Alaska Department of Environmental Conservation
Alt = Integral Alternative Population Approach
NC = ADEC Natural Conditions Tool
UPL = upper prediction limit screen

Table 4-6. Results of Natural Condition Criteria Comparisons for Surface Water

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	(High ND Excluded)[b] (µg/L)	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
Aluminum	Total	55.1	All detected	October 1996 II	Pre-site activity	--	ND	--	ND	--	--	--
				April 2005 II		--	NA	--	NA	--	--	--
				February 2006 II		NA	NA	NA	NA	--	--	--
				May 2006 II		NA	NA	NA	NA	--	--	--
				August 2006 II		NA	NA	NA	NA	NA	NA	--
				October 2006		NA	NA	NA	NA	NA	NA	--
				December 2006		NA	NA	NA	NA	NA	NA	--
				February 2007		NA	NA	NA	NA	NA	NA	NA
				April 2007		NA	NA	NA	NA	NA	NA	NA
				May 2007		NA	NA	NA	NA	NA	NA	NA
				June 2007		NA	NA	NA	NA	NA	NA	NA
				July 2007 I		NA	NA	NA	NA	NA	NA	NA
				July 2007 II		NA	NA	NA	NA	NA	NA	NA
				August 2007 I		NA	NA	NA	NA	NA	NA	NA
				August 2007 II		NA	NA	NA	NA	NA	NA	NA
				September 2007 I		NA	NA	NA	NA	NA	NA	NA
Aluminum	Total	55.1	All detected	September 2007 II	Ongoing site activity	NA	NA	NA	NA	NA	NA	NA
				October 2007		NA	NA	NA	NA	NA	NA	NA
				November 2007		NA	NA	NA	NA	NA	NA	NA
				December 2007 I		NA	NA	NA	NA	NA	NA	NA
				January 2008		NA	NA	NA	NA	NA	NA	NA
				February 2008		NA	NA	NA	NA	NA	NA	NA
				March 2008		NA	NA	NA	NA	NA	NA	NA
				April 2008		NA	NA	NA	NA	NA	NA	NA
				May 2008		NA	NA	NA	NA	NA	NA	NA
				June 2008		NA	NA	NA	NA	NA	NA	NA
				July 2008		NA	NA	NA	NA	NA	NA	NA
				October 2008		--	NA	--	NA	--	NA	NA
				March 2009		--	NA	--	NA	--	NA	NA
				May 2009		--	NA	--	NA	--	NA	NA
				July 2009		--	NA	--	NA	--	NA	NA
				September 2009 I		--	NA	--	NA	--	NA	--
				September 2009 II		--	NA	--	NA	--	NA	--
				October 2009		--	NA	--	NA	--	NA	NA
				January 2010		--	NA	--	NA	--	NA	NA
				April 2010		--	NA	--	NA	--	NA	NA
				August 2010		--	NA	--	NA	--	NA	NA
				October 2010		--	NA	--	NA	--	NA	NA
				January 2011		--	NA	--	NA	--	NA	NA
				April 2011		--	NA	--	NA	--	NA	NA
				July 2011 II		--	NA	--	NA	--	NA	NA
				December 2011		--	NA	--	NA	--	NA	NA

Table 4-6. Results of Natural Condition Criteria Comparisons for Surface Water

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	(High ND Excluded)[b] (µg/L)	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
Aluminum	Dissolved	42.1	All detected	October 1996 II	Pre-site activity	--	ND	--	ND	--	--	--
				April 2005 II		--	NA	--	NA	--	--	--
				February 2006 II		NA	NA	NA	NA	--	--	--
				May 2006 II		NA	NA	NA	NA	--	--	--
				August 2006 II		NA	NA	NA	NA	NA	NA	--
				October 2006		NA	NA	NA	NA	NA	NA	--
				December 2006		NA	NA	NA	NA	NA	NA	--
				February 2007		NA	NA	NA	NA	NA	NA	NA
				April 2007		NA	NA	NA	NA	NA	NA	NA
				May 2007		NA	NA	NA	NA	NA	NA	NA
				June 2007		NA	NA	NA	NA	NA	NA	NA
				July 2007 I		NA	NA	NA	NA	NA	NA	NA
				July 2007 II		NA	NA	NA	NA	NA	NA	NA
				August 2007 I		NA	NA	NA	NA	NA	NA	NA
				August 2007 II		NA	NA	NA	NA	NA	NA	NA
				September 2007 I		NA	NA	NA	NA	NA	NA	NA
Aluminum	Dissolved	42.1	All detected	September 2007 II	Ongoing site activity	NA	NA	NA	NA	NA	NA	NA
				October 2007		NA	NA	NA	NA	NA	NA	NA
				November 2007		NA	NA	NA	NA	NA	NA	NA
				December 2007 I		NA	NA	NA	NA	NA	NA	NA
				January 2008		NA	NA	NA	NA	NA	NA	NA
				February 2008		NA	NA	NA	NA	NA	NA	NA
				March 2008		NA	NA	NA	NA	NA	NA	NA
				April 2008		NA	NA	NA	NA	NA	NA	NA
				May 2008		NA	NA	NA	NA	NA	NA	NA
				June 2008		NA	NA	NA	NA	NA	NA	NA
				July 2008		NA	NA	NA	NA	NA	NA	NA
				October 2008		--	NA	--	NA	--	NA	NA
				March 2009		--	NA	--	NA	--	NA	NA
				May 2009		--	NA	--	NA	--	NA	NA
				July 2009		--	NA	--	NA	--	NA	NA
				September 2009 I		--	NA	--	NA	--	NA	--
				September 2009 II		--	NA	--	NA	--	NA	--
				October 2009		--	NA	--	NA	--	NA	NA
				January 2010		--	NA	--	NA	--	NA	NA
				April 2010		--	NA	--	NA	--	NA	NA
				August 2010		--	NA	--	NA	--	NA	NA
				October 2010		--	NA	--	NA	--	NA	NA
				January 2011		--	NA	--	NA	--	NA	NA
				April 2011		--	NA	--	NA	--	NA	NA
				July 2011 II		--	NA	--	NA	--	NA	NA
				December 2011		--	NA	--	NA	--	NA	NA

Table 4-6. Results of Natural Condition Criteria Comparisons for Surface Water

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	(High ND Excluded)[b] (µg/L)	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
Copper	Dissolved	f_{nd} > 20%	0.851	October 1996 II	Pre-site activity	--	ND	--	ND	--	--	--
				September 1997		--	ND	--	ND	--	--	--
				April 2005 II		--	ND	--	**Fail**	--	--	--
				February 2006 II		ND	ND	ND	ND	--	--	--
				May 2006 II		ND	ND	ND	ND	--	--	--
				August 2006 II		**Fail**	**Fail**	**Fail**	**Fail**	ND	**Fail**	--
				October 2006		ND	ND	ND	ND	**Fail**	**Fail**	--
				December 2006		ND	ND	ND	ND	ND	ND	--
				February 2007		ND	ND	ND	ND	ND	ND	ND
				April 2007		Pass	Pass	Pass	Pass	Pass	Pass	**Fail**
				May 2007		Pass	**Fail**	Pass	Pass	ND	**Fail**	**Fail**
				June 2007		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
				July 2007 I		**Fail**	**Fail**	**Fail**	**Fail**	Pass	Pass	**Fail**
				July 2007 II		Pass	Pass	Pass	Pass	ND	**Fail**	**Fail**
				August 2007 I		Pass	Pass	Pass	Pass	Pass	**Fail**	Pass
				August 2007 II		**Fail**	**Fail**	Pass	Pass	Pass	**Fail**	**Fail**
				September 2007 I		Pass	Pass	Pass	Pass	Pass	**Fail**	**Fail**
Copper	Dissolved	f_{nd} > 20%	0.851	September 2007 II	Ongoing site activity	**Fail**	**Fail**	**Fail**	**Fail**	Pass	**Fail**	**Fail**
				October 2007		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
				November 2007		Pass	**Fail**	Pass	Pass	Pass	Pass	Pass
				December 2007 I		**Fail**	**Fail**	**Fail**	Pass	Pass	**Fail**	**Fail**
				January 2008		Pass	Pass	ND	Pass	Pass	**Fail**	Pass
				February 2008		Pass	**Fail**	Pass	Pass	Pass	Pass	**Fail**
				March 2008		Pass	Pass	ND	ND	ND	**Fail**	Pass
				April 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
				May 2008		**Fail**	Pass	**Fail**	**Fail**	ND	**Fail**	**Fail**
				June 2008		ND	ND	ND	ND	ND	ND	ND
				July 2008		Pass	**Fail**	Pass	Pass	Pass	**Fail**	**Fail**
				October 2008		--	ND	--	ND	--	ND	ND
				March 2009		--	ND	--	ND	--	ND	ND
				May 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
				July 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
				September 2009 I		--	**Fail**	--	**Fail**	--	**Fail**	--
				September 2009 II		--	**Fail**	--	Pass	--	**Fail**	--
				October 2009		--	Pass	--	**Fail**	--	**Fail**	**Fail**
				January 2010		--	ND	--	ND	--	ND	ND
				April 2010		--	Pass	--	Pass	--	Pass	**Fail**
				August 2010		--	**Fail**	--	Pass	--	Pass	**Fail**
				October 2010		--	Pass	--	Pass	--	Pass	**Fail**
				January 2011		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**

Table 4-6. Results of Natural Condition Criteria Comparisons for Surface Water

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	(High ND Excluded)[b] (µg/L)	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
				April 2011		--	ND	--	ND	--	ND	ND
				July 2011 II		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
				December 2011		--	Pass	--	Pass	--	Pass	Pass

Notes:

Fail = indicates that a detected sample concentration exceeds the Natural Conditions Tool calculated criterion.
Pass = indicates that a detected sample concentration is below or equal to the Natural Conditions Tool calculated criterion.
Pre-site activity is prior to September 21, 2007. Ongoing site activity is from September 21, 2007, through the present.

-- = sample not collected
NA = The Natural Conditions Tool calculated criteria of 55.4 µg/L (total) and 42.5 µg/L (dissolved) are less than the Alaska Department of Environmental Conservation (ADEC) chronic aquatic life criterion of 87 µg/L; therefore, the Natural Conditions criteria do not apply.
NC = natural condition
ND = Concentration below laboratory detection limit. Nondetect values were not screened against Natural Conditions Tool calculated criteria.
f_{nd} > 20% = Frequency of ND data greater than 20%; fails minimum data requirements of Natural Conditions Tool.

[a] All ND included indicates that all nondetect data values were included in the Natural Conditions Tool analysis at the full detection limit and were flagged as nondetect values.

[b] High ND excluded indicates that, prior to analysis with the Natural Conditions Tool, high nondetect values were screened out of the reference data set. High nondetects were defined as any nondetect value that was higher than the lowest detected value.

Table 4-7. Results of Natural Condition Criteria Comparisons for Groundwater

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (High ND Excluded)[b] (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below Infiltration System)
Aluminum	Total	548	NA	February 2007	Pre-site activity	**Fail**	**Fail**	--	**Fail**	**Fail**
				April 2007		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
				May 2007		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
				June 2007		Pass	Pass	**Fail**	**Fail**	**Fail**
				July 2007 I		Pass	Pass	Pass	**Fail**	--
				July 2007 II		Pass	Pass	**Fail**	**Fail**	**Fail**
				August 2007 I		Pass	Pass	**Fail**	**Fail**	--
				August 2007 II		Pass	Pass	**Fail**	**Fail**	**Fail**
				September 2007 I		**Fail**	Pass	**Fail**	**Fail**	**Fail**
Aluminum	Total	548	NA	September 2007 II	Ongoing site activity	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
				October 2007		Pass	Pass	**Fail**	**Fail**	**Fail**
				November 2007		Pass	Pass	**Fail**	**Fail**	**Fail**
				December 2007 I		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
				January 2008		**Fail**	Pass	**Fail**	Pass	Pass
				February 2008		Pass	**Fail**	**Fail**	**Fail**	Pass
				March 2008		Pass	Pass	**Fail**	Pass	Pass
				April 2008		Pass	Pass	**Fail**	Pass	Pass
				May 2008		Pass	Pass	**Fail**	Pass	Pass
				June 2008		**Fail**	Pass	**Fail**	**Fail**	**Fail**
				July 2008		Pass	Pass	**Fail**	**Fail**	Pass
				August 2008		--	Pass	**Fail**	**Fail**	**Fail**
				September 2008		--	Pass	**Fail**	**Fail**	Pass
				October 2008		--	Pass	**Fail**	**Fail**	Pass
				March 2009		--	Pass	**Fail**	Pass	Pass
				May 2009		--	**Fail**	**Fail**	**Fail**	Pass
				July 2009		--	Pass	**Fail**	**Fail**	**Fail**
				September 2009 II		--	--	**Fail**	**Fail**	Pass
				October 2009		--	Pass	**Fail**	Pass	Pass
				January 2010		--	Pass	**Fail**	Pass	Pass
				April 2010		--	Pass	**Fail**	Pass	Pass
				August 2010		--	Pass	**Fail**	**Fail**	Pass
				October 2010		--	Pass	Pass	Pass	Pass
				January 2011		--	Pass	Pass	Pass	Pass
				April 2011		--	Pass	Pass	Pass	Pass
				July 2011 II		--	Pass	Pass	**Fail**	Pass
				December 2011		--	Pass	Pass	**Fail**	**Fail**

Table 4-7. Results of Natural Condition Criteria Comparisons for Groundwater

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (High ND Excluded)[b] (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below Infiltration System)
Aluminum	Dissolved	217	NA	February 2007	Pre-site activity	**Fail**	Pass	--	**Fail**	**Fail**
				April 2007		Pass	Pass	**Fail**	**Fail**	**Fail**
				May 2007		**Fail**	Pass	**Fail**	**Fail**	**Fail**
				June 2007		**Fail**	Pass	**Fail**	**Fail**	**Fail**
				July 2007 I		Pass	Pass	Pass	**Fail**	--
				July 2007 II		**Fail**	Pass	**Fail**	**Fail**	**Fail**
				August 2007 I		**Fail**	Pass	**Fail**	**Fail**	--
				August 2007 II		Pass	**Fail**	**Fail**	**Fail**	**Fail**
				September 2007 I		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
Aluminum	Dissolved	217	NA	September 2007 II	Ongoing site activity	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
				October 2007		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
				November 2007		Pass	**Fail**	**Fail**	**Fail**	**Fail**
				December 2007 I		**Fail**	Pass	**Fail**	**Fail**	**Fail**
				January 2008		Pass	ND	**Fail**	Pass	Pass
				February 2008		Pass	Pass	**Fail**	**Fail**	Pass
				March 2008		Pass	Pass	**Fail**	**Fail**	Pass
				April 2008		Pass	Pass	**Fail**	**Fail**	Pass
				May 2008		Pass	Pass	**Fail**	**Fail**	Pass
				June 2008		Pass	**Fail**	**Fail**	**Fail**	**Fail**
				July 2008		Pass	**Fail**	**Fail**	**Fail**	**Fail**
				August 2008		--	**Fail**	**Fail**	**Fail**	**Fail**
				September 2008		--	**Fail**	**Fail**	**Fail**	**Fail**
				October 2008		--	Pass	**Fail**	**Fail**	**Fail**
				March 2009		--	Pass	**Fail**	**Fail**	Pass
				May 2009		--	Pass	**Fail**	**Fail**	Pass
				July 2009		--	**Fail**	**Fail**	**Fail**	**Fail**
				September 2009 II		--	--	**Fail**	**Fail**	**Fail**
				October 2009		--	Pass	**Fail**	**Fail**	**Fail**
				January 2010		--	Pass	**Fail**	**Fail**	**Fail**
				April 2010		--	Pass	Pass	Pass	Pass
				August 2010		--	Pass	**Fail**	**Fail**	Pass
				October 2010		--	Pass	**Fail**	**Fail**	Pass
				January 2011		--	Pass	Pass	**Fail**	Pass
				April 2011		--	Pass	Pass	**Fail**	Pass
				July 2011 II		--	Pass	**Fail**	**Fail**	Pass
				December 2011		--	Pass	Pass	**Fail**	Pass

Table 4-7. Results of Natural Condition Criteria Comparisons for Groundwater

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (High ND Excluded)[b] (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below Infiltration System)
Copper	Dissolved	NC tool failure	1.65	February 2007	Pre-site activity	**Fail**	**Fail**	--	**Fail**	**Fail**
				April 2007		Pass	Pass	Pass	**Fail**	**Fail**
				May 2007		**Fail**	Pass	Pass	**Fail**	**Fail**
				June 2007		Pass	Pass	**Fail**	**Fail**	**Fail**
				July 2007 I		Pass	Pass	Pass	Pass	--
				July 2007 II		Pass	Pass	**Fail**	**Fail**	**Fail**
				August 2007 I		Pass	Pass	Pass	Pass	--
				August 2007 II		Pass	Pass	**Fail**	**Fail**	**Fail**
				September 2007 I		Pass	**Fail**	**Fail**	**Fail**	**Fail**
Copper	Dissolved	NC tool failure	1.65	September 2007 II	Ongoing site activity	Pass	**Fail**	**Fail**	**Fail**	**Fail**
				October 2007		Pass	**Fail**	**Fail**	**Fail**	**Fail**
				November 2007		Pass	Pass	**Fail**	Pass	**Fail**
				December 2007 I		Pass	Pass	**Fail**	Pass	Pass
				January 2008		Pass	Pass	Pass	Pass	Pass
				February 2008		Pass	Pass	Pass	Pass	Pass
				March 2008		Pass	Pass	Pass	Pass	Pass
				April 2008		Pass	Pass	Pass	Pass	Pass
				May 2008		ND	Pass	Pass	ND	Pass
				June 2008		ND	ND	ND	ND	**Fail**
				July 2008		Pass	Pass	Pass	**Fail**	Pass
				August 2008		--	**Fail**	ND	**Fail**	**Fail**
				September 2008		--	Pass	Pass	**Fail**	**Fail**
				October 2008		--	ND	ND	**Fail**	**Fail**
				March 2009		--	ND	ND	Pass	Pass
				May 2009		--	Pass	ND	Pass	Pass
				July 2009		--	**Fail**	Pass	**Fail**	**Fail**
				September 2009 II		--	--	Pass	Pass	Pass
				October 2009		--	Pass	Pass	Pass	Pass
				January 2010		--	ND	ND	ND	ND
				April 2010		--	Pass	Pass	Pass	Pass
				August 2010		--	Pass	Pass	Pass	Pass
				October 2010		--	**Fail**	Pass	Pass	Pass
				January 2011		--	Pass	Pass	Pass	Pass
				April 2011		--	ND	ND	ND	ND
				July 2011 II		--	Pass	Pass	Pass	**Fail**
				December 2011		--	Pass	Pass	Pass	Pass

Table 4-7. Results of Natural Condition Criteria Comparisons for Groundwater

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (High ND Excluded)[b] (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below Infiltration System)
Lead	Dissolved	NC tool failure	0.314	February 2007	Pre-site activity	**Fail**	**Fail**	--	ND	ND
				April 2007		Pass	Pass	Pass	**Fail**	**Fail**
				May 2007		**Fail**	Pass	Pass	**Fail**	**Fail**
				June 2007		Pass	Pass	Pass	**Fail**	Pass
				July 2007 I		Pass	Pass	ND	**Fail**	--
				July 2007 II		Pass	**Fail**	Pass	**Fail**	Pass
				August 2007 I		Pass	Pass	Pass	**Fail**	--
				August 2007 II		Pass	**Fail**	**Fail**	**Fail**	Pass
				September 2007 I		Pass	**Fail**	**Fail**	**Fail**	**Fail**
Lead	Dissolved	NC tool failure	0.314	September 2007 II	Ongoing site activity	Pass	**Fail**	**Fail**	**Fail**	**Fail**
				October 2007		Pass	**Fail**	**Fail**	**Fail**	**Fail**
				November 2007		Pass	**Fail**	**Fail**	**Fail**	**Fail**
				December 2007 I		**Fail**	**Fail**	**Fail**	Pass	Pass
				January 2008		Pass	Pass	Pass	Pass	Pass
				February 2008		Pass	Pass	Pass	Pass	Pass
				March 2008		Pass	Pass	Pass	Pass	Pass
				April 2008		Pass	Pass	Pass	Pass	Pass
				May 2008		Pass	Pass	**Fail**	ND	ND
				June 2008		Pass	**Fail**	Pass	Pass	Pass
				July 2008		Pass	**Fail**	Pass	**Fail**	Pass
				August 2008		--	**Fail**	Pass	**Fail**	Pass
				September 2008		--	**Fail**	Pass	**Fail**	**Fail**
				October 2008		--	**Fail**	Pass	**Fail**	**Fail**
				March 2009		--	Pass	Pass	Pass	Pass
				May 2009		--	**Fail**	ND	Pass	ND
				July 2009		--	**Fail**	Pass	Pass	Pass
				September 2009 II		--	--	Pass	Pass	Pass
				October 2009		--	Pass	Pass	Pass	Pass
				January 2010		--	**Fail**	ND	ND	ND
				April 2010		--	Pass	Pass	ND	Pass
				August 2010		--	**Fail**	Pass	Pass	Pass
				October 2010		--	**Fail**	Pass	Pass	Pass
				January 2011		--	Pass	Pass	Pass	ND
				April 2011		--	Pass	Pass	ND	ND
				July 2011 II		--	**Fail**	Pass	Pass	Pass
				December 2011		--	Pass	Pass	Pass	Pass

Table 4-7. Results of Natural Condition Criteria Comparisons for Groundwater

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (High ND Excluded)[b] (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below Infiltration System)
Zinc	Dissolved	NC tool failure	4.93	February 2007	Pre-site activity	**Fail**	ND	--	**Fail**	**Fail**
				April 2007		**Fail**	Pass	Pass	Pass	**Fail**
				May 2007		**Fail**	Pass	Pass	**Fail**	**Fail**
				June 2007		Pass	ND	Pass	**Fail**	**Fail**
				July 2007 I		Pass	ND	**Fail**	**Fail**	--
				July 2007 II		ND	ND	ND	ND	ND
				August 2007 I		ND	ND	ND	ND	--
				August 2007 II		ND	ND	ND	ND	ND
				September 2007 I		ND	ND	ND	ND	ND
Zinc	Dissolved	NC tool failure	4.93	September 2007 II	Ongoing site activity	ND	ND	ND	ND	ND
				October 2007		ND	ND	**Fail**	**Fail**	**Fail**
				November 2007		ND	ND	ND	ND	ND
				December 2007 I		**Fail**	ND	**Fail**	ND	ND
				January 2008		ND	ND	ND	ND	ND
				February 2008		ND	ND	ND	ND	ND
				March 2008		ND	ND	ND	ND	ND
				April 2008		ND	ND	ND	ND	ND
				May 2008		ND	ND	ND	ND	**Fail**
				June 2008		ND	ND	ND	ND	ND
				July 2008		ND	ND	ND	ND	ND
				August 2008		--	ND	ND	ND	ND
				September 2008		--	ND	ND	ND	**Fail**
				October 2008		--	ND	ND	ND	ND
				March 2009		--	ND	ND	ND	**Fail**
				May 2009		--	ND	ND	ND	**Fail**
				July 2009		--	ND	ND	ND	**Fail**
				September 2009 II		--	--	ND	ND	ND
				October 2009		--	ND	ND	ND	ND
				January 2010		--	ND	ND	**Fail**	ND
				April 2010		--	ND	ND	ND	ND
				August 2010		--	ND	ND	ND	ND
				October 2010		--	ND	ND	ND	ND

Table 4-7. Results of Natural Condition Criteria Comparisons for Groundwater

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (High ND Excluded)[b] (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below Infiltration System)
				January 2011		--	ND	ND	ND	ND
				April 2011		--	ND	ND	ND	ND
				July 2011 II		--	ND	ND	ND	ND
				December 2011		--	ND	ND	ND	ND

Notes:

Fail = indicates that a detected sample concentration exceeds the Natural Conditions Tool calculated criterion.
Pass = indicates that a detected sample concentration is below or equal to the Natural Conditions Tool calculated criterion.
Pre-site activity is prior to September 21, 2007. Ongoing site activity is from September 21, 2007, through the present.

-- = sample not collected
NA = Not applicable. Natural Condition Tool was successfully run with nondetect values included, therefore it was not necessary to run the tool separately without high nondetect values.
NC = natural condition
ND = Concentration below laboratory detection limit. Nondetect values were not screened against Natural Conditions Tool calculated criteria.
NC tool failure = Fails minimum data requirements of Natural Conditions Tool due to nondetect values which are greater than detected values.
NAG = non-acid-generating
PAG = potentially acid-generating

[a] All ND included indicates that all nondetect data values were included in the Natural Conditions Tool analysis at the full detection limit and were flagged as nondetect values.
[b] High ND excluded indicates that, prior to analysis with the Natural Conditions Tool, high nondetect values were screened out of the reference data set. High nondetects were defined as any nondetect value that was higher than the lowest detected value.

Table 4-8. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Surface Water

Analyte	Fraction	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
Aluminum	Total	October 1996 II	Pre-site activity	--	ND	--	ND	--	--	--
		April 2005 II		--	**Fail**	--	**Fail**	--	--	--
		February 2006 II		Pass	Pass	Pass	Pass	--	--	--
		May 2006 II		**Fail**	**Fail**	**Fail**	**Fail**	--	--	--
		August 2006 II		**Fail**	**Fail**	**Fail**	**Fail**	Pass	**Fail**	--
		October 2006		Pass	Pass	Pass	Pass	**Fail**	**Fail**	--
		December 2006		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	--
		February 2007		Pass	Pass	Pass	Pass	Pass	**Fail**	Pass
		April 2007		Pass	**Fail**	Pass	Pass	Pass	**Fail**	**Fail**
		May 2007		**Fail**	**Fail**	**Fail**	Pass	Pass	**Fail**	Pass
		June 2007		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
		July 2007 I		Pass	**Fail**	Pass	Pass	Pass	Pass	Pass
		July 2007 II		**Fail**	Pass	Pass	Pass	Pass	**Fail**	Pass
		August 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
		August 2007 II		Pass	**Fail**	Pass	Pass	Pass	**Fail**	**Fail**
		September 2007 I		Pass	Pass	Pass	Pass	Pass	**Fail**	Pass
Aluminum	Total	September 2007 II	Ongoing site activity	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
		October 2007		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
		November 2007		Pass	**Fail**	Pass	Pass	Pass	**Fail**	Pass
		December 2007 I		Pass	**Fail**	Pass	**Fail**	**Fail**	**Fail**	**Fail**
		January 2008		Pass	**Fail**	Pass	Pass	Pass	Pass	**Fail**
		February 2008		**Fail**	**Fail**	Pass	**Fail**	**Fail**	**Fail**	**Fail**
		March 2008		**Fail**	**Fail**	Pass	Pass	Pass	**Fail**	Pass
		April 2008		Pass	**Fail**	Pass	Pass	Pass	**Fail**	Pass
		May 2008		Pass	**Fail**	Pass	Pass	Pass	**Fail**	Pass
		June 2008		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
		July 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
		October 2008		--	**Fail**	--	**Fail**	--	**Fail**	Pass
		March 2009		--	Pass	--	Pass	--	Pass	Pass
		May 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		July 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		September 2009 I		--	**Fail**	--	Pass	--	**Fail**	--
		September 2009 II		--	**Fail**	--	Pass	--	**Fail**	--
		October 2009		--	Pass	--	Pass	--	**Fail**	Pass
		January 2010		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		April 2010		--	Pass	--	Pass	--	Pass	**Fail**

Table 4-8. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Surface Water

Analyte	Fraction	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
		August 2010		--	Pass	--	Pass	--	Pass	Pass
		October 2010		--	**Fail**	--	Pass	--	**Fail**	**Fail**
		January 2011		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		April 2011		--	Pass	--	Pass	--	**Fail**	Pass
		July 2011 II		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		December 2011		--	Pass	--	Pass	--	**Fail**	**Fail**
Aluminum	Dissolved	October 1996 II	Pre-site activity	--	ND	--	ND	--	--	--
		April 2005 II		--	Pass	--	Pass	--	--	--
		February 2008		Pass	Pass	--	Pass	--	--	--
		May 2006 II		**Fail**	**Fail**	--	**Fail**	--	--	--
		August 2006 II		**Fail**	Pass	**Fail**	Pass	Pass	Pass	--
		October 2006		Pass	Pass	Pass	Pass	**Fail**	Pass	--
		December 2006		**Fail**	Pass	**Fail**	**Fail**	**Fail**	Pass	--
		February 2007		Pass	Pass	Pass	Pass	Pass	**Fail**	Pass
		April 2007		Pass	**Fail**	**Fail**	**Fail**	Pass	**Fail**	Pass
		May 2007		Pass	Pass	**Fail**	**Fail**	Pass	Pass	Pass
		June 2007		**Fail**	Pass	**Fail**	Pass	**Fail**	Pass	**Fail**
		July 2007 I		Pass	**Fail**	Pass	Pass	Pass	Pass	Pass
		July 2007 II		Pass	Pass	Pass	Pass	Pass	Pass	Pass
		August 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
		August 2007 II		Pass	**Fail**	Pass	Pass	Pass	**Fail**	Pass
		September 2007 I		Pass	Pass	Pass	Pass	Pass	**Fail**	Pass
Aluminum	Dissolved	September 2007 II	Ongoing site activity	**Fail**	Pass	**Fail**	Pass	**Fail**	Pass	**Fail**
		October 2007		**Fail**	Pass	**Fail**	Pass	**Fail**	Pass	**Fail**
		November 2007		Pass	Pass	Pass	Pass	Pass	**Fail**	Pass
		December 2007 I		**Fail**	Pass	**Fail**	**Fail**	**Fail**	Pass	**Fail**
		January 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
		February 2008		**Fail**	Pass	**Fail**	**Fail**	**Fail**	Pass	Pass
		March 2008		**Fail**	Pass	Pass	Pass	Pass	**Fail**	Pass
		April 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
		May 2008		Pass	Pass	Pass	Pass	Pass	**Fail**	Pass
		June 2008		**Fail**	Pass	**Fail**	Pass	**Fail**	Pass	**Fail**
		July 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
		October 2008		--	Pass	--	**Fail**	--	**Fail**	Pass
		March 2009		--	Pass	--	Pass	--	Pass	Pass
		May 2009		--	Pass	--	**Fail**	--	Pass	**Fail**

Table 4-8. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Surface Water

Analyte	Fraction	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
		July 2009		--	Pass	--	Pass	--	Pass	**Fail**
		September 2009 I		--	Pass	--	**Fail**	--	**Fail**	--
		September 2009 II		--	Pass	--	Pass	--	**Fail**	--
		October 2009		--	Pass	--	Pass	--	**Fail**	Pass
		January 2010		--	**Fail**	--	**Fail**	--	**Fail**	Pass
		April 2010		--	Pass	--	Pass	--	Pass	Pass
		August 2010		--	Pass	--	Pass	--	Pass	Pass
		October 2010		--	Pass	--	**Fail**	--	**Fail**	Pass
		January 2011		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		April 2011		--	Pass	--	Pass	--	**Fail**	Pass
		July 2011 II		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		December 2011		--	Pass	--	Pass	--	**Fail**	Pass
Copper	Dissolved	October 1996 II	Pre-site activity	--	ND	--	ND	--	--	--
		September 1997		--	ND	--	ND	--	--	--
		April 2005 II		--	ND	--	**Fail**	--	--	--
		February 2006 II		ND	ND	ND	ND	--	--	--
		May 2006 II		ND	ND	ND	ND	--	--	--
		August 2006 II		**Fail**	**Fail**	**Fail**	**Fail**	ND	**Fail**	--
		October 2006		ND	ND	ND	ND	**Fail**	**Fail**	--
		December 2006		ND	ND	ND	ND	ND	ND	--
		February 2007		ND	ND	ND	ND	ND	ND	ND
		April 2007		Pass	Pass	Pass	Pass	Pass	Pass	**Fail**
		May 2007		Pass	**Fail**	Pass	Pass	ND	**Fail**	**Fail**
		June 2007		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
		July 2007 I		**Fail**	**Fail**	**Fail**	**Fail**	Pass	Pass	**Fail**
		July 2007 II		Pass	Pass	Pass	Pass	ND	**Fail**	**Fail**
		August 2007 I		Pass	Pass	**Fail**	Pass	Pass	**Fail**	Pass
		August 2007 II		**Fail**	**Fail**	Pass	Pass	Pass	**Fail**	**Fail**
		September 2007 I		Pass	Pass	Pass	Pass	Pass	**Fail**	**Fail**
Copper	Dissolved	September 2007 II	Ongoing site activity	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
		October 2007		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
		November 2007		Pass	**Fail**	Pass	Pass	Pass	Pass	Pass
		December 2007 I		**Fail**	**Fail**	**Fail**	Pass	Pass	**Fail**	**Fail**
		January 2008		Pass	Pass	ND	Pass	Pass	**Fail**	Pass
		February 2008		Pass	**Fail**	Pass	Pass	Pass	Pass	**Fail**
		March 2008		Pass	Pass	ND	ND	ND	**Fail**	Pass

Table 4-8. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Surface Water

Analyte	Fraction	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
		April 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
		May 2008		**Fail**	Pass	**Fail**	**Fail**	ND	**Fail**	**Fail**
		June 2008		ND	ND	ND	ND	ND	ND	ND
		July 2008		Pass	**Fail**	Pass	Pass	Pass	**Fail**	**Fail**
		October 2008		--	ND	--	ND	--	ND	ND
		March 2009		--	ND	--	ND	--	ND	ND
		May 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		July 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		September 2009 I		--	**Fail**	--	**Fail**	--	**Fail**	--
		September 2009 II		--	**Fail**	--	**Fail**	--	**Fail**	--
		October 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		January 2010		--	ND	--	ND	--	ND	ND
		April 2010		--	Pass	--	Pass	--	Pass	**Fail**
		August 2010		--	**Fail**	--	Pass	--	Pass	**Fail**
		October 2010		--	**Fail**	--	Pass	--	Pass	**Fail**
		January 2011		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		April 2011		--	ND	--	ND	--	ND	ND
		July 2011 II		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
		December 2011		--	Pass	--	Pass	--	Pass	Pass

Notes:

Fail = indicates that a detected sample concentration exceeds the Alternative Population Approach central tendency screen.

Pass = indicates that a detected sample concentration is equal to or below the Alternative Population Approach central tendency screen.

Pre-site activity is prior to September 21, 2007. Ongoing site activity is from September 21, 2007, through the present.

-- = Sample not collected

ND = Concentration below laboratory detection limit. Nondetect values were not screened with the Alternative Population Approach.

Table 4-9. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Groundwater

Analyte	Fraction	Event	Event Period	MW7 (Offsite reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below treatment ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below infiltration system)
Aluminum	Total	February 2007	Pre-site activity	**Fail**	Pass	--	Pass	**Fail**
		April 2007		Pass	Pass	**Fail**	Pass	**Fail**
		May 2007		Pass	Pass	**Fail**	Pass	**Fail**
		June 2007		Pass	Pass	**Fail**	Pass	Pass
		July 2007 I		Pass	Pass	Pass	**Fail**	--
		July 2007 II		Pass	Pass	**Fail**	**Fail**	Pass
		August 2007 I		Pass	ND	**Fail**	Pass	--
		August 2007 II		Pass	Pass	Pass	Pass	Pass
		September 2007 I		Pass	Pass	**Fail**	**Fail**	**Fail**
Aluminum	Total	September 2007 II	Ongoing site activity	Pass	Pass	**Fail**	**Fail**	Pass
		October 2007		Pass	Pass	**Fail**	**Fail**	**Fail**
		November 2007		Pass	Pass	**Fail**	**Fail**	Pass
		December 2007 I		**Fail**	**Fail**	Pass	**Fail**	**Fail**
		January 2008		Pass	Pass	Pass	Pass	Pass
		February 2008		Pass	Pass	**Fail**	Pass	Pass
		March 2008		Pass	Pass	**Fail**	Pass	Pass
		April 2008		Pass	Pass	**Fail**	Pass	Pass
		May 2008		Pass	Pass	**Fail**	Pass	Pass
		June 2008		Pass	Pass	**Fail**	Pass	Pass
		July 2008		Pass	Pass	**Fail**	**Fail**	Pass
		August 2008		--	Pass	**Fail**	**Fail**	Pass
		September 2008		--	Pass	**Fail**	**Fail**	Pass
		October 2008		--	Pass	Pass	**Fail**	Pass
		March 2009		--	Pass	**Fail**	Pass	Pass
		May 2009		--	**Fail**	**Fail**	Pass	Pass
		July 2009		--	Pass	**Fail**	Pass	Pass
		September 2009 II		--	--	Pass	Pass	Pass
		October 2009		--	Pass	Pass	Pass	Pass
		January 2010		--	Pass	**Fail**	Pass	Pass
		April 2010		--	Pass	Pass	Pass	Pass
		August 2010		--	Pass	Pass	Pass	Pass
		October 2010		--	Pass	Pass	Pass	Pass
		January 2011		--	Pass	Pass	Pass	Pass
		April 2011		--	Pass	Pass	Pass	Pass
		July 2011 II		--	Pass	Pass	Pass	Pass
		December 2011		--	Pass	Pass	Pass	Pass

Table 4-9. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Groundwater

Analyte	Fraction	Event	Event Period	MW7 (Offsite reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below treatment ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below infiltration system)
Aluminum	Dissolved	February 2007	Pre-site activity	Pass	Pass	--	**Fail**	**Fail**
		April 2007		Pass	Pass	**Fail**	**Fail**	**Fail**
		May 2007		**Fail**	Pass	**Fail**	**Fail**	**Fail**
		June 2007		Pass	Pass	**Fail**	Pass	**Fail**
		July 2007 I		Pass	Pass	Pass	**Fail**	--
		July 2007 II		Pass	Pass	**Fail**	Pass	**Fail**
		August 2007 I		Pass	ND	**Fail**	Pass	--
		August 2007 II		Pass	Pass	Pass	Pass	**Fail**
		September 2007 I		Pass	**Fail**	Pass	Pass	Pass
Aluminum	Dissolved	September 2007 II	Ongoing site activity	Pass	Pass	**Fail**	Pass	Pass
		October 2007		Pass	Pass	**Fail**	**Fail**	Pass
		November 2007		Pass	Pass	**Fail**	**Fail**	**Fail**
		December 2007 I		**Fail**	Pass	**Fail**	Pass	Pass
		January 2008		Pass	ND	**Fail**	Pass	Pass
		February 2008		Pass	Pass	**Fail**	Pass	Pass
		March 2008		Pass	Pass	**Fail**	Pass	Pass
		April 2008		Pass	Pass	Pass	Pass	Pass
		May 2008		Pass	Pass	Pass	Pass	Pass
		June 2008		Pass	Pass	**Fail**	**Fail**	**Fail**
		July 2008		Pass	Pass	**Fail**	Pass	**Fail**
		August 2008		--	Pass	**Fail**	Pass	Pass
		September 2008		--	Pass	**Fail**	Pass	Pass
		October 2008		--	Pass	**Fail**	Pass	**Fail**
		March 2009		--	Pass	Pass	Pass	Pass
		May 2009		--	Pass	Pass	**Fail**	Pass
		July 2009		--	Pass	**Fail**	Pass	Pass
		September 2009 II	533.7886638	--	--	**Fail**	**Fail**	**Fail**
		October 2009		--	Pass	**Fail**	Pass	Pass
		January 2010		--	Pass	Pass	Pass	Pass
		April 2010		--	Pass	Pass	Pass	Pass
		August 2010		--	Pass	Pass	**Fail**	Pass
		October 2010		--	Pass	Pass	Pass	Pass
		January 2011		--	Pass	Pass	Pass	Pass
		April 2011		--	Pass	Pass	Pass	Pass
		July 2011 II		--	Pass	Pass	**Fail**	Pass
		December 2011		--	Pass	Pass	**Fail**	Pass

Table 4-9. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Groundwater

Analyte	Fraction	Event	Event Period	MW7 (Offsite reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below treatment ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below infiltration system)
Copper	Dissolved	February 2007	Pre-site activity	**Fail**	**Fail**	--	Pass	**Fail**
		April 2007		Pass	Pass	Pass	**Fail**	**Fail**
		May 2007		**Fail**	Pass	Pass	**Fail**	**Fail**
		June 2007		Pass	Pass	**Fail**	**Fail**	**Fail**
		July 2007 I		Pass	Pass	Pass	Pass	**Fail**
		July 2007 II		Pass	Pass	**Fail**	**Fail**	--
		August 2007 I		Pass	Pass	Pass	Pass	--
		August 2007 II		Pass	Pass	**Fail**	**Fail**	**Fail**
		September 2007 I		**Fail**	**Fail**	**Fail**	**Fail**	**Fail**
Copper	Dissolved	September 2007 II	Ongoing site activity	Pass	**Fail**	**Fail**	**Fail**	**Fail**
		October 2007		Pass	**Fail**	**Fail**	**Fail**	**Fail**
		November 2007		Pass	Pass	**Fail**	Pass	**Fail**
		December 2007 I		Pass	Pass	**Fail**	Pass	Pass
		January 2008		Pass	Pass	Pass	Pass	Pass
		February 2008		Pass	Pass	Pass	Pass	Pass
		March 2008		Pass	Pass	Pass	Pass	Pass
		April 2008		Pass	Pass	Pass	Pass	Pass
		May 2008		ND	Pass	Pass	ND	Pass
		June 2008		ND	ND	ND	ND	**Fail**
		July 2008		Pass	Pass	Pass	**Fail**	Pass
		August 2008		--	Pass	ND	**Fail**	**Fail**
		September 2008		--	Pass	Pass	**Fail**	**Fail**
		October 2008		--	ND	ND	**Fail**	**Fail**
		March 2009		--	ND	ND	Pass	Pass
		May 2009		--	Pass	ND	Pass	Pass
		July 2009		--	**Fail**	Pass	**Fail**	**Fail**
		September 2009 II		--	--	Pass	Pass	Pass
		October 2009		--	Pass	Pass	Pass	Pass
		January 2010		--	ND	ND	ND	ND
		April 2010		--	Pass	Pass	Pass	Pass
		August 2010		--	Pass	Pass	Pass	Pass
		October 2010		--	**Fail**	Pass	Pass	Pass
		January 2011		--	Pass	Pass	Pass	Pass
		April 2011		--	ND	ND	ND	ND
		July 2011 II		--	Pass	Pass	Pass	Pass
		December 2011		--	Pass	Pass	Pass	Pass

Table 4-9. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Groundwater

Analyte	Fraction	Event	Event Period	MW7 (Offsite reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below treatment ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below infiltration system)
Lead	Dissolved	February 2007	Pre-site activity	**Fail**	**Fail**	--	ND	ND
		April 2007		Pass	Pass	Pass	**Fail**	**Fail**
		May 2007		**Fail**	Pass	Pass	**Fail**	Pass
		June 2007		Pass	Pass	Pass	**Fail**	Pass
		July 2007 I		Pass	Pass	ND	**Fail**	--
		July 2007 II		Pass	**Fail**	Pass	**Fail**	Pass
		August 2007 I		Pass	Pass	Pass	Pass	--
		August 2007 II		Pass	Pass	**Fail**	**Fail**	Pass
		September 2007 I		Pass	**Fail**	**Fail**	**Fail**	**Fail**
Lead	Dissolved	September 2007 II	Ongoing site activity	Pass	**Fail**	**Fail**	**Fail**	**Fail**
		October 2007		Pass	**Fail**	**Fail**	**Fail**	**Fail**
		November 2007		Pass	**Fail**	**Fail**	Pass	**Fail**
		December 2007 I		Pass	**Fail**	Pass	Pass	Pass
		January 2008		Pass	Pass	Pass	Pass	Pass
		February 2008		Pass	Pass	Pass	Pass	Pass
		March 2008		Pass	Pass	Pass	Pass	Pass
		April 2008		Pass	Pass	Pass	Pass	Pass
		May 2008		Pass	Pass	Pass	ND	ND
		June 2008		Pass	**Fail**	Pass	Pass	Pass
		July 2008		Pass	**Fail**	Pass	**Fail**	Pass
		August 2008		--	**Fail**	Pass	**Fail**	Pass
		September 2008		--	**Fail**	Pass	**Fail**	**Fail**
		October 2008		--	**Fail**	Pass	Pass	Pass
		March 2009		--	Pass	Pass	Pass	Pass
		May 2009		--	**Fail**	ND	Pass	ND
		July 2009		--	**Fail**	Pass	Pass	Pass
		September 2009 II		--	--	Pass	Pass	Pass
		October 2009		--	Pass	Pass	Pass	Pass
		January 2010		--	Pass	ND	ND	ND
		April 2010		--	Pass	Pass	ND	Pass
		August 2010		--	Pass	Pass	Pass	Pass
		October 2010		--	**Fail**	Pass	Pass	Pass
		January 2011		--	Pass	Pass	Pass	ND
		April 2011		--	Pass	Pass	ND	ND
		July 2011 II		--	**Fail**	Pass	Pass	Pass
		December 2011		--	Pass	Pass	Pass	Pass

Table 4-9. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Groundwater

Analyte	Fraction	Event	Event Period	MW7 (Offsite reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below treatment ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below infiltration system)
Zinc	Dissolved	February 2007	Pre-site activity	**Fail**	ND	--	Pass	**Fail**
		April 2007		**Fail**	Pass	Pass	Pass	Pass
		May 2007		**Fail**	Pass	Pass	**Fail**	**Fail**
		June 2007		Pass	ND	Pass	**Fail**	**Fail**
		July 2007 I		Pass	ND	Pass	Pass	--
		July 2007 II		ND	ND	ND	ND	ND
		August 2007 I		ND	ND	ND	ND	--
		August 2007 II		ND	ND	ND	ND	ND
		September 2007 I		ND	ND	ND	ND	ND
Zinc	Dissolved	September 2007 II	Ongoing site activity	ND	ND	ND	ND	ND
		October 2007		ND	ND	**Fail**	**Fail**	**Fail**
		November 2007		ND	ND	ND	ND	ND
		December 2007 I		**Fail**	ND	**Fail**	ND	ND
		January 2008		ND	ND	ND	ND	ND
		February 2008		ND	ND	ND	ND	ND
		March 2008		ND	ND	ND	ND	ND
		April 2008		ND	ND	ND	ND	ND
		May 2008		ND	ND	ND	ND	**Fail**
		June 2008		ND	ND	ND	ND	ND
		July 2008		ND	ND	ND	ND	ND
		August 2008		--	ND	ND	ND	ND
		September 2008		--	ND	ND	ND	**Fail**
		October 2008		--	ND	ND	ND	ND
		March 2009		--	ND	ND	ND	**Fail**
		May 2009		--	ND	ND	ND	**Fail**
		July 2009		--	ND	ND	ND	**Fail**
		September 2009 II		--	--	ND	ND	ND
		October 2009		--	ND	ND	ND	ND
		January 2010		--	ND	ND	**Fail**	ND
		April 2010		--	ND	ND	ND	ND
		August 2010		--	ND	ND	ND	ND
		October 2010		--	ND	ND	ND	ND
		January 2011		--	ND	ND	ND	ND

Table 4-9. Summary of Exceedances of Natural Conditions as Analyzed with the Alternative Population Approach for Groundwater

Analyte	Fraction	Event	Event Period	MW7 (Offsite reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below treatment ponds)	MW3 (Wetlands below PAG site)	MW4 (Wetlands below infiltration system)
		April 2011		--	ND	ND	ND	ND
		July 2011 II		--	ND	ND	ND	ND
		December 2011		--	ND	ND	ND	ND

Notes:

Fail = indicates that a detected sample concentration exceeds the Alternative Population Approach central tendency screen.

Pass = indicates that a detected sample concentration is equal to or below the Alternative Population Approach central tendency screen.

Pre-site activity is prior to September 21, 2007. Ongoing site activity is from September 21, 2007, through the present.

-- = sample not collected

NAG = non-acid-generating

ND = Concentration below laboratory detection limit. Nondetect values were not screened with the Alternative Population Approach.

PAG = potentially acid-generating

Table 4-10. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Surface Water

Analyte	Fraction	95th Percentile Upper Prediction Limit (µg/L)	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
Aluminum	Total	144	October 1996 II	Pre-site activity	--	ND	--	ND	--	--	--
			September 1997		--	--	--	--	--	--	--
			April 2005 II		--	Pass	--	Pass	--	--	--
			February 2006 II		Pass	Pass	Pass	Pass	--	--	--
			May 2006 II		Pass	Pass	Pass	Pass	--	--	--
			August 2006 II		Pass	Pass	Pass	Pass	Pass	Pass	--
			October 2006		Pass	Pass	Pass	Pass	**Fail**	**Fail**	--
			December 2006		Pass	**Fail**	Pass	Pass	Pass	**Fail**	--
			February 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			April 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			May 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			June 2007		Pass	Pass	Pass	Pass	**Fail**	Pass	Pass
			July 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			July 2007 II		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			August 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			August 2007 II		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			September 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
Aluminum	Total	144	September 2007 II	Ongoing site activity	Pass	Pass	Pass	Pass	Pass	Pass	Pass
			October 2007		Pass	**Fail**	Pass	Pass	Pass	Pass	Pass
			November 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			December 2007 I		Pass	**Fail**	Pass	Pass	Pass	Pass	Pass
			January 2008		Pass	**Fail**	Pass	Pass	Pass	Pass	Pass
			February 2008		Pass	**Fail**	Pass	Pass	Pass	Pass	Pass
			March 2008		Pass	Pass	Pass	Pass	Pass	**Fail**	Pass
			April 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			May 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			June 2008		Pass	**Fail**	Pass	Pass	Pass	**Fail**	Pass
			July 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			October 2008		--	Pass	--	Pass	--	Pass	Pass
			March 2009		--	Pass	--	Pass	--	Pass	Pass
			May 2009		--	Pass	--	Pass	--	Pass	Pass
			July 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
			September 2009 I		--	Pass	--	Pass	--	Pass	--
			September 2009 II		--	Pass	--	Pass	--	Pass	--
			October 2009		--	Pass	--	Pass	--	Pass	Pass
			January 2010		--	Pass	--	Pass	--	Pass	Pass
			April 2010		--	Pass	--	Pass	--	Pass	Pass
			August 2010		--	Pass	--	Pass	--	Pass	Pass
			October 2010		--	Pass	--	Pass	--	Pass	Pass
			January 2011		--	**Fail**	--	Pass	--	**Fail**	**Fail**
			April 2011		--	Pass	--	Pass	--	Pass	Pass
			July 2011 II		--	Pass	--	Pass	--	Pass	Pass
			December 2011		--	Pass	--	Pass	--	Pass	Pass

Table 4-10. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Surface Water

Analyte	Fraction	95th Percentile Upper Prediction Limit (µg/L)	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
Aluminum	Dissolved	92	October 1996 II	Pre-site activity	--	ND	--	ND	--	--	--
			September 1997		--	--	--	--	--	--	--
			April 2005 II		--	Pass	--	Pass	--	--	--
			February 2006 II		Pass	Pass	Pass	Pass	--	--	--
			May 2006 II		Pass	Pass	Pass	Pass	--	--	--
			August 2006 II		Pass	Pass	Pass	Pass	Pass	Pass	--
			October 2006		Pass	Pass	Pass	Pass	**Fail**	**Fail**	--
			December 2006		Pass	Pass	Pass	Pass	Pass	Pass	--
			February 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			April 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			May 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			June 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			July 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			July 2007 II		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			August 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			August 2007 II		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			September 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
Aluminum	Dissolved	92	September 2007 II	Ongoing site activity	Pass	Pass	Pass	Pass	Pass	Pass	Pass
			October 2007		Pass	**Fail**	Pass	Pass	**Fail**	**Fail**	Pass
			November 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			December 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			January 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			February 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			March 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			April 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			May 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			June 2008		**Fail**	Pass	Pass	Pass	**Fail**	**Fail**	Pass
			July 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			October 2008		--	Pass	--	Pass	--	Pass	Pass
			March 2009		--	Pass	--	Pass	--	Pass	Pass
			May 2009		--	Pass	--	Pass	--	Pass	Pass
			July 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
			September 2009 I		--	Pass	--	Pass	--	Pass	--
			September 2009 II		--	Pass	--	Pass	--	Pass	--
			October 2009		--	Pass	--	Pass	--	Pass	Pass
			January 2010		--	Pass	--	Pass	--	Pass	Pass
			April 2010		--	Pass	--	Pass	--	Pass	Pass
			August 2010		--	Pass	--	Pass	--	Pass	Pass
			October 2010		--	Pass	--	Pass	--	Pass	Pass
			January 2011		--	**Fail**	--	Pass	--	**Fail**	**Fail**
			April 2011		--	Pass	--	Pass	--	Pass	Pass
			July 2011 II		--	Pass	--	Pass	--	Pass	Pass
			December 2011		--	Pass	--	Pass	--	Pass	Pass

Table 4-10. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Surface Water

Analyte	Fraction	95th Percentile Upper Prediction Limit (µg/L)	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
Copper	Dissolved	1.4	October 1996 II	Pre-site activity	--	ND	--	ND	--	--	--
			September 1997		--	ND	--	ND	--	--	--
			April 2005 II		--	ND	--	Pass	--	--	--
			February 2006 II		ND	ND	ND	ND	--	--	--
			May 2006 II		ND	ND	ND	ND	--	--	--
			August 2006 II		Pass	**Fail**	**Fail**	**Fail**	ND	**Fail**	--
			October 2006		ND	ND	ND	ND	Pass	Pass	--
			December 2006		ND	ND	ND	ND	ND	ND	--
			February 2007		ND	ND	ND	ND	ND	ND	ND
			April 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			May 2007		Pass	Pass	Pass	Pass	ND	Pass	Pass
			June 2007		**Fail**	Pass	Pass	Pass	Pass	Pass	**Fail**
			July 2007 I		**Fail**	Pass	Pass	Pass	Pass	Pass	Pass
			July 2007 II		Pass	Pass	Pass	Pass	ND	Pass	Pass
			August 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			August 2007 II		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			September 2007 I		Pass	Pass	Pass	Pass	Pass	Pass	Pass
Copper	Dissolved	1.4	September 2007 II	Ongoing site activity	Pass	Pass	Pass	Pass	Pass	Pass	Pass
			October 2007		Pass	**Fail**	Pass	Pass	Pass	**Fail**	**Fail**
			November 2007		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			December 2007 I		Pass	**Fail**	Pass	Pass	Pass	Pass	Pass
			January 2008		Pass	Pass	ND	Pass	Pass	Pass	Pass
			February 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			March 2008		Pass	Pass	ND	ND	ND	Pass	Pass
			April 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			May 2008		Pass	Pass	Pass	Pass	ND	Pass	Pass
			June 2008		ND	ND	ND	ND	ND	ND	ND
			July 2008		Pass	Pass	Pass	Pass	Pass	Pass	Pass
			October 2008		--	ND	--	ND	--	ND	ND
			March 2009		--	ND	--	ND	--	ND	ND
			May 2009		--	Pass	--	Pass	--	Pass	Pass
			July 2009		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
			September 2009 I		--	Pass	--	Pass	--	Pass	--
			September 2009 II		--	Pass	--	Pass	--	Pass	--
			October 2009		--	Pass	--	Pass	--	Pass	Pass
			January 2010		--	ND	--	ND	--	ND	ND
			April 2010		--	Pass	--	Pass	--	Pass	Pass
			August 2010		--	Pass	--	Pass	--	Pass	Pass
			October 2010		--	Pass	--	Pass	--	Pass	Pass
			January 2011		--	Pass	--	Pass	--	Pass	**Fail**

Table 4-10. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Surface Water

Analyte	Fraction	95th Percentile Upper Prediction Limit (µg/L)	Event	Event Period	WQ8 (Waterfall Creek Upstream)	WQ4 (Waterfall Creek Downstream)	WQ7 (Camp Creek Upstream)	WQ6 (Camp Creek Downstream)	WQ12 (Unnamed Creek #1 Upstream)	WQ10 (Unnamed Creek #1 Downstream)	WQ13 (Unnamed Creek #2)
			April 2011		--	ND	--	ND	--	ND	ND
			July 2011 II		--	**Fail**	--	Pass	--	Pass	**Fail**
			December 2011		--	Pass	--	Pass	--	Pass	Pass

Notes:
-- = Sample not collected
Fail = indicates that a detected sample concentration exceeds the 95th percentile Upper Prediction Limit
Pass = indicates that a detected sample concentration is equal to or below the 95th percentile Upper Prediction Limit
Pre-site activity is prior to September 21, 2007. Ongoing site activity is from September 21, 2007, through the present.
ND = Concentration below laboratory detection limit. Nondetect values were not screened against Upper Prediction Limits.

Table 4-11. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Groundwater

Analyte	Fraction	95th Percentile Upper Prediction Limit (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG Site)	MW4 (Wetlands below Infiltration System)
Aluminum	Total	7394	February 2007	Pre-site activity	Pass	Pass	--	Pass	Pass
			April 2007		Pass	Pass	Pass	**Fail**	Pass
			May 2007		Pass	Pass	Pass	**Fail**	Pass
			June 2007		Pass	Pass	Pass	**Fail**	Pass
			July 2007 I		Pass	Pass	Pass	Pass	--
			July 2007 II		Pass	Pass	Pass	Pass	Pass
			August 2007 I		Pass	Pass	Pass	**Fail**	--
			August 2007 II		Pass	Pass	Pass	Pass	Pass
			September 2007 I		Pass	Pass	Pass	Pass	Pass
Aluminum	Total	7394	September 2007 II	Ongoing site activity	Pass	Pass	Pass	Pass	Pass
			October 2007		Pass	Pass	Pass	Pass	Pass
			November 2007		Pass	Pass	Pass	Pass	Pass
			December 2007 I		Pass	Pass	**Fail**	Pass	Pass
			January 2008		Pass	Pass	Pass	Pass	Pass
			February 2008		Pass	Pass	Pass	Pass	Pass
			March 2008		Pass	Pass	Pass	Pass	Pass
			April 2008		Pass	Pass	Pass	Pass	Pass
			May 2008		Pass	Pass	Pass	Pass	Pass
			June 2008		Pass	Pass	Pass	Pass	Pass
			July 2008		Pass	Pass	Pass	Pass	Pass
			August 2008		--	Pass	Pass	Pass	Pass
			September 2008		--	Pass	Pass	Pass	Pass
			October 2008		--	Pass	Pass	Pass	Pass
			March 2009		--	Pass	Pass	Pass	Pass
			May 2009		--	Pass	Pass	Pass	Pass
			July 2009		--	Pass	Pass	Pass	Pass
			September 2009 II		--	--	Pass	Pass	Pass
			October 2009		--	Pass	Pass	Pass	Pass
			January 2010		--	Pass	Pass	Pass	Pass
			April 2010		--	Pass	Pass	Pass	Pass
			August 2010		--	Pass	Pass	Pass	Pass
			October 2010		--	Pass	Pass	Pass	Pass
			January 2011		--	Pass	Pass	Pass	Pass
			April 2011		--	Pass	Pass	Pass	Pass
			July 2011 II		--	Pass	Pass	Pass	Pass
			December 2011		--	Pass	Pass	Pass	Pass
Aluminum	Dissolved	1236	February 2007	Pre-site activity	Pass	Pass	--	Pass	Pass
			April 2007		Pass	Pass	Pass	Pass	Pass
			May 2007		Pass	Pass	Pass	Pass	Pass
			June 2007		Pass	Pass	Pass	Pass	Pass
			July 2007 I		Pass	Pass	Pass	Pass	--
			July 2007 II		Pass	Pass	Pass	**Fail**	Pass
			August 2007 I		Pass	Pass	Pass	Pass	--
			August 2007 II		Pass	Pass	**Fail**	Pass	Pass
			September 2007 I		Pass	Pass	**Fail**	**Fail**	**Fail**

Table 4-11. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Groundwater

Analyte	Fraction	95th Percentile Upper Prediction Limit (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG Site)	MW4 (Wetlands below Infiltration System)
Aluminum	Dissolved	1236	September 2007 II	Ongoing site activity	Pass	Pass	Pass	Pass	Pass
			October 2007		Pass	Pass	Pass	Pass	Pass
			November 2007		Pass	Pass	Pass	Pass	Pass
			December 2007 I		Pass	Pass	Pass	Pass	Pass
			January 2008		Pass	ND	Pass	Pass	Pass
			February 2008		Pass	Pass	Pass	Pass	Pass
			March 2008		Pass	Pass	Pass	Pass	Pass
			April 2008		Pass	Pass	Pass	Pass	Pass
			May 2008		Pass	Pass	Pass	Pass	Pass
			June 2008		Pass	Pass	Pass	Pass	Pass
			July 2008		Pass	Pass	Pass	**Fail**	Pass
			August 2008		--	Pass	Pass	**Fail**	Pass
			September 2008		--	Pass	Pass	**Fail**	Pass
			October 2008		--	Pass	Pass	Pass	Pass
			March 2009		--	Pass	Pass	Pass	Pass
			May 2009		--	Pass	Pass	Pass	Pass
			July 2009		--	Pass	Pass	Pass	Pass
			September 2009 II		--	--	Pass	Pass	Pass
			October 2009		--	Pass	Pass	Pass	Pass
			January 2010		--	Pass	Pass	Pass	Pass
			April 2010		--	Pass	Pass	Pass	Pass
			August 2010		--	Pass	Pass	Pass	Pass
			October 2010		--	Pass	Pass	Pass	Pass
			January 2011		--	Pass	Pass	Pass	Pass
			April 2011		--	Pass	Pass	Pass	Pass
			July 2011 II		--	Pass	Pass	Pass	Pass
			December 2011		--	Pass	Pass	Pass	Pass
Copper	Dissolved	4.3	February 2007	Pre-site activity	Pass	Pass	--	**Fail**	Pass
			April 2007		Pass	Pass	Pass	Pass	**Fail**
			May 2007		Pass	Pass	Pass	Pass	Pass
			June 2007		Pass	Pass	Pass	Pass	Pass
			July 2007 I		Pass	Pass	Pass	Pass	--
			July 2007 II		Pass	Pass	Pass	Pass	Pass
			August 2007 I		Pass	Pass	Pass	Pass	--
			August 2007 II		Pass	Pass	Pass	Pass	**Fail**
			September 2007 I		Pass	Pass	Pass	Pass	**Fail**
Copper	Dissolved	4.3	September 2007 II	Ongoing site activity	Pass	Pass	Pass	Pass	**Fail**
			October 2007		Pass	Pass	Pass	Pass	**Fail**
			November 2007		Pass	Pass	Pass	Pass	Pass
			December 2007 I		Pass	Pass	Pass	Pass	Pass
			January 2008		Pass	Pass	Pass	Pass	Pass
			February 2008		Pass	Pass	Pass	Pass	Pass
			March 2008		Pass	Pass	Pass	Pass	Pass
			April 2008		Pass	Pass	Pass	Pass	Pass
			May 2008		ND	Pass	Pass	ND	Pass

Table 4-11. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Groundwater

Analyte	Fraction	95th Percentile Upper Prediction Limit (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG Site)	MW4 (Wetlands below Infiltration System)
			June 2008		ND	ND	ND	ND	Pass
			July 2008		Pass	Pass	Pass	Pass	Pass
			August 2008		--	Pass	ND	Pass	Pass
			September 2008		--	Pass	Pass	Pass	Pass
			October 2008		--	ND	ND	Pass	Pass
			March 2009		--	ND	ND	Pass	Pass
			May 2009		--	Pass	ND	Pass	Pass
			July 2009		--	Pass	Pass	Pass	Pass
			September 2009 II		--	--	Pass	Pass	Pass
			October 2009		--	Pass	Pass	Pass	Pass
			January 2010		--	ND	ND	ND	ND
			April 2010		--	Pass	Pass	Pass	Pass
			August 2010		--	Pass	Pass	Pass	Pass
			October 2010		--	Pass	Pass	Pass	Pass
			January 2011		--	Pass	Pass	Pass	Pass
			April 2011		--	ND	ND	ND	ND
			July 2011 II		--	Pass	Pass	Pass	Pass
			December 2011		--	Pass	Pass	Pass	Pass
Lead	Dissolved	0.96	February 2007	Pre-site activity	Pass	Pass	--	ND	ND
			April 2007		Pass	Pass	Pass	**Fail**	Pass
			May 2007		Pass	Pass	Pass	**Fail**	Pass
			June 2007		Pass	Pass	Pass	**Fail**	Pass
			July 2007 I		Pass	Pass	ND	Pass	--
			July 2007 II		Pass	Pass	Pass	Pass	Pass
			August 2007 I		Pass	Pass	Pass	Pass	--
			August 2007 II		Pass	Pass	**Fail**	Pass	Pass
			September 2007 I		Pass	Pass	Pass	Pass	Pass
Lead	Dissolved	0.96	September 2007 II	Ongoing site activity	Pass	Pass	Pass	Pass	Pass
			October 2007		Pass	**Fail**	Pass	Pass	**Fail**
			November 2007		Pass	Pass	Pass	Pass	Pass
			December 2007 I		Pass	Pass	Pass	Pass	Pass
			January 2008		Pass	Pass	Pass	Pass	Pass
			February 2008		Pass	Pass	Pass	Pass	Pass
			March 2008		Pass	Pass	Pass	Pass	Pass
			April 2008		Pass	Pass	Pass	Pass	Pass
			May 2008		Pass	Pass	Pass	ND	ND
			June 2008		Pass	Pass	Pass	Pass	Pass
			July 2008		Pass	Pass	Pass	Pass	Pass
			August 2008		--	Pass	Pass	Pass	Pass
			September 2008		--	Pass	Pass	Pass	Pass
			October 2008		--	Pass	Pass	Pass	Pass
			March 2009		--	Pass	Pass	Pass	Pass
			May 2009		--	Pass	ND	Pass	ND
			July 2009		--	Pass	Pass	Pass	Pass
			September 2009 II		--	--	Pass	Pass	Pass

Table 4-11. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Groundwater

Analyte	Fraction	95th Percentile Upper Prediction Limit (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG Site)	MW4 (Wetlands below Infiltration System)
			October 2009		--	Pass	Pass	Pass	Pass
			January 2010		--	Pass	ND	ND	ND
			April 2010		--	Pass	Pass	ND	Pass
			August 2010		--	Pass	Pass	Pass	Pass
			October 2010		--	Pass	Pass	Pass	Pass
			January 2011		--	Pass	Pass	Pass	ND
			April 2011		--	Pass	Pass	ND	ND
			July 2011 II		--	Pass	Pass	Pass	Pass
			December 2011		--	Pass	Pass	Pass	Pass
Zinc	Dissolved	9.6	February 2007	Pre-site activity	**Fail**	ND	--	Pass	Pass
			April 2007		**Fail**	Pass	Pass	Pass	Pass
			May 2007		Pass	Pass	Pass	Pass	**Fail**
			June 2007		Pass	ND	Pass	Pass	Pass
			July 2007 I		Pass	ND	Pass	Pass	--
			July 2007 II		ND	ND	ND	ND	ND
			August 2007 I		ND	ND	ND	ND	--
			August 2007 II		ND	ND	ND	ND	ND
			September 2007 I		ND	ND	ND	ND	ND
Zinc	Dissolved	9.6	September 2007 II	Ongoing site activity	ND	ND	ND	ND	ND
			October 2007		ND	ND	**Fail**	Pass	**Fail**
			November 2007		ND	ND	ND	ND	ND
			December 2007 I		Pass	ND	**Fail**	ND	ND
			January 2008		ND	ND	ND	ND	ND
			February 2008		ND	ND	ND	ND	ND
			March 2008		ND	ND	ND	ND	ND
			April 2008		ND	ND	ND	ND	ND
			May 2008		ND	ND	ND	ND	**Fail**
			June 2008		ND	ND	ND	ND	ND
			July 2008		ND	ND	ND	ND	ND
			August 2008		--	ND	ND	ND	ND
			September 2008		--	ND	ND	ND	**Fail**
			October 2008		--	ND	ND	ND	ND
			March 2009		--	ND	ND	ND	**Fail**
			May 2009		--	ND	ND	ND	**Fail**
			July 2009		--	ND	ND	ND	**Fail**
			September 2009 II		--	--	ND	ND	ND
			October 2009		--	ND	ND	ND	ND
			January 2010		--	ND	ND	**Fail**	ND
			April 2010		--	ND	ND	ND	ND
			August 2010		--	ND	ND	ND	ND
			October 2010		--	ND	ND	ND	ND
			January 2011		--	ND	ND	ND	ND

Table 4-11. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Groundwater

Analyte	Fraction	95th Percentile Upper Prediction Limit (µg/L)	Event	Event Period	MW7 (Offsite Reference)	MW1 (Wetlands below NAG site)	MW2 (Wetlands below Treatment Ponds)	MW3 (Wetlands below PAG Site)	MW4 (Wetlands below Infiltration System)
			April 2011		--	ND	ND	ND	ND
			July 2011 II		--	ND	ND	ND	ND
			December 2011		--	ND	ND	ND	ND

Notes:

Fail = indicates that a detected sample concentration exceeds the 95th percentile Upper Prediction Limit
Pass = indicates that a detected sample concentration is equal to or below the 95th percentile Upper Prediction Limit
Pre-site activity is prior to September 21, 2007. Ongoing site activity is from September 21, 2007, through the present.

-- = sample not collected
NAG = non-acid-generating
ND = Concentration below laboratory detection limit. Nondetect values were not screened against Upper Prediction Limits.
PAG = potentially acid-generating

Table 4-12. Laboratory Water Quality Results for the PAG Facility

Sampling Date	Field Temperature deg C	Field DO mg/L	Field pH SU	Field Conductivity mS/m	Field Turbidity NTU	Hardness as CaCO3 mg/L	Alkalinity as CaCO3 mg/L	TSS mg/L		TDS mg/L		Sulphate mg/L	Chloride mg/L	Nitrate+ Nitrite as N mg/L		Ammonia as N mg/L	
8/19/2008	13.6	8.82	8.01	152	2.9	384	78			952		409		73.3			
9/9/2008	13.9	10	7.44	105	3.2	362	67			695		267		34.9			
10/15/2008	9	10.21	7.38	60.7	9.4	250	55			383		164		10.4			
4/21/2009	0.69	12.06	7.32	26	10.7	148	48	5	*U*	225		92.2	2.1	1.42	*UJ*	0.047	
5/21/2009						243	68	5	*U*	351		194	1.9	2.06	*UJ*	0.03	*J*
6/19/2009						212	52	9		324		190	1.3	0.75		0.07	*UJ*
7/25/2009	14.87	12.21	8.25	79.6	2.8	360	50	6		539		334	1.5	2.02		0.018	*UJ*
8/31/2009	14	7.98	8.32	71.7		254	48	5	*U*	387		210	1.8	0.98		0.06	*UJ*
9/7/2009	13.88	11.34	6.28	50.5	3.6	190	53.2	5	*U*	323		163	2.5	0.511		0.013	*UJ*
10/18/2009	9.55	9.32	7.59	41.9	5	165	53.4	5	*U*	268		150	2.23	0.43		0.027	*UJ*
10/31/2009	7.44	9.67	6.2	26.6	7.2	99.6		5	*U*	104		48.4	4.29	0.145		0.012	*J*
12/29/2009	3.41	10.16	6.84	30.2	6	114	54.7	5	*U*	172		57.2	6.25	0.192		0.009	*U*
1/15/2010	5.32	10.63	6.84	27	9.8	103	56.2	5	*U*	97	*UJ*	47.3	5.41	0.065		0.009	*UJ*
2/12/2010	5.27	10.95	7.05	23.9	0	91.2	56.6	5	*U*	123		20.3	2.68	0.111		0.012	*UJ*
3/5/2010	4.9	10.86	7.32	38.8	4.2	106	58.4	5	*U*	137		45.3	7.29	0.095		0.016	*UJ*
4/21/2010	9.9	10.89	6.68	53.5	2.2	115	56.2	5	*U*	160		71.4	8.19	0.13		0.013	*J*
5/18/2010	12.8	11	8.1	59.9	2.5	132	47.2	5	*U*	204		95	3.11	0.86	*UJ*	0.024	*UJ*
6/29/2010	11.5	11.19	7.06	118	3.3	187	42.6	5	*U*	400		172	2.21	0.116	*UJ*	0.027	*UJ*
7/14/2010	16.1	11.777	8.46	91.3	2.2	227	45.1	5	*U*	285		192	1.69	0.041	*UJ*	0.009	*UJ*
8/11/2010	16.1	10.38	7.18	89.2	1.7	297	41.9	6.7		381		309	1.25	0.065	*UJ*	0.046	
9/7/2010	11.9	9.38	7.18	68.4	5.1	240	44.8	5	*U*	305		194	0.63	0.168	*UJ*	0.017	*UJ*
10/18/2010	9.8	9.73	7.33		10.5	98	51	5	*U*	139		50.2	6.63	0.035	*J*	-	
11/2/2010	8.7	10.29	6.7	41.4	10.5	136	50.6	5	*U*	242		72.8	9.48	0.087		-	
12/26/2010	2.8	10.72	6.46	36.1	15.6	109	50.4	5	*U*	323		45.1	3.49	0.04	*J*	0.032	*UJ*
1/19/2011	2.2	12.88	7.18	48.4	11.6	134	68.7	5	*U*	208		68.8	5.39	0.05		0.016	*UJ*
1/20/2011[a]	1.1	10.6	7.03	39.8	24.4	82.4	39.8	5	*U*	98		35	2.53	0.061		0.031	*UJ*
2/9/2011	1.1	13.11	5.7	22	8	90.7	48.2	5		92		36.3	3.61	0.049	*J*	0.036	*UJ*
3/10/2011	0.96	13.41	4.3	1	8												
4/21/2011	6.3	13.24	6.3	28	5	118	60.6	5	*U*	150		59.1	2.81	0.04	*U*	-	
5/17/2011	10.79	13.35	6.9	32	4	118	49	5	*U*	191		69.3	3.4	0.039	*UJ*	-	
6/8/2011	18.26	10.02	7.1	44	4	175	54	244		265		175	3.4	0.009	*U*	0.01	*UJ*
7/12/2011	27.7	9.94	7	77	1	317	44	5	*U*	456		284	2.05	0.009	*U*	0.023	*UJ*
7/24/2011	14.27	10.29	7.9	60	4												
8/23/2011	11.68	10.62	6.4	39	5	141	46	5	*U*	170		94.7	0.43	0.143		0.023	*UJ*
9/7/2011	12.4	10.21	7.2	28	5	119	48.4	5	*U*	149		71.4	0.68	0.074		0.017	*UJ*
10/11/2011	1.1	7.63	6.77	28.3	5	111	46.5	5	*U*	168		72.6	5.78	0.073		0.035	*UJ*
11/10/2011	5.2	8.14	7.21	0.218	1	114	49.8	5	*U*	169		57.6	3.42	0.067		0.035	*UJ*
12/20/2011	2.87	11.18	6.8	30	20	106	54.4	28.5		209		55.4	*J* 1.58	0.067	*UJ*	0.035	*UJ*

Table 4-12. Laboratory Water Quality Results for the PAG Facility

Sampling Date	Aluminum Dissolved Al µg/L		Aluminum Total Al µg/L		Arsenic Dissolved As µg/L		Arsenic Total As µg/L		Cadmium Dissolved Cd µg/L		Cadmium Total Cd µg/L		Calcium Dissolved Ca µg/L		Calcium Total Ca µg/L		Chromium Dissolved Cr µg/L		Chromium Total Cr µg/L		Copper Dissolved Cu µg/L		Copper Total Cu µg/L	
8/19/2008	14.8		55		0.8		0.85		0.143		0.144		133000		136000		0.63		0.6		2.78		3.44	
9/9/2008	14.7		84.7		0.91		0.98		0.122		0.148		113000		112000		0.16		0.38		2.4	J	2.92	J
10/15/2008	16.1		133		0.67		0.72		0.052		0.07		77300		78200		0.56		0.53		1.61		2.72	
4/21/2009	18.7		122		0.4		0.4		0.026		0.033		50400		49300		0.24		0.38		0.96		1.67	
5/21/2009	19.2	UJ	39.4	UJ	0.3	J	0.3	J	0.034		0.041		79500		82200		0.12	J	0.21		1.76	J	1.98	J
6/19/2009	19.1		55.3		0.4	J	0.3	J	0.024	UJ	0.035		72900		71000		0.18	J	0.24		3.65		4.07	
7/25/2009	13.8	J	49.1	J	0.34	J	0.49	J	0.069		0.084		123000		125000		0.31	UJ	0.28	UJ	2.24		2.84	
8/31/2009	12.8	J	37	J	0.29	J	0.34	J	0.038		0.051		86500		86500		0.42	UJ	0.47		1.9		2.48	
9/7/2009	55.4		15.7		0.5	UJ	0.5	UJ	0.065	UJ	0.058	UJ	68600	J	68200	J	-		-		2.47		1.71	
10/18/2009	12.5		47.1		0.27	J	0.3	J	0.065		0.069		64200		62700		-		-		1.53		2.2	
10/31/2009	19		*124*		0.42	J	0.51		0.038		0.05		34500		35100		-		-		1.12		2.28	
12/29/2009	12.3	J	91.2	J	0.29	UJ	0.3	UJ	0.079		0.084		41200		41400		-		-		0.94		1.96	
1/15/2010	17.1		*145*		0.32	J	0.36	J	0.047		0.052		36400		*36100*		-		-		0.89	U	1.8	
2/12/2010	15.4		88.7		0.33	J	0.35	J	0.032		0.045		35300		*35600*		-		-		0.78		1.75	
3/5/2010	14.2		74.3		0.34	UJ	0.42	J	0.028		0.033		40400		*39600*		-		-		0.87		1.75	
4/21/2010	15.2		43.2		0.26	UJ	0.46	J	0.049	UJ	0.052	UJ	43400	J	*41900*	J	-		-		0.97	J	1.56	J
5/18/2010	16.2		35.2	U	0.39	UJ	0.41	UJ	0.024	UJ	0.056		49890		*47200*		0.07	J	0.14	J	1.23	J	1.8	J
6/29/2010	11.4	J	24.6	J	0.2	UJ	0.2	UJ	0.055		0.123		68100		*65800*		0.12	UJ	0.12	UJ	1.75	J	2.41	J
7/14/2010	13.1	J	17.7	J	0.39	J	0.37	J	0.026		0.47		83300		*83900*		-		-		1.46		1.96	
8/11/2010	7.6	UJ	14		0.44	J	0.47	J	0.039		0.097		110000	J	*109000*	J	-		-		1.96		2.74	
9/7/2010	13.3	R	39.2	R	0.43	J	0.4	J	0.09		0.125		79100		*79900*		-		-		1.29		2.11	
10/18/2010	25.4		91.3		0.4	J	0.5	J	0.044		0.051		36800		*38600*		-		-		1.05		2.03	
11/2/2010	15.5		71.1		0.39	J	0.41	J	0.072	U	0.084		47300		*47600*		-		-		1.02		2.04	
12/26/2010	18.8		*101*		0.31	J	0.33	J	0.036		0.046		34300		*34400*		0.4	U	0.58	U	0.81		1.96	
1/19/2011	14.4		63.3		0.43	J	0.33	J	0.06		0.06		55600		*54700*		0.32	U	0.79	U	0.89		1.57	
1/20/2011[a]	25.8		113		0.22	J	0.25	J	0.044		0.05		30800		*30800*		0.28	U	0.64	U	0.74		1.79	
2/9/2011	11.4		28.5	U	0.24	J	0.23	J	0.048		0.051		35800		*34600*		0.56	U	0.36	U	0.86		1.12	
3/10/2011																								
4/21/2011	12.7		34.9		0.31	J	0.3	J	0.048		0.063		45800		*46400*		-		-		1.1	U	1.67	
5/17/2011	16		33.3		0.27	J	0.34	J	0.049		0.066		46800		*44900*		0.51	UJ	0.29	UJ	1.23		1.8	
6/8/2011	14.7		38		0.58		0.59		0.05		0.071		67400		*68800*		0.43		0.27	UJ	1.73	J	2.63	J
7/12/2011	13.6		20.7		0.57		0.52		0.074		0.182		122000		*116000*		0.21	UJ	0.22	U	2.2		3.91	
7/24/2011																								
8/23/2011	15.6	J	35.6	J	0.34	J	0.31	J	0.065		0.087		54200		*54500*		0.15	J	0.17	J	1.03	J	1.9	J
9/7/2011	26		83.5		0.45	J	0.46	J	0.035		0.087	UJ	44200		*43500*		0.16	UJ	0.24	UJ	1.16		2.43	
10/11/2011	18.8	J	41.8	J	0.41	UJ	0.42	UJ	0.042	J	0.069	J	45800	J	*40800*	J	-		-		1.06		1.6	
11/10/2011	16		44.2		0.29	J	0.32	J	0.046	U	0.062		42300		*41000*		-		-		0.69		1.36	
12/20/2011	19.9		62.1		0.32	J	0.33	J	0.063		0.075		39600		*39300*		-		-		0.86		1.76	

Table 4-12. Laboratory Water Quality Results for the PAG Facility

	Iron				Lead				Magnesium				Mercury			
	Dissolved		Total		Dissolved		Total		Dissolved		Total		Dissolved		Total	
Sampling	Fe		Fe		Pb		Pb		Mg		Mg		Hg		Hg	
Date	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
8/19/2008	17.3	*UJ*	100		0.03		0.136		16600	*J*	17100	*J*	0.05	*U*	0.05	*U*
9/9/2008	29.7		222		0.019	*UJ*	0.303		13800		13800		0.05	*U*	0.05	*U*
10/15/2008	35.2	*UJ*	311		0.054	*UJ*	0.35		8960		9240		0.05	*U*	0.05	*U*
4/21/2009	48.2	*UJ*	179		0.042		0.22		4500		4420		0.05	*U*	0.05	*U*
5/21/2009	14.2	*J*	58.4		0.026	*UJ*	0.08		7110		7390		0.02	*U*	0.02	*U*
6/19/2009	29.2		138		0.09		0.811		6110	*J*	5990	*J*	0.02	*U*	0.02	*U*
7/25/2009	20.2	*UJ*	70.7		0.009	*UJ*	0.136		10700		10800		0.02	*U*	0.02	*U*
8/31/2009	11.9	*UJ*	62.7		0.015	*UJ*	0.112		6950		6970		0.02	*U*	0.02	*U*
9/7/2009	114		12.5	*UJ*	0.327		0.009	*UJ*	5210		5050		0.02	*U*	0.02	*U*
10/18/2009	11.2	*UJ*	91.9		0.006	*J*	0.161		4480		4420		0.02	*U*	0.02	*U*
10/31/2009	17.6	*J*	250		0.035	*UJ*	0.42		2520		2820		0.02	*U*	0.02	*U*
12/29/2009	20.1	*UJ*	145		0.034	*J*	0.32	*J*	2580		2680		0.02	*U*	0.02	*U*
1/15/2010	13.7	*UJ*	90		0.027	*UJ*	0.386		2460	*J*	2590	*J*	0.02	*U*	0.02	*U*
2/12/2010	17.6	*UJ*	150		0.016	*J*	0.262		2070		2150		0.02	*U*	0.02	*U*
3/5/2010	0.8	*R*	94.2	*J*	0.005	*U*	0.191		2330		*2300*		0.02	*U*	0.02	*U*
4/21/2010	11.9	*J*	58.7		0.017	*UJ*	0.143		2350	*J*	*2300*	*J*	0.02	*U*	0.02	*U*
5/18/2010	12.2	*UJ*	59.9		0.04	*UJ*	0.122		2770	*J*	*2670*	*J*	0.02	*U*	0.02	*U*
6/29/2010	0.8	*UJ*	31.6	*J*	0.056	*UJ*	0.071	*U*	3490		*3450*		0.02	*U*	0.02	*U*
7/14/2010	15.9	*UJ*	37.6	*J*	0.029	*UJ*	0.043	*UJ*	4150		*4220*		0.02	*U*	0.02	*U*
8/11/2010	9.2	*UJ*	48	*UJ*	0.012	*UJ*	0.034		5480	*J*	*5450*	*J*	0.02	*U*	0.02	*U*
9/7/2010	0.8	*UJ*	49.2	*J*	0.011	*UJ*	0.12		3500		*3680*		0.02	*U*	0.02	*U*
10/18/2010	26.9	*UJ*	131	*J*	0.099		0.269		1510		*1590*		0.02	*U*	0.02	*U*
11/2/2010	2	*UJ*	150	*J*	0.016	*U*	0.293		2040		*2110*		0.02	*U*	0.02	*U*
12/26/2010	15.5	*UJ*	168		0.038	*U*	0.381		1380		*1440*		0.02	*U*	0.02	*U*
1/19/2011	0.8	*UJ*	77.8		0.02		0.136		2270		*2280*		0.02	*U*	0.02	*U*
1/20/2011[a]	9.8	*UJ*	181		0.163		0.402		1210		*1270*		0.02	*U*	0.02	*U*
2/9/2011	8.8	*UJ*	35.9	*UJ*	0.002	*J*	0.078		1460		*1430*		0.02	*UJ*	0.02	*UJ*
3/10/2011																
4/21/2011	5.7	*UJ*	55.9	*UJ*	0.016	*UJ*	0.115		1860		*1890*		0.02	*U*	0.02	*U*
5/17/2011	12.2	*UJ*	42.3	*J*	0.027	*UJ*	0.092		1820		*1770*		0.02	*U*	0.02	*U*
6/8/2011	53.6		87.3		0.016	*U*	0.006		2810		*2870*		0.02	*U*	0.02	*U*
7/12/2011	10.2	*J*	36.8		0.017	*UJ*	0.132		4460		*4260*		0.02	*U*	0.02	*U*
7/24/2011																
8/23/2011	51.1		140		0.018	*UJ*	0.11		1870		*1860*		0.02	*U*	0.02	*U*
9/7/2011	11.8	*UJ*	97.4		0.03	*UJ*	0.215		1450		*1470*		0.02	*U*	0.02	*U*
10/11/2011	4.6	*UJ*	60.7	*J*	0.017	*J*	0.099	*J*	1530	*J*	1430	*J*	0.02	*U*	0.02	*U*
11/10/2011	5.4	*J*	54.6		0.018	*UJ*	0.11	*J*	1420		1420		0.02	*U*	0.02	*U*
12/20/2011	13.7	*UJ*	100		0.026		0.25		1360		1370		0.02	*U*	0.02	*U*

Table 4-12. Laboratory Water Quality Results for the PAG Facility

Sampling Date	Nickel Dissolved Ni µg/L		Nickel Total Ni µg/L		Potassium Dissolved K µg/L		Potassium Total K µg/L		Selenium Dissolved Se µg/L		Selenium Total Se µg/L		Silver Dissolved Ag µg/L		Silver Total Ag µg/L		Sodium Dissolved Na µg/L		Sodium Total Na µg/L		Zinc Dissolved Zn µg/L		Zinc Total Zn µg/L	
8/19/2008	3.62		2.31		13700		14000		1.9		2.3		0.009	*UJ*	0.011	*UJ*	105000		106000		4.32	*J*	2.68	*J*
9/9/2008	2.16		2.2		9670		9630		1.4		1.7		0.009	*UJ*	0.009	*UJ*	44400		44500		1.61	*U*	3.12	*U*
10/15/2008	1.28		1.44		6270		6330		0.9	*J*	1.1		0.009	*U*	0.009	*U*	14500		14700		5.95	*U*	2.86	*U*
4/21/2009	1.37		1.13		3330		3250		0.9	*J*	0.9	*J*	0.009	*UJ*	0.009	*UJ*	3240		3170		4.02	*U*	3.68	*U*
5/21/2009	1		1.13		5500		5660		1.2		1.3		0.006	*J*	0.021	*J*	4890		5120		4.7	*U*	4	*U*
6/19/2009	1.15		1.3		6000		5850		0.7	*J*	0.4	*J*	0.006	*UJ*	0.009	*UJ*	4870		4780		8.2	*U*	8	*J*
7/25/2009	1.31		1.34		7430		7490		1.5		1.4		0.004	*U*	0.004	*U*	7910		7970		6.68	*U*	36.8	
8/31/2009	4.74		4.68		5940		5960		1.1		1.2		0.035	*UJ*	0.004	*UJ*	6460		6540		11.8	*J*	15.5	*J*
9/7/2009	1.42		1.25		5280		5330		1	*J*	0.8	*J*	0.004	*UJ*	0.004	*UJ*	5640		5700		5.5	*U*	3.5	*U*
10/18/2009	1.04		0.89		4850		4820		0.8	*J*	0.8	*J*	0.045		0.004	*UJ*	4230		4170		4.22	*U*	5.1	*UJ*
10/31/2009	0.9		1.02		2710		2920		0.7	*UJ*	0.7	*UJ*	0.047	*UJ*	0.061	*UJ*	2820		3140		3.12	*U*	4.75	*U*
12/29/2009	3.57		3.67		3170		3300		0.6	*J*	0.7	*J*	0.004	*UJ*	0.022	*UJ*	3810		3840		3.61	*U*	4.78	*U*
1/15/2010	1.94		2.06		2660		2540		0.7	*J*	0.7	*J*	0.004	*UJ*	0.006	*UJ*	3880		*3760*		3.42	*U*	5.97	*U*
2/12/2010	0.94		1.59		2480		2530		0.6	*U*	0.3	*U*	0.004	*U*	0.004	*U*	2970		3020		3.17		5.6	
3/5/2010	0.86		1.05		2780		*2700*		0.8	*J*	1	*J*	0.004	*UJ*	0.004	*UJ*	3630		*3550*		3.23		5.23	
4/21/2010	0.87		*0.74*		3200		*3070*		0.4	*J*	0.7	*J*	0.004	*UJ*	0.004	*UJ*	6940		*6790*		3.42	*U*	4.41	*U*
5/18/2010	0.82		*0.8*		3960		*3750*		0.8	*J*	0.8	*J*	0.004	*UJ*	0.004	*UJ*	6660	*J*	*6290*	*J*	3.18	*U*	3.98	*U*
6/29/2010	1.66		*1.3*		3910		*3950*		1.2	*U*	0.8	*UJ*	0.004	*U*	0.004	*U*	4870		*4910*		5.7	*U*	11.3	*J*
7/14/2010	2.01		2.12		5060		*5240*		1.1		1.2		0.004	*UJ*	0.004	*UJ*	5660		*5820*		3.97		3.18	
8/11/2010	4.55		4.64		5790	*J*	*5820*	*J*	1.2		1.2		0.004	*UJ*	0.004	*UJ*	6540	*J*	*6400*	*J*	6.71		7.21	
9/7/2010	1.17		1.12		4080		*4200*		1.5		1.3		0.004	*UJ*	0.004	*UJ*	3930		*4010*		11.3	*J*	13.3	*J*
10/18/2010	0.34	U	0.55	*U*	2080		*2180*		0.7	*UJ*	0.7	*UJ*	0.004	*UJ*	0.004	*UJ*	3430		*3590*		3.6	*U*	5	*U*
11/2/2010	1.29	U	1.31		2510		*2520*		0.8	*J*	0.9	*J*	0.004	*U*	0.004	*U*	5140		*5140*		5.21		7.72	
12/26/2010	0.75		0.84		2010		*1970*		0.6	*J*	0.6	*J*	0.004	*UJ*	0.004	*UJ*	3010		*2980*		4.82	*U*	7.03	*U*
1/19/2011	0.76		0.8		3120		*3070*		0.7	*J*	0.6	*J*	0.004	*UJ*	0.004	*UJ*	4340		*4250*		3.66	*U*	6.87	*U*
1/20/2011[a]	0.42		0.56		1690		*1720*		0.3	*U*	0.3	*U*	0.004	*UJ*	0.004	*UJ*	2340		*2300*		3.1	*U*	4.92	*U*
2/9/2011	1.29		1.13		2150		*2110*		0.6		0.5		0.004	*UJ*	0.004	*UJ*	2960		*2970*		4.29	*U*	3.98	*U*
3/10/2011																								
4/21/2011	0.74	U	0.68	*UJ*	2340		*2380*		0.8	*J*	0.7	*J*	0.004	*UJ*	0.006	*UJ*	2350		*2380*		3.94	*U*	4.88	*U*
5/17/2011	2.02		1.9		2550		*2460*		0.7	*J*	0.8	*J*	0.004	*UJ*	0.004	*UJ*	2640		*2530*		2.59	*U*	3.67	*U*
6/8/2011	1.75		1.7		4180		*4180*		0.9	*J*	0.9	*J*	0.004	*UJ*	0.004	*UJ*	3230		*3270*		1.39	*U*	2.47	*U*
7/12/2011	3.34		3.47		5170		*4860*		1.7		1.9		0.004	*UJ*	0.004	*UJ*	4390		*4220*		3.29	*U*	6.79	*U*
7/24/2011																								
8/23/2011	0.74		0.79		2630		*2620*		0.8	*J*	0.8	*J*	0.004	*UJ*	0.004	*UJ*	2050		*2010*		7.25		8.79	
9/7/2011	0.6	UJ	0.69		2160		*2180*		0.8	*J*	0.8	*J*	0.004	*UJ*	0.004	*UJ*	1550		*1480*		5.66	*U*	7.52	*U*
10/11/2011	0.35		0.29		2290		2080		0.004	*UJ*	0.004	*UJ*	0.6	*UJ*	0.4	*UJ*	2590		2550		6.71		8.22	
11/10/2011	0.15	*J*	0.14	*J*	2060		2050		0.53	*UJ*	0.45	*UJ*	0.005	*U*	0.008	*J*	2750		2700		3.59	*R*	4.57	*R*
12/20/2011	1.38		1.54		1970		1940		0.8	*J*	0.7	*J*	0.004	*U*	0.009	*UJ*	2590		2540		3.98	*U*	7.34	*U*

NOTES:

For the following parameters, values shown in *red* or *blue italics* indicate values greater than the maximum aquatic life screening values (Integral, 2009[b]):

Total Aluminum			
if pH< 7 & Hardness<50 mg/L	87	µg/L	ADEC Chronic Screening Level
if pH>/ 7 & Hardness>/ 50 mg/L	750	µg/L	ADEC Acute Screening Level
Dissolved Arsenic	150	µg/L	ADEC Chronic Screening Level
Dissolved Iron	1000	µg/L	ADEC Chronic Screening Level
Dissolved Mercury	0.05	µg/L	ADEC Chronic Screening Level
Dissolved Selenium	4.6	µg/L	ADEC Chronic Screening Level

**Chronic aquatic life screening criteria for Cadmium, Copper, Lead, Nickel and Zinc are calculated individually based on sample hardness, values shown in *red italics* exceed the inividualized screening levels.

-- = data not available

Data Qualifiers:

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit; however, the reported quantitation limit is approximate.
R = The sample results are rejected.

[a] The 20/01/2011 sample was taken during an overflow event at the PAG Pond. Heavy rain over a short period of time paired with melting snow lead to this short lived and low volume overflow event.

[b] Integral Consulting Inc. (2009). Niblack Exploration Project 2008 Annual Report. Report prepared for the State of Alaska Department of Environmental Conservation Division of Water on behalf of CBR Gold Corp., May 12, 2009.

Table 4-13. Field Measurements and Observations for the PAG Site

Date	Conditions	Time	pH	Conductivity ms/cm	Turbidity	DO mg/L	Temp °C	SO_4 mg/L	Comments
12/31/2011	Windy and Lt Rain 34+	9:18	7.2	0.225	13	10.99	3.7	100	
12/22/2011	--	--	--	--	--	--	--	90	
12/17/2011	Overcast/ Lt rain 36+	14:29	7.68	0.218	0	10.9	2.7	80	
12/12/2011	Lt rain/snow 36+	11:25	7.17	0.206	0	9.76	2.6	90	
12/3/2011	Overcast/ Lt rain 37+	15:27	7.17	0.208	0	9.79	3.2	90	
11/28/2011	Overcast/ Rain 38+	16:03	6.55	0.22	3	9.82	4.2	90	
11/19/2011	Overcast/ Lt rain 31+	10:03	6.72	0.20	3	10.11	5.1	90	Based on emails with Felix, DO corrected from 1011 to 10.11 mg/L
11/12/2011	Rain 39+	10:08	7.40	0.18	8	9.30	6.5	90	
11/5/2011	Overcast/ Lt rain 42+	16:31	6.62	0.23	3	9.17	8.6	90	
10/22/2011	Windy and Rainy 48+	12:35	7.53	0.181	28	9.3	8.3	<50	
10/14/2011	Overcast/ Rain 45+	14:00	7.4	0.185	26	8.1	8.1	<50	
10/8/2011	Overcast/ Lt rain 45+	11:21	7.42	0.197	26	7.68	8.2	<50	
10/1/2011	Clear & Sunny 49+	11:57	6.48	0.193	27	8.38	8.4	<50	
9/25/2011	Clear & Sunny 47+	10:50	7.39	0.195	25	8.58	8.6	<50	
9/17/2011	Overcast Lt. Wind 53+	14:32	7.37	0.197	46	7.22	10.2	<50	
9/7/2011	--	8:20	6.6	0.23	67	11.14	11.15	<50	BARRY HOGARTY ON SITE. Data entered from Barry's field notes by A. Conovitz, Integral Consulting.
9/3/2011	Rain 56+	10:55	6.69	0.307	40	7.52	13.7	70	
8/27/2011	Clear 56+	14:10	7.24	0.34	1	8.26	16.5	200	Turb Sensor repaired by Felix Mateu
8/20/2011	Rain 58+	11:35	7.32	0.52	--	7.08	15.2	200	
8/13/2011	Rain 54+	16:35	7.78	0.70	--	7.51	15.7	>200	Turb Sensor not working
8/6/2011	Overcast 52+	14:12	7.85	0.67	1	--	16.2	>200	DO sensor E4 error reading
7/30/2011	Overcast/ Lt rain 53+	12:37	7.04	0.36	1	--	12.8	200	DO sensor E4 error reading
7/24/2011	Moderate rain, 60+, no wind	11:00	7.9	0.60	4	10.29	14.27	200	BARRY HOGARTY ON SITE. Data entered from Barry's field notes by A. Conovitz, Integral Consulting.
7/16/2011	Overcast 67+	14:20	6.86	0.15	3	--	20.3	200	DO sensor E4 error reading
7/9/2011	Overcast 63+	16:30	7.96	0.63	2	--	18.5	200	DO sensor E4 error reading
7/2/2011	Windy and Rainy 52+	17:21	7.25	0.37	3	--	9.8	200	DO sensor E4 error reading
6/25/2011	Overcast	14:28	8.28	0.52	1	7.79	16.3	200	Jason Lanyi in training
6/18/2011	Overcast	12:08	7.05	0.16	2	7.03	14.8	150	
6/8/2011	Overcast	15:25	--	--	--	--	--	--	PAG Pond Frozen
5/26/2011	--	--	--	--	--	--	--	--	Instrument not doing proper calibration will call tech support
5/21/2011	Overcast Lt Rain	15:45	7.18	0.284	3	8.59	11.6	125	
5/13/2011	Sunny & Clear	18:27	7.35	0.29	1	9.56	10.8	100	
5/7/2011	Sunny & Clear	10:49	6.94	0.28	1	8.95	8.9	125	
4/30/2011	Overcast/lt rain/42+	11:30	7.76	0.287	1	8.59	8.8	150	
4/21/2011	Light Rain/40+	9:00	6.30	0.28	5	13.24	6.3	90	BARRY HOGARTY ON SITE. Data entered from Barry's field notes by A. Conovitz, Integral Consulting.
4/16/2011	Clears/Sunny 48+	11:09	6.70	0.258	1	8.73	8.8	90	
4/9/2011	PT. Clears/PT Sunny 44+	10:46	6.91	0.241	1	8.96	4.8	125	
4/3/2011	Rainy/Windy 38+	18:37	7.03	0.235	8	9.55	3.2	70	
3/26/2011	Clears/Sunny 44+	16:36	7.35	0.22	2	8.41	4.1	80	
3/19/2011	Clears/Sunny 48+	--	--	--	--	--	--	--	PAG Pond Frozen
3/8/2011	Rain/40+	13:10	7.10	0.44	4	10.02	18.26	175	BARRY HOGARTY ON SITE. Data entered from Barry's field notes by A. Conovitz, Integral Consulting.
3/4/2011	Snow 33+	--	--	--	--	--	--	--	PAG Pond Frozen

Table 4-13. Field Measurements and Observations for the PAG Site

Date	Conditions	Time	pH	Conductivity ms/cm	Turbidity	DO mg/L	Temp °C	SO_4 mg/L	Comments
2/24/2011	Cold/Clear/29+	14:15	--	--	--	--	--	--	PAG Pond Frozen
2/17/2011	Cold/Clear/20+	13:55	--	--	--	--	--	--	PAG Pond Frozen
2/10/2011	Calm/Dry/34+	7:35	5.70	0.22	8	13.11	1.1		BARRY HOGARTY ON SITE
2/4/2011	--	--	--	--	--	--	--	--	Instrument sent for repair
1/26/2011	Cool/Clear/42+	14:55	7.20	0.250	4	--	4.3	85	DO sensor E4 error reading
1/20/2011	Foggy/Partly Cloudy/Mild/Much snowmelt	14:00	7.03	28.2	24.4	10.6	1.1	--	BARRY HOGARTY ON SITE
1/19/2011	Heavy Rain/40+	14:00	7.18	48.4	11.6	12.88	2.2	--	BARRY HOGARTY ON SITE
1/8/2011	Cool/Clear/33+	11:15	7.22	0.286	1	--	2.3	85	DO sensor E4 error reading
12/14/2010	Overcast/lt rain	14:10	8.34	0.231	88	--	7		DO sensor E4 error reading
12/07/2010	Overcast/lt rain	11:15	6.73	0.234	96	0.3 [a]	9.1		DO calibrated ok, but readings are suspect
11/30/2010	Overcast/lt rain/42°F	11:40	7.18	0.318	2	0.07 [a]	5.3	80	DO calibrated ok, but readings are suspect
11/21/2010	Cool/Clear/39°F	16:03	6.84	0.247	2	7.35	6.3	15	
11/14/2010	Cool/Clear/49°F	14:38	7.76	0.243	2	6.85	7.2	25	
11/07/2010	Overcast/cool/43°F	10:44	6.96	0.257	2	7.26	7.8	15	
10/31/2010	Cool/Rainy/ windy	10:08	7.11	0.327	9	9.25	6.2	150	New DO sensor installed
10/25/2010	Cool/slight overcast/42°F	16:35	7.76	0.302	2	5.74 [a]	6.5	95	DO sensor E4 error reading - New DO sensor ordered
10/17/2010	Rainy/Windy	14:28	7.08	0.235	5	5.58 [a]	10.4	100	DO sensor E4 error reading - New DO sensor ordered
10/09/2010	Heavy Rain/High Wind	12:35	7.07	0.266	22	4.78 [a]	11		DO sensor E4 error reading - New DO sensor ordered
10/02/2010	Cool/overcast/lt rain	16:20	7.9	0.44	4	5.69 [a]	12.3		DO sensor E4 error reading - New DO sensor ordered
09/25/2010	Cool/ Overcast/Rain	15:50	7.12	0.442	2	7.75 [a]	12.1	190	DO sensor E4 error reading
09/18/2010	Sunny / 56.1°F	11:42	7.8	0.525	1	2.25 [a]	15.1		DO sensor E4 error reading
09/10/2010		16:35	7.99	0.531	1	2.14 [a]	14.6	200	DO sensor E4 error reading
09/01/2010	Light Rain/Overcast	15:37	6.5	0.59	0	7.7 [a]	15	200	DO sensor E4 error reading
08/24/2010	Overcast/cool/57°F	18:05	6.45	0.803	1	7.48 [a]	14.7	200	DO sensor E4 error reading
08/14/2010	Clear/light w wind/70°F	11:10	8.79	0.988	3.4	9.58 [a]	22.2	200	DO sensor E4 error reading
08/11/2010	Overcast / 58°F	6:00	7.18	0.892	1.7	10.38 [a]	16.1		DO sensor E4 error reading
08/07/2010	Overcast	14:20	6.82	0.643	2	7.31 [a]	17.9	190	DO sensor E4 error reading
07/23/2010	Overcast	14:50	6.08	0.465	5	7.05	13	190	
07/14/2010	Partly cloudy/light rain	9:15	8.46	0.913	2.2	11.7	16.1		
07/07/2010	Sunny/HOT 80°F	14:30	7.96	0.658	3	10.23	18	180	
06/27/2010	Overcast	14:00	7.9	0.512	4	8.35	22.5		
06/19/2010	Sunny and warm/65°F	14:40	7.99	0.512	5	8.3	21.5	175	
06/13/2010	Overcast/ 52°F	15:15	6.53	0.469	8	7.74	9.2	120	
06/05/2010	Sunny / 58°F	14:17	6.08	0.475	2	10.07	17.8	125	
05/29/2010	Overcast/52°F	15:58	7.02	0.447	1	8.45	17.5	100	
05/23/2010	Light rain/58°F	17:17	6.53	0.399	1	11.17	12	120	
05/12/2010	Sunny and Breezy/51.5 °F	17:00	8.25	0.313	-10	9.65	14	125	
05/02/2010	Sunny and Breezy/51°F	16:25	7.2	0.345	2	9.15	12.7	125	
04/24/2010	Clear and warm/ 55°F	11:51	7.71	0	1	9.16	12.6		
04/18/2010	Rainy/Windy/ 47°F	18:00	6.73	0.27	-10	9.75	8.2	85	
04/11/2010	Sunny/Warm/49°F	14:40	7.22	0.248	2	13.18	10.6	65	
04/03/2010	Cloudy and light Rain	15:14	8.05	0.243	2	16.88 [a]	7.4	65	DO Reading not accurate, not reading correctly
03/27/2010	Sunny/ 45°F	17:56	6.69	0.246	2	19.99 [a]	7.6	60	DO Reading not accurate, not reading correctly
03/20/2010	Sunny/ 45°F	14:23	6.6	0.295	2	19.99 [a]	7.4	65	DO Reading not accurate, not reading correctly

Table 4-13. Field Measurements and Observations for the PAG Site

Date	Conditions	Time	pH	Conductivity ms/cm	Turbidity	DO mg/L	Temp °C	SO_4 mg/L	Comments
03/14/2010	Windy and Rainy/ 38°F	16:40	6.8	0.275	18	19.99 [a]	5.8	<50	DO Reading not accurate, not reading correctly
03/05/2010	Wind and light Rain/38°F	14:00	7.32	0.388	4.2	10.86	4.9		
02/27/2010	Windy/light rain/44°F	10:00	6.97	0.245	3	15.53 [a]	6.2	100	DO readings all seem skewed to the higher end of things.
02/19/2010	Sunny/clear/cold 42°F	15:26	6.34	0.237	1	15.28 [a]	3.1	60	DO readings all seem skewed to the higher end of things.
02/12/2010	Mod. rain/no wind/40°F	16:00	7.05	0.239	45	10.95	5.27		
02/06/2010	Windy/light rain	14:43	6.48	0.233	-10	8.36	6.4	55	
01/30/2010	Overcast / Light Rain / 43°F	15:00	6.61	0.211	3	18.5 [a]	6.9	60	DO readings all seem skewed to the higher end of things.
01/23/2010	Overcast / Rain / 44°F	15:19	6.59	0.242	2	8.72	5.8	75	
01/07/2010	Overcast / Rain / 40°F	14:30	6.57	0.271	-10	7.68	4.6	80	
12/29/2009	--	12:40	7.36	0.302	7	10.11	3.41	80	--
12/19/2009	Clear and COLD	10:20	6.31	0.29	6	10.16	1.3	125	PAG pond frozen, but managed to get a sample
12/11/2009	Clear and COLD	13:50	6.8	0.304	-10 [a]	11.33	2.3	90	PAG pond frozen, but managed to get a sample
12/04/2009	Clear and COLD	15:45	--	--	--	--	--	--	PAG pond frozen
11/27/2009	Overcast/calm	15:00	6.67	0.227	4	8.33	6.3	65	--
11/08/2009	Clear and cool	14:25	7.03	0.277	18	8.57	7.2	75	--
10/31/2009	--	8:45	6.2	0.266	7.2	9.67	7.44	--	--
10/14/2009	Partly cloudy, mild	16:10	8.72	0.342	2	13.24	5.1	100	Thin layer of ice on pond
10/7/2009	Clear and cool	16:01	8.03	0.339	-10 [a]	7.08	10.8	95	Changed out DO sensor, reading correctly now.
10/1/2009	Light rain on/off	14:40	7.6	0.270	114	4.85 [a]	10.7	80	DO readings likely incorrect due to error message during calibration
9/8/2009	Raining and cloudy	17:30	7.65	0.495	--	7.21	11.28	125	Used U10 Horiba and SF1 for SO_4
8/31/2009	Light winds, partly cloudy, warm	9:15	7.79	0.598	1	6.79	13.6	200+ (SF1)	Light winds, partly cloudy-warm. Used U10 readings (Niblack's meter).
8/20/2009	Wind and rain	18:20	7.35	0.196	126	13.15	10.3	200.0	Wind and rain
8/13/2009	Sunny warm	11:10	7.79	0.769	-10 [a]	7.95	16.1	200	--
8/2/2009	Sunny warm	17:20	8.99	0.914	8	9.93	28.2	200	PAG really low; no precip for days
7/25/2009	Partly sunny no rain	9:00	8.25	79.6	2.8	12.21	14.87	200	With Barry's Horiba
7/21/2009	--		--	--	--	--	--	--	Waiting for Barry Hogarty
7/11/2009	Clear and warm	12:35	9.22	0.855	37	8.83	22.9	160	Clear, warm and dry for several days
7/5/2009	Clear and warm	10:15	8.66	0.811	-10 [a]	7.7	21.8	195	Clear, warm and dry for several days
6/28/2009	Rain and wind	14:00	7.57	0.627	-10 [a]	7.46	8.7	190	Rain and wind
6/19/2009	Partly cloudy, little precip	9:45	8.8	0.504	2	8.7	13.5	150	Cloudy, light rain 52 °F
6/14/2009	Partly cloudy, warm	9:15	8.97	0.694	2	9.91	20.7	125	Partly cloudy, warm
6/9/2009	Clear sunny	17:45	8.83	0.695	1	8.02	23.5	100	Clear, sunny
5/31/2009	Sunny, breezy	10:50	7.42	0.614	-10 [a]	7.96	13.1	185	Sunny, warm day. PAG level low (1 ft.). Inflow to Pond is light. PAG was pumped two days earlier and no ppt for last two days.
5/23/2009	Sunny, breezy	13:00	8.03	0.575	-10 [a]	7.98	15.6	180	Sunny, warm day. PAG level low (2–3 ft.). Inflow to Pond is minimal, just a trickle. No ppt for last few days.
5/21/2009	Overcast	7:00	--	--	--	--	--	--	--
5/16/2009	Rain and wind	14:30	7.66	0.371	1	10.1	8.1	150	Steady rain and wind. PAG pond about half full.
5/14/2009	Clear	--	--	--	--	--	--	--	As per Andrew, Fadams & Bhogarty did not collect sample. Full suite sample will be sent 05.21.09.
5/9/2009	Partly coudly	12:21	8.46	0.203	-10 [a]	7.3	11	--	Partly cloudy, mild
5/2/2009	--	--	--	--	--	--	--	--	Horiba Instrument off-site for repairs
4/25/2009	--	--	--	--	--	--	--	--	Horiba Instrument off-site for repairs
4/18/2009	Rain on/off	11:30	5.8	0.17	1 [a]	13.8	4	115	Light rain on/off all day, pond still 50% covered with ice.

Table 4-13. Field Measurements and Observations for the PAG Site

Date	Conditions	Time	pH	Conductivity ms/cm	Turbidity	DO mg/L	Temp °C	SO_4 mg/L	Comments
4/11/2009	Mostly clear, light rain	15:15	6	0.09	0 [a]	13.6	2	110	Large Ice chunks still melting. Light rain on/off all day. Regular SO_4 testing initiated.
4/4/2009	Rain and wind	14:55	6.6	0.1	2 [a]	12.1	2	--	Rainy windy day
3/29/2009	Snowing on/off	14:45	--	--	--	--	--	--	Frozen and too low to sample (just drained), lots of snow around.
3/23/2009	--	--	--	--	--	--	--	--	Frozen
3/16/2009	--	--	--	--	--	--	--	--	Frozen
3/7/2009	Clear, cold	14:08	6.08	0.086	10 [a]	13.38	0.6	--	Clear and cold - icy surface sample, may not be a perfect representation. Instrument - TURB was flashing - may be incorrect reading
2/28/2009	Snowing lightly (on/off)	14:25	--	--	--	--	--	--	Pond frozen solid
2/21/2009	Snowing (on/off)	12:50	--	--	--	--	--	--	Pond frozen solid
2/14/2009	--	--	--	--	--	--	--	--	Pond frozen solid
2/9/2009	--	--	--	--	--	--	--	--	Pond frozen solid
2/2/2009	Cold, cloudy	14:45	7.32	--	--	--	--	--	Did not do the whole parameters, was still frozen, had to break ice. Probably not a good representative.
1/21/2009	Cold, deep snow	--	--	--	--	--	--	--	Pond still frozen solid, too difficult to access for sample
1/18/2009	Cold, deep snow	--	--	--	--	--	--	--	Pond frozen solid
1/15/2009	Cold, deep snow	--	--	--	--	--	--	--	Could not reach pond, snow too deep
1/8/2009	Cold, deep snow	--	--	--	--	--	--	--	Could not reach pond, snow too deep
12/27/2008	Cold, snowing	13:30	--	--	--	--	--	--	Frozen
12/16/2008	Cold, snowing	15:00	6.38	--	--	--	--	--	--
12/9/2008	Rain, hail, overcast	13:23	6.32	--	--	--	--	--	--
12/2/2008	Mostly sunny, cold	14:25	6.47	--	--	--	--	--	Thin, 1-2 cm layer of ice on surface
11/26/2008	Light rain, partly cloudy, cold	12:27	6.76	0.17	20	13.30	5.8	--	--
11/25/2008	Partly cloudy, chilly but nice	14:30	5.90	1.87	12	10.10	5.9	--	Calibration parameters not recorded, meter was hanging rather than sitting, turbidity and conductivity were a oddly high; our first try at this, probably not a reliable entry.

Notes:
-- = data not available
DO = dissolved oxygen
PAG = potentially acid-generating

[a] Indicates instrument reading may be incorrect

APPENDIX A

PHOTOGRAPHS OF SITE FACILITIES AND WATER QUALITY MONITORING LOCATIONS

SITE DEVELOPMENT

Photo 1. Aerial view of site, looking southwest (March 2008).

Photo 2. Mine portal (October 2009).

Photo 3. Surface drill setup at the landing just up from Old Camp (May 2011).

STORM WATER MANAGEMENT STRUCTURES

Photo 4. Roadside ditch including culvert and straw bale sediment trap.

Photo 5. Sediment trap located along road down slope of NAG waste rock site. Photo taken during period of heavy rainfall.

Photo 6. Culvert and sump near sediment ponds.

SEDIMENT POND AND LAND APPLICATION AREAS – WATER TREATMENT FACILITY

Photo 7. Sediment pond construction, including sand bedding layer (water treatment plant in background).

Photo 8. Sediment pond construction, showing geotextile placement, anchor trench, and HDPE liner.

Photo 9. Sediment pond construction, showing HDPE liner installation.

Photo 10. Completed sediment ponds (2009).

Photo 11. EFF1 sample location (May 2011).

Photo 12. Partially completed water treatment facility, showing treatment tanks and mixers.

Photo 13. HDPE pipes exiting water treatment facility/sediment ponds and leading to Land Application Area.

Photo 14. Land Application Area, distribution system with 6-in. main line connecting to 2-in. pipe that services drip emitter lines for a single land application zone.

PAG TEMPORARY WASTE ROCK STORAGE SITE

Photo 15. Crushed rock base of PAG site prior to compaction, placement of sand layer, and liner installation (November 2007).

Photo 16. PAG site (2009).

Photo 17. PAG Pond capturing runoff from PAG Pile (May 2011).

Photo 18. PAG Pond (July 2011).

Photo 19. PAG Pond sampling (August 2011).

ENVIRONMENTAL LAB FOR OPERATIONAL CHARACTERIZATION PLAN

Photo 20. Sample preparation lab for on-site XRF analysis, including crusher and pulverizer.

Photo 21. Sample preparation lab for on-site XRF analysis, including drying oven, riffle splitter, and press.

FLOAT, RAMP, AND BARGE CAMP

Photo 22. Barge ramp, float dock, and floating barge camp.

Photo 23. Barge camp (September 2009).

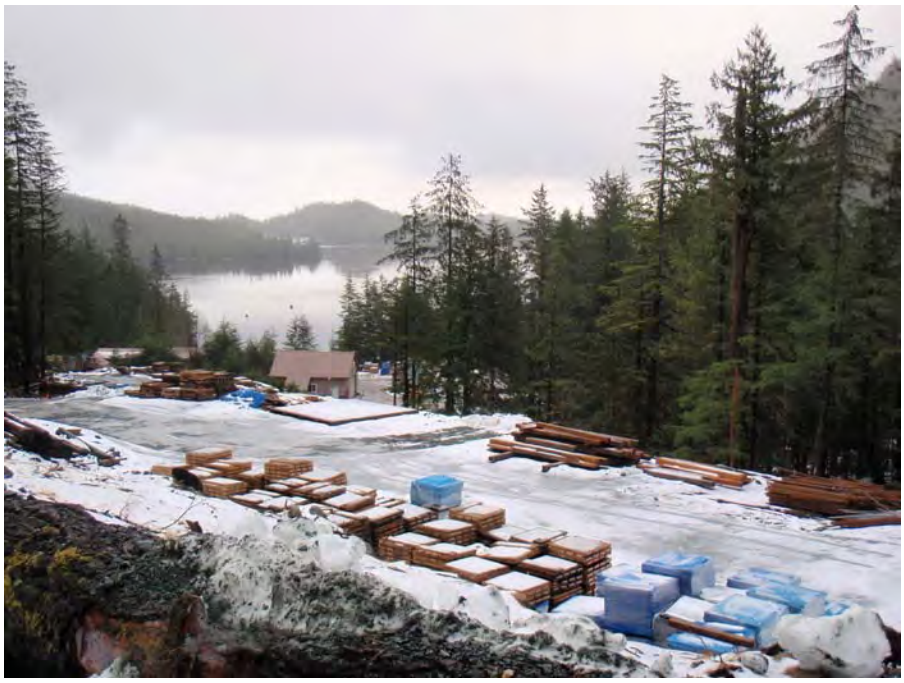


Photo 24. Old Camp and Niblack Anchorage (January 2011).

SURFACE WATER MONITORING STATIONS

Photo 25. Surface water monitoring station WQ4, Waterfall Creek downstream location (photo taken from footbridge, January 2011).

Photo 26. WQ4 sampling (April 2011).

Photo 27. Surface water monitoring station WQ6, Camp Creek downstream location (September 2009).

Photo 28. Sampling at WQ6—very high flow (January 2011).

Photo 29. Surface water monitoring station WQ10, Unnamed Creek 1 downstream location (April 2011).

Photo 30. Sampling WQ10 (September 2009).

Photo 31. Surface water monitoring station WQ13, Unnamed Creek 2 downstream location (low flow, August 2010).

Photo 32. Sampling at WQ13 (April 2011).

GROUNDWATER MONITORING WELLS

Photo 33. Groundwater monitoring well MW1, wetlands below NAG storage site; photo shows purging prior to sample collection (December 2011).

Photo 34. Groundwater monitoring well MW2, wetlands below settling/treatment ponds (January 2010).

Photo 35. Groundwater monitoring well MW3, wetlands below PAG storage site (October 2010).

Photo 36. Groundwater monitoring well MW4, wetlands below LAD infiltration system area (January 2010).

NOTE: Photos were not available for surface water reference monitoring stations WQ7 (Camp Creek upstream location), WQ8 (Waterfall Creek upstream location), and WQ12 (Unnamed Creek 1 upstream location), or groundwater reference monitoring wells MW7 (wetlands offsite and east of the project area), MW8 (upgradient of LAD application area and MW3), and MW9 (upgradient of LAD application area and MW3).

APPENDIX B

WATER QUALITY MONITORING RESULTS FOR SURFACE WATER AND GROUNDWATER

Table B-1. Surface Water Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests		
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
WQ4			Knight Piesold	October 1996 II	10/16/1996		--	--	--	--	--	16	32	--	4 *U*
WQ4			Knight Piesold	September 1997	9/3/1997		--	--	--	--	--	5	20 *U*	--	4 *U*
WQ4		V7277	Knight Piesold	April 2005 II	4/20/2005		--	--	--	--	--	12	10 *U*	6.92	3 *U*
WQ4		X2213	Knight Piesold	February 2006 II	2/15/2006		2.76	57	15.8	--	6.42	32	21	22.1	3 *U*
WQ4		X5977	Knight Piesold	May 2006 II	5/16/2006	08:08	4.36	22	18.36	--	5.83	13	15	6.7	3 *U*
WQ4		Z2004	Knight Piesold	August 2006 II	8/29/2006	11:05	10.45	40	11.48	--	6.73	24	26	16	3 *U*
WQ4		Z3908	Knight Piesold	October 2006	10/17/2006	13:30	8.48	70	11.59	22	6.6	34	36	26.2	3 *U*
WQ4		Z6128	Knight Piesold	December 2006	12/7/2006	09:25	5.27	30	11.26	42	4.08	13	19	6.68	51.4
WQ4		L482967	Knight Piesold	February 2007	2/26/2007	08:41	1.42	55	12.8	15	6.45	34	29	24.6	3 *U*
WQ4		L495369	Knight Piesold	April 2007	4/10/2007	09:26	2.14	33	13.03	38.4	6.76	21	22	10.8	3 *U*
WQ4		L507191	Knight Piesold	May 2007	5/14/2007	14:05	4.18	29	13	11.8	6.64	18	21	10.6	3 *U*
WQ4		L515743	Knight Piesold	June 2007	6/4/2007	16:13	6.43	15	13.15	10	6.69	12	10 *U*	6.94	3.8
WQ4		L526591	Knight Piesold	July 2007 I	7/1/2007	13:35	8.78	44	12.14	0.6	7.09	26	21	19.6	3 *U*
WQ4	K0706569		Integral	July 2007 II	7/24/2007	14:12	9.41	64	11.89	16	6.89	38 *J*	43	26	5 *U*
WQ4	K0707317		Integral	August 2007 I	8/14/2007	13:25	10.78	87	11.77	4.5	7.26	51	54	38	5 *U*
WQ4	K0707782		Integral	August 2007 II	8/27/2007	10:00	9.7	61	12.7	6.2	6.6	36	46 *U*	38	5 *U*
WQ4	K0708240		Integral	September 2007 I	9/11/2007	11:25	9.51	75	12	3	7.39	46 *J*	44	35	5 *U*
WQ4	K0709126		Integral	September 2007 II	10/2/2007	11:35	8.2	38	12.88	6.5	6.52	21	23	13 *U*	5 *U*
WQ4	K0709804		Integral	October 2007	10/17/2007	10:30	6.29	27	15.05	17.7	6.73	14 *J*	8	16 *U*	7
WQ4	K0710773		Integral	November 2007	11/13/2007	11:30	4.15	57	13.4	6	7.19	31	22	26	5 *U*
WQ4	K0711891		Integral	December 2007 I	12/15/2007	14:10	1.36	46	15.13	26.5	6.5	23 *J*	26 *U*	22 *U*	12
WQ4	K0800335		Integral	January 2008	1/9/2008	11:40	1.09	84	15.96	43.5	7.12	43 *J*	64	35 *U*	5 *U*
WQ4	K0801400		Integral	February 2008	2/14/2008	13:55	1.24	52	15.11	59.7	6.73	35 *J*	38 *UJ*	29	63
WQ4	K0802328		Integral	March 2008	3/15/2008	11:30	1.8	49	13.66	4	6.39	24 *J*	76 *U*	31 *U*	5 *U*
WQ4	K0803239		Integral	April 2008	4/14/2008	15:50	3.2	68	14.12	11.7	6.85	32 *J*	14	32 *U*	5 *U*
WQ4	K0804080		Integral	May 2008	5/8/2008	9:40	4.1	58	13.5	15.7	6.81	29 *J*	22	20 *U*	5 *U*
WQ4	K0805877		Integral	June 2008	6/28/2008	9:05	7.3	29	12.96	4.6	5.89	15 *J*	9 *U*	11 *U*	7
WQ4	K0806880		Integral	July 2008	7/24/2008	15:45	9.8	68	11.3	24.3	6.82	32 *J*	43	20	5 *U*
WQ4	K0810253		Integral	October 2008	10/15/2008	14:10	8	50	11.61	4.4	6.72	23 *J*	31	18	5 *U*
WQ4	K0902142		Integral	March 2009	3/9/2009	12:05	0.34	87	18.85	6.7	6.34	38 *J*	39	28	5 *U*
WQ4	K0904395		Integral	May 2009	5/13/2009	13:50	4.81	31	13.92	8.2	6.2	13 *J*	17	6	5 *U*
WQ4	K0906701		Integral	July 2009	7/23/2009	14:00	11.05	26	11.15	17.6	6.97	11 *J*	19	6	15
WQ4	K0908299		Integral	September 2009 I	9/5/2009	11:25	11.31	116	8.67	4.4	7.17	27 *J*	24	17.6	5 *U*
WQ4	K0908619		Integral	September 2009 II	9/12/2009	16:25	11.02	86	10.32	4.6	6.95	28 *J*	34 *U*	16.8	5 *U*
WQ4	K0910115		Integral	October 2009	10/17/2009	13:50	8.6	56	10.67	6	7.07	26 *J*	32	15.2	5 *U*
WQ4	K1000512		Integral	January 2010	1/15/2010	16:05	4.29	45	11.64	9.9	6.55	16 *J*	16 *UJ*	6.4	5 *U*
WQ4	K1004032		Integral	April 2010	4/22/2010	13:35	5	89	11.7	0	6.9	28 *J*	33	15.2	5 *U*
WQ4	K1008751		Integral	August 2010	8/10/2010	15:00	11.4	132	10.62	7.5	7.54	44 *J*	44	39.2	5 *U*
WQ4	K1011739		Integral	October 2010	10/18/2010	16:30	8.1	95	11.03	24	7.94	22 *J*	17	12	5 *U*
WQ4	K1100726		Integral	January 2011	1/19/2011	15:15	1.3	64	12.85	23.5	7.35	17 *J*	66	22	5 *U*
WQ4	K1103541		Integral	April 2011	4/20/2011	17:10	4.05	80	13.2	7	6.2	39 *J*	55	34.8	5 *U*
WQ4	K1106865		Integral	July 2011 II	7/25/2011	15:55	10.16	70	10.78	6	6.9	26 *J*	34	22	5 *U*
WQ4	K1112358		Integral	December 2011	12/21/2011	8:50	2.81	60	12.06	9	6.4	23 *J*	17	13.6	5 *U*

Table B-1. Surface Water Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests		
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
WQ6			Knight Piesold	October 1996 II	10/16/1996		--	--	--	--	--	10	20 *U*	--	4 *U*
WQ6			Knight Piesold	September 1997	9/3/1997		--	--	--	--	--	6	20 *U*	--	4 *U*
WQ6		V7277	Knight Piesold	April 2005 II	4/20/2005		--	--	--	--	--	10	10 *U*	4.82	3 *U*
WQ6		X2213	Knight Piesold	February 2006 II	2/15/2006		2.15	39	16.16	--	6.51	23	21	13.1	3 *U*
WQ6		X5977	Knight Piesold	May 2006 II	5/16/2006	09:44	5.8	33	13.22	--	5.91	19	17	8.53	3 *U*
WQ6		Z2004	Knight Piesold	August 2006 II	8/29/2006	10:45	10.03	25	11.52	--	6.36	14	10	9.54	3 *U*
WQ6		Z3908	Knight Piesold	October 2006	10/17/2006	14:50	8.27	40	11.58	11	6.22	19	22	13.1	3 *U*
WQ6		Z6128	Knight Piesold	December 2006	12/7/2006	09:00	4.92	20	11.77	85	4.1	9	15	5.22	3 *U*
WQ6		L482967	Knight Piesold	February 2007	2/26/2007	09:46	0.87	37	12.54	8	6.25	21	18	13.5	3 *U*
WQ6		L495369	Knight Piesold	April 2007	4/10/2007	10:38	1.65	24	13.06	7.4	5.16	15	14	6.39	3 *U*
WQ6		L507191	Knight Piesold	May 2007	5/14/2007	14:45	3.45	22	13.24	12.1	6.78	13	16	7.1	3 *U*
WQ6		L515743	Knight Piesold	June 2007	6/4/2007	16:45	4.8	9	13.35	8	6.75	8	10 *U*	4.28	3 *U*
WQ6		L526591	Knight Piesold	July 2007 I	7/1/2007	14:15	7.78	20	12.45	0.9	6.97	13	10 *U*	8.64	3 *U*
WQ6	K0706569		Integral	July 2007 II	7/24/2007	14:47	9.12	32	12.03	14.4	7	18	27 *U*	13	5 *U*
WQ6	K0707317		Integral	August 2007 I	8/14/2007	14:00	10.31	52	11.73	4.9	7.14	31	36	18	5 *U*
WQ6	K0707782		Integral	August 2007 II	8/27/2007	10:45	9.73	45	12.48	5.2	6.47	26	37 *U*	24	5 *U*
WQ6	K0708240		Integral	September 2007 I	9/11/2007	12:15	9.53	43	11.76	1.9	7.22	25 *J*	19	26	5 *U*
WQ6	K0709126		Integral	September 2007 II	10/2/2007	12:00	7.83	24	12.89	4.5	5.98	17	14	9 *U*	5 *U*
WQ6	K0709804		Integral	October 2007	10/17/2007	09:40	6.74	19	14.88	11.5	5.96	10 *J*	7	14 *U*	5 *U*
WQ6	K0710773		Integral	November 2007	11/13/2007	11:00	3.85	35	13.5	1.5	7.05	17 *J*	8	15	5 *U*
WQ6	K0711891		Integral	December 2007 I	12/15/2007	13:20	1.46	29	15.14	12	6.08	16 *J*	18 *U*	13 *U*	5 *U*
WQ6	K0800335		Integral	January 2008	1/9/2008	11:05	0.53	54	15.87	4.2	6.8	26 *J*	12	23 *U*	5 *U*
WQ6	K0801400		Integral	Feb-08	2/14/2008	9:45	1.62	37	15.27	7.4	5.98	20 *J*	34 *UJ*	18 *U*	5 *U*
WQ6	K0802328		Integral	March 2008	3/15/2008	10:40	1.8	33	13.74	0	7.38	18 *J*	23 *U*	36 *U*	5 *U*
WQ6	K0803239		Integral	April 2008	4/14/2008	14:40	2.8	51	13.9	0	6.3	20 *J*	16	30 *U*	16
WQ6	K0804080		Integral	May 2008	5/8/2008	8:45	3.2	40	13.67	1.4	5.62	16 *J*	11	20 *U*	5 *U*
WQ6	K0805877		Integral	June 2008	6/28/2008	9:10	5.9	16	13.37	3.5	5.53	9 *J*	12 *U*	8 *U*	5 *U*
WQ6	K0806880		Integral	July 2008	7/24/2008	15:00	8.8	31	11.72	1	6.65	14 *J*	21	12	5 *U*
WQ6	K0810253		Integral	October 2008	10/15/2008	10:40	7.5	31	11.64	3.4	5.7	12 *J*	20	14	5 *U*
WQ6	K0902142		Integral	March 2009	3/9/2009	11:30	0.68	75	14.84	6.1	5.77	28 *J*	23	18	5 *U*
WQ6	K0904395		Integral	May 2009	5/13/2009	15:00	4.07	26	13.53	6.9	6.91	10 *J*	12	1 *J*	5 *U*
WQ6	K0906701		Integral	July 2009	7/23/2009	13:00	9.95	21	11.28	12.9	7.36	9 *J*	33	3	5 *U*
WQ6	K0908299		Integral	September 2009 I	9/5/2009	10:25	10.63	37	7.16	3.3	5.52	15 *J*	16	10	5 *U*
WQ6	K0908619		Integral	September 2009 II	9/12/2009	15:10	10.8	42	9.72	3.2	6.13	16 *J*	21.5 *U*	8	5 *U*
WQ6	K0910115		Integral	October 2009	10/17/2009	12:00	8.26	37	10.77	5.3	6.4	16 *J*	21.5	6.4	5 *U*
WQ6	K1000512		Integral	January 2010	1/15/2010	15:10	4.09	36	11.62	9.4	6.32	13 *J*	18.5 *UJ*	2.8	5 *U*
WQ6	K1004032		Integral	April 2010	4/22/2010	13:15	4.4	65	11.89	--	6.67	19 *J*	17	8.4	5 *U*
WQ6	K1008751		Integral	August 2010	8/10/2010	14:00	11.4	84	10.68	9.3	7.18	21 *J*	47	19.6	5 *U*
WQ6	K1011739		Integral	October 2010	10/19/2010	15:30	7.8	60	11.34	7.1	7.05	16 *J*	19	8.8	5 *U*
WQ6	K1100642		Integral	January 2011	1/21/2011	8:30	1.7	43	12.57	11.3	5.69	10 *J*	18.5	14	5 *U*
WQ6	K1103541		Integral	April 2011	4/20/2011	16:50	3.21	50	13.49	6	5.9	19 *J*	20.5	27.6	5 *U*
WQ6	K1106865		Integral	July 2011 II	7/25/2011	15:35	9.59	40	11.05	8	6.6	14 *J*	32.5	10	5 *U*
WQ6	K1112358		Integral	December 2011	12/21/2011	8:30	2.52	50	12.45	10	6.3	15 *J*	10	7.6	5 *U*
WQ7		X2213	Knight Piesold	February 2006 II	2/15/2006		2.15	39	16.95	--	5.2	22	22	13	3 *U*
WQ7		X5977	Knight Piesold	May 2006 II	5/16/2006	14:38	5.19	19	13.64	--	5.46	10	15	4.6	3 *U*
WQ7		Z2004	Knight Piesold	August 2006 II	8/29/2006	13:30	10	25	12.2	--	6.28	15	14	10.1	3 *U*
WQ7		Z3908	Knight Piesold	October 2006	10/17/2006	16:00	8.24	40	11.72	93	6.11	19	19	13.4	3 *U*
WQ7		Z6128	Knight Piesold	December 2006	12/7/2006	12:45	--	--	--	--	--	9	16	4.24	4.4
WQ7		L482967	Knight Piesold	February 2007	2/26/2007	11:20	0.95	36	12.69	9.5	6.28	20	17	14.3	3 *U*
WQ7		L495369	Knight Piesold	April 2007	4/10/2007	16:22	1.55	23	12.92	41.2	6.8	15	14	6.48	30.5
WQ7		L507191	Knight Piesold	May 2007	5/14/2007	15:15	5.87	113	12.47	6.1	6.97	12	17	6.92	3 *U*

Table B-1. Surface Water Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests		
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
WQ7		L515743	Knight Piesold	June 2007	6/4/2007	17:41	4.87	9	13.36	7.7	6.65	8	10 *U*	4.23	3 *U*
WQ7		L526591	Knight Piesold	July 2007 I	7/1/2007	15:10	7.53	19	12.24	4.2	7.31	13	10 *U*	8.5	3 *U*
WQ7	K0706569		Integral	July 2007 II	7/24/2007	15:31	8.82	31	12.21	14.1	7.13	17 *J*	22 *U*	21	5 *U*
WQ7	K0707317		Integral	August 2007 I	8/14/2007	14:50	10.3	51	11.92	4	7.2	31	29	16	5 *U*
WQ7	K0707782		Integral	August 2007 II	8/27/2007	12:00	9.3	45	12.79	10.6	6.77	25	33 *U*	27	5 *U*
WQ7	K0708240		Integral	September 2007 I	9/11/2007	13:15	9.39	41	11.92	5.2	7.45	25 *J*	19	31	5 *U*
WQ7	K0709126		Integral	September 2007 II	10/2/2007	12:30	7.5	22	13.08	25.9	6.18	12 *J*	10	8 *U*	5 *U*
WQ7	K0709804		Integral	October 2007	10/17/2007	11:35	5.81	19	15.31	8	6.28	10 *J*	5 *U*	14 *U*	5 *U*
WQ7	K0710773		Integral	November 2007	11/13/2007	12:10	3.55	33	13.57	3.1	7.12	17 *J*	11	16	5 *U*
WQ7	K0711891		Integral	December 2007 I	12/15/2007	14:50	1.32	27	15.16	9.3	6.37	14 *J*	15 *U*	8 *U*	5 *U*
WQ7	K0800335		Integral	January 2008	1/9/2008	12:30	0.55	53	16.11	5.5	7.14	27 *J*	17	29 *U*	5 *U*
WQ7	K0801400		Integral	Februrary 2008	2/14/2008	10:25	1.42	35	15.33	59.6	6.03	17 *J*	27 *UJ*	15 *U*	5 *U*
WQ7	K0802328		Integral	March 2008	3/15/2008	12:40	1.9	33	13.61	0	7.06	17 *J*	13 *U*	41 *U*	5 *U*
WQ7	K0803239		Integral	April 2008	4/14/2008	17:00	2.6	51	14.07	34.3	6.89	20 *J*	61	25 *U*	5 *U*
WQ7	K0804080		Integral	May 2008	5/8/2008	10:30	3.3	38	13.41	8	6.95	16 *J*	21	16 *U*	5 *U*
WQ7	K0805877		Integral	June 2008	6/28/2008	10:30	5.9	15	13.1	2.8	5.87	8 *J*	15 *U*	9 *U*	5 *U*
WQ7	K0806880		Integral	July 2008	7/24/2008	16:15	8.4	31	11.68	0.2	7.13	14 *J*	20	12	5 *U*
WQ8		X2213	Knight Piesold	February 2006 II	2/15/2006		2.8	57	15.88	--	6.23	32	31	22.6	3 *U*
WQ8		X5977	Knight Piesold	May 2006 II	5/17/2006	07:42	4.49	17	12.96	--	5.93	11	15	5.5	3 *U*
WQ8		Z2004	Knight Piesold	August 2006 II	8/29/2006	14:40	10.02	40	11.92	--	6.77	22	16	15	3 *U*
WQ8		Z3908	Knight Piesold	October 2006	10/17/2006	16:20	8.95	50	11.06	11	6.44	27	25	18.7	3 *U*
WQ8		Z6128	Knight Piesold	December 2006	12/7/2006	13:00	--	--	--	--	--	12	19	5.44	4.9
WQ8		L482967	Knight Piesold	February 2007	2/26/2007	11:35	2.03	37	12.59	9.3	6.22	26	18	17.6	3 *U*
WQ8		L495369	Knight Piesold	April 2007	4/10/2007	16:31	1.64	33	12.76	8.4	6.9	21	22	10.5	3 *U*
WQ8		L507191	Knight Piesold	May 2007	5/14/2007	15:50	3.51	36	12.91	8.2	7.12	22	18	13.4	3
WQ8		L515743	Knight Piesold	June 2007	6/4/2007	17:19	6.08	13	13.25	8.6	6.49	11	13	5.84	3 *U*
WQ8		L526591	Knight Piesold	July 2007 I	7/1/2007	15:25	7.08	41	12.57	2.5	7.11	22	17	15.8	3 *U*
WQ8	K0706569		Integral	July 2007 II	7/24/2007	15:16	9.21	53	11.99	14.8	7.06	27 *J*	44	19	5
WQ8	K0707317		Integral	August 2007 I	8/14/2007	14:30	9.54	65	11.84	3.9	7.12	36	70	28	5 *U*
WQ8	K0707782		Integral	August 2007 II	8/27/2007	11:35	9.38	49	12.36	5.9	6.5	29	44 *U*	31	5 *U*
WQ8	K0708240		Integral	September 2007 I	9/11/2007	13:35	8.93	53	11.88	3	7.24	32 *J*	22	32	5 *U*
WQ8	K0709126		Integral	September 2007 II	10/2/2007	12:50	7.91	25	12.82	7.4	6.21	15 *J*	9	8 *U*	5 *U*
WQ8	K0709804		Integral	October 2007	10/17/2007	11:20	6.25	21	14.95	7	6.42	11 *J*	5 *U*	11 *U*	5 *U*
WQ8	K0710773		Integral	November 2007	11/13/2007	13:00	3.95	39	13.31	2.2	7.15	19 *J*	25	16	5 *U*
WQ8	K0711891		Integral	December 2007 I	12/15/2007		0.82	28	15.16	20.5	6.03	13 *J*	16 *U*	11 *U*	5 *U*
WQ8	K0800335		Integral	January 2008	1/9/2008	12:45	1.21	54	15.62	4.1	7.04	27 *J*	28	32 *U*	5 *U*
WQ8	K0801400		Integral	Februrary 2008	2/14/2008	15:10	1.04	32	15.03	18	6.72	19 *J*	19 *UJ*	19 *U*	5 *U*
WQ8	K0802328		Integral	March 2008	3/15/2008	13:00	1.9	32	12.9	1	6.4	20 *J*	39 *U*	34 *U*	5 *U*
WQ8	K0803239		Integral	April 2008	4/14/2008	17:30	2.3	49	13.84	0	7.07	21 *J*	19	27 *U*	5 *U*
WQ8	K0804080		Integral	May 2008	5/8/2008	11:30	3.2	40	13.28	6.1	7.35	17 *J*	12	15 *U*	5 *U*
WQ8	K0805877		Integral	June 2008	6/28/2008	11:10	6.7	20	13.26	3.2	6.46	11 *J*	17 *U*	11 *U*	5 *U*
WQ8	K0806880		Integral	July 2008	7/24/2008	17:00	8.8	50	10.92	1.5	7.1	23 *J*	31	19	5 *U*
WQ10		Z2004	Knight Piesold	August 2006 II	8/29/2006	16:45	10.48	28	12.25	--	6.82	14	11	7.57	3 *U*
WQ10		Z3908	Knight Piesold	October 2006	10/17/2006	13:05	--	40	11.39	29	6.06	18	24	9.65	3 *U*
WQ10		Z6128	Knight Piesold	December 2006	12/7/2006	10:30	5.07	30	11.67	39	4.06	13	21	5.39	30.9
WQ10		L482967	Knight Piesold	February 2007	2/26/2007	10:00	1.95	29	12.65	27	6.05	18	14	8.39	3 *U*
WQ10		L495369	Knight Piesold	April 2007	4/10/2007	11:11	2.99	26	13.14	7.2	6.71	17	16	6.69	3 *U*
WQ10		L507191	Knight Piesold	May 2007	5/14/2007	14:20	5.12	32	12.83	10.3	6.68	20	19	9.26	13
WQ10		L515743	Knight Piesold	June 2007	6/4/2007	16:33	6.74	29.5	12.95	6.6	6.75	20	15	10.9	3 *U*
WQ10		L526591	Knight Piesold	July 2007 I	7/1/2007	14:00	8.92	47	11.54	0	7.12	34	50	15.7	3 *U*
WQ10	K0706569		Integral	July 2007 II	7/24/2007	14:37	9.13	39	11.98	18	7.07	23	27 *U*	14	5 *U*

Table B-1. Surface Water Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests		
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
WQ10	K0707317		Integral	August 2007 I	8/14/2007	13:40	10.72	46	11.22	4.6	7.11	24	67	13	5 *U*
WQ10	K0707782		Integral	August 2007 II	8/27/2007	10:15	9.74	44	12.27	4.9	6.34	24	31 *U*	24	5 *U*
WQ10	K0708240		Integral	September 2007 I	9/11/2007	11:50	9.6	41	11.64	2.2	7.43	24 *J*	18	27	5 *U*
WQ10	K0709126		Integral	September 2007 II	10/1/2007	07:55	7.74	34	14.04	5.9	5.91	18 *J*	16	9 *U*	5 *U*
WQ10	K0709804		Integral	October 2007	10/17/2007	10:00	6.89	22	14.82	7.9	6.21	12 *J*	7	14 *U*	5 *U*
WQ10	K0710773		Integral	November 2007	11/13/2007	11:15	4.78	36	13.2	1.6	7.02	18 *J*	14	14	5 *U*
WQ10	K0711891		Integral	December 2007 I	12/15/2007	13:50	2.28	35	14.93	12.3	6.04	17 *J*	24 *U*	13 *U*	5 *U*
WQ10	K0800335		Integral	January 2008	1/9/2008	11:20	1.88	50	15.4	5.7	6.66	25 *J*	12	16 *U*	5 *U*
WQ10	K0801400		Integral	Februrary 2008	2/14/2008	13:35	1.72	30	14.91	7.4	6.5	17 *J*	18 *UJ*	16 *U*	5 *U*
WQ10	K0802328		Integral	March 2008	3/15/2008	11:00	2.6	31	13.04	10	6.3	17 *J*	41 *U*	36 *U*	5
WQ10	K0803239		Integral	April 2008	4/14/2008	15:05	3.8	58	13.65	0	6.73	21 *J*	5 *U*	24 *U*	5 *U*
WQ10	K0804080		Integral	May 2008	5/8/2008	9:10	4.7	48	13.02	1.2	6.28	20 *J*	19	20 *U*	5 *U*
WQ10	K0805877		Integral	June 2008	6/28/2008	9:35	8.4	55	12.71	2.8	5.95	30 *J*	27 *U*	13 *U*	5 *U*
WQ10	K0806880		Integral	July 2008	7/24/2008	15:25	9.9	70	10.2	0.8	6.93	35 *J*	50	21	5 *U*
WQ10	K0810253		Integral	October 2008	10/15/2008	13:30	8.4	45	10.96	4.9	6.61	19 *J*	28	9	5 *U*
WQ10	K0902142		Integral	March 2009	3/9/2009	11:45	0.58	63	17.91	6.4	5.82	26 *J*	21	13	5 *U*
WQ10	K0904395		Integral	May 2009	5/13/2009	14:30	5.92	33	13.23	6.1	6.8	16 *J*	20	5	5 *U*
WQ10	K0906701		Integral	July 2009	7/23/2009	13:30	10.2	40	11.24	11.3	6.85	19 *J*	22	10	5 *U*
WQ10	K0908299		Integral	September 2009 I	9/5/2009	11:00	11.03	50	6.32	14	6.4	22 *J*	17	11.2	5 *U*
WQ10	K0908619		Integral	September 2009 II	9/12/2009	15:35	10.84	70	10.18	3.7	6.49	21 *J*	34.5 *U*	9.6	5 *U*
WQ10	K0910115		Integral	October 2009	10/17/2009	12:40	8.89	73	10.53	6.1	7.06	33 *J*	39	21.6	5 *U*
WQ10	K1000512		Integral	January 2010	1/15/2010	14:30	5.18	49	11.52	9	6.18	18 *J*	19.5 *UJ*	10	5 *U*
WQ10	K1004032		Integral	April 2010	4/22/2010	11:00	5.6	107	11.51	0.8	6.65	33 *J*	32	17.2	5 *U*
WQ10	K1008752		Integral	August 2010	8/10/2010	13:30	11.4	121	10.02	4.7	6.81	44 *J*	27	30.4	5 *U*
WQ10	K1011739		Integral	October 2010	10/19/2010	16:00	8.6	93	10.93	5.8	7.18	25 *J*	32	12	5 *U*
WQ10	K1100642		Integral	January 2011	1/21/2011	9:00	2.3	52	12.22	16	5.9	13 *J*	10	22.8	5 *U*
WQ10	K1103545		Integral	April 2011	4/20/2011	16:10	4.5	50	12.91	19	5.4	21 *J*	28.5	12.8	5 *U*
WQ10	K1106865		Integral	July 2011 II	7/25/2011	15:15	9.84	60	10.87	5	6.3	21 *J*	23	14	5 *U*
WQ10	K1112358		Integral	December 2011	12/21/2011	8:10	3.58	60	12.33	9	6.1	17 *J*	29.5	8.4	5 *U*
WQ12		Z2004	Knight Piesold	August 2006 II	8/29/2006	16:00	9.52	63	12.36	--	6.82	35	34	24.9	3 *U*
WQ12		Z3908	Knight Piesold	October 2006	10/17/2006	09:40	9.48	30	11.37	78	6.42	14	28	7.11	3 *U*
WQ12		Z6128	Knight Piesold	December 2006	12/7/2006	12:30	--	--	--	--	--	12	19	4.84	12.9
WQ12		L482967	Knight Piesold	February 2007	2/26/2007	11:01	1.93	44	12.47	9.1	6.25	24	22	15.2	3 *U*
WQ12		L495369	Knight Piesold	April 2007	4/10/2007	16:06	3	45	12.52	7.7	6.95	24	24	12.4	3 *U*
WQ12		L507191	Knight Piesold	May 2007	5/14/2007	15:35	3.36	21	13.23	9.7	7.42	80	72	61.2	3 *U*
WQ12		L515743	Knight Piesold	June 2007	6/4/2007	18:07	6.55	97	11.77	8	6.91	63	60	44.1	3 *U*
WQ12		L526591	Knight Piesold	July 2007 I	7/1/2007	14:45	8.57	102	10.85	0.2	6.92	57	51	44.1	3 *U*
WQ12	K0706569		Integral	July 2007 II	7/24/2007	15:56	9.53	96	11.52	15.3	6.97	53 *J*	69	39	5 *U*
WQ12	K0707317		Integral	August 2007 I	8/14/2007	15:50	10.55	103	10.35	2.5	7.03	59	61	42	5 *U*
WQ12	K0707782		Integral	August 2007 II	8/27/2007	12:20	9.8	110	11.08	4.6	6.86	62 *J*	83	52	5 *U*
WQ12	K0708240		Integral	September 2007 I	9/11/2007	12:50	10.5	96	10.3	1.8	7.18	54 *J*	57	48	5 *U*
WQ12	K0709126		Integral	September 2007 II	10/1/2007	09:15	8.49	43	12.73	15.3	6.45	26 *J*	23	17 *U*	5 *U*
WQ12	K0709804		Integral	October 2007	10/17/2007	12:00	6.56	24	14.73	8.3	6.57	13 *J*	24	12 *U*	5 *U*
WQ12	K0710773		Integral	November 2007	11/13/2007	12:40	5.48	53	12.18	2	7.16	31 *J*	32	24	5 *U*
WQ12	K0711891		Integral	December 2007 I	12/15/2007	15:10	1.79	32	14.82	13.9	6.36	17 *J*	21 *U*	17 *U*	5 *U*
WQ12	K0800335		Integral	January 2008	1/9/2008	12:15	1.54	63	15.24	3	7.15	31 *J*	25	32 *U*	5 *U*
WQ12	K0801400		Integral	Februrary 2008	2/14/2008	14:50	1.25	28	15	7.9	6.82	16 *J*	14 *UJ*	20 *U*	5 *U*
WQ12	K0802328		Integral	March 2008	3/15/2008	12:10	4.9	49	9.98	1	6.68	31 *J*	31 *U*	46 *U*	5 *U*
WQ12	K0803239		Integral	April 2008	4/14/2008	16:35	3.7	66	12.8	0	7.21	32 *J*	10	34 *U*	5 *U*
WQ12	K0804080		Integral	May 2008	5/8/2008	11:00	4.8	74	12.04	1.2	7.01	38 *J*	27	28 *U*	5 *U*
WQ12	K0805877		Integral	June 2008	6/28/2008	10:45	7.9	32	12.38	4.5	6.24	17 *J*	7 *U*	13 *U*	5 *U*

Table B-1. Surface Water Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests		
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
WQ12	K0806880		Integral	July 2008	7/24/2008	16:35	8.8	87	10.38	0.9	7.17	41 *J*	40	39	5 *U*
WQ13		L482967	Knight Piesold	February 2007	2/26/2007	08:19	2.34	62	12.34	8.2	6.33	28	22	18.7	3 *U*
WQ13		L495369	Knight Piesold	April 2007	4/10/2007	08:52	1.72	33	13.16	14.8	6.41	19	18	9.34	3 *U*
WQ13		L507191	Knight Piesold	May 2007	5/14/2007	13:50	3.41	39	12.85	10.8	6.24	21	21	12.4	3 *U*
WQ13		L515743	Knight Piesold	June 2007	6/4/2007	15:53	5.2	25	13.05	10.7	6.44	17	10 *U*	10.8	3 *U*
WQ13		L526591	Knight Piesold	July 2007 I	7/1/2007	13:05	7.18	49	12.37	6.1	7.02	28	21	20.9	3 *U*
WQ13	K0706569		Integral	July 2007 II	7/24/2007	14:00	7.66	56	12.5	43	6.61	35	43	20	5 *U*
WQ13	K0707317		Integral	August 2007 I	8/14/2007	13:10	9.7	72.5	11.93	7.4	6.92	43	52	34	14
WQ13	K0707782		Integral	August 2007 II	8/27/2007	09:10	8.36	59	12.91	10.1	6.12	33 *J*	59 *U*	36	5 *U*
WQ13	K0708240		Integral	September 2007 I	9/11/2007	10:45	8.82	59	12.02	7	7.08	35 *J*	32	39	5 *U*
WQ13	K0709126		Integral	September 2007 II	10/1/2007	08:15	7.74	38	13.87	7.3	6.12	23	16	15 *U*	5 *U*
WQ13	K0709804		Integral	October 2007	10/17/2007	10:50	7.65	30	14.17	8.4	6.56	18	12	18 *U*	5 *U*
WQ13	K0710773		Integral	November 2007	11/13/2007	10:35	5.57	45	12.92	4	6.86	26 *J*	15	21	5 *U*
WQ13	K0711891		Integral	December 2007 I	12/16/2007	09:45	3.04	50	14.87	8.9	5.6	21 *J*	21 *U*	19 *U*	5 *U*
WQ13	K0800335		Integral	January 2008	1/9/2008	10:40	2.11	66	15.56	12.9	6.81	35 *J*	22	28 *U*	5 *U*
WQ13	K0801400		Integral	Februrary 2008	2/14/2008	15:50	1.93	44	14.84	8.5	6.54	24 *J*	36 *UJ*	17 *U*	5 *U*
WQ13	K0802328		Integral	March 2008	3/15/2008	10:20	2.5	39	13.18	0	7.46	20 *J*	33 *U*	32 *U*	5 *U*
WQ13	K0803239		Integral	April 2008	4/15/2008	5:45	3.1	58	12.95	0.3	6.95	27 *J*	5 *U*	38 *U*	5 *U*
WQ13	K0804080		Integral	May 2008	5/8/2008	8:00	3.5	52	13.49	1.2	5.34	27 *J*	21	17 *U*	5 *U*
WQ13	K0805877		Integral	June 2008	6/27/2008	8:50	6.6	36	12.06	1.3	5.83	18 *J*	28 *U*	19 *U*	5 *U*
WQ13	K0806880		Integral	July 2008	7/25/2008	8:00	8.1	62	11.51	4.1	5.78	26 *J*	19	19	5 *U*
WQ13	K0810253		Integral	October 2008	10/15/2008	14:30	8.5	45	11.33	9.5	6.88	21 *J*	19	19	5 *U*
WQ13	K0902142		Integral	March 2009	3/8/2009	10:57	1.78	120	12.83	3.5	5.67	30 *J*	29	21	8
WQ13	K0904395		Integral	May 2009	5/13/2009	13:30	4.2	35	13.05	7.1	6.53	16 *J*	25	8	5 *U*
WQ13	K0906701		Integral	July 2009	7/23/2009	14:20	10.43	30	11.13	13.3	6.75	13 *J*	22	6	9
WQ13	K0910115		Integral	October 2009	10/17/2009	15:15	8.99	51	10.25	7.1	7.06	22 *J*	22	10	5 *U*
WQ13	K1000512		Integral	January 2010	1/17/2010	08:50	4.4	55	11.43	14.1	5.39	20 *J*	17.5 *UJ*	9.6	5 *U*
WQ13	K1004032		Integral	April 2010	4/22/2010	14:10	4.6	78	11.68	0	6.57	22 *J*	23.5	10.4	5 *U*
WQ13	K1008751		Integral	August 2010	8/10/2010	15:20	10	91	10.5	5.5	7.77	27 *J*	38	23.6	5 *U*
WQ13	K1011737		Integral	October 2010	10/18/2010	16:50	8.3	95	10.97	8.5	7.06	22 *J*	19	10.4	5 *U*
WQ13	K1100642		Integral	January 2011	1/19/2011	15:50	3	74	12.27	18.5	7.11	19 *J*	20	14.4	5 *U*
WQ13	K1103541		Integral	April 2011	4/20/2011	17:30	3.33	70	13.22	7	6.3	31 *J*	33.5	19.2	5 *U*
WQ13	K1106865		Integral	July 2011 II	7/25/2011	16:15	8.3	60	11.07	11	6.7	22 *J*	35.5	15.2	5 *U*
WQ13	K1112358		Integral	December 2011	12/21/2011	9:10	3.91	60	11.85	13	6.4	24 *J*	41.5	13.6	5 *U*

Table B-1. Surface Water Quality Monitoring Data

						Dissolved Anions and Nutrients							Trace Elements	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved
WQ4			Knight Piesold	October 1996 II	10/16/1996	5.2	4.38	5.01	--	--	0.1 *U*	0.1 *U*	500 *U*	500 *U*
WQ4			Knight Piesold	September 1997	9/3/1997	2 *U*	2.07	2 *U*	--	--	0.1 *U*	0.1 *U*	--	--
WQ4		V7277	Knight Piesold	April 2005 II	4/20/2005	5.9	2.95	0.99	0.005 *U*	--	0.015	0.001 *U*	82.1	77
WQ4		X2213	Knight Piesold	February 2006 II	2/15/2006	18	5.41	2.83	0.005 *U*	--	0.0743	0.001 *U*	17.7	17.6
WQ4		X5977	Knight Piesold	May 2006 II	5/16/2006	7.1	2.64	1.02	0.02 *U*	--	0.0215	0.001 *U*	57.4	55.4
WQ4		Z2004	Knight Piesold	August 2006 II	8/29/2006	16.5	2.22	1.81	0.005 *U*	--	0.0926	0.001 *U*	106	75.2
WQ4		Z3908	Knight Piesold	October 2006	10/17/2006	23.4	2.83	2.78	0.005 *U*	--	0.101	0.001 *U*	49.9	38.8
WQ4		Z6128	Knight Piesold	December 2006	12/7/2006	3.4	4.4	0.83	--	--	0.0784	0.001 *U*	1470	60.8
WQ4		L482967	Knight Piesold	February 2007	2/26/2007	20.3	4.23	3.18	0.005 *U*	--	0.097	0.001 *U*	26.4	24.8
WQ4		L495369	Knight Piesold	April 2007	4/10/2007	8.6	4.24	1.62	0.005 *U*	--	0.0406	0.001 *U*	51.6	44
WQ4		L507191	Knight Piesold	May 2007	5/14/2007	9.2	2.45	1.45	0.005 *U*	--	0.0264	0.001 *U*	118	67.1
WQ4		L515743	Knight Piesold	June 2007	6/4/2007	5.7	1.07	1.14	0.005 *U*	--	0.0128	0.001 *U*	111	87
WQ4		L526591	Knight Piesold	July 2007 I	7/1/2007	16.1	1.85	2.04	0.005 *U*	--	0.075	0.001 *U*	67.2	46.9
WQ4	K0706569		Integral	July 2007 II	7/24/2007	26	2.2	2.8	0.03 *U*	0.12	--	--	48.9	36.4
WQ4	K0707317		Integral	August 2007 I	8/14/2007	35	3.1	4.4	0.006 *U*	0.18	--	--	25.8	24.2
WQ4	K0707782		Integral	August 2007 II	8/27/2007	26	2	2.7	0.02 *UJ*	0.17	--	--	52.2 *J*	43
WQ4	K0708240		Integral	September 2007 I	9/11/2007	31	2.5	3.4	0.01 *UJ*	0.47	--	--	45.7 *J*	27.2 *J*
WQ4	K0709126		Integral	September 2007 II	10/2/2007	12	2.5	1.7	0.02 *U*	0.11	--	--	110	69.4
WQ4	K0709804		Integral	October 2007	10/17/2007	5 *UJ*	3	1.1	0.01 *U*	0.1	--	0.004 *UJ*	260	93.8
WQ4	K0710773		Integral	November 2007	11/13/2007	15	4.8	2.6	0.022 *UJ*	0.27	--	--	121	34.9
WQ4	K0711891		Integral	December 2007 I	12/15/2007	8	5.5	1.5	0.06 *UJ*	0.37	--	--	622 *J*	42 *J*
WQ4	K0800335		Integral	January 2008	1/9/2008	20	9.1	3	0.03 *UJ*	0.3	--	--	309	24
WQ4	K0801400		Integral	February 2008	2/14/2008	12	7.7	1.8	0.17	1.29	--	--	2120 *J*	42.7 *J*
WQ4	K0802328		Integral	March 2008	3/15/2008	8 *U*	6.1	2.1	0.05 *UJ*	0.44 *U*	--	--	101 *J*	30.2 *J*
WQ4	K0803239		Integral	April 2008	4/14/2008	15	7.9	1.9	0.02 *UJ*	0.24 *U*	--	--	118	24.8
WQ4	K0804080		Integral	May 2008	5/8/2008	14	5.2	2.1	0.03 *UJ*	0.22	--	--	79.6 *J*	39.8 *J*
WQ4	K0805877		Integral	June 2008	6/28/2008	8	1.6	1.3	0.03 *UJ*	0.22	--	--	215 *J*	89.1
WQ4	K0806880		Integral	July 2008	7/24/2008	22	2.4	2.7	0.04 *UJ*	0.28	--	--	38.8 *J*	32 *J*
WQ4	K0810253		Integral	October 2008	10/15/2008	15	2.8	1.9	0.03 *UJ*	0.2	--	--	55.7 *J*	40.2 *J*
WQ4	K0902142		Integral	March 2009	3/9/2009	26	3.5	3.6	0.02 *U*	0.34	--	--	19.2	15.1
WQ4	K0904395		Integral	May 2009	5/13/2009	7	1.9	1.6	0.025 *UJ*	0.08	--	--	74.8	61.1
WQ4	K0906701		Integral	July 2009	7/23/2009	6	1.1	1	0.016 *UJ*	0.08 *UJ*	--	--	650 *J*	153 *J*
WQ4	K0908299		Integral	September 2009 I	9/5/2009	19	2.35	2.81	0.067 *U*	0.17	--	--	72.6	39.4
WQ4	K0908619		Integral	September 2009 II	9/12/2009	18.4	2.98	2.8	0.061 *UJ*	0.179	--	--	62	35.8
WQ4	K0910115		Integral	October 2009	10/17/2009	18.3	3.37	1.88	0.009 *UJ*	0.155	--	--	40.9	64.4
WQ4	K1000512		Integral	January 2010	1/15/2010	5.9	4.22	1.35	0.009 *UJ*	0.083	--	--	82.3	63.6
WQ4	K1004032		Integral	April 2010	4/22/2010	11.8	7.83	2.41	0.022 *J*	0.104 *UJ*	--	--	42.4	37.8
WQ4	K1008751		Integral	August 2010	8/10/2010	30.9	3.66	5.43	0.026 *UJ*	0.196 *UJ*	--	--	35.2	31.9
WQ4	K1011739		Integral	October 2010	10/18/2010	8.9	6.5	1.69	--	0.077	--	--	125	42
WQ4	K1100726		Integral	January 2011	1/19/2011	9.1 *UJ*	3.78	1.48	0.05 *UJ*	0.162	--	--	343	104
WQ4	K1103541		Integral	April 2011	4/20/2011	26.6	4.23	4.32	--	0.15	--	--	46.9	28.6
WQ4	K1106865		Integral	July 2011 II	7/25/2011	14.6	2.08	3.85	0.009 *UJ*	0.109 *UJ*	--	--	78.8	69.7
WQ4	K1112358		Integral	December 2011	12/21/2011	12.3	3.93	2.31 *J*	0.088 *U*	0.137	--	--	32.6	29.2

Table B-1. Surface Water Quality Monitoring Data

						Dissolved Anions and Nutrients							Trace Elements	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Aluminum (μg/L), Total	Aluminum (μg/L), Dissolved
WQ6			Knight Piesold	October 1996 II	10/16/1996	4	3.22	2 *U*	--	--	0.1 *U*	0.1 *U*	500 *U*	500 *U*
WQ6			Knight Piesold	September 1997	9/3/1997	3	1.95	2 *U*	--	--	0.1 *U*	0.1 *U*	--	--
WQ6		V7277	Knight Piesold	April 2005 II	4/20/2005	4.6	2.85	0.63	0.005 *U*	--	0.0104	0.001 *U*	66.5	61
WQ6		X2213	Knight Piesold	February 2006 II	2/15/2006	10.8	5.47	1.27	0.005 *U*	--	0.067	0.001 *U*	20	18.5
WQ6		X5977	Knight Piesold	May 2006 II	5/16/2006	9	4.84	1.61	0.02 *U*	--	0.0399	0.001 *U*	51.1	47.4
WQ6		Z2004	Knight Piesold	August 2006 II	8/29/2006	9.3	1.63	0.81	0.005 *U*	--	0.066	0.001 *U*	91.1	89.6
WQ6		Z3908	Knight Piesold	October 2006	10/17/2006	12	2.36	0.99	0.005 *U*	--	0.107	0.001 *U*	43.9	40.2
WQ6		Z6128	Knight Piesold	December 2006	12/7/2006	2 *U*	4.02	0.59	--	--	0.0564	0.001 *U*	59	46.1
WQ6		L482967	Knight Piesold	February 2007	2/26/2007	11.1	4.04	1.34	0.005 *U*	--	0.0904	0.001 *U*	30.2	30.2
WQ6		L495369	Knight Piesold	April 2007	4/10/2007	5	3.98	0.94	0.005 *U*	--	0.0327	0.001 *U*	48.1	46
WQ6		L507191	Knight Piesold	May 2007	5/14/2007	5.8	2.29	0.78	0.005 *U*	--	0.0273	0.001 *U*	48.1	46.6
WQ6		L515743	Knight Piesold	June 2007	6/4/2007	3.2	0.79	0.54	0.005 *U*	--	0.0104	0.001 *U*	66.6	63.3
WQ6		L526591	Knight Piesold	July 2007 I	7/1/2007	7.8	1.03	0.56	0.005 *U*	--	0.0221	0.001 *U*	41.8	39.5
WQ6	K0706569		Integral	July 2007 II	7/24/2007	11	1.4	0.8	0.05 *U*	0.11	--	--	40.6	37.9
WQ6	K0707317		Integral	August 2007 I	8/14/2007	22	2.5	1.4	0.006 *U*	0.24	--	--	23.3	24
WQ6	K0707782		Integral	August 2007 II	8/27/2007	17	1.8	1.1	0.02 *UJ*	0.19	--	--	34.5 *J*	33
WQ6	K0708240		Integral	September 2007 I	9/11/2007	16	1.9	1.1	0.02 *UJ*	0.29	--	--	38.7 *J*	30.4 *J*
WQ6	K0709126		Integral	September 2007 II	10/2/2007	13	2.3	0.6	0.02 *U*	0.05	--	--	76.3	68.2
WQ6	K0709804		Integral	October 2007	10/17/2007	1 *U*	3.1	0.6	0.05 *UJ*	0.032 *J*	--	--	85.5	80.9
WQ6	K0710773		Integral	November 2007	11/13/2007	6 *UJ*	4.8	1	0.019 *UJ*	0.13	--	--	33.5	29.8
WQ6	K0711891		Integral	December 2007 I	12/15/2007	5	4.5	0.8	0.03 *UJ*	0.34	--	--	61.8 *J*	42 *J*
WQ6	K0800335		Integral	January 2008	1/9/2008	9	7.3	1.4	0.02 *UJ*	0.15	--	--	32.8	26.4
WQ6	K0801400		Integral	Feb-08	2/14/2008	6	6.3	1.1	0.03 *J*	0.12	--	--	52.2 *J*	47.6 *J*
WQ6	K0802328		Integral	March 2008	3/15/2008	7 *U*	5.8	1.1	0.05 *UJ*	0.29 *U*	--	--	32.4 *J*	29.4 *J*
WQ6	K0803239		Integral	April 2008	4/14/2008	6 *UJ*	7.9	1.1	0.04 *UJ*	0.09 *U*	--	--	36.4	21.7
WQ6	K0804080		Integral	May 2008	5/8/2008	7 *UJ*	4.4	1.1	0.02 *UJ*	0.07	--	--	37.4 *J*	38.3 *J*
WQ6	K0805877		Integral	June 2008	6/28/2008	5	1	0.5	0.06 *UJ*	0.09	--	--	93.3 *J*	74
WQ6	K0806880		Integral	July 2008	7/24/2008	10	1.4	0.8	0.02 *UJ*	0.09	--	--	29.2 *J*	27.3 *J*
WQ6	K0810253		Integral	October 2008	10/15/2008	6	2.3	0.8	0.04 *UJ*	0.07	--	--	98.1 *J*	47.4 *J*
WQ6	K0902142		Integral	March 2009	3/9/2009	23	3	1.5	0.02 *U*	0.2	--	--	20.8	18.9
WQ6	K0904395		Integral	May 2009	5/13/2009	5	1.7	1.1	0.017 *UJ*	0.06	--	--	53.5	48
WQ6	K0906701		Integral	July 2009	7/23/2009	5	1	0.6	0.009 *U*	0.042 *UJ*	--	--	171 *J*	134 *J*
WQ6	K0908299		Integral	September 2009 I	9/5/2009	11	1.95	0.95	0.042 *UJ*	0.055 *UJ*	--	--	50.2	46.6
WQ6	K0908619		Integral	September 2009 II	9/12/2009	10.2	2.44	0.96	0.025 *UJ*	0.058	--	--	41.3	36.3
WQ6	K0910115		Integral	October 2009	10/17/2009	10.3	3.35	0.77	0.009 *UJ*	0.057	--	--	43.7	40.8
WQ6	K1000512		Integral	January 2010	1/15/2010	4.8	3.53	0.9	0.016 *UJ*	0.041 *J*	--	--	65.9	60.7
WQ6	K1004032		Integral	April 2010	4/22/2010	6	6.64	1.62	0.016 *J*	0.051 *UJ*	--	--	44.3	36.3
WQ6	K1008751		Integral	August 2010	8/10/2010	21.1 *UJ*	2.94	1.73	0.013 *UJ*	0.135 *UJ*	--	--	30	28.6
WQ6	K1011739		Integral	October 2010	10/19/2010	6.1	5.68	0.99	--	0.012 *J*	--	--	46.9	44.5
WQ6	K1100642		Integral	January 2011	1/21/2011	3.4 *UJ*	3.53	0.84	--	0.07	--	--	98.1	68.4
WQ6	K1103541		Integral	April 2011	4/20/2011	11.9	3.67	1.16	--	0.07 *UJ*	--	--	30.2	28.8
WQ6	K1106865		Integral	July 2011 II	7/25/2011	9.1	1.4	1.03	0.009 *UJ*	0.05 *UJ*	--	--	67.9	59.4
WQ6	K1112358		Integral	December 2011	12/21/2011	7.1 *J*	3.59	0.96 *J*	0.065 *U*	0.1 *UJ*	--	--	40.5	37.9
WQ7		X2213	Knight Piesold	February 2006 II	2/15/2006	9.3	5.45	1.2	0.005 *U*	--	0.0678	0.001 *U*	25.1	23.1
WQ7		X5977	Knight Piesold	May 2006 II	5/16/2006	5.5	2.07	0.91	0.024	--	0.0107	0.001 *U*	89.2	86.9
WQ7		Z2004	Knight Piesold	August 2006 II	8/29/2006	10.6	1.65	0.75	0.005 *U*	--	0.0632	0.001 *U*	83.9	79.3
WQ7		Z3908	Knight Piesold	October 2006	10/17/2006	12.5	2.28	0.95	0.005 *U*	--	0.0857	0.001 *U*	37.9	35.7
WQ7		Z6128	Knight Piesold	December 2006	12/7/2006	2 *U*	3.72	0.55	--	--	0.043	0.001 *U*	77.2	47.7
WQ7		L482967	Knight Piesold	February 2007	2/26/2007	8.7	4.09	1.36	0.0058	--	0.0815	0.001 *U*	24.1	24.4
WQ7		L495369	Knight Piesold	April 2007	4/10/2007	5	3.93	0.94	0.005 *U*	--	0.031	0.001 *U*	49.5	47
WQ7		L507191	Knight Piesold	May 2007	5/14/2007	5.7	2.24	0.78	0.005 *U*	--	0.0243	0.001 *U*	52.8	51

Table B-1. Surface Water Quality Monitoring Data

						Dissolved Anions and Nutrients							Trace Elements	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Aluminum (μg/L), Total	Aluminum (μg/L), Dissolved
WQ7		L515743	Knight Piesold	June 2007	6/4/2007	4.2	0.79	0.54	0.005 *U*	--	0.0091	0.001 *U*	68.6	65.3
WQ7		L526591	Knight Piesold	July 2007 I	7/1/2007	7.9	1.03	0.57	0.005 *U*	--	0.0171	0.001 *U*	41.1	39.4
WQ7	K0706569		Integral	July 2007 II	7/24/2007	10	1.3	0.8	0.03 *U*	0.09	--	--	39	35.7
WQ7	K0707317		Integral	August 2007 I	8/14/2007	22	2.5	1.3	0.006 *U*	0.13	--	--	20.7	19.7
WQ7	K0707782		Integral	August 2007 II	8/27/2007	17	1.9	1.1	0.02 *UJ*	0.12	--	--	28.4 *J*	31.6
WQ7	K0708240		Integral	September 2007 I	9/11/2007	16	1.9	1.1	0.01 *UJ*	0.12	--	--	29.7 *J*	29.2 *J*
WQ7	K0709126		Integral	September 2007 II	10/2/2007	4	2.1	0.6	0.03 *U*	0.025 *J*	--	--	74.8	65.1
WQ7	K0709804		Integral	October 2007	10/17/2007	1 *U*	3.1	0.6	0.02 *UJ*	0.07	--	0.004 *U*	74.7	76.2
WQ7	K0710773		Integral	November 2007	11/13/2007	8 *UJ*	4.8	0.9	0.023 *UJ*	0.06	--	--	32.6	28.3
WQ7	K0711891		Integral	December 2007 I	12/15/2007	2	4.2	0.7	0.02 *UJ*	0.32	--	--	41.4 *J*	44.9 *J*
WQ7	K0800335		Integral	January 2008	1/9/2008	11	7.1	1.4	0.02 *UJ*	0.048 *J*	--	--	25.1	19.1
WQ7	K0801400		Integral	Februrary 2008	2/14/2008	1 *U*	6.5	1	0.05	0.12	--	--	46.2 *J*	65.2 *J*
WQ7	K0802328		Integral	March 2008	3/15/2008	5 *U*	5.8	1	0.03 *UJ*	0.14 *U*	--	--	29.6 *J*	32.3 *J*
WQ7	K0803239		Integral	April 2008	4/14/2008	7 *UJ*	7.8	1.1	0.06 *UJ*	0.06 *U*	--	--	23.8	22.3
WQ7	K0804080		Integral	May 2008	5/8/2008	7 *UJ*	4.5	1.1	0.03 *UJ*	0.05	--	--	39.1 *J*	38.4 *J*
WQ7	K0805877		Integral	June 2008	6/28/2008	4	1	0.5	0.02 *UJ*	0.14	--	--	86.6 *J*	73.1
WQ7	K0806880		Integral	July 2008	7/24/2008	10	1.4	0.8	0.02 *UJ*	0.03 *J*	--	--	25.9 *J*	25.3 *J*
WQ8		X2213	Knight Piesold	February 2006 II	2/15/2006	18.1	5.25	2.81	0.005 *U*	--	0.0736	0.001 *U*	17.2	16.6
WQ8		X5977	Knight Piesold	May 2006 II	5/17/2006	6.3	2.37	0.92	0.02 *U*	--	0.0183	0.001 *U*	68	60.3
WQ8		Z2004	Knight Piesold	August 2006 II	8/29/2006	14.4	2.32	1.48	0.005 *U*	--	0.104	0.001 *U*	56	54
WQ8		Z3908	Knight Piesold	October 2006	10/17/2006	17.2	3.06	1.88	0.005 *U*	--	0.0867	0.001 *U*	28.6	27.3
WQ8		Z6128	Knight Piesold	December 2006	12/7/2006	2 *U*	4.73	0.71	--	--	0.0847	0.001 *U*	111	63
WQ8		L482967	Knight Piesold	February 2007	2/26/2007	14.4	4.33	2.21	0.005 *U*	--	0.0871	0.001 *U*	23.9	22.9
WQ8		L495369	Knight Piesold	April 2007	4/10/2007	8.9	4.51	1.48	0.005 *U*	--	0.0533	0.001 *U*	33	35.6
WQ8		L507191	Knight Piesold	May 2007	5/14/2007	11.4	3.14	1.49	0.005 *U*	--	0.0419	0.001 *U*	50.7	32.2
WQ8		L515743	Knight Piesold	June 2007	6/4/2007	5	1.04	1.03	0.005 *U*	--	0.0052	0.001 *U*	87.3	80.7
WQ8		L526591	Knight Piesold	July 2007 I	7/1/2007	13.2	2.12	1.8	0.005 *U*	--	0.0457	0.001 *U*	24.5	28.8
WQ8	K0706569		Integral	July 2007 II	7/24/2007	14	2.3	2.1	0.02 *U*	0.08	--	--	63.5	26.7
WQ8	K0707317		Integral	August 2007 I	8/14/2007	22	3.2	2.6	0.006 *U*	0.08	--	--	18.3	16.3
WQ8	K0707782		Integral	August 2007 II	8/27/2007	21	2	1.7	0.01 *UJ*	0.13	--	--	29.7 *J*	32.2
WQ8	K0708240		Integral	September 2007 I	9/11/2007	21	2.6	1.9	0.02 *UJ*	0.11	--	--	24.9 *J*	22.1 *J*
WQ8	K0709126		Integral	September 2007 II	10/2/2007	7	2.3	0.9	0.02 *U*	0.026 *J*	--	--	88.6	66.6
WQ8	K0709804		Integral	October 2007	10/17/2007	2 *UJ*	3.1	0.8	0.02 *UJ*	0.013 *J*	--	--	87.3	85.3
WQ8	K0710773		Integral	November 2007	11/13/2007	8 *UJ*	4.7	1.6	0.02 *UJ*	0.07	--	--	25.1	24.7
WQ8	K0711891		Integral	December 2007 I	12/15/2007	2 *J*	4.4	0.8	0.04 *UJ*	0.09 *UJ*	--	--	50 *J*	45.3 *J*
WQ8	K0800335		Integral	January 2008	1/9/2008	10	7.4	1.7	0.01 *UJ*	0.034 *J*	--	--	22.4	21.4
WQ8	K0801400		Integral	Februrary 2008	2/14/2008	4	6.3	1.1	0.03 *J*	0.39	--	--	56.8 *J*	46.8 *J*
WQ8	K0802328		Integral	March 2008	3/15/2008	13 *U*	5.3	1.3	0.02 *UJ*	0.41 *U*	--	--	68.3 *J*	66.8 *J*
WQ8	K0803239		Integral	April 2008	4/14/2008	9 *UJ*	7.2	1.3	0.03 *UJ*	0.08 *U*	--	--	24.7	24.6
WQ8	K0804080		Integral	May 2008	5/8/2008	8 *UJ*	4.4	1.4	0.04 *UJ*	0.05	--	--	36.2 *J*	34.6 *J*
WQ8	K0805877		Integral	June 2008	6/28/2008	5	1.2	0.9	0.02 *UJ*	0.18	--	--	106 *J*	93.1
WQ8	K0806880		Integral	July 2008	7/24/2008	15	2.5	1.8	0.02 *UJ*	0.048 *J*	--	--	23.7 *J*	20.4 *J*
WQ10		Z2004	Knight Piesold	August 2006 II	8/29/2006	4.6	3.37	1.36	0.005 *U*	--	0.0558	0.001 *U*	116	88.5
WQ10		Z3908	Knight Piesold	October 2006	10/17/2006	8.1	3.55	1.41	0.005 *U*	--	0.0523	0.001 *U*	574	93.9
WQ10		Z6128	Knight Piesold	December 2006	12/7/2006	2.5	5.08	0.85	--	--	0.051	0.001 *U*	209	76.2
WQ10		L482967	Knight Piesold	February 2007	2/26/2007	5.9	5.28	1.58	0.005 *U*	--	0.0488	0.001 *U*	52.2	50.6
WQ10		L495369	Knight Piesold	April 2007	4/10/2007	5.3	4.73	1.29	0.005 *U*	--	0.0217	0.001 *U*	56.2	52.7
WQ10		L507191	Knight Piesold	May 2007	5/14/2007	7.4	4.24	1.29	0.005 *U*	--	0.0421	0.001 *U*	119	62.6
WQ10		L515743	Knight Piesold	June 2007	6/4/2007	8.6	3.11	1.62	0.005 *U*	--	0.0938	0.001 *U*	111	85.1
WQ10		L526591	Knight Piesold	July 2007 I	7/1/2007	2 *U*	4.01	1.8	0.005 *U*	--	3.51	0.001 *U*	43.2	35.8
WQ10	K0706569		Integral	July 2007 II	7/24/2007	11	3.3	1.5	0.03 *U*	0.07	--	--	71.2	59.4

Table B-1. Surface Water Quality Monitoring Data

						Dissolved Anions and Nutrients							Trace Elements	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Aluminum (μg/L), Total	Aluminum (μg/L), Dissolved
WQ10	K0707317		Integral	August 2007 I	8/14/2007	11	3.8	1.8	0.015 *J*	0.09	--	--	43.5	38.7
WQ10	K0707782		Integral	August 2007 II	8/27/2007	13	3.3	1.7	0.02 *UJ*	0.15	--	--	54.4 *J*	53.6
WQ10	K0708240		Integral	September 2007 I	9/11/2007	12	3.3	1.5	0.02 *UJ*	0.07	--	--	61.7 *J*	52.2 *J*
WQ10	K0709126		Integral	September 2007 II	10/1/2007	5	3.7	1.2	0.02 *U*	0.035 *J*	--	--	111	75.6
WQ10	K0709804		Integral	October 2007	10/17/2007	1 *UJ*	3.4	0.9	0.01 *UJ*	0.06	--	--	142	132
WQ10	K0710773		Integral	November 2007	11/13/2007	7 *UJ*	5.8	1.2	0.022 *UJ*	0.031 *J*	--	--	60.3	45.3
WQ10	K0711891		Integral	December 2007 I	12/15/2007	2	6.4	1	0.01 *U*	0.08 *UJ*	--	--	111 *J*	63.5 *J*
WQ10	K0800335		Integral	January 2008	1/9/2008	6	9.3	1.3	0.01 *UJ*	0.006 *U*	--	--	48.9	35.9
WQ10	K0801400		Integral	Februrary 2008	2/14/2008	3	6.2	1.2	0.07	0.08	--	--	109 *J*	64.5 *J*
WQ10	K0802328		Integral	March 2008	3/15/2008	5 *U*	5.8	1.3	0.03 *UJ*	0.1 *U*	--	--	190 *J*	51.3 *J*
WQ10	K0803239		Integral	April 2008	4/14/2008	4 *UJ*	7.4	1.5	0.19	0.9 *U*	--	--	54.7	37.1
WQ10	K0804080		Integral	May 2008	5/8/2008	9 *UJ*	4.9	1.6	0.07 *UJ*	0.28	--	--	55.7 *J*	49.8 *J*
WQ10	K0805877		Integral	June 2008	6/28/2008	8	3.4	2.6	0.33	1.81	--	--	167 *J*	119
WQ10	K0806880		Integral	July 2008	7/24/2008	14	3.9	3.6	0.07 *UJ*	1.49	--	--	46.1 *J*	40.4 *J*
WQ10	K0810253		Integral	October 2008	10/15/2008	10	3.5	2.2	0.04 *UJ*	0.018 *J*	--	--	58.5 *J*	56.8 *J*
WQ10	K0902142		Integral	March 2009	3/9/2009	21	3.2	1.9	0.02 *J*	0.19	--	--	35.7	31.8
WQ10	K0904395		Integral	May 2009	5/13/2009	10	2.1	1.6	0.031 *UJ*	0.06	--	--	68.1	61.1
WQ10	K0906701		Integral	July 2009	7/23/2009	10	2.3	2.5	0.009 *U*	0.1	--	--	263 *J*	148 *J*
WQ10	K0908299		Integral	September 2009 I	9/5/2009	12	3.22	2.88	0.047 *UJ*	0.082	--	--	59.8	55.1
WQ10	K0908619		Integral	September 2009 II	9/12/2009	11.1	3.79	2.56	0.025 *UJ*	0.067	--	--	64.3	51.7
WQ10	K0910115		Integral	October 2009	10/17/2009	22.2	3.67	3.82	0.011 *UJ*	0.084	--	--	66.9	47
WQ10	K1000512		Integral	January 2010	1/15/2010	5.5	5.93	1.53	0.009 *UJ*	0.05	--	--	80.5	62.2
WQ10	K1004032		Integral	April 2010	4/22/2010	11.2	10.5	3.63	0.011 *J*	0.08 *UJ*	--	--	42.9	35
WQ10	K1008752		Integral	August 2010	8/10/2010	23	5.23	5.76	0.041 *UJ*	0.162 *UJ*	--	--	34.1	32.3
WQ10	K1011739		Integral	October 2010	10/19/2010	8	9.12	2.15	--	0.023 *J*	--	--	53.3	45.9
WQ10	K1100642		Integral	January 2011	1/21/2011	5 *UJ*	4.01	1.3	--	0.058	--	--	216	101
WQ10	K1103545		Integral	April 2011	4/20/2011	8.7	4.35	1.86	0.028 *U*	0.084	--	--	56.7	43.8
WQ10	K1106865		Integral	July 2011 II	7/25/2011	10.5	3.27	2.96	0.009 *UJ*	0.101 *UJ*	--	--	72.5	67.5
WQ10	K1112358		Integral	December 2011	12/21/2011	7.5 *J*	4	1.85 *J*	0.035 *UJ*	0.076 *UJ*	--	--	56.3	52.2
WQ12		Z2004	Knight Piesold	August 2006 II	8/29/2006	24	4.25	2.16	0.005 *U*	--	0.0931	0.001 *U*	48	39.5
WQ12		Z3908	Knight Piesold	October 2006	10/17/2006	6.6	2.01	1.06	0.005 *U*	--	0.0299	0.001 *U*	163	161
WQ12		Z6128	Knight Piesold	December 2006	12/7/2006	2 *U*	4.82	0.9	--	--	0.0446	0.001 *U*	130	78.7
WQ12		L482967	Knight Piesold	February 2007	2/26/2007	11.7	4.95	1.88	0.005 *U*	--	0.0429	0.001 *U*	37.4	35.7
WQ12		L495369	Knight Piesold	April 2007	4/10/2007	10.6	4.99	1.62	0.005 *U*	--	0.0288	0.001 *U*	31.3	30.9
WQ12		L507191	Knight Piesold	May 2007	5/14/2007	62.7	4.45	3.4	0.005 *U*	--	0.0462	0.001 *U*	15.6	16.8
WQ12		L515743	Knight Piesold	June 2007	6/4/2007	37.1	4.9	3.99	0.36	--	1.17	0.0235	146	70.7
WQ12		L526591	Knight Piesold	July 2007 I	7/1/2007	39.8	4.75	2.94	0.0109	--	0.0147	0.001 *U*	24.1	20.6
WQ12	K0706569		Integral	July 2007 II	7/24/2007	39	4.2	2.4	0.006 *U*	0.036 *J*	--	--	35.2	28.1
WQ12	K0707317		Integral	August 2007 I	8/14/2007	44	4.3	2.7	0.006 *U*	0.08	--	--	19.3	18.6
WQ12	K0707782		Integral	August 2007 II	8/27/2007	47	4.5	3.2	0.01 *UJ*	0.034 *J*	--	--	17.3 *J*	24.8
WQ12	K0708240		Integral	September 2007 I	9/11/2007	39	4	2.7	0.01 *UJ*	0.049 *J*	--	--	25.3 *J*	18.1 *J*
WQ12	K0709126		Integral	September 2007 II	10/1/2007	14	3.5	1.4	0.03 *U*	0.012 *J*	--	--	88.9	61
WQ12	K0709804		Integral	October 2007	10/17/2007	3 *UJ*	3.4	0.9	0.01 *UJ*	0.006 *U*	--	--	114	117
WQ12	K0710773		Integral	November 2007	11/13/2007	17	5.2	1.9	0.006 *U*	0.03 *J*	--	--	38.1	31.4
WQ12	K0711891		Integral	December 2007 I	12/15/2007	4	5.3	0.9	0.03 *UJ*	0.06 *UJ*	--	--	102 *J*	71.9 *J*
WQ12	K0800335		Integral	January 2008	1/9/2008	12	8.3	1.6	0.02 *UJ*	0.006 *U*	--	--	37.6	27.9
WQ12	K0801400		Integral	Februrary 2008	2/14/2008	4	5.3	1.1	0.03 *J*	0.047 *UJ*	--	--	91 *J*	76.9 *J*
WQ12	K0802328		Integral	March 2008	3/15/2008	16	5.4	1.7	0.03 *UJ*	0.1 *U*	--	--	27.8 *J*	28.2 *J*
WQ12	K0803239		Integral	April 2008	4/14/2008	18	6.4	1.6	0.04 *UJ*	0.028 *U*	--	--	41.5	21.5
WQ12	K0804080		Integral	May 2008	5/8/2008	24	5.4	2	0.04 *UJ*	0.05	--	--	35.8 *J*	21.4 *J*
WQ12	K0805877		Integral	June 2008	6/28/2008	7	2.8	1.2	0.02 *UJ*	0.14	--	--	141 *J*	114

Table B-1. Surface Water Quality Monitoring Data

						Dissolved Anions and Nutrients							Trace Elements	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Aluminum (μg/L), Total	Aluminum (μg/L), Dissolved
WQ12	K0806880		Integral	July 2008	7/24/2008	30	4	2.3	0.02 *UJ*	0.07	--	--	26.7 *J*	16.2 *J*
WQ13		L482967	Knight Piesold	February 2007	2/26/2007	13.1	4.61	3.42	0.005 *U*	--	0.129	0.001 *U*	21.9	20.8
WQ13		L495369	Knight Piesold	April 2007	4/10/2007	7.1	4.17	1.82	0.005 *U*	--	0.0655	0.001 *U*	65.4	40
WQ13		L507191	Knight Piesold	May 2007	5/14/2007	10.1	2.89	1.92	0.005 *U*	--	0.0485	0.001 *U*	41.9	40
WQ13		L515743	Knight Piesold	June 2007	6/4/2007	9.5	1.57	1.7	0.005 *U*	--	0.0357	0.001 *U*	74.4	65.3
WQ13		L526591	Knight Piesold	July 2007 I	7/1/2007	16.6	2.06	2.92	0.005 *U*	--	0.0749	0.001 *U*	33.3	27.9
WQ13	K0706569		Integral	July 2007 II	7/24/2007	24	2.2	3.3	0.03 *U*	0.09	--	--	32.8	30.9
WQ13	K0707317		Integral	August 2007 I	8/14/2007	28	3	4.7	0.006 *U*	0.11	--	--	39.8	20.4
WQ13	K0707782		Integral	August 2007 II	8/27/2007	21	2	3	0.006 *U*	0.16	--	--	56 *J*	36.5
WQ13	K0708240		Integral	September 2007 I	9/11/2007	22	2.4	3.3	0.02 *UJ*	0.12	--	--	32.5 *J*	26.6 *J*
WQ13	K0709126		Integral	September 2007 II	10/1/2007	12	2.5	2.2	0.02 *U*	0.09	--	--	68.8	46.1
WQ13	K0709804		Integral	October 2007	10/17/2007	7	2.8	1.4	0.01 *UJ*	0.2	--	--	144	78.1
WQ13	K0710773		Integral	November 2007	11/13/2007	11	4.6	2.6	0.008 *UJ*	0.16	--	--	33.5	25.1
WQ13	K0711891		Integral	December 2007 I	12/16/2007	6	4.4	2.2	0.04 *UJ*	0.39	--	--	54.1 *J*	43.1 *J*
WQ13	K0800335		Integral	January 2008	1/9/2008	14	7.1	3.6	0.01 *UJ*	0.21	--	--	92.3	19.8
WQ13	K0801400		Integral	Februrary 2008	2/14/2008	5	6.7	1.9	0.07	0.46	--	--	63.4 *J*	33.3 *J*
WQ13	K0802328		Integral	March 2008	3/15/2008	5 *U*	5.4	2.2	0.01 *UJ*	0.22 *U*	--	--	29.6 *J*	24.1 *J*
WQ13	K0803239		Integral	April 2008	4/15/2008	11	7.1	2.3	0.02 *UJ*	0.19 *U*	--	--	28.9	21.5
WQ13	K0804080		Integral	May 2008	5/8/2008	15	4.7	2.3	0.03 *UJ*	0.15	--	--	36.5 *J*	32.1 *J*
WQ13	K0805877		Integral	June 2008	6/27/2008	11	1.9	1.9	0.02 *UJ*	0.12	--	--	80.2 *J*	65.6
WQ13	K0806880		Integral	July 2008	7/25/2008	15	2.2	3.3	0.02 *UJ*	0.17	--	--	35.3 *J*	27.1 *J*
WQ13	K0810253		Integral	October 2008	10/15/2008	13	2.6	2.3	0.03 *UJ*	0.17	--	--	42.6 *J*	36.5 *J*
WQ13	K0902142		Integral	March 2009	3/8/2009	20	3.2	3.6	0.02 *U*	0.28	--	--	22.3	18.2
WQ13	K0904395		Integral	May 2009	5/13/2009	10	2.1	2	0.036 *UJ*	0.1	--	--	59.2	50.4
WQ13	K0906701		Integral	July 2009	7/23/2009	7	1.1	1.3	0.009 *UJ*	0.14	--	--	401 *J*	133 *J*
WQ13	K0910115		Integral	October 2009	10/17/2009	13.4	3.35	2.19	0.013 *UJ*	0.181	--	--	42.2	34.7
WQ13	K1000512		Integral	January 2010	1/17/2010	4.5	7.7	1.52	0.009 *UJ*	0.138	--	--	77.3	39.6
WQ13	K1004032		Integral	April 2010	4/22/2010	5.3	7.76	2.4	0.009 *U*	0.122	--	--	69.6	40.2
WQ13	K1008751		Integral	August 2010	8/10/2010	14.2	3.91	3.88	0.03 *UJ*	0.163 *UJ*	--	--	37.2	33.6
WQ13	K1011737		Integral	October 2010	10/18/2010	6 *J*	7.12	1.71	0.049 *J*	0.11	--	--	68.1	40.2
WQ13	K1100642		Integral	January 2011	1/19/2011	9.5 *UJ*	4.14	2.71	--	0.189	--	--	157	102
WQ13	K1103541		Integral	April 2011	4/20/2011	9	4.38	9.11	--	0.149	--	--	35.2	30.9
WQ13	K1106865		Integral	July 2011 II	7/25/2011	10.6	2.22	5.73	0.009 *UJ*	0.136 *UJ*	--	--	78.4	70.4
WQ13	K1112358		Integral	December 2011	12/21/2011	9	4.32	4.85 *J*	0.033 *UJ*	0.181	--	--	44.7	28.9

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ4			Knight Piesold	October 1996 II	10/16/1996	0.5 *U*	0.39	0.37	27	3510	--	20 *U*	20 *U*	28
WQ4			Knight Piesold	September 1997	9/3/1997	0.5 *U*	0.5 *U*	0.2 *U*	0.2 *U*	2080	--	20 *U*	20 *U*	2 *U*
WQ4		V7277	Knight Piesold	April 2005 II	4/20/2005	0.5 *U*	0.5 *U*	0.05 *U*	0.05 *U*	2150	2160	1 *U*	1 *U*	1 *U*
WQ4		X2213	Knight Piesold	February 2006 II	2/15/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	7020	7150	1 *U*	1 *U*	1 *U*
WQ4		X5977	Knight Piesold	May 2006 II	5/16/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2100	2110	1 *U*	1 *U*	1 *U*
WQ4		Z2004	Knight Piesold	August 2006 II	8/29/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	5410	5320	1 *U*	1 *U*	1.9
WQ4		Z3908	Knight Piesold	October 2006	10/17/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	8870	8880	1 *U*	1 *U*	1 *U*
WQ4		Z6128	Knight Piesold	December 2006	12/7/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2030	1980	3.8	1 *U*	9.2
WQ4		L482967	Knight Piesold	February 2007	2/26/2007	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	9150	8220	1 *U*	1 *U*	1 *U*
WQ4		L495369	Knight Piesold	April 2007	4/10/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3460	3450	0.5 *U*	0.5 *U*	0.85
WQ4		L507191	Knight Piesold	May 2007	5/14/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3510	3480	0.5 *U*	0.5 *U*	1.43
WQ4		L515743	Knight Piesold	June 2007	6/4/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2290	2250	0.5 *U*	0.5 *U*	1.53
WQ4		L526591	Knight Piesold	July 2007 I	7/1/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	6460	6610	0.5 *U*	0.5 *U*	1.23
WQ4	K0706569		Integral	July 2007 II	7/24/2007	0.06 *U*	0.07 *J*	0.013 *U*	0.007 *U*	8920	9030	0.34 *U*	0.33 *U*	0.92
WQ4	K0707317		Integral	August 2007 I	8/14/2007	0.06 *U*	0.06 *U*	0.008 *U*	0.014 *U*	12700	12500	0.28 *U*	0.33 *U*	0.63 *UJ*
WQ4	K0707782		Integral	August 2007 II	8/27/2007	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	8310	8130	0.33 *U*	0.37 *U*	1.14
WQ4	K0708240		Integral	September 2007 I	9/11/2007	0.11 *J*	0.08 *J*	0.008 *UJ*	0.007 *U*	10600	10600	0.45 *U*	0.32 *U*	0.83
WQ4	K0709126		Integral	September 2007 II	10/2/2007	0.07 *J*	0.06 *U*	0.037 *U*	0.007 *U*	3970	3970	0.58 *U*	0.39 *U*	1.64
WQ4	K0709804		Integral	October 2007	10/17/2007	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	2670	2630	0.82 *U*	0.43 *U*	3.15
WQ4	K0710773		Integral	November 2007	11/13/2007	0.06 *J*	0.06 *U*	0.015 *UJ*	0.008 *U*	6590	6700	0.79 *U*	0.55 *U*	1.32
WQ4	K0711891		Integral	December 2007 I	12/15/2007	0.07 *UJ*	0.06 *U*	0.018 *U*	0.013 *U*	3910	3830	1.76	0.59 *U*	4.59 *J*
WQ4	K0800335		Integral	January 2008	1/9/2008	0.32 *J*	0.16 *UJ*	0.022 *UJ*	0.007 *UJ*	8280	8460	0.86 *U*	0.4 *U*	3.32
WQ4	K0801400		Integral	February 2008	2/14/2008	0.63	0.06 *UJ*	0.016 *UJ*	0.007 *UJ*	4610	4440	3.13	0.43 *U*	15.9
WQ4	K0802328		Integral	March 2008	3/15/2008	0.08 *U*	0.08 *U*	0.005 *UJ*	0.006 *UJ*	6130	5940	0.59 *U*	0.42 *U*	1.32
WQ4	K0803239		Integral	April 2008	4/14/2008	0.07 *J*	0.06 *U*	0.008 *UJ*	0.007 *UJ*	5580	5630	0.88 *U*	0.38 *U*	1.09
WQ4	K0804080		Integral	May 2008	5/8/2008	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	4960	4970	0.69 *U*	0.52 *U*	1.03 *U*
WQ4	K0805877		Integral	June 2008	6/28/2008	0.2 *U*	0.2 *U*	0.009 *UJ*	0.005 *UJ*	2780	2660	1.01 *U*	0.65 *U*	2.49 *U*
WQ4	K0806880		Integral	July 2008	7/24/2008	0.2 *U*	0.2 *U*	0.01 *UJ*	0.005 *UJ*	7310	7350	0.56 *U*	0.42 *U*	1.29
WQ4	K0810253		Integral	October 2008	10/15/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	4690	5290	--	--	1.21
WQ4	K0902142		Integral	March 2009	3/9/2009	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	9540	9460	--	--	0.53 *U*
WQ4	K0904395		Integral	May 2009	5/13/2009	0.2 *U*	0.2 *U*	0.005 *U*	0.006 *J*	2640	2600	--	--	1.19
WQ4	K0906701		Integral	July 2009	7/23/2009	0.16 *J*	0.13 *J*	0.013 *UJ*	0.003 *UJ*	2810	2580	--	--	4.89
WQ4	K0908299		Integral	September 2009 I	9/5/2009	0.08 *J*	0.07 *U*	0.006 *UJ*	0.003 *UJ*	6510	6430	--	--	1.38
WQ4	K0908619		Integral	September 2009 II	9/12/2009	0.1 *UJ*	0.1 *UJ*	0.005 *UJ*	0.005 *UJ*	6330 *J*	6650 *J*	--	--	1.1
WQ4	K0910115		Integral	October 2009	10/17/2009	0.07 *U*	0.07 *U*	0.003 *UJ*	0.003 *UJ*	5390	5450	--	--	0.9
WQ4	K1000512		Integral	January 2010	1/15/2010	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	3010	3170	--	--	1.14
WQ4	K1004032		Integral	April 2010	4/22/2010	0.07 *UJ*	0.07 *UJ*	0.003 *UJ*	0.003 *UJ*	4500 *J*	4670 *J*	--	--	0.77 *J*
WQ4	K1008751		Integral	August 2010	8/10/2010	0.1 *J*	0.07 *U*	0.011 *UJ*	0.004 *UJ*	10700	11100	--	--	0.99
WQ4	K1011739		Integral	October 2010	10/18/2010	0.1 *U*	0.1 *U*	0.005 *U*	0.005 *U*	3360	3370	--	--	1.35
WQ4	K1100726		Integral	January 2011	1/19/2011	0.19 *J*	0.07 *U*	0.009 *UJ*	0.004 *UJ*	3480	3350	1.07 *U*	0.3 *U*	3.66
WQ4	K1103541		Integral	April 2011	4/20/2011	0.12 *J*	0.15 *J*	0.004 *J*	0.004 *J*	9390	9300	--	--	0.85
WQ4	K1106865		Integral	July 2011 II	7/25/2011	0.1 *U*	0.1 *U*	0.016 *UJ*	0.012 *UJ*	7320	7200	--	--	1.81
WQ4	K1112358		Integral	December 2011	12/21/2011	0.12 *J*	0.11 *J*	0.005 *UJ*	0.003 *UJ*	5070	5070	--	--	0.63

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ6			Knight Piesold	October 1996 II	10/16/1996	0.5 *U*	0.5 *U*	0.2 *U*	0.2 *U*	2590	--	20 *U*	20 *U*	2 *U*
WQ6			Knight Piesold	September 1997	9/3/1997	0.5 *U*	0.5 *U*	0.2 *U*	0.2 *U*	1450	--	20 *U*	20 *U*	2 *U*
WQ6		V7277	Knight Piesold	April 2005 II	4/20/2005	0.5 *U*	0.5 *U*	0.05 *U*	0.05 *U*	1410	1410	1 *U*	1 *U*	1
WQ6		X2213	Knight Piesold	February 2006 II	2/15/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	3880	3910	1 *U*	1 *U*	1 *U*
WQ6		X5977	Knight Piesold	May 2006 II	5/16/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2430	2500	1 *U*	1 *U*	1 *U*
WQ6		Z2004	Knight Piesold	August 2006 II	8/29/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	3030	3040	1 *U*	1 *U*	1.7
WQ6		Z3908	Knight Piesold	October 2006	10/17/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4120	4120	1 *U*	1 *U*	1 *U*
WQ6		Z6128	Knight Piesold	December 2006	12/7/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1410	1470	1 *U*	1 *U*	1 *U*
WQ6		L482967	Knight Piesold	February 2007	2/26/2007	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4260	4190	1 *U*	1 *U*	1 *U*
WQ6		L495369	Knight Piesold	April 2007	4/10/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1870	1880	0.5 *U*	0.5 *U*	0.74
WQ6		L507191	Knight Piesold	May 2007	5/14/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2120	2190	0.5 *U*	0.5 *U*	0.83
WQ6		L515743	Knight Piesold	June 2007	6/4/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1310	1330	0.5 *U*	0.5 *U*	1.01
WQ6		L526591	Knight Piesold	July 2007 I	7/1/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2720	2760	0.5 *U*	0.5 *U*	0.97
WQ6	K0706569		Integral	July 2007 II	7/24/2007	0.06 *U*	0.06 *U*	0.01 *J*	0.007 *U*	3710	3940	0.39 *U*	0.33 *U*	0.88
WQ6	K0707317		Integral	August 2007 I	8/14/2007	0.06 *U*	0.06 *U*	0.008 *U*	0.011 *U*	6640	6340	0.24 *U*	0.33 *U*	0.45 *UJ*
WQ6	K0707782		Integral	August 2007 II	8/27/2007	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	5740	5720	0.26 *U*	0.37 *U*	0.78
WQ6	K0708240		Integral	September 2007 I	9/11/2007	0.06 *J*	0.06 *U*	0.008 *UJ*	0.007 *U*	5480	5350	0.35 *U*	0.23 *U*	0.73
WQ6	K0709126		Integral	September 2007 II	10/2/2007	0.06 *U*	0.06 *U*	0.012 *U*	0.007 *U*	2160	2100	0.36 *U*	0.41 *U*	1.16
WQ6	K0709804		Integral	October 2007	10/17/2007	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	1520	1550	0.46 *U*	0.45 *U*	1.09
WQ6	K0710773		Integral	November 2007	11/13/2007	0.06 *U*	0.06 *U*	0.016 *UJ*	0.008 *U*	2980	3000	0.51 *U*	0.43 *U*	0.63
WQ6	K0711891		Integral	December 2007 I	12/15/2007	0.06 *U*	0.06 *U*	0.024 *U*	0.012 *U*	1860	1950	0.37 *U*	0.36 *U*	0.84 *J*
WQ6	K0800335		Integral	January 2008	1/9/2008	0.17 *J*	0.08 *U*	0.01 *UJ*	0.005 *U*	4550	4300	0.33 *U*	0.63 *U*	0.58
WQ6	K0801400		Integral	Feb-08	2/14/2008	0.15 *UJ*	0.06 *UJ*	0.005 *UJ*	0.03 *UJ*	2340	2250	0.52 *U*	0.58 *U*	0.58
WQ6	K0802328		Integral	March 2008	3/15/2008	0.08 *U*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	3270	3240	0.31 *U*	0.31 *U*	0.53
WQ6	K0803239		Integral	April 2008	4/14/2008	0.06 *U*	0.06 *U*	0.007 *UJ*	0.007 *UJ*	3060	2970	0.34 *U*	0.61 *U*	0.47
WQ6	K0804080		Integral	May 2008	5/8/2008	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	2480	2530	0.73 *U*	0.38 *U*	0.73 *U*
WQ6	K0805877		Integral	June 2008	6/28/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	1070	1070	0.56 *U*	0.42 *U*	1.25 *U*
WQ6	K0806880		Integral	July 2008	7/24/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	2800	2810	0.5 *U*	0.42 *U*	0.67
WQ6	K0810253		Integral	October 2008	10/15/2008	0.2 *U*	0.2 *U*	0.009 *UJ*	0.005 *UJ*	2460	2310	--	--	1.16
WQ6	K0902142		Integral	March 2009	3/9/2009	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	5590	5540	--	--	1.8
WQ6	K0904395		Integral	May 2009	5/13/2009	0.2 *U*	0.2 *U*	0.008 *J*	0.005 *U*	1950	1790	--	--	1.29
WQ6	K0906701		Integral	July 2009	7/23/2009	0.1 *J*	0.07 *U*	0.006 *UJ*	0.004 *UJ*	1900	1940	--	--	3.33
WQ6	K0908299		Integral	September 2009 I	9/5/2009	0.07 *U*	0.07 *U*	0.004 *UJ*	0.003 *UJ*	3020	2920	--	--	0.99
WQ6	K0908619		Integral	September 2009 II	9/12/2009	0.1 *UJ*	0.1 *UJ*	0.005 *UJ*	0.005 *UJ*	2970 *J*	2990 *J*	--	--	0.89
WQ6	K0910115		Integral	October 2009	10/17/2009	0.07 *U*	0.07 *U*	0.003 *UJ*	0.003 *UJ*	2750	2810	--	--	0.86
WQ6	K1000512		Integral	January 2010	1/15/2010	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	2020	1950	--	--	0.98
WQ6	K1004032		Integral	April 2010	4/22/2010	0.07 *UJ*	0.07 *UJ*	0.003 *UJ*	0.003 *UJ*	2720 *J*	2690 *J*	--	--	0.74 *J*
WQ6	K1008751		Integral	August 2010	8/10/2010	0.07 *U*	0.08 *J*	0.006 *UJ*	0.004 *UJ*	5880	5880	--	--	0.84
WQ6	K1011739		Integral	October 2010	10/19/2010	0.1 *U*	0.1 *U*	0.005 *U*	0.005 *U*	2120	2190	--	--	0.83
WQ6	K1100642		Integral	January 2011	1/21/2011	0.07 *U*	0.07 *U*	0.006 *UJ*	0.003 *UJ*	1520	1550	--	--	1.07
WQ6	K1103541		Integral	April 2011	4/20/2011	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	3830	3880	--	--	0.58
WQ6	K1106865		Integral	July 2011 II	7/25/2011	0.1 *U*	0.1 *U*	0.009 *UJ*	0.018 *UJ*	3370	3280	--	--	1.49
WQ6	K1112358		Integral	December 2011	12/21/2011	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	2920	2980	--	--	0.65
WQ7		X2213	Knight Piesold	February 2006 II	2/15/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	3830	3870	1 *U*	1 *U*	1 *U*
WQ7		X5977	Knight Piesold	May 2006 II	5/16/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1470	1440	1 *U*	1 *U*	1 *U*
WQ7		Z2004	Knight Piesold	August 2006 II	8/29/2006	0.5 *U*	0.5 *U*	0.024	0.017 *U*	3170	3210	1 *U*	1 *U*	1.6
WQ7		Z3908	Knight Piesold	October 2006	10/17/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4190	4210	1 *U*	1 *U*	1 *U*
WQ7		Z6128	Knight Piesold	December 2006	12/7/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1140	1160	1 *U*	1 *U*	1 *U*
WQ7		L482967	Knight Piesold	February 2007	2/26/2007	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4490	4460	1 *U*	1 *U*	1 *U*
WQ7		L495369	Knight Piesold	April 2007	4/10/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1870	1910	0.5 *U*	0.5 *U*	0.73
WQ7		L507191	Knight Piesold	May 2007	5/14/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2090	2140	0.5 *U*	0.5 *U*	0.8

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ7		L515743	Knight Piesold	June 2007	6/4/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1320	1310	0.5 *U*	0.5 *U*	1.04
WQ7		L526591	Knight Piesold	July 2007 I	7/1/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2810	2730	0.5 *U*	0.5 *U*	1.13
WQ7	K0706569		Integral	July 2007 II	7/24/2007	0.06 *U*	0.06 *U*	0.03 *U*	0.012 *U*	3830	3900	0.36 *U*	0.32 *U*	0.85
WQ7	K0707317		Integral	August 2007 I	8/14/2007	0.06 *U*	0.06 *U*	0.008 *U*	0.011 *U*	7100	6370	0.24 *U*	0.34 *U*	0.44 *UJ*
WQ7	K0707782		Integral	August 2007 II	8/27/2007	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	5830	5830	0.48 *U*	0.36 *U*	0.69
WQ7	K0708240		Integral	September 2007 I	9/11/2007	0.06 *J*	0.06 *U*	0.008 *UJ*	0.007 *U*	5060	5190	0.4 *U*	0.2 *U*	0.63
WQ7	K0709126		Integral	September 2007 II	10/2/2007	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	2170	2220	0.37 *U*	0.49 *U*	1.17
WQ7	K0709804		Integral	October 2007	10/17/2007	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	1640	1700	0.47 *U*	0.38 *U*	1.02
WQ7	K0710773		Integral	November 2007	11/13/2007	0.06 *U*	0.06 *U*	0.018 *UJ*	0.008 *U*	2880	2930	0.47 *U*	0.5 *U*	0.59
WQ7	K0711891		Integral	December 2007 I	12/15/2007	0.06 *U*	0.06 *U*	0.011 *U*	0.013 *U*	1780	1790	0.37 *U*	0.38 *U*	0.68 *J*
WQ7	K0800335		Integral	January 2008	1/9/2008	0.13 *J*	0.09 *UJ*	0.013 *UJ*	0.006 *UJ*	4680	4570	0.33 *U*	0.42 *U*	0.44
WQ7	K0801400		Integral	Februrary 2008	2/14/2008	0.11 *UJ*	0.06 *UJ*	0.005 *UJ*	0.007 *UJ*	2470	2400	0.45 *U*	0.3 *U*	0.57
WQ7	K0802328		Integral	March 2008	3/15/2008	0.08 *U*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	3120	3070	0.3 *U*	0.37 *U*	0.45
WQ7	K0803239		Integral	April 2008	4/14/2008	0.06 *U*	0.06 *U*	0.01 *UJ*	0.007 *UJ*	3120	3010	0.58 *U*	0.45 *U*	0.4
WQ7	K0804080		Integral	May 2008	5/8/2008	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	2510	2450	0.91 *U*	0.23 *U*	0.79 *U*
WQ7	K0805877		Integral	June 2008	6/28/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	1090	1060	0.89 *U*	0.57 *U*	1.21 *U*
WQ7	K0806880		Integral	July 2008	7/24/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	2790	2800	0.44 *U*	0.44 *U*	0.63
WQ8		X2213	Knight Piesold	February 2006 II	2/15/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	7400	7220	1 *U*	1 *U*	1 *U*
WQ8		X5977	Knight Piesold	May 2006 II	5/17/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1680	1710	1 *U*	1 *U*	1.1
WQ8		Z2004	Knight Piesold	August 2006 II	8/29/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4900	4890	1 *U*	1 *U*	1.3
WQ8		Z3908	Knight Piesold	October 2006	10/17/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	5980	5960	1 *U*	1 *U*	1 *U*
WQ8		Z6128	Knight Piesold	December 2006	12/7/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1450	1460	1 *U*	1 *U*	1.2
WQ8		L482967	Knight Piesold	February 2007	2/26/2007	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	5400	5550	1 *U*	1 *U*	1 *U*
WQ8		L495369	Knight Piesold	April 2007	4/10/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3210	3190	0.5 *U*	0.5 *U*	0.63
WQ8		L507191	Knight Piesold	May 2007	5/14/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	4260	4250	0.5 *U*	0.5 *U*	0.83
WQ8		L515743	Knight Piesold	June 2007	6/4/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1710	1720	0.5 *U*	0.5 *U*	1.54
WQ8		L526591	Knight Piesold	July 2007 I	7/1/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	5130	4990	0.5 *U*	0.5 *U*	0.55
WQ8	K0706569		Integral	July 2007 II	7/24/2007	0.06 *U*	0.06 *U*	0.013 *U*	0.012 *U*	6090	6440	0.42 *U*	0.54 *U*	0.96
WQ8	K0707317		Integral	August 2007 I	8/14/2007	0.06 *U*	0.06 *J*	0.008 *U*	0.014 *U*	8440	8130	0.24 *U*	0.3 *U*	0.44 *UJ*
WQ8	K0707782		Integral	August 2007 II	8/27/2007	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	6010	5910	0.34 *U*	0.33 *U*	0.84
WQ8	K0708240		Integral	September 2007 I	9/11/2007	0.07 *J*	0.06 *U*	0.011 *UJ*	0.007 *U*	6920	6760	0.38 *U*	0.27 *U*	0.52
WQ8	K0709126		Integral	September 2007 II	10/2/2007	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	2390	2360	0.39 *U*	0.32 *U*	1.4
WQ8	K0709804		Integral	October 2007	10/17/2007	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	1720	1750	0.48 *U*	0.4 *U*	1.5
WQ8	K0710773		Integral	November 2007	11/13/2007	0.06 *U*	0.06 *U*	0.045 *UJ*	0.008 *U*	3480	3590	0.48 *U*	0.49 *U*	0.61
WQ8	K0711891		Integral	December 2007 I	12/15/2007	0.06 *U*	0.06 *U*	0.008 *U*	0.01 *U*	1760	1870	0.58 *U*	0.57 *U*	0.96 *J*
WQ8	K0800335		Integral	January 2008	1/9/2008	0.12 *J*	0.11 *UJ*	0.017 *UJ*	0.005 *U*	4600	4420	0.44 *U*	0.37 *U*	0.74
WQ8	K0801400		Integral	Februrary 2008	2/14/2008	0.18 *UJ*	0.06 *UJ*	0.005 *UJ*	0.007 *UJ*	2040	1950	0.83 *U*	0.39 *U*	0.8
WQ8	K0802328		Integral	March 2008	3/15/2008	0.08 *U*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	2990	2940	0.29 *U*	0.4 *U*	0.5
WQ8	K0803239		Integral	April 2008	4/14/2008	0.06 *U*	0.06 *U*	0.007 *UJ*	0.007 *UJ*	2980	2980	0.35 *U*	0.45 *U*	0.51
WQ8	K0804080		Integral	May 2008	5/8/2008	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	2590	2650	0.33 *U*	0.39 *U*	0.8 *U*
WQ8	K0805877		Integral	June 2008	6/28/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	1530	1480	0.57 *U*	0.64 *U*	1.7 *U*
WQ8	K0806880		Integral	July 2008	7/24/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	4480	4540	0.45 *U*	0.4 *U*	0.56
WQ10		Z2004	Knight Piesold	August 2006 II	8/29/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2200	2140	1 *U*	1 *U*	2
WQ10		Z3908	Knight Piesold	October 2006	10/17/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2910	2800	1 *U*	1 *U*	3.9
WQ10		Z6128	Knight Piesold	December 2006	12/7/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1350	1360	1 *U*	1 *U*	1.9
WQ10		L482967	Knight Piesold	February 2007	2/26/2007	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2420	2400	1 *U*	1 *U*	1 *U*
WQ10		L495369	Knight Piesold	April 2007	4/10/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1880	1850	0.5 *U*	0.5 *U*	0.83
WQ10		L507191	Knight Piesold	May 2007	5/14/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2730	2700	0.5 *U*	0.5 *U*	1.22
WQ10		L515743	Knight Piesold	June 2007	6/4/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3290	3310	0.5 *U*	0.5 *U*	1.57
WQ10		L526591	Knight Piesold	July 2007 I	7/1/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	4890	4900	0.5 *U*	0.5 *U*	1.67
WQ10	K0706569		Integral	July 2007 II	7/24/2007	0.11 *J*	0.08 *J*	0.015 *U*	0.013 *U*	3200	3260	0.34 *U*	0.39 *U*	1.19

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ10	K0707317		Integral	August 2007 I	8/14/2007	0.09 *J*	0.1 *J*	0.008 *U*	0.014 *U*	4300	4060	0.27 *U*	0.36 *U*	0.93
WQ10	K0707782		Integral	August 2007 II	8/27/2007	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	3940	3780	0.37 *U*	0.36 *U*	1.09
WQ10	K0708240		Integral	September 2007 I	9/11/2007	0.11 *J*	0.07 *J*	0.007 *U*	0.007 *U*	3830	3830	0.41 *U*	0.28 *U*	1.07
WQ10	K0709126		Integral	September 2007 II	10/1/2007	0.08 *J*	0.06 *U*	0.012 *U*	0.01 *U*	2440	2600	0.46 *U*	0.36 *U*	1.44
WQ10	K0709804		Integral	October 2007	10/17/2007	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	1510	1490	0.51 *U*	0.44 *U*	1.58
WQ10	K0710773		Integral	November 2007	11/13/2007	0.06 *U*	0.06 *U*	0.026 *UJ*	0.009 *UJ*	2490	2550	0.47 *U*	1.03 *U*	1.01
WQ10	K0711891		Integral	December 2007 I	12/15/2007	0.06 *U*	0.06 *U*	0.008 *U*	0.019 *U*	1660	1810	0.94 *U*	0.49 *U*	1.32 *J*
WQ10	K0800335		Integral	January 2008	1/9/2008	0.18 *J*	0.08 *U*	0.02 *UJ*	0.005 *U*	3190	3020	0.43 *U*	0.34 *U*	0.75
WQ10	K0801400		Integral	Februrary 2008	2/14/2008	0.17 *UJ*	0.06 *UJ*	0.005 *UJ*	0.007 *UJ*	1630	1600	0.68 *U*	0.42 *U*	1.06
WQ10	K0802328		Integral	March 2008	3/15/2008	0.08 *U*	0.1 *J*	0.006 *UJ*	0.005 *UJ*	2510	2450	0.55 *U*	0.48 *U*	2.33
WQ10	K0803239		Integral	April 2008	4/14/2008	0.06 *U*	0.06 *U*	0.011 *UJ*	0.007 *UJ*	3200	3190	0.45 *U*	0.48 *U*	0.71
WQ10	K0804080		Integral	May 2008	5/8/2008	0.08 *U*	0.08 *U*	0.005 *U*	0.008 *J*	3070	2940	0.57 *U*	0.43 *U*	0.94 *U*
WQ10	K0805877		Integral	June 2008	6/28/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.006 *UJ*	2730	2730	0.73 *U*	0.48 *U*	1.93 *U*
WQ10	K0806880		Integral	July 2008	7/24/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	4730	4600	0.54 *U*	0.5 *U*	0.99
WQ10	K0810253		Integral	October 2008	10/15/2008	0.2 *U*	0.2 *U*	0.006 *UJ*	0.005 *UJ*	3030	3180	--	--	0.99
WQ10	K0902142		Integral	March 2009	3/9/2009	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	3900	3950	--	--	0.73 *U*
WQ10	K0904395		Integral	May 2009	5/13/2009	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	2660	2590	--	--	1.16
WQ10	K0906701		Integral	July 2009	7/23/2009	0.08 *J*	0.12 *J*	0.01 *UJ*	0.008 *UJ*	3640	3660	--	--	2.82
WQ10	K0908299		Integral	September 2009 I	9/5/2009	0.09 *J*	0.07 *U*	0.004 *UJ*	0.003 *UJ*	3790	3720	--	--	1.09
WQ10	K0908619		Integral	September 2009 II	9/12/2009	0.1 *UJ*	0.1 *UJ*	0.005 *UJ*	0.005 *UJ*	3810 *J*	3780 *J*	--	--	1.01
WQ10	K0910115		Integral	October 2009	10/17/2009	0.07 *U*	0.07 *U*	0.009 *UJ*	0.004 *UJ*	7210	7490	--	--	1.07
WQ10	K1000512		Integral	January 2010	1/15/2010	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	2610	2650	--	--	0.94
WQ10	K1004032		Integral	April 2010	4/22/2010	0.07 *UJ*	0.07 *UJ*	0.003 *UJ*	0.004 *UJ*	4920 *J*	4880 *J*	--	--	0.76 *J*
WQ10	K1008752		Integral	August 2010	8/10/2010	0.07 *U*	0.09 *J*	0.003 *U*	0.003 *U*	8040	7970	0.25 *UJ*	0.26 *UJ*	0.81
WQ10	K1011739		Integral	October 2010	10/19/2010	0.1 *U*	0.1 *U*	0.005 *U*	0.005 *U*	3440	3400	--	--	0.81
WQ10	K1100642		Integral	January 2011	1/21/2011	0.08 *J*	0.07 *U*	0.01 *UJ*	0.004 *UJ*	1800	1720	--	--	1.71
WQ10	K1103545		Integral	April 2011	4/20/2011	0.07 *U*	0.07 *U*	0.003 *UJ*	0.003 *UJ*	3420	3400	0.49 *UJ*	0.23 *U*	0.93
WQ10	K1106865		Integral	July 2011 II	7/25/2011	0.1 *U*	0.1 *U*	0.005 *UJ*	0.005 *UJ*	4390	4300	--	--	1.45
WQ10	K1112358		Integral	December 2011	12/21/2011	0.09 *J*	0.09 *J*	0.003 *U*	0.003 *U*	2910	2940	--	--	0.81
WQ12		Z2004	Knight Piesold	August 2006 II	8/29/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	8640	8580	1 *U*	1 *U*	1 *U*
WQ12		Z3908	Knight Piesold	October 2006	10/17/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2150	2190	1 *U*	1 *U*	1.5
WQ12		Z6128	Knight Piesold	December 2006	12/7/2006	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1240	1210	1 *U*	1 *U*	1
WQ12		L482967	Knight Piesold	February 2007	2/26/2007	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4960	4950	1 *U*	1 *U*	1 *U*
WQ12		L495369	Knight Piesold	April 2007	4/10/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3890	3820	0.5 *U*	0.5 *U*	0.37
WQ12		L507191	Knight Piesold	May 2007	5/14/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	22500	22500	0.5 *U*	0.5 *U*	0.1 *U*
WQ12		L515743	Knight Piesold	June 2007	6/4/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	14800	14700	0.5 *U*	0.5 *U*	1.89
WQ12		L526591	Knight Piesold	July 2007 I	7/1/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	15500	15200	0.5 *U*	0.5 *U*	0.39
WQ12	K0706569		Integral	July 2007 II	7/24/2007	0.15 *J*	0.11 *J*	0.007 *U*	0.02 *U*	12800	12800	0.37 *U*	0.4 *U*	0.57
WQ12	K0707317		Integral	August 2007 I	8/14/2007	0.15 *J*	0.16 *J*	0.013 *U*	0.017 *U*	15200	14900	0.31 *U*	0.4 *U*	0.58 *UJ*
WQ12	K0707782		Integral	August 2007 II	8/27/2007	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	15500	15300	0.42 *U*	0.38 *U*	0.5
WQ12	K0708240		Integral	September 2007 I	9/11/2007	0.1 *J*	0.13 *J*	0.007 *UJ*	0.007 *U*	13700	13200	0.3 *U*	0.32 *U*	0.51
WQ12	K0709126		Integral	September 2007 II	10/1/2007	0.08 *J*	0.06 *U*	0.012 *U*	0.007 *U*	5030	5510	0.44 *U*	0.39 *U*	0.99
WQ12	K0709804		Integral	October 2007	10/17/2007	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	1750	1760	0.48 *U*	0.44 *U*	1.14
WQ12	K0710773		Integral	November 2007	11/13/2007	0.06 *U*	0.08 *J*	0.012 *UJ*	0.008 *U*	5550	5730	0.52 *U*	0.52 *U*	0.48
WQ12	K0711891		Integral	December 2007 I	12/15/2007	0.06 *U*	0.06 *U*	0.014 *U*	0.018 *U*	2140	2230	0.51 *U*	0.43 *U*	0.96 *J*
WQ12	K0800335		Integral	January 2008	1/9/2008	0.22 *J*	0.09 *UJ*	0.021 *UJ*	0.005 *U*	5820	5830	0.42 *U*	0.38 *U*	0.45
WQ12	K0801400		Integral	Februrary 2008	2/14/2008	0.2 *UJ*	0.06 *UJ*	0.005 *UJ*	0.007 *UJ*	1640	1760	1.04 *U*	0.44 *U*	0.67
WQ12	K0802328		Integral	March 2008	3/15/2008	0.13 *J*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	6290	6260	0.33 *U*	0.46 *U*	0.35
WQ12	K0803239		Integral	April 2008	4/14/2008	0.06 *U*	0.06 *U*	0.007 *UJ*	0.007 *UJ*	5910	5720	0.39 *U*	0.47 *U*	0.39
WQ12	K0804080		Integral	May 2008	5/8/2008	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	7380	7640	0.26 *U*	0.47 *U*	0.42 *U*
WQ12	K0805877		Integral	June 2008	6/28/2008	0.21 *J*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	2590	2530	0.65 *U*	0.88 *U*	1.5 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ12	K0806880		Integral	July 2008	7/24/2008	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	9560	9720	0.52 *U*	0.51 *U*	0.43
WQ13		L482967	Knight Piesold	February 2007	2/26/2007	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	6160	6210	1 *U*	1 *U*	1 *U*
WQ13		L495369	Knight Piesold	April 2007	4/10/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2870	3000	0.5 *U*	0.5 *U*	1.36
WQ13		L507191	Knight Piesold	May 2007	5/14/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	4190	4130	0.5 *U*	0.5 *U*	1.08
WQ13		L515743	Knight Piesold	June 2007	6/4/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3650	3630	0.5 *U*	0.5 *U*	1.84
WQ13		L526591	Knight Piesold	July 2007 I	7/1/2007	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	7100	7210	0.5 *U*	0.5 *U*	1.07
WQ13	K0706569		Integral	July 2007 II	7/24/2007	0.1 *J*	0.07 *J*	0.014 *U*	0.033 *U*	7510	7600	0.29 *U*	0.42 *U*	1.1
WQ13	K0707317		Integral	August 2007 I	8/14/2007	0.06 *U*	0.06 *U*	0.011 *U*	0.016 *U*	10700	9990	0.22 *U*	0.34 *U*	3.74
WQ13	K0707782		Integral	August 2007 II	8/27/2007	0.08 *U*	0.07 *U*	0.015 *J*	0.01 *J*	7820	7830	0.4 *U*	0.43 *U*	1.45
WQ13	K0708240		Integral	September 2007 I	9/11/2007	0.11 *J*	0.06 *U*	0.015 *UJ*	0.007 *U*	8290	8040	0.35 *U*	0.21 *U*	0.96
WQ13	K0709126		Integral	September 2007 II	10/1/2007	0.06 *U*	0.06 *U*	0.018 *U*	0.015 *U*	4800	4580	0.48 *U*	0.36 *U*	1.44
WQ13	K0709804		Integral	October 2007	10/17/2007	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	3240	3300	0.61 *U*	0.43 *U*	2.47
WQ13	K0710773		Integral	November 2007	11/13/2007	0.06 *U*	0.06 *U*	0.022 *UJ*	0.011 *UJ*	4710	4910	0.52 *U*	0.43 *U*	0.85
WQ13	K0711891		Integral	December 2007 I	12/16/2007	0.06 *U*	0.06 *U*	0.016 *U*	0.026 *U*	3560	3700	0.61 *U*	0.43 *U*	1.43 *J*
WQ13	K0800335		Integral	January 2008	1/9/2008	0.15 *J*	0.11 *UJ*	0.017 *UJ*	0.01 *UJ*	6980	6810	0.49 *U*	0.36 *U*	1.3
WQ13	K0801400		Integral	Februrary 2008	2/14/2008	0.13 *UJ*	0.06 *UJ*	0.007 *UJ*	0.007 *UJ*	3680	3820	0.66 *U*	0.37 *U*	1.17
WQ13	K0802328		Integral	March 2008	3/15/2008	0.08 *U*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	4410	4360	0.39 *U*	0.33 *U*	0.69
WQ13	K0803239		Integral	April 2008	4/15/2008	0.06 *U*	0.06 *U*	0.009 *UJ*	0.009 *UJ*	4700	4530	0.82 *U*	0.74 *U*	0.74
WQ13	K0804080		Integral	May 2008	5/8/2008	0.08 *U*	0.08 *U*	0.014 *J*	0.005 *U*	4130	4080	0.31 *U*	0.45 *U*	1.04 *U*
WQ13	K0805877		Integral	June 2008	6/27/2008	0.2 *U*	0.2 *U*	0.007 *UJ*	0.008 *UJ*	3260	3220	0.63 *U*	0.53 *U*	1.84 *U*
WQ13	K0806880		Integral	July 2008	7/25/2008	0.2 *U*	0.2 *U*	0.011 *UJ*	0.006 *UJ*	5420	5550	0.48 *U*	0.55 *U*	0.96
WQ13	K0810253		Integral	October 2008	10/15/2008	0.2 *U*	0.2 *U*	0.008 *UJ*	0.009 *UJ*	4260	4360	--	--	1.24
WQ13	K0902142		Integral	March 2009	3/8/2009	0.2 *U*	0.2 *U*	0.005 *U*	0.008 *J*	7000	6710	--	--	0.92 *U*
WQ13	K0904395		Integral	May 2009	5/13/2009	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	3240	3070	--	--	1.44
WQ13	K0906701		Integral	July 2009	7/23/2009	0.11 *J*	0.09 *J*	0.014 *UJ*	0.007 *UJ*	3110	3020	--	--	4
WQ13	K0910115		Integral	October 2009	10/17/2009	0.07 *U*	0.07 *U*	0.008 *UJ*	0.006 *UJ*	4480	4720	--	--	1.2
WQ13	K1000512		Integral	January 2010	1/17/2010	0.07 *U*	0.07 *U*	0.006 *J*	0.005 *J*	3350	3340	--	--	1.27
WQ13	K1004032		Integral	April 2010	4/22/2010	0.07 *UJ*	0.07 *UJ*	0.007 *UJ*	0.003 *UJ*	3180 *J*	3160 *J*	--	--	1.26 *J*
WQ13	K1008751		Integral	August 2010	8/10/2010	0.07 *U*	0.07 *U*	0.011 *UJ*	0.011 *UJ*	6280	6330	--	--	1.43
WQ13	K1011737		Integral	October 2010	10/18/2010	0.1 *J*	0.1 *J*	0.013 *J*	0.008 *J*	3040 *J*	2860 *J*	0.77 *U*	0.49 *U*	1.35
WQ13	K1100642		Integral	January 2011	1/19/2011	0.07 *U*	0.07 *U*	0.016 *UJ*	0.015 *UJ*	4180	4000	--	--	1.98
WQ13	K1103541		Integral	April 2011	4/20/2011	0.07 *J*	0.07 *U*	0.008 *J*	0.006 *J*	6670	6780	--	--	1.01
WQ13	K1106865		Integral	July 2011 II	7/25/2011	0.1 *U*	0.1 *U*	0.022 *UJ*	0.01 *UJ*	4890	4750	--	--	2.05
WQ13	K1112358		Integral	December 2011	12/21/2011	0.07 *U*	0.11 *J*	0.01 *UJ*	0.007 *UJ*	4700	4810	--	--	0.95

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved
WQ4			Knight Piesold	October 1996 II	10/16/1996	2 *U*	67	15	2.7	2 *U*	1000 *U*	--	200 *U*	200 *U*
WQ4			Knight Piesold	September 1997	9/3/1997	2 *U*	67	50 *U*	2 *U*	2 *U*	1000 *U*	--	200 *U*	200 *U*
WQ4		V7277	Knight Piesold	April 2005 II	4/20/2005	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	360	370	0.02 *U*	0.02 *U*
WQ4		X2213	Knight Piesold	February 2006 II	2/15/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	1000	1020	0.02 *U*	0.02 *U*
WQ4		X5977	Knight Piesold	May 2006 II	5/16/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	350	350	0.02 *U*	0.02 *U*
WQ4		Z2004	Knight Piesold	August 2006 II	8/29/2006	1.6	76	36	0.5 *U*	0.5 *U*	680	670	0.02 *U*	0.02 *U*
WQ4		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	980	970	0.02 *U*	0.02 *U*
WQ4		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	1940	31	0.5 *U*	0.5 *U*	1120	420	0.02 *U*	0.02 *U*
WQ4		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	1010	980	0.02 *U*	0.02 *U*
WQ4		L495369	Knight Piesold	April 2007	4/10/2007	0.7	30 *U*	30 *U*	0.05 *U*	0.05 *U*	530	530	0.05 *U*	0.05 *U*
WQ4		L507191	Knight Piesold	May 2007	5/14/2007	0.95	125	30 *U*	0.05 *U*	0.05 *U*	510	480	0.05 *U*	0.05 *U*
WQ4		L515743	Knight Piesold	June 2007	6/4/2007	1.18	58	30 *U*	0.05 *U*	0.05 *U*	340	320	0.01 *U*	0.01 *U*
WQ4		L526591	Knight Piesold	July 2007 I	7/1/2007	1.01	38	30 *U*	0.05 *U*	0.05 *U*	730	740	0.01 *U*	0.01 *U*
WQ4	K0706569		Integral	July 2007 II	7/24/2007	0.79	25	11 *J*	0.014 *U*	0.015 *U*	949	951	0.03 *U*	0.03 *U*
WQ4	K0707317		Integral	August 2007 I	8/14/2007	0.58	10.6 *U*	5.6 *U*	0.011 *UJ*	0.009 *U*	1260	1220	0.03 *U*	0.03 *U*
WQ4	K0707782		Integral	August 2007 II	8/27/2007	1.07 *J*	31 *J*	20 *U*	0.009 *U*	0.015 *U*	870	842	0.03 *U*	0.03 *U*
WQ4	K0708240		Integral	September 2007 I	9/11/2007	0.73	37.8	21.3 *UJ*	0.014 *UJ*	0.007 *UJ*	1080	1060	0.03 *U*	0.03 *U*
WQ4	K0709126		Integral	September 2007 II	10/2/2007	1.21	116	30 *U*	0.019 *U*	0.011 *U*	573	523	0.03 *U*	0.03 *U*
WQ4	K0709804		Integral	October 2007	10/17/2007	1.44	396	46	0.057	0.009 *J*	552	418	0.03 *U*	0.03 *U*
WQ4	K0710773		Integral	November 2007	11/13/2007	0.92	235	21.1	0.044	0.018 *UJ*	895	810	0.03 *U*	0.03 *U*
WQ4	K0711891		Integral	December 2007 I	12/15/2007	1.95 *J*	805	18 *J*	0.21	0.023 *UJ*	933	533	0.03 *U*	0.03 *U*
WQ4	K0800335		Integral	January 2008	1/9/2008	0.63	464	14.6 *UJ*	0.049	0.011 *UJ*	1280 *J*	1120 *J*	0.03 *U*	0.03 *U*
WQ4	K0801400		Integral	February 2008	2/14/2008	0.93	3110	18.6 *UJ*	0.535	0.01 *J*	2130	641	0.03 *U*	0.03 *U*
WQ4	K0802328		Integral	March 2008	3/15/2008	0.64	140	5.6 *UJ*	0.028 *J*	0.009 *U*	808 *J*	733 *J*	0.03 *U*	0.03 *U*
WQ4	K0803239		Integral	April 2008	4/14/2008	0.55	245	12.3 *UJ*	0.088	0.026 *UJ*	818	730	0.03 *U*	0.03 *U*
WQ4	K0804080		Integral	May 2008	5/8/2008	0.8	108	19 *UJ*	0.049 *U*	0.017 *UJ*	726	682	0.03 *UJ*	0.03 *UJ*
WQ4	K0805877		Integral	June 2008	6/28/2008	1.51 *U*	292	31.7	0.088	0.033 *UJ*	470	350	0.05 *U*	0.05 *U*
WQ4	K0806880		Integral	July 2008	7/24/2008	0.92	27.3 *UJ*	7.5 *UJ*	0.032	0.013 *J*	735 *R*	737 *R*	0.05 *U*	0.05 *U*
WQ4	K0810253		Integral	October 2008	10/15/2008	0.81 *U*	51.4 *UJ*	17 *UJ*	0.016 *UJ*	0.012 *UJ*	569	635	0.05 *U*	0.05 *U*
WQ4	K0902142		Integral	March 2009	3/9/2009	0.39 *U*	17.1 *UJ*	6 *UJ*	0.007 *J*	0.006 *U*	1040	1020	0.05 *U*	0.05 *U*
WQ4	K0904395		Integral	May 2009	5/13/2009	1.02	35.7	11.1 *UJ*	0.006 *UJ*	0.006 *UJ*	374	362	0.02 *U*	0.02 *U*
WQ4	K0906701		Integral	July 2009	7/23/2009	2.01	669	62	0.11	0.027 *UJ*	549	323	0.02 *U*	0.02 *U*
WQ4	K0908299		Integral	September 2009 I	9/5/2009	0.93	81.2	13.9 *J*	0.014 *J*	0.005 *U*	802	801	0.02 *U*	0.02 *U*
WQ4	K0908619		Integral	September 2009 II	9/12/2009	0.87	74.2	25.3 *UJ*	0.009 *UJ*	0.005 *UJ*	805	815	0.02 *U*	0.02 *U*
WQ4	K0910115		Integral	October 2009	10/17/2009	0.84	27.5 *UJ*	15.6 *UJ*	0.009 *UJ*	0.009 *J*	641	641	0.02 *U*	0.02 *U*
WQ4	K1000512		Integral	January 2010	1/15/2010	0.93 *U*	62.3	23.2 *UJ*	0.014 *U*	0.005 *U*	483 *J*	504 *J*	0.02 *U*	0.02 *U*
WQ4	K1004032		Integral	April 2010	4/22/2010	0.71 *J*	24.8	17.2 *J*	0.005 *UJ*	0.01 *UJ*	699 *J*	725 *J*	0.02 *U*	0.02 *U*
WQ4	K1008751		Integral	August 2010	8/10/2010	0.94	39.3	29.2	0.012 *J*	0.016 *UJ*	1310	1330	0.02 *U*	0.02 *U*
WQ4	K1011739		Integral	October 2010	10/18/2010	0.84	194 *J*	11 *UJ*	0.045	0.007 *UJ*	647	579	0.02 *U*	0.02 *U*
WQ4	K1100726		Integral	January 2011	1/19/2011	0.91	568	20.9 *UJ*	0.075	0.009 *J*	707	495	0.02 *U*	0.02 *U*
WQ4	K1103541		Integral	April 2011	4/20/2011	0.69 *U*	49.7 *UJ*	15.7 *UJ*	0.022 *UJ*	0.012 *UJ*	1040	1030	0.02 *U*	0.02 *U*
WQ4	K1106865		Integral	July 2011 II	7/25/2011	1.57	34.1 *UJ*	18.7 *UJ*	0.008 *UJ*	0.011 *UJ*	718	704	0.02 *UJ*	0.02 *UJ*
WQ4	K1112358		Integral	December 2011	12/21/2011	0.6	19.3 *J*	16.2 *UJ*	0.006 *UJ*	0.005 *J*	758	743	0.02 *U*	0.02 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved
WQ6			Knight Piesold	October 1996 II	10/16/1996	2 *U*	50 *U*	50 *U*	2.5	2.5	1000 *U*	--	200 *U*	200 *U*
WQ6			Knight Piesold	September 1997	9/3/1997	2 *U*	50 *U*	50 *U*	2 *U*	2 *U*	1000 *U*	--	200 *U*	200 *U*
WQ6		V7277	Knight Piesold	April 2005 II	4/20/2005	1.2	30 *U*	30 *U*	0.5 *U*	0.5 *U*	320	320	0.02 *U*	0.02 *U*
WQ6		X2213	Knight Piesold	February 2006 II	2/15/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	800	800	0.02 *U*	0.02 *U*
WQ6		X5977	Knight Piesold	May 2006 II	5/16/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	540	560	0.02 *U*	0.02 *U*
WQ6		Z2004	Knight Piesold	August 2006 II	8/29/2006	1.7	30 *U*	30 *U*	0.5 *U*	0.5 *U*	470	470	0.02 *U*	0.02 *U*
WQ6		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	690	680	0.02 *U*	0.02 *U*
WQ6		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	390	380	0.02 *U*	0.02 *U*
WQ6		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	750	740	0.02 *U*	0.02 *U*
WQ6		L495369	Knight Piesold	April 2007	4/10/2007	0.69	30 *U*	30 *U*	0.05 *U*	0.05 *U*	410	410	0.05 *U*	0.05 *U*
WQ6		L507191	Knight Piesold	May 2007	5/14/2007	0.81	30 *U*	30 *U*	0.05 *U*	0.05 *U*	400	400	0.05 *U*	0.05 *U*
WQ6		L515743	Knight Piesold	June 2007	6/4/2007	1.04	30 *U*	30 *U*	0.05 *U*	0.05 *U*	230	230	0.01 *U*	0.01 *U*
WQ6		L526591	Knight Piesold	July 2007 I	7/1/2007	0.9	30 *U*	30 *U*	0.05 *U*	0.05 *U*	410	420	0.01 *U*	0.01 *U*
WQ6	K0706569		Integral	July 2007 II	7/24/2007	0.81	17 *J*	23	0.011 *U*	0.007 *U*	546	579	0.03 *U*	0.03 *U*
WQ6	K0707317		Integral	August 2007 I	8/14/2007	0.52	3 *U*	5 *U*	0.005 *UJ*	0.011 *U*	940	882	0.03 *U*	0.03 *U*
WQ6	K0707782		Integral	August 2007 II	8/27/2007	0.79 *J*	13 *U*	8.7 *U*	0.009 *U*	0.017 *U*	792	777	0.03 *U*	0.03 *U*
WQ6	K0708240		Integral	September 2007 I	9/11/2007	0.67	7.3 *UJ*	7.2 *UJ*	0.008 *UJ*	0.003 *U*	766	740	0.03 *U*	0.03 *U*
WQ6	K0709126		Integral	September 2007 II	10/2/2007	1.08	27.7 *U*	21.5 *U*	0.007 *U*	0.004 *J*	395	382	0.03 *U*	0.03 *U*
WQ6	K0709804		Integral	October 2007	10/17/2007	1.13	43.4	25.1 *UJ*	0.018 *J*	0.007 *J*	335	340	0.03 *U*	0.03 *U*
WQ6	K0710773		Integral	November 2007	11/13/2007	0.58	14.6 *UJ*	8.8 *UJ*	0.008 *UJ*	0.012 *UJ*	591	595	0.03 *U*	0.03 *U*
WQ6	K0711891		Integral	December 2007 I	12/15/2007	0.7 *J*	49.2	16.5 *J*	0.016 *UJ*	0.012 *UJ*	451	445	0.03 *U*	0.03 *U*
WQ6	K0800335		Integral	January 2008	1/9/2008	0.45	18.8 *UJ*	12.3 *UJ*	0.011 *UJ*	0.024 *UJ*	872 *J*	855 *J*	0.03 *U*	0.03 *U*
WQ6	K0801400		Integral	Feb-08	2/14/2008	0.7	20.9 *UJ*	17 *UJ*	0.009 *U*	0.014 *J*	545	510	0.03 *U*	0.03 *U*
WQ6	K0802328		Integral	March 2008	3/15/2008	0.45 *UJ*	6 *UJ*	4.4 *UJ*	0.009 *U*	0.009 *U*	610 *J*	595 *J*	0.03 *U*	0.03 *U*
WQ6	K0803239		Integral	April 2008	4/14/2008	0.37	26.5 *UJ*	9.2 *UJ*	0.005 *UJ*	0.017 *UJ*	602	597	0.03 *U*	0.03 *U*
WQ6	K0804080		Integral	May 2008	5/8/2008	0.86	20.5	25.4 *UJ*	0.009 *U*	0.015 *UJ*	514	523	0.03 *UJ*	0.03 *UJ*
WQ6	K0805877		Integral	June 2008	6/28/2008	1.11 *U*	50.9	21.4 *UJ*	0.014 *J*	0.062 *UJ*	236	226	0.05 *U*	0.05 *U*
WQ6	K0806880		Integral	July 2008	7/24/2008	0.6	17.5 *UJ*	4 *UJ*	0.009 *J*	0.006 *U*	420 *R*	420 *R*	0.05 *U*	0.05 *U*
WQ6	K0810253		Integral	October 2008	10/15/2008	0.81 *U*	58	8.5 *UJ*	0.043 *UJ*	0.01 *UJ*	440	409	0.05 *U*	0.05 *U*
WQ6	K0902142		Integral	March 2009	3/9/2009	0.43 *U*	12 *UJ*	8 *UJ*	0.067	0.006 *U*	784	777	0.05 *U*	0.05 *U*
WQ6	K0904395		Integral	May 2009	5/13/2009	0.93	14.4 *UJ*	6.8 *UJ*	0.019 *UJ*	0.006 *UJ*	320	299	0.02 *U*	0.02 *U*
WQ6	K0906701		Integral	July 2009	7/23/2009	1.82	84.2	50.7	0.045 *UJ*	0.044	302	295	0.02 *U*	0.02 *U*
WQ6	K0908299		Integral	September 2009 I	9/5/2009	1.04	14.1 *J*	9.7 *UJ*	0.005 *U*	0.005 *U*	462	459	0.02 *U*	0.02 *U*
WQ6	K0908619		Integral	September 2009 II	9/12/2009	0.84	16.8 *UJ*	10.1 *UJ*	0.005 *UJ*	0.005 *UJ*	470	473	0.02 *U*	0.02 *U*
WQ6	K0910115		Integral	October 2009	10/17/2009	0.89	13.9 *UJ*	18.2 *UJ*	0.005 *UJ*	0.006 *J*	474	477	0.02 *U*	0.02 *U*
WQ6	K1000512		Integral	January 2010	1/15/2010	0.91 *U*	40.6 *UJ*	21.3 *UJ*	0.02 *U*	0.013 *U*	411 *J*	401 *J*	0.02 *U*	0.02 *U*
WQ6	K1004032		Integral	April 2010	4/22/2010	0.77 *J*	19 *J*	18.4 *J*	0.044 *UJ*	0.005 *UJ*	576 *J*	571 *J*	0.02 *U*	0.02 *U*
WQ6	K1008751		Integral	August 2010	8/10/2010	0.82	13.1 *UJ*	15.6 *UJ*	0.006 *J*	0.028 *UJ*	839	858	0.02 *U*	0.02 *U*
WQ6	K1011739		Integral	October 2010	10/19/2010	0.79	14.6 *UJ*	16.1 *UJ*	0.007 *J*	0.016 *UJ*	484	494	0.02 *U*	0.02 *U*
WQ6	K1100642		Integral	January 2011	1/21/2011	0.87	42.6	18.1 *UJ*	0.017 *UJ*	0.014 *UJ*	320	315	0.02 *U*	0.02 *U*
WQ6	K1103541		Integral	April 2011	4/20/2011	0.6 *U*	6 *UJ*	10.9 *UJ*	0.005 *UJ*	0.012 *UJ*	603	608	0.02 *U*	0.02 *U*
WQ6	K1106865		Integral	July 2011 II	7/25/2011	1.27	14.8 *UJ*	20.8	0.008 *UJ*	0.019 *UJ*	446	433	0.02 *UJ*	0.02 *UJ*
WQ6	K1112358		Integral	December 2011	12/21/2011	0.66	16.1 *J*	9.2 *UJ*	0.006 *UJ*	0.005 *U*	572	578	0.02 *U*	0.02 *U*
WQ7		X2213	Knight Piesold	February 2006 II	2/15/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	810	800	0.02 *U*	0.02 *U*
WQ7		X5977	Knight Piesold	May 2006 II	5/16/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	230	240	0.02 *U*	0.02 *U*
WQ7		Z2004	Knight Piesold	August 2006 II	8/29/2006	1.6	30 *U*	30 *U*	0.5 *U*	0.5 *U*	490	490	0.02 *U*	0.02 *U*
WQ7		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	700	700	0.02 *U*	0.02 *U*
WQ7		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	39	30 *U*	0.5 *U*	0.5 *U*	330	330	0.02 *U*	0.02 *U*
WQ7		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	790	780	0.02 *U*	0.02 *U*
WQ7		L495369	Knight Piesold	April 2007	4/10/2007	0.73	30 *U*	30 *U*	0.05 *U*	0.05 *U*	410	420	0.05 *U*	0.05 *U*
WQ7		L507191	Knight Piesold	May 2007	5/14/2007	0.8	30 *U*	30 *U*	0.05 *U*	0.05 *U*	380	380	0.05 *U*	0.05 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved
WQ7		L515743	Knight Piesold	June 2007	6/4/2007	0.99	30 *U*	30 *U*	0.05 *U*	0.05 *U*	230	230	0.01 *U*	0.01 *U*
WQ7		L526591	Knight Piesold	July 2007 I	7/1/2007	0.87	30 *U*	30 *U*	0.05 *U*	0.05 *U*	430	410	0.01 *U*	0.01 *U*
WQ7	K0706569		Integral	July 2007 II	7/24/2007	0.79	11 *J*	9.1 *J*	0.013 *U*	0.007 *U*	577	588	0.03 *U*	0.03 *U*
WQ7	K0707317		Integral	August 2007 I	8/14/2007	0.44	8.4 *U*	3.6 *U*	0.01 *UJ*	0.006 *U*	1030	911	0.03 *U*	0.03 *U*
WQ7	K0707782		Integral	August 2007 II	8/27/2007	0.74 *J*	10 *U*	8.2 *U*	0.009 *U*	0.015 *U*	814	792	0.03 *U*	0.03 *U*
WQ7	K0708240		Integral	September 2007 I	9/11/2007	0.65	3.5 *UJ*	4 *UJ*	0.015 *UJ*	0.003 *U*	743	757	0.03 *U*	0.03 *U*
WQ7	K0709126		Integral	September 2007 II	10/2/2007	1.06	19.4 *U*	15.9 *U*	0.008 *U*	0.006 *U*	394	387	0.03 *U*	0.03 *U*
WQ7	K0709804		Integral	October 2007	10/17/2007	1.01	26.3 *UJ*	25.1 *UJ*	0.01 *J*	0.005 *J*	355	365	0.03 *U*	0.03 *U*
WQ7	K0710773		Integral	November 2007	11/13/2007	0.69	6.8 *UJ*	10.1 *UJ*	0.005 *UJ*	0.003 *UJ*	592	606	0.03 *U*	0.03 *U*
WQ7	K0711891		Integral	December 2007 I	12/15/2007	0.98 *J*	16.7 *J*	12.7 *J*	0.008 *UJ*	0.029 *UJ*	412	411	0.03 *U*	0.03 *U*
WQ7	K0800335		Integral	January 2008	1/9/2008	0.34 *UJ*	4.4 *UJ*	5.5 *UJ*	0.01 *UJ*	0.014 *UJ*	923 *J*	914 *J*	0.03 *U*	0.03 *U*
WQ7	K0801400		Integral	Februrary 2008	2/14/2008	0.64	17.5 *UJ*	11.4 *UJ*	0.009 *U*	0.035	572	554	0.03 *U*	0.03 *U*
WQ7	K0802328		Integral	March 2008	3/15/2008	0.45 *UJ*	4.3 *UJ*	3 *UJ*	0.009 *U*	0.009 *U*	614 *J*	601 *J*	0.03 *U*	0.03 *U*
WQ7	K0803239		Integral	April 2008	4/14/2008	0.42	10.3 *UJ*	6.3 *UJ*	0.003 *UJ*	0.027 *UJ*	621	616	0.03 *U*	0.03 *U*
WQ7	K0804080		Integral	May 2008	5/8/2008	0.97	16.8 *J*	6.8 *UJ*	0.022 *U*	0.018 *UJ*	517	511	0.03 *UJ*	0.03 *UJ*
WQ7	K0805877		Integral	June 2008	6/28/2008	1.14 *U*	31.5	14.7 *UJ*	0.015 *J*	0.01 *UJ*	226	218	0.05 *U*	0.05 *U*
WQ7	K0806880		Integral	July 2008	7/24/2008	0.63	4 *UJ*	18.1 *UJ*	0.006 *J*	0.007 *J*	433 *R*	421 *R*	0.05 *U*	0.05 *U*
WQ8		X2213	Knight Piesold	February 2006 II	2/15/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	1100	1100	0.02 *U*	0.02 *U*
WQ8		X5977	Knight Piesold	May 2006 II	5/17/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	300	300	0.02 *U*	0.02 *U*
WQ8		Z2004	Knight Piesold	August 2006 II	8/29/2006	1.3	30 *U*	30 *U*	0.5 *U*	0.5 *U*	690	690	0.02 *U*	0.02 *U*
WQ8		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	930	930	0.02 *U*	0.02 *U*
WQ8		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	83	30 *U*	0.5 *U*	0.5 *U*	440	430	0.02 *U*	0.02 *U*
WQ8		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	900	920	0.02 *U*	0.02 *U*
WQ8		L495369	Knight Piesold	April 2007	4/10/2007	0.61	30 *U*	30 *U*	0.05 *U*	0.05 *U*	620	610	0.05 *U*	0.05 *U*
WQ8		L507191	Knight Piesold	May 2007	5/14/2007	0.68	33	30 *U*	0.05 *U*	0.05 *U*	690	680	0.05 *U*	0.05 *U*
WQ8		L515743	Knight Piesold	June 2007	6/4/2007	1.48	38	30 *U*	0.05 *U*	0.05 *U*	370	380	0.01 *U*	0.01 *U*
WQ8		L526591	Knight Piesold	July 2007 I	7/1/2007	3.67	30 *U*	30 *U*	0.05 *U*	0.087	820	800	0.01 *U*	0.01 *U*
WQ8	K0706569		Integral	July 2007 II	7/24/2007	0.7	72	16 *J*	0.019 *U*	0.008 *U*	908	944	0.03 *U*	0.03 *U*
WQ8	K0707317		Integral	August 2007 I	8/14/2007	0.45	16.6 *U*	7.9 *U*	0.007 *UJ*	0.009 *U*	1170	1120	0.03 *U*	0.03 *U*
WQ8	K0707782		Integral	August 2007 II	8/27/2007	0.9 *J*	19 *U*	15 *U*	0.009 *U*	0.008 *U*	815	798	0.03 *U*	0.03 *U*
WQ8	K0708240		Integral	September 2007 I	9/11/2007	0.53	12.5 *UJ*	13.9 *UJ*	0.007 *UJ*	0.003 *U*	1010	973	0.03 *U*	0.03 *U*
WQ8	K0709126		Integral	September 2007 II	10/2/2007	1.35	30.2 *U*	26.5 *U*	0.006 *U*	0.006 *U*	443	423	0.03 *U*	0.03 *U*
WQ8	K0709804		Integral	October 2007	10/17/2007	1.4	35.3	22.3 *UJ*	0.004 *J*	0.005 *J*	370	376	0.03 *U*	0.03 *U*
WQ8	K0710773		Integral	November 2007	11/13/2007	0.59	10.5 *UJ*	3.8 *UJ*	0.003 *U*	0.003 *U*	681	714	0.03 *U*	0.03 *U*
WQ8	K0711891		Integral	December 2007 I	12/15/2007	0.97 *J*	24.4	15 *J*	0.004 *UJ*	0.013 *UJ*	419	437	0.03 *U*	0.03 *U*
WQ8	K0800335		Integral	January 2008	1/9/2008	0.44	8 *UJ*	9.4 *UJ*	0.004 *UJ*	0.009 *U*	905 *J*	872 *J*	0.03 *U*	0.03 *U*
WQ8	K0801400		Integral	Februrary 2008	2/14/2008	0.68	34.7 *UJ*	12.7 *UJ*	0.009 *U*	0.003 *U*	509	486	0.03 *U*	0.03 *U*
WQ8	K0802328		Integral	March 2008	3/15/2008	0.55	3.9 *UJ*	3.2 *UJ*	0.009 *U*	0.009 *U*	600 *J*	587 *J*	0.03 *U*	0.03 *U*
WQ8	K0803239		Integral	April 2008	4/14/2008	0.48	8.1 *UJ*	9.7 *UJ*	0.003 *UJ*	0.019 *UJ*	582	594	0.03 *U*	0.03 *U*
WQ8	K0804080		Integral	May 2008	5/8/2008	1.32	14.2 *J*	14.5 *UJ*	0.009 *U*	0.046 *UJ*	562	579	0.03 *UJ*	0.03 *UJ*
WQ8	K0805877		Integral	June 2008	6/28/2008	1.6 *U*	41.5	24.9	0.006 *J*	0.009 *UJ*	317	301	0.05 *U*	0.05 *U*
WQ8	K0806880		Integral	July 2008	7/24/2008	0.54	18 *UJ*	7 *UJ*	0.006 *U*	0.006 *U*	739 *R*	751 *R*	0.05 *U*	0.05 *U*
WQ10		Z2004	Knight Piesold	August 2006 II	8/29/2006	1.8	86	44	0.5 *U*	0.5 *U*	550	540	0.02 *U*	0.02 *U*
WQ10		Z3908	Knight Piesold	October 2006	10/17/2006	1.4	541	88	0.5 *U*	0.5 *U*	720	650	0.02 *U*	0.02 *U*
WQ10		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	212	30 *U*	0.5 *U*	0.5 *U*	490	480	0.02 *U*	0.02 *U*
WQ10		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	55	30 *U*	0.5 *U*	0.5 *U*	590	580	0.02 *U*	0.02 *U*
WQ10		L495369	Knight Piesold	April 2007	4/10/2007	0.81	30 *U*	30 *U*	0.05 *U*	0.05 *U*	510	500	0.05 *U*	0.05 *U*
WQ10		L507191	Knight Piesold	May 2007	5/14/2007	0.88	102	36	0.05 *U*	0.05 *U*	620	610	0.05 *U*	0.05 *U*
WQ10		L515743	Knight Piesold	June 2007	6/4/2007	1.42	85	52	0.171	0.082	650	650	0.01 *U*	0.01 *U*
WQ10		L526591	Knight Piesold	July 2007 I	7/1/2007	0.73	32	30 *U*	0.05 *U*	0.05 *U*	850	840	0.01 *U*	0.01 *U*
WQ10	K0706569		Integral	July 2007 II	7/24/2007	1.1	61	40	0.018 *U*	0.015 *U*	697	702	0.03 *U*	0.04 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved
WQ10	K0707317		Integral	August 2007 I	8/14/2007	0.98	37.5 *U*	22.8	0.06	0.006 *U*	846	789	0.03 *U*	0.03 *U*
WQ10	K0707782		Integral	August 2007 II	8/27/2007	1.09 *J*	56	43	0.009 *U*	0.008 *U*	777	740	0.03 *U*	0.03 *U*
WQ10	K0708240		Integral	September 2007 I	9/11/2007	1	52.1	37.2	0.008 *UJ*	0.003 *UJ*	774	764	0.03 *U*	0.03 *U*
WQ10	K0709126		Integral	September 2007 II	10/1/2007	1.23	104	71 *U*	0.025 *U*	0.016 *U*	589	595	0.03 *U*	0.03 *U*
WQ10	K0709804		Integral	October 2007	10/17/2007	1.55	113	50.2	0.019 *J*	0.02	411	403	0.03 *U*	0.03 *U*
WQ10	K0710773		Integral	November 2007	11/13/2007	0.74	62.1	45.4	0.017 *UJ*	0.003 *U*	631	635	0.03 *U*	0.03 *U*
WQ10	K0711891		Integral	December 2007 I	12/15/2007	0.89 *J*	107	29.5	0.029 *UJ*	0.03 *UJ*	522	546	0.03 *U*	0.03 *U*
WQ10	K0800335		Integral	January 2008	1/9/2008	1.23	37.4 *UJ*	22.6 *UJ*	0.006 *UJ*	0.018 *UJ*	778 *J*	768 *J*	0.03 *U*	0.03 *U*
WQ10	K0801400		Integral	Februrary 2008	2/14/2008	0.82	107	23.4 *UJ*	0.033 *J*	0.01 *J*	500	466	0.03 *U*	0.03 *U*
WQ10	K0802328		Integral	March 2008	3/15/2008	0.94	293	21 *UJ*	0.051	0.009 *U*	659 *J*	525 *J*	0.03 *U*	0.03 *U*
WQ10	K0803239		Integral	April 2008	4/14/2008	0.63	53.3	14.1 *UJ*	0.025 *UJ*	0.024 *UJ*	674	667	0.03 *U*	0.03 *U*
WQ10	K0804080		Integral	May 2008	5/8/2008	0.94	35.6	15.6 *UJ*	0.019 *U*	0.025 *UJ*	644	615	0.03 *UJ*	0.03 *UJ*
WQ10	K0805877		Integral	June 2008	6/28/2008	1.77 *U*	104	31.9	0.054	0.028 *UJ*	632	602	0.05 *U*	0.05 *U*
WQ10	K0806880		Integral	July 2008	7/24/2008	1.08	22.1 *UJ*	16.4 *UJ*	0.019 *J*	0.012 *J*	792 *R*	758 *R*	0.05 *U*	0.05 *U*
WQ10	K0810253		Integral	October 2008	10/15/2008	0.93 *U*	30.1 *UJ*	23.2 *UJ*	0.019 *UJ*	0.015 *UJ*	584	623	0.05 *U*	0.05 *U*
WQ10	K0902142		Integral	March 2009	3/9/2009	0.65 *U*	23.3 *UJ*	13.4 *UJ*	0.006 *U*	0.006 *U*	672	683	0.05 *U*	0.05 *U*
WQ10	K0904395		Integral	May 2009	5/13/2009	1.11	32.3 *UJ*	19 *UJ*	0.014 *UJ*	0.006 *UJ*	489	471	0.02 *U*	0.02 *U*
WQ10	K0906701		Integral	July 2009	7/23/2009	1.91	297	68.3	0.118	0.063	646	576	0.02 *U*	0.02 *U*
WQ10	K0908299		Integral	September 2009 I	9/5/2009	1.04	45.6	34.1	0.008 *J*	0.008 *U*	647	696	0.02 *U*	0.02 *U*
WQ10	K0908619		Integral	September 2009 II	9/12/2009	1.04	61.7	39.6	0.008 *UJ*	0.005 *UJ*	669	651	0.02 *U*	0.02 *U*
WQ10	K0910115		Integral	October 2009	10/17/2009	0.89	61.7	26.9 *UJ*	0.055	0.008 *J*	1080	1090	0.02 *U*	0.02 *U*
WQ10	K1000512		Integral	January 2010	1/15/2010	0.82 *U*	58.2	29.6 *UJ*	0.011 *U*	0.005 *U*	562 *J*	582 *J*	0.02 *U*	0.02 *U*
WQ10	K1004032		Integral	April 2010	4/22/2010	0.7 *J*	36.3	36.1	0.014 *UJ*	0.013 *UJ*	1090 *J*	1090 *J*	0.02 *U*	0.02 *U*
WQ10	K1008752		Integral	August 2010	8/10/2010	0.81	67.5 *UJ*	57.4 *UJ*	0.005 *UJ*	0.016 *UJ*	1360	1380	0.02 *U*	0.02 *U*
WQ10	K1011739		Integral	October 2010	10/19/2010	0.76	39.3 *J*	21.6 *UJ*	0.014 *J*	0.017 *UJ*	717	708	0.02 *U*	0.02 *U*
WQ10	K1100642		Integral	January 2011	1/21/2011	1.08	196	29 *UJ*	0.062	0.016 *UJ*	421	369	0.02 *U*	0.02 *U*
WQ10	K1103545		Integral	April 2011	4/20/2011	0.79 *U*	46.4 *UJ*	20.7 *UJ*	0.013 *UJ*	0.009 *UJ*	602	600	0.02 *U*	0.02 *U*
WQ10	K1106865		Integral	July 2011 II	7/25/2011	1.31	34.6 *UJ*	27.3	0.014 *UJ*	0.008 *UJ*	620	613	0.02 *UJ*	0.02 *UJ*
WQ10	K1112358		Integral	December 2011	12/21/2011	0.74	29.8	25.9	0.005 *U*	0.007 *J*	567	567	0.02 *U*	0.02 *U*
WQ12		Z2004	Knight Piesold	August 2006 II	8/29/2006	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	860	850	0.02 *U*	0.02 *U*
WQ12		Z3908	Knight Piesold	October 2006	10/17/2006	1.4	32	31	0.5 *U*	0.5 *U*	400	400	0.02 *U*	0.02 *U*
WQ12		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	94	41	0.5 *U*	0.5 *U*	450	440	0.02 *U*	0.02 *U*
WQ12		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	690	700	0.02 *U*	0.02 *U*
WQ12		L495369	Knight Piesold	April 2007	4/10/2007	0.35	30 *U*	30 *U*	0.05 *U*	0.05 *U*	720	700	0.05 *U*	0.05 *U*
WQ12		L507191	Knight Piesold	May 2007	5/14/2007	0.1 *U*	30 *U*	30 *U*	0.05 *U*	0.05 *U*	1210	1200	0.05 *U*	0.05 *U*
WQ12		L515743	Knight Piesold	June 2007	6/4/2007	1.17	243	135	0.053	0.05 *U*	1790	1770	0.01 *U*	0.101
WQ12		L526591	Knight Piesold	July 2007 I	7/1/2007	0.51	35	30 *U*	0.05 *U*	0.05 *U*	1540	1510	0.01 *U*	0.01 *U*
WQ12	K0706569		Integral	July 2007 II	7/24/2007	0.56 *U*	67	42	0.021 *U*	0.01 *U*	1380	1380	0.03 *U*	0.04 *U*
WQ12	K0707317		Integral	August 2007 I	8/14/2007	0.58	36.8 *U*	28.6	0.014 *UJ*	0.012 *U*	1470	1420	0.03 *U*	0.03 *U*
WQ12	K0707782		Integral	August 2007 II	8/27/2007	0.49 *J*	23 *J*	19 *U*	0.009 *U*	0.016 *U*	1520	1510	0.03 *U*	0.03 *U*
WQ12	K0708240		Integral	September 2007 I	9/11/2007	0.46	35.4	26.5 *UJ*	0.013 *UJ*	0.003 *U*	1450	1390	0.03 *U*	0.03 *U*
WQ12	K0709126		Integral	September 2007 II	10/1/2007	0.82	99.7	59.6 *U*	0.017 *U*	0.014 *U*	703	762	0.03 *U*	0.03 *U*
WQ12	K0709804		Integral	October 2007	10/17/2007	1.27	84.1	35.9	0.007 *J*	0.005 *J*	385	383	0.03 *U*	0.03 *U*
WQ12	K0710773		Integral	November 2007	11/13/2007	0.5	74.5	57.5	0.02 *UJ*	0.042	874	906	0.03 *U*	0.03 *U*
WQ12	K0711891		Integral	December 2007 I	12/15/2007	0.7 *J*	92.3	37.2	0.025 *UJ*	0.013 *UJ*	493	494	0.03 *U*	0.03 *U*
WQ12	K0800335		Integral	January 2008	1/9/2008	0.41	61.2 *UJ*	46.6 *UJ*	0.004 *UJ*	0.009 *U*	869 *J*	890 *J*	0.03 *U*	0.03 *U*
WQ12	K0801400		Integral	Februrary 2008	2/14/2008	0.58	67.2	30.7 *UJ*	0.009 *U*	0.016 *J*	410	426	0.03 *U*	0.03 *U*
WQ12	K0802328		Integral	March 2008	3/15/2008	0.34 *UJ*	48.9	37.9	0.009 *U*	0.009 *U*	933 *J*	910 *J*	0.03 *U*	0.03 *U*
WQ12	K0803239		Integral	April 2008	4/14/2008	0.43	71.8	35.2 *UJ*	0.003 *UJ*	0.016 *UJ*	916	898	0.03 *U*	0.03 *U*
WQ12	K0804080		Integral	May 2008	5/8/2008	0.44 *U*	89.6	32.4 *UJ*	0.009 *U*	0.022 *UJ*	1120	1140	0.03 *UJ*	0.03 *UJ*
WQ12	K0805877		Integral	June 2008	6/28/2008	1.3 *U*	76.1	38.1	0.018 *J*	0.012 *UJ*	455	446	0.05 *U*	0.05 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements								
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved
WQ12	K0806880		Integral	July 2008	7/24/2008	0.34	68.4	31.4 *UJ*	0.012 *J*	0.006 *U*	1000 *R*	1010 *R*	0.05 *U*	0.05 *U*
WQ13		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	780	790	0.02 *U*	0.02 *U*
WQ13		L495369	Knight Piesold	April 2007	4/10/2007	1.09	30 *U*	30 *U*	0.05	0.05 *U*	430	450	0.05 *U*	0.05 *U*
WQ13		L507191	Knight Piesold	May 2007	5/14/2007	1.09	30 *U*	30 *U*	0.05 *U*	0.05 *U*	520	520	0.05 *U*	0.05 *U*
WQ13		L515743	Knight Piesold	June 2007	6/4/2007	1.83	33	30 *U*	0.05 *U*	0.05 *U*	420	420	0.01 *U*	0.01 *U*
WQ13		L526591	Knight Piesold	July 2007 I	7/1/2007	0.99	30 *U*	30 *U*	0.05 *U*	0.05 *U*	700	710	0.01 *U*	0.01 *U*
WQ13	K0706569		Integral	July 2007 II	7/24/2007	1.03	38	22	0.012 *U*	0.009 *U*	741	748	0.03 *U*	0.03 *U*
WQ13	K0707317		Integral	August 2007 I	8/14/2007	0.75	72.8 *U*	15.6 *U*	0.183	0.006 *U*	997	917	0.03 *U*	0.03 *U*
WQ13	K0707782		Integral	August 2007 II	8/27/2007	1.27 *J*	64	28 *J*	0.018 *U*	0.009 *U*	688	678	0.03 *U*	0.03 *U*
WQ13	K0708240		Integral	September 2007 I	9/11/2007	0.96	34.8	24.8 *UJ*	0.011 *UJ*	0.003 *U*	782	752	0.03 *U*	0.03 *U*
WQ13	K0709126		Integral	September 2007 II	10/1/2007	1.24	67.8	26.8	0.015 *U*	0.007 *U*	555	522	0.03 *U*	0.03 *U*
WQ13	K0709804		Integral	October 2007	10/17/2007	1.83	170	37.6	0.029	0.009 *J*	431	413	0.03 *U*	0.03 *U*
WQ13	K0710773		Integral	November 2007	11/13/2007	0.73	34.1	19.2 *UJ*	0.004 *UJ*	0.004 *UJ*	594	621	0.03 *U*	0.03 *U*
WQ13	K0711891		Integral	December 2007 I	12/16/2007	1.18 *J*	51.4	22.7	0.013 *UJ*	0.035 *UJ*	513	523	0.03 *U*	0.03 *U*
WQ13	K0800335		Integral	January 2008	1/9/2008	0.61	158	19.9 *UJ*	0.03 *UJ*	0.009 *U*	940 *J*	919 *J*	0.03 *U*	0.03 *U*
WQ13	K0801400		Integral	Februrary 2008	2/14/2008	0.91	60.4	13.8 *UJ*	0.019 *J*	0.029	569	581	0.03 *U*	0.03 *U*
WQ13	K0802328		Integral	March 2008	3/15/2008	0.68	15.2 *UJ*	8.2 *UJ*	0.009 *U*	0.009 *U*	613 *J*	598 *J*	0.03 *U*	0.03 *U*
WQ13	K0803239		Integral	April 2008	4/15/2008	0.64	32.6 *UJ*	15.8 *UJ*	0.003 *UJ*	0.017 *UJ*	604	592	0.03 *U*	0.03 *U*
WQ13	K0804080		Integral	May 2008	5/8/2008	1.08	25.4	13.9 *UJ*	0.009 *U*	0.009 *UJ*	611	599	0.03 *UJ*	0.03 *UJ*
WQ13	K0805877		Integral	June 2008	6/27/2008	1.6 *U*	39.4	24.5	0.026	0.008 *UJ*	409	398	0.05 *U*	0.05 *U*
WQ13	K0806880		Integral	July 2008	7/25/2008	0.87	35.2 *UJ*	22.7 *UJ*	0.013 *J*	0.009 *J*	582 *R*	579 *R*	0.05 *U*	0.05 *U*
WQ13	K0810253		Integral	October 2008	10/15/2008	1.01 *U*	31.8 *UJ*	21.8 *UJ*	0.013 *UJ*	0.019 *UJ*	491	505	0.05 *U*	0.05 *U*
WQ13	K0902142		Integral	March 2009	3/8/2009	0.71 *U*	30.7 *UJ*	17.1 *UJ*	0.022 *J*	0.012 *J*	773	741	0.05 *U*	0.05 *U*
WQ13	K0904395		Integral	May 2009	5/13/2009	1.31	24.1 *UJ*	12.5 *UJ*	0.006 *UJ*	0.006 *UJ*	403	379	0.02 *U*	0.02 *U*
WQ13	K0906701		Integral	July 2009	7/23/2009	2.5	525	62	0.111	0.034 *UJ*	444	336	0.02 *U*	0.02 *U*
WQ13	K0910115		Integral	October 2009	10/17/2009	1.08	35.8 *UJ*	25.6 *UJ*	0.005 *UJ*	0.005 *U*	508	527	0.02 *U*	0.02 *U*
WQ13	K1000512		Integral	January 2010	1/17/2010	0.96 *U*	85.5	14.8 *UJ*	0.015 *U*	0.005 *U*	569 *J*	559 *J*	0.02 *U*	0.02 *U*
WQ13	K1004032		Integral	April 2010	4/22/2010	1.02 *J*	34.8	25.2	0.008 *UJ*	0.008 *UJ*	545 *J*	548 *J*	0.02 *U*	0.02 *U*
WQ13	K1008751		Integral	August 2010	8/10/2010	1.32	44.5	36.5	0.005 *J*	0.042	750	742	0.02 *U*	0.02 *U*
WQ13	K1011737		Integral	October 2010	10/18/2010	1.04	70.6	19.9 *UJ*	0.018 *J*	0.005 *UJ*	521	489	0.02 *U*	0.02 *U*
WQ13	K1100642		Integral	January 2011	1/19/2011	1.51	187	116	0.062	0.044	589	560	0.02 *U*	0.02 *U*
WQ13	K1103541		Integral	April 2011	4/20/2011	0.96 *U*	23.6 *UJ*	13.9 *UJ*	0.005 *UJ*	0.005 *UJ*	775	785	0.02 *U*	0.02 *U*
WQ13	K1106865		Integral	July 2011 II	7/25/2011	1.88	34.2 *UJ*	24.2	0.015 *UJ*	0.011 *UJ*	535	528	0.02 *UJ*	0.02 *UJ*
WQ13	K1112358		Integral	December 2011	12/21/2011	0.74	47.4	21.4	0.012 *UJ*	0.009 *J*	684	682	0.02 *U*	0.02 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved
WQ4			Knight Piesold	October 1996 II	10/16/1996	10 *U*	10 *U*	1000 *U*	--	5 *U*	5 *U*	0.5 *U*	0.5 *U*
WQ4			Knight Piesold	September 1997	9/3/1997	10 *U*	10 *U*	1000 *U*	--	5 *U*	5 *U*	0.5 *U*	0.5 *U*
WQ4		V7277	Knight Piesold	April 2005 II	4/20/2005	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ4		X2213	Knight Piesold	February 2006 II	2/15/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ4		X5977	Knight Piesold	May 2006 II	5/16/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ4		Z2004	Knight Piesold	August 2006 II	8/29/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ4		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ4		Z6128	Knight Piesold	December 2006	12/7/2006	1.2	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.044	0.02 *U*
WQ4		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ4		L495369	Knight Piesold	April 2007	4/10/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ4		L507191	Knight Piesold	May 2007	5/14/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ4		L515743	Knight Piesold	June 2007	6/4/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ4		L526591	Knight Piesold	July 2007 I	7/1/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ4	K0706569		Integral	July 2007 II	7/24/2007	0.42 *U*	0.46	900 *U*	900 *U*	0.2 *U*	0.2 *J*	0.009 *U*	0.017 *U*
WQ4	K0707317		Integral	August 2007 I	8/14/2007	2.68 *UJ*	2.5 *J*	900 *U*	900 *U*	0.5 *U*	0.4 *U*	0.009 *U*	0.009 *U*
WQ4	K0707782		Integral	August 2007 II	8/27/2007	0.31	0.12 *J*	900 *U*	1090 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.003 *U*
WQ4	K0708240		Integral	September 2007 I	9/11/2007	0.31	0.38 *UJ*	900 *U*	900 *U*	0.2 *J*	0.2 *J*	0.009 *U*	0.009 *U*
WQ4	K0709126		Integral	September 2007 II	10/2/2007	0.21 *U*	0.25 *U*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ4	K0709804		Integral	October 2007	10/17/2007	0.32	0.17 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ4	K0710773		Integral	November 2007	11/13/2007	0.56	0.42	900 *U*	900 *U*	0.2 *J*	0.2 *U*	0.009 *UJ*	0.009 *U*
WQ4	K0711891		Integral	December 2007 I	12/15/2007	0.67	0.21 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.01 *UJ*	0.009 *U*
WQ4	K0800335		Integral	January 2008	1/9/2008	0.95	0.18 *UJ*	408 *UJ*	313 *UJ*	0.4 *J*	0.5 *J*	0.052	0.006 *J*
WQ4	K0801400		Integral	February 2008	2/14/2008	2.39	0.27 *UJ*	900 *U*	900 *U*	0.5 *J*	0.2 *U*	0.037 *UJ*	0.009 *UJ*
WQ4	K0802328		Integral	March 2008	3/15/2008	0.5	0.43	304 *J*	272 *J*	0.4 *U*	0.4 *U*	0.024 *UJ*	0.05 *UJ*
WQ4	K0803239		Integral	April 2008	4/14/2008	0.39 *UJ*	0.26	332 *J*	316 *J*	0.2 *U*	0.2 *U*	0.009 *R*	0.009 *R*
WQ4	K0804080		Integral	May 2008	5/8/2008	0.45	0.4	316 *J*	303 *J*	0.4 *U*	0.4 *U*	0.017 *UJ*	0.005 *UJ*
WQ4	K0805877		Integral	June 2008	6/28/2008	0.56 *UJ*	0.12 *UJ*	196 *J*	208 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*
WQ4	K0806880		Integral	July 2008	7/24/2008	0.61	0.57	152 *J*	144 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ4	K0810253		Integral	October 2008	10/15/2008	0.04 *UJ*	0.04 *UJ*	187 *J*	134 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*
WQ4	K0902142		Integral	March 2009	3/9/2009	0.22 *U*	0.27 *UJ*	236 *J*	219 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*
WQ4	K0904395		Integral	May 2009	5/13/2009	0.16 *J*	0.16 *J*	154 *J*	151 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ4	K0906701		Integral	July 2009	7/23/2009	0.2 *UJ*	0.22 *UJ*	168 *J*	175 *J*	0.2 *U*	0.2 *U*	0.006 *UJ*	0.01 *UJ*
WQ4	K0908299		Integral	September 2009 I	9/5/2009	0.3 *J*	0.29 *UJ*	234 *J*	281 *J*	0.3 *U*	0.3 *U*	0.031 *UJ*	0.004 *UJ*
WQ4	K0908619		Integral	September 2009 II	9/12/2009	0.23	0.25	243 *J*	270 *J*	0.2 *U*	0.2 *U*	0.004 *UJ*	0.004 *UJ*
WQ4	K0910115		Integral	October 2009	10/17/2009	0.17 *UJ*	0.12 *J*	218 *J*	209 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ4	K1000512		Integral	January 2010	1/15/2010	0.25 *UJ*	0.23 *UJ*	163 *J*	195 *J*	0.3 *U*	0.3 *U*	0.011 *UJ*	0.004 *UJ*
WQ4	K1004032		Integral	April 2010	4/22/2010	0.17 *J*	0.18 *J*	211 *J*	236 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ4	K1008751		Integral	August 2010	8/10/2010	0.48 *UJ*	0.41 *UJ*	260 *J*	268 *J*	0.3 *U*	0.3 *U*	0.02 *UJ*	0.004 *UJ*
WQ4	K1011739		Integral	October 2010	10/18/2010	0.23 *U*	0.26 *U*	174 *J*	187 *J*	0.3 *UJ*	0.3 *UJ*	0.026	0.006 *UJ*
WQ4	K1100726		Integral	January 2011	1/19/2011	0.34 *UJ*	0.13 *J*	198 *J*	190 *J*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*
WQ4	K1103541		Integral	April 2011	4/20/2011	0.22 *UJ*	0.29 *U*	248 *J*	238 *J*	0.3 *U*	0.4 *J*	0.006 *UJ*	0.004 *UJ*
WQ4	K1106865		Integral	July 2011 II	7/25/2011	0.16 *UJ*	0.16 *UJ*	231 *UJ*	228 *UJ*	0.3 *U*	0.3 *U*	0.012 *UJ*	0.004 *UJ*
WQ4	K1112358		Integral	December 2011	12/21/2011	0.22	0.28	118 *UJ*	65.6 *UJ*	0.4 *J*	0.3 *J*	0.004 *U*	0.004 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved
WQ6			Knight Piesold	October 1996 II	10/16/1996	10 *U*	10 *U*	1000 *U*	--	5 *U*	5 *U*	0.5 *U*	0.5 *U*
WQ6			Knight Piesold	September 1997	9/3/1997	10 *U*	10 *U*	1000 *U*	--	5 *U*	5 *U*	0.5 *U*	0.5 *U*
WQ6		V7277	Knight Piesold	April 2005 II	4/20/2005	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ6		X2213	Knight Piesold	February 2006 II	2/15/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ6		X5977	Knight Piesold	May 2006 II	5/16/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ6		Z2004	Knight Piesold	August 2006 II	8/29/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ6		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ6		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ6		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ6		L495369	Knight Piesold	April 2007	4/10/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ6		L507191	Knight Piesold	May 2007	5/14/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ6		L515743	Knight Piesold	June 2007	6/4/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ6		L526591	Knight Piesold	July 2007 I	7/1/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ6	K0706569		Integral	July 2007 II	7/24/2007	0.29 *U*	0.29 *U*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ6	K0707317		Integral	August 2007 I	8/14/2007	1.4 *UJ*	1.34 *J*	900 *U*	900 *U*	0.5 *U*	0.3 *U*	0.009 *U*	0.009 *U*
WQ6	K0707782		Integral	August 2007 II	8/27/2007	0.15 *J*	0.09 *J*	900 *U*	900 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.012 *U*
WQ6	K0708240		Integral	September 2007 I	9/11/2007	0.18 *J*	0.23 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ6	K0709126		Integral	September 2007 II	10/2/2007	0.09 *U*	0.3 *U*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ6	K0709804		Integral	October 2007	10/17/2007	0.16 *J*	0.13 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ6	K0710773		Integral	November 2007	11/13/2007	0.26	0.25	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ6	K0711891		Integral	December 2007 I	12/15/2007	0.15 *UJ*	0.13 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.016 *UJ*	0.018 *UJ*
WQ6	K0800335		Integral	January 2008	1/9/2008	0.4 *UJ*	0.29 *UJ*	240 *UJ*	146 *UJ*	0.3 *J*	0.4 *U*	0.009 *U*	0.01 *J*
WQ6	K0801400		Integral	Feb-08	2/14/2008	0.57	0.38	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.005 *UJ*	0.009 *UJ*
WQ6	K0802328		Integral	March 2008	3/15/2008	0.24	0.24	172 *J*	181 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.018 *UJ*
WQ6	K0803239		Integral	April 2008	4/14/2008	0.17 *UJ*	0.25 *UJ*	198 *J*	189 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.009 *R*
WQ6	K0804080		Integral	May 2008	5/8/2008	0.24	0.26 *UJ*	186 *J*	157 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*
WQ6	K0805877		Integral	June 2008	6/28/2008	0.36 *UJ*	0.29 *UJ*	102 *J*	114 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*
WQ6	K0806880		Integral	July 2008	7/24/2008	0.09 *UJ*	0.18 *UJ*	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ6	K0810253		Integral	October 2008	10/15/2008	0.04 *UJ*	0.04 *UJ*	115 *UJ*	52 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*
WQ6	K0902142		Integral	March 2009	3/9/2009	0.21 *U*	0.24 *UJ*	101 *J*	146 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*
WQ6	K0904395		Integral	May 2009	5/13/2009	0.13 *J*	0.12 *J*	92 *J*	74 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ6	K0906701		Integral	July 2009	7/23/2009	0.03 *UJ*	0.03 *UJ*	83 *J*	81 *J*	0.2 *U*	0.2 *U*	0.004 *U*	0.008 *UJ*
WQ6	K0908299		Integral	September 2009 I	9/5/2009	0.16 *J*	0.22 *UJ*	126 *J*	142 *J*	0.3 *U*	0.3 *U*	0.014 *UJ*	0.004 *UJ*
WQ6	K0908619		Integral	September 2009 II	9/12/2009	0.13 *J*	0.14 *J*	133 *J*	136 *J*	0.2 *U*	0.2 *U*	0.004 *UJ*	0.004 *UJ*
WQ6	K0910115		Integral	October 2009	10/17/2009	0.08 *UJ*	0.16 *J*	131 *J*	124 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ6	K1000512		Integral	January 2010	1/15/2010	0.18 *UJ*	0.26 *UJ*	97 *J*	131 *J*	0.3 *U*	0.3 *U*	0.006 *UJ*	0.004 *UJ*
WQ6	K1004032		Integral	April 2010	4/22/2010	0.13 *J*	0.23	150 *J*	132 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ6	K1008751		Integral	August 2010	8/10/2010	0.25 *UJ*	0.28 *UJ*	129 *J*	157 *J*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*
WQ6	K1011739		Integral	October 2010	10/19/2010	0.55 *U*	0.56 *U*	65 *J*	94 *J*	0.3 *UJ*	0.3 *UJ*	0.011 *UJ*	0.009 *UJ*
WQ6	K1100642		Integral	January 2011	1/21/2011	0.44 *UJ*	0.31 *J*	96 *J*	78 *J*	0.3 *UJ*	0.3 *UJ*	0.004 *UJ*	0.004 *UJ*
WQ6	K1103541		Integral	April 2011	4/20/2011	0.15 *UJ*	0.57 *U*	138 *UJ*	150 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ6	K1106865		Integral	July 2011 II	7/25/2011	0.12 *UJ*	0.45	96 *UJ*	92 *UJ*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*
WQ6	K1112358		Integral	December 2011	12/21/2011	0.18 *J*	0.19 *UJ*	72.1 *UJ*	50 *U*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*
WQ7		X2213	Knight Piesold	February 2006 II	2/15/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ7		X5977	Knight Piesold	May 2006 II	5/16/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ7		Z2004	Knight Piesold	August 2006 II	8/29/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ7		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ7		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ7		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ7		L495369	Knight Piesold	April 2007	4/10/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ7		L507191	Knight Piesold	May 2007	5/14/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved
WQ7		L515743	Knight Piesold	June 2007	6/4/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ7		L526591	Knight Piesold	July 2007 I	7/1/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ7	K0706569		Integral	July 2007 II	7/24/2007	0.22 *U*	0.25 *U*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ7	K0707317		Integral	August 2007 I	8/14/2007	1.42 *UJ*	1.32 *J*	900 *U*	900 *U*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*
WQ7	K0707782		Integral	August 2007 II	8/27/2007	0.21	0.08 *J*	900 *U*	900 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.006 *U*
WQ7	K0708240		Integral	September 2007 I	9/11/2007	0.18 *J*	0.19 *UJ*	900 *U*	900 *U*	0.2 *J*	0.2 *U*	0.009 *U*	0.009 *U*
WQ7	K0709126		Integral	September 2007 II	10/2/2007	0.14 *U*	0.19 *U*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ7	K0709804		Integral	October 2007	10/17/2007	0.17 *J*	0.13 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ7	K0710773		Integral	November 2007	11/13/2007	0.22	0.26	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ7	K0711891		Integral	December 2007 I	12/15/2007	0.14 *UJ*	0.15 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ7	K0800335		Integral	January 2008	1/9/2008	0.44 *UJ*	0.16 *UJ*	217 *UJ*	130 *UJ*	0.2 *J*	0.4 *U*	0.009 *U*	0.006 *J*
WQ7	K0801400		Integral	Februrary 2008	2/14/2008	0.5	0.19 *UJ*	900 *U*	900 *U*	0.4 *J*	0.2 *U*	0.005 *UJ*	0.009 *UJ*
WQ7	K0802328		Integral	March 2008	3/15/2008	0.23	0.27	178 *J*	149 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.008 *UJ*
WQ7	K0803239		Integral	April 2008	4/14/2008	0.18 *UJ*	0.2 *UJ*	188 *J*	175 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.099 *R*
WQ7	K0804080		Integral	May 2008	5/8/2008	0.35	0.2 *UJ*	156 *J*	151 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*
WQ7	K0805877		Integral	June 2008	6/28/2008	0.04 *UJ*	0.06 *UJ*	100 *U*	132 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*
WQ7	K0806880		Integral	July 2008	7/24/2008	0.09 *UJ*	0.19 *UJ*	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.021 *UJ*	0.009 *UJ*
WQ8		X2213	Knight Piesold	February 2006 II	2/15/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ8		X5977	Knight Piesold	May 2006 II	5/17/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ8		Z2004	Knight Piesold	August 2006 II	8/29/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ8		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ8		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ8		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ8		L495369	Knight Piesold	April 2007	4/10/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ8		L507191	Knight Piesold	May 2007	5/14/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ8		L515743	Knight Piesold	June 2007	6/4/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ8		L526591	Knight Piesold	July 2007 I	7/1/2007	0.5 *U*	1.95	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ8	K0706569		Integral	July 2007 II	7/24/2007	0.35 *U*	0.46	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ8	K0707317		Integral	August 2007 I	8/14/2007	1.86 *UJ*	3.35 *J*	900 *U*	900 *U*	0.5 *U*	0.3 *U*	0.009 *U*	0.009 *U*
WQ8	K0707782		Integral	August 2007 II	8/27/2007	0.15 *J*	0.11 *J*	900 *U*	900 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.004 *U*
WQ8	K0708240		Integral	September 2007 I	9/11/2007	0.23	0.32 *UJ*	900 *U*	900 *U*	0.2 *J*	0.2 *U*	0.009 *U*	0.009 *U*
WQ8	K0709126		Integral	September 2007 II	10/2/2007	0.12 *U*	0.11 *U*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ8	K0709804		Integral	October 2007	10/17/2007	0.21	0.13 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ8	K0710773		Integral	November 2007	11/13/2007	0.3	0.27	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ8	K0711891		Integral	December 2007 I	12/15/2007	0.16 *UJ*	0.2 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ8	K0800335		Integral	January 2008	1/9/2008	0.43 *UJ*	0.22 *UJ*	237 *UJ*	159 *UJ*	0.2 *J*	0.4 *U*	0.009 *U*	0.009 *J*
WQ8	K0801400		Integral	Februrary 2008	2/14/2008	0.75	0.18 *UJ*	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.005 *UJ*	0.009 *UJ*
WQ8	K0802328		Integral	March 2008	3/15/2008	0.22	0.29	187 *J*	332 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*
WQ8	K0803239		Integral	April 2008	4/14/2008	0.13 *UJ*	0.19 *UJ*	228 *J*	207 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.036 *R*
WQ8	K0804080		Integral	May 2008	5/8/2008	0.16 *J*	0.23 *UJ*	236 *J*	181 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*
WQ8	K0805877		Integral	June 2008	6/28/2008	0.04 *UJ*	0.13 *UJ*	136 *J*	148 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*
WQ8	K0806880		Integral	July 2008	7/24/2008	0.2 *UJ*	0.26 *UJ*	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ10		Z2004	Knight Piesold	August 2006 II	8/29/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ10		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ10		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ10		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ10		L495369	Knight Piesold	April 2007	4/10/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ10		L507191	Knight Piesold	May 2007	5/14/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ10		L515743	Knight Piesold	June 2007	6/4/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ10		L526591	Knight Piesold	July 2007 I	7/1/2007	0.63	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ10	K0706569		Integral	July 2007 II	7/24/2007	0.38 *U*	0.25 *U*	900 *U*	900 *U*	0.3 *J*	0.3 *J*	0.009 *U*	0.009 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved
WQ10	K0707317		Integral	August 2007 I	8/14/2007	0.97 *UJ*	0.92 *J*	900 *U*	900 *U*	0.4 *U*	0.3 *U*	0.009 *U*	0.009 *U*
WQ10	K0707782		Integral	August 2007 II	8/27/2007	0.12 *J*	0.1 *J*	1080 *U*	977 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.004 *U*
WQ10	K0708240		Integral	September 2007 I	9/11/2007	0.31	0.38 *UJ*	900 *U*	900 *U*	0.2 *J*	0.3 *J*	0.009 *U*	0.009 *U*
WQ10	K0709126		Integral	September 2007 II	10/1/2007	0.1 *U*	0.14 *U*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ10	K0709804		Integral	October 2007	10/17/2007	0.16 *J*	0.14 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ10	K0710773		Integral	November 2007	11/13/2007	0.22	0.37	900 *U*	900 *U*	0.2 *J*	0.2 *J*	0.009 *U*	0.009 *U*
WQ10	K0711891		Integral	December 2007 I	12/15/2007	0.35 *J*	0.16 *UJ*	905 *J*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ10	K0800335		Integral	January 2008	1/9/2008	0.37 *UJ*	0.14 *UJ*	305 *UJ*	234 *UJ*	0.3 *J*	0.4 *U*	0.009 *U*	0.006 *J*
WQ10	K0801400		Integral	Februrary 2008	2/14/2008	0.43	0.14 *UJ*	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.005 *UJ*	0.009 *UJ*
WQ10	K0802328		Integral	March 2008	3/15/2008	0.31	0.24	232 *J*	209 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*
WQ10	K0803239		Integral	April 2008	4/14/2008	0.22 *UJ*	0.24 *UJ*	301 *J*	307 *J*	0.2 *U*	0.2 *U*	0.009 *R*	0.022 *R*
WQ10	K0804080		Integral	May 2008	5/8/2008	0.21	0.32 *UJ*	275 *J*	255 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*
WQ10	K0805877		Integral	June 2008	6/28/2008	0.23 *UJ*	0.08 *UJ*	366 *J*	333 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*
WQ10	K0806880		Integral	July 2008	7/24/2008	0.24 *UJ*	0.27 *UJ*	267 *J*	265 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ10	K0810253		Integral	October 2008	10/15/2008	0.04 *UJ*	0.04 *UJ*	208 *J*	141 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*
WQ10	K0902142		Integral	March 2009	3/9/2009	0.44 *U*	0.19 *UJ*	170 *J*	186 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*
WQ10	K0904395		Integral	May 2009	5/13/2009	0.27	0.12 *J*	160 *J*	148 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ10	K0906701		Integral	July 2009	7/23/2009	0.09 *UJ*	0.3 *UJ*	260 *J*	253 *J*	0.2 *U*	0.2 *U*	0.009 *UJ*	0.009 *UJ*
WQ10	K0908299		Integral	September 2009 I	9/5/2009	0.18 *J*	0.26 *UJ*	300 *J*	287 *J*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*
WQ10	K0908619		Integral	September 2009 II	9/12/2009	0.16 *J*	0.17 *J*	306 *J*	294 *J*	0.2 *U*	0.2 *U*	0.004 *UJ*	0.004 *UJ*
WQ10	K0910115		Integral	October 2009	10/17/2009	0.16 *UJ*	0.18 *J*	284 *J*	258 *J*	0.3 *U*	0.3 *U*	0.053	0.004 *UJ*
WQ10	K1000512		Integral	January 2010	1/15/2010	0.21 *UJ*	0.2 *UJ*	200 *J*	185 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ10	K1004032		Integral	April 2010	4/22/2010	0.17 *J*	0.25	293 *J*	299 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ10	K1008752		Integral	August 2010	8/10/2010	0.37	0.5	278 *J*	269 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ10	K1011739		Integral	October 2010	10/19/2010	0.18 *U*	0.26 *U*	223 *J*	221 *J*	0.3 *UJ*	0.3 *UJ*	0.02 *UJ*	0.006 *UJ*
WQ10	K1100642		Integral	January 2011	1/21/2011	0.26 *UJ*	0.23 *J*	175 *J*	155 *J*	0.3 *UJ*	0.3 *UJ*	0.004 *UJ*	0.004 *UJ*
WQ10	K1103545		Integral	April 2011	4/20/2011	0.34 *UJ*	0.19 *U*	220 *UJ*	208 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ10	K1106865		Integral	July 2011 II	7/25/2011	0.17 *UJ*	0.12 *UJ*	211 *UJ*	220 *UJ*	0.3 *U*	0.3 *U*	0.01 *UJ*	0.006 *UJ*
WQ10	K1112358		Integral	December 2011	12/21/2011	0.17 *J*	0.2 *UJ*	118 *UJ*	125 *UJ*	0.3 *U*	0.3 *J*	0.004 *U*	0.004 *U*
WQ12		Z2004	Knight Piesold	August 2006 II	8/29/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ12		Z3908	Knight Piesold	October 2006	10/17/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ12		Z6128	Knight Piesold	December 2006	12/7/2006	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ12		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ12		L495369	Knight Piesold	April 2007	4/10/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ12		L507191	Knight Piesold	May 2007	5/14/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ12		L515743	Knight Piesold	June 2007	6/4/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ12		L526591	Knight Piesold	July 2007 I	7/1/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ12	K0706569		Integral	July 2007 II	7/24/2007	0.71	0.7	900 *U*	900 *U*	0.3 *J*	0.3 *J*	0.009 *U*	0.023 *U*
WQ12	K0707317		Integral	August 2007 I	8/14/2007	3.1 *UJ*	2.88 *J*	900 *U*	900 *U*	0.5 *U*	0.3 *U*	0.009 *U*	0.009 *U*
WQ12	K0707782		Integral	August 2007 II	8/27/2007	0.32	0.14 *J*	900 *U*	1010 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.003 *U*
WQ12	K0708240		Integral	September 2007 I	9/11/2007	0.4	0.53 *UJ*	900 *U*	900 *U*	0.3 *J*	0.3 *J*	0.009 *U*	0.009 *U*
WQ12	K0709126		Integral	September 2007 II	10/1/2007	0.17 *U*	0.3 *U*	900 *U*	900 *U*	0.2 *J*	0.2 *U*	0.009 *U*	0.009 *U*
WQ12	K0709804		Integral	October 2007	10/17/2007	0.16 *J*	0.15 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ12	K0710773		Integral	November 2007	11/13/2007	0.38	0.39	900 *U*	900 *U*	0.2 *J*	0.3 *J*	0.009 *U*	0.009 *U*
WQ12	K0711891		Integral	December 2007 I	12/15/2007	0.17 *UJ*	0.19 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ12	K0800335		Integral	January 2008	1/9/2008	0.56	0.2 *UJ*	315 *UJ*	242 *UJ*	0.4 *J*	0.4 *U*	0.012 *J*	0.006 *J*
WQ12	K0801400		Integral	Februrary 2008	2/14/2008	0.53	0.15 *UJ*	900 *U*	900 *U*	0.5 *J*	0.2 *U*	0.005 *UJ*	0.009 *UJ*
WQ12	K0802328		Integral	March 2008	3/15/2008	0.4	0.47	280 *J*	255 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*
WQ12	K0803239		Integral	April 2008	4/14/2008	0.23 *UJ*	0.23 *UJ*	264 *J*	268 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.014 *R*
WQ12	K0804080		Integral	May 2008	5/8/2008	0.4	0.64	317 *J*	275 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*
WQ12	K0805877		Integral	June 2008	6/28/2008	0.19 *UJ*	0.16 *UJ*	206 *J*	168 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved
WQ12	K0806880		Integral	July 2008	7/24/2008	0.53 *UJ*	0.5 *UJ*	112 *J*	100 *U*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ13		L482967	Knight Piesold	February 2007	2/26/2007	1 *U*	1 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*
WQ13		L495369	Knight Piesold	April 2007	4/10/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ13		L507191	Knight Piesold	May 2007	5/14/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ13		L515743	Knight Piesold	June 2007	6/4/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ13		L526591	Knight Piesold	July 2007 I	7/1/2007	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*
WQ13	K0706569		Integral	July 2007 II	7/24/2007	0.46	0.51	900 *U*	900 *U*	0.2 *J*	0.2 *J*	0.009 *U*	0.009 *U*
WQ13	K0707317		Integral	August 2007 I	8/14/2007	2.04 *UJ*	1.92 *J*	900 *U*	900 *U*	0.6 *U*	0.4 *U*	0.009 *U*	0.009 *U*
WQ13	K0707782		Integral	August 2007 II	8/27/2007	0.22	0.16 *J*	1630 *U*	1070 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.003 *U*
WQ13	K0708240		Integral	September 2007 I	9/11/2007	1.02	0.41 *UJ*	900 *U*	900 *U*	0.3 *J*	0.2 *U*	0.009 *U*	0.009 *U*
WQ13	K0709126		Integral	September 2007 II	10/1/2007	0.21 *U*	0.26 *U*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ13	K0709804		Integral	October 2007	10/17/2007	0.26	0.19 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ13	K0710773		Integral	November 2007	11/13/2007	0.4	0.37	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ13	K0711891		Integral	December 2007 I	12/16/2007	0.24 *UJ*	0.22 *UJ*	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*
WQ13	K0800335		Integral	January 2008	1/9/2008	0.73	0.21 *UJ*	240 *UJ*	160 *UJ*	0.3 *J*	0.4 *J*	0.009 *J*	0.01 *J*
WQ13	K0801400		Integral	Februrary 2008	2/14/2008	1.04	0.25 *UJ*	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.005 *UJ*	0.009 *UJ*
WQ13	K0802328		Integral	March 2008	3/15/2008	0.34	0.38	166 *J*	149 *J*	0.4 *U*	0.4 *U*	0.13	0.005 *UJ*
WQ13	K0803239		Integral	April 2008	4/15/2008	0.26 *UJ*	0.3	194 *J*	211 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.014 *R*
WQ13	K0804080		Integral	May 2008	5/8/2008	0.25	0.56	216 *J*	201 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*
WQ13	K0805877		Integral	June 2008	6/27/2008	0.27 *UJ*	0.04 *UJ*	133 *J*	113 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*
WQ13	K0806880		Integral	July 2008	7/25/2008	0.29 *UJ*	0.29 *UJ*	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ13	K0810253		Integral	October 2008	10/15/2008	0.04 *UJ*	0.04 *UJ*	115 *UJ*	88 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*
WQ13	K0902142		Integral	March 2009	3/8/2009	0.24 *U*	0.32 *UJ*	174 *J*	150 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.013 *UJ*
WQ13	K0904395		Integral	May 2009	5/13/2009	0.21	0.19 *J*	121 *J*	128 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*
WQ13	K0906701		Integral	July 2009	7/23/2009	0.11 *UJ*	0.27 *UJ*	139 *J*	153 *J*	0.2 *U*	0.2 *U*	0.025 *UJ*	0.007 *UJ*
WQ13	K0910115		Integral	October 2009	10/17/2009	0.11 *UJ*	0.14 *J*	143 *J*	138 *J*	0.3 *U*	0.3 *U*	0.017 *UJ*	0.004 *UJ*
WQ13	K1000512		Integral	January 2010	1/17/2010	0.36 *UJ*	0.27 *UJ*	215 *J*	236 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.009 *UJ*
WQ13	K1004032		Integral	April 2010	4/22/2010	0.15 *J*	0.17 *J*	186 *J*	163 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ13	K1008751		Integral	August 2010	8/10/2010	0.34 *UJ*	0.25 *UJ*	115 *J*	125 *J*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.006 *UJ*
WQ13	K1011737		Integral	October 2010	10/18/2010	0.39 *U*	0.29 *U*	200 *J*	151 *J*	0.4 *J*	0.4 *J*	0.028	0.007 *J*
WQ13	K1100642		Integral	January 2011	1/19/2011	0.4 *UJ*	0.45	186 *J*	181 *J*	0.3 *UJ*	0.3 *UJ*	0.005 *UJ*	0.004 *UJ*
WQ13	K1103541		Integral	April 2011	4/20/2011	0.35 *UJ*	0.74 *U*	197 *UJ*	176 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*
WQ13	K1106865		Integral	July 2011 II	7/25/2011	0.21 *UJ*	0.18 *UJ*	125 *UJ*	128 *UJ*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*
WQ13	K1112358		Integral	December 2011	12/21/2011	0.27	0.3	82.7 *UJ*	84 *UJ*	0.3 *U*	0.3 *J*	0.004 *U*	0.004 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements			
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Sodium (μg/L), Total	Sodium (μg/L), Dissolved	Zinc (μg/L), Total	Zinc (μg/L), Dissolved
WQ4			Knight Piesold	October 1996 II	10/16/1996	3110	--	90	110
WQ4			Knight Piesold	September 1997	9/3/1997	1270	--	7 *U*	7 *U*
WQ4		V7277	Knight Piesold	April 2005 II	4/20/2005	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ4		X2213	Knight Piesold	February 2006 II	2/15/2006	3400	3500	5 *U*	5 *U*
WQ4		X5977	Knight Piesold	May 2006 II	5/16/2006	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ4		Z2004	Knight Piesold	August 2006 II	8/29/2006	2000	2700	5 *U*	5 *U*
WQ4		Z3908	Knight Piesold	October 2006	10/17/2006	3000	3000	5 *U*	5 *U*
WQ4		Z6128	Knight Piesold	December 2006	12/7/2006	2100	2100	5 *U*	5 *U*
WQ4		L482967	Knight Piesold	February 2007	2/26/2007	3600	3300	5 *U*	5 *U*
WQ4		L495369	Knight Piesold	April 2007	4/10/2007	2900	2900	1 *U*	1 *U*
WQ4		L507191	Knight Piesold	May 2007	5/14/2007	2200	2200	1 *U*	1 *U*
WQ4		L515743	Knight Piesold	June 2007	6/4/2007	2000 *U*	2000 *U*	1 *U*	1 *U*
WQ4		L526591	Knight Piesold	July 2007 I	7/1/2007	2000 *U*	2000 *U*	1 *U*	1.7
WQ4	K0706569		Integral	July 2007 II	7/24/2007	2810	2860	2.67 *U*	16.7 *J*
WQ4	K0707317		Integral	August 2007 I	8/14/2007	3320	3240	1.78 *U*	5.46 *J*
WQ4	K0707782		Integral	August 2007 II	8/27/2007	2440	2470	12.3 *U*	10.7 *U*
WQ4	K0708240		Integral	September 2007 I	9/11/2007	2950	2940	3 *U*	18.3 *U*
WQ4	K0709126		Integral	September 2007 II	10/2/2007	2200	2170	3.13 *U*	1.58 *U*
WQ4	K0709804		Integral	October 2007	10/17/2007	2160	2160	3.14 *U*	3.65 *U*
WQ4	K0710773		Integral	November 2007	11/13/2007	3090	3010	7.26 *U*	5.85 *U*
WQ4	K0711891		Integral	December 2007 I	12/15/2007	3330	3280	5.33 *J*	6.21 *U*
WQ4	K0800335		Integral	January 2008	1/9/2008	4600	4710	2.7 *U*	2.9 *U*
WQ4	K0801400		Integral	February 2008	2/14/2008	4410	4720	13 *U*	4.62 *U*
WQ4	K0802328		Integral	March 2008	3/15/2008	3970	3700	9 *U*	7.9 *U*
WQ4	K0803239		Integral	April 2008	4/14/2008	4230	4310	1.09 *U*	0.85 *U*
WQ4	K0804080		Integral	May 2008	5/8/2008	3950	3930	3.6 *U*	6.4 *U*
WQ4	K0805877		Integral	June 2008	6/28/2008	1900	1890	5.4 *U*	11.8 *U*
WQ4	K0806880		Integral	July 2008	7/24/2008	2480	2480	1.5 *U*	1.2 *U*
WQ4	K0810253		Integral	October 2008	10/15/2008	2160	2440	1.2 *U*	1.38 *U*
WQ4	K0902142		Integral	March 2009	3/9/2009	3190	3190	3.01 *U*	1.68 *U*
WQ4	K0904395		Integral	May 2009	5/13/2009	1740	1700	3.79 *U*	2.75 *U*
WQ4	K0906701		Integral	July 2009	7/23/2009	1600	1530	2.63 *U*	2.47 *U*
WQ4	K0908299		Integral	September 2009 I	9/5/2009	2400	2510	2.96 *U*	1.98 *U*
WQ4	K0908619		Integral	September 2009 II	9/12/2009	2610	2750	1 *U*	0.6 *U*
WQ4	K0910115		Integral	October 2009	10/17/2009	2440	2370	0.26 *UJ*	1.07 *U*
WQ4	K1000512		Integral	January 2010	1/15/2010	2710	2880	0.74 *U*	1.05 *U*
WQ4	K1004032		Integral	April 2010	4/22/2010	4270	4480	0.76 *U*	0.79 *U*
WQ4	K1008751		Integral	August 2010	8/10/2010	3510	3620	2.23 *U*	3.03 *U*
WQ4	K1011739		Integral	October 2010	10/18/2010	3400	3400	0.7 *U*	0.7 *U*
WQ4	K1100726		Integral	January 2011	1/19/2011	2930	2870	1.22 *U*	0.42 *UJ*
WQ4	K1103541		Integral	April 2011	4/20/2011	3380	3480	0.41 *U*	0.47 *U*
WQ4	K1106865		Integral	July 2011 II	7/25/2011	2680	2610	1.1 *U*	0.9 *U*
WQ4	K1112358		Integral	December 2011	12/21/2011	3110	3080	1.53 *U*	0.44 *UJ*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements			
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ6			Knight Piesold	October 1996 II	10/16/1996	2230	--	7 *U*	7 *U*
WQ6			Knight Piesold	September 1997	9/3/1997	1120	--	7 *U*	7 *U*
WQ6		V7277	Knight Piesold	April 2005 II	4/20/2005	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ6		X2213	Knight Piesold	February 2006 II	2/15/2006	3200	3200	5 *U*	5 *U*
WQ6		X5977	Knight Piesold	May 2006 II	5/16/2006	2700	2800	5 *U*	5 *U*
WQ6		Z2004	Knight Piesold	August 2006 II	8/29/2006	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ6		Z3908	Knight Piesold	October 2006	10/17/2006	2400	2400	5 *U*	5 *U*
WQ6		Z6128	Knight Piesold	December 2006	12/7/2006	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ6		L482967	Knight Piesold	February 2007	2/26/2007	2900	2900	5 *U*	5 *U*
WQ6		L495369	Knight Piesold	April 2007	4/10/2007	2500	2500	1 *U*	1 *U*
WQ6		L507191	Knight Piesold	May 2007	5/14/2007	2000 *U*	2000 *U*	1 *U*	1.5
WQ6		L515743	Knight Piesold	June 2007	6/4/2007	2000 *U*	2000 *U*	1 *U*	1.4
WQ6		L526591	Knight Piesold	July 2007 I	7/1/2007	2000 *U*	2000 *U*	1 *U*	1.3
WQ6	K0706569		Integral	July 2007 II	7/24/2007	1790	1920	7.06 *U*	5.99 *U*
WQ6	K0707317		Integral	August 2007 I	8/14/2007	2570	2450	0.6 *U*	1.7 *U*
WQ6	K0707782		Integral	August 2007 II	8/27/2007	2140	2140	5.2 *U*	6.99 *U*
WQ6	K0708240		Integral	September 2007 I	9/11/2007	2280	2200	5.8 *U*	7.6 *U*
WQ6	K0709126		Integral	September 2007 II	10/2/2007	1820	1790	4.57 *U*	1.73 *U*
WQ6	K0709804		Integral	October 2007	10/17/2007	1840	1870	2.67 *U*	4.67 *U*
WQ6	K0710773		Integral	November 2007	11/13/2007	2550	2490	4.77 *U*	7.08 *U*
WQ6	K0711891		Integral	December 2007 I	12/15/2007	2630	2600	8.66 *J*	11.2 *J*
WQ6	K0800335		Integral	January 2008	1/9/2008	3690	3680	7 *U*	9 *U*
WQ6	K0801400		Integral	Feb-08	2/14/2008	3600	3450	3.7 *U*	5.05 *U*
WQ6	K0802328		Integral	March 2008	3/15/2008	3360	3330	23.4 *J*	23.1 *J*
WQ6	K0803239		Integral	April 2008	4/14/2008	3930	3830	1.55 *U*	1.87 *U*
WQ6	K0804080		Integral	May 2008	5/8/2008	3180	3230	5.2 *U*	6.9 *U*
WQ6	K0805877		Integral	June 2008	6/28/2008	1310	1310	2.2 *U*	1.5 *U*
WQ6	K0806880		Integral	July 2008	7/24/2008	1470	1480	2.2 *U*	1.3 *U*
WQ6	K0810253		Integral	October 2008	10/15/2008	1730	1690	1.57 *U*	0.68 *U*
WQ6	K0902142		Integral	March 2009	3/9/2009	2480	2520	4.68 *U*	2.73 *U*
WQ6	K0904395		Integral	May 2009	5/13/2009	1450	1340	3.96 *U*	2.8 *U*
WQ6	K0906701		Integral	July 2009	7/23/2009	1380	1410	2.63 *U*	0.65 *U*
WQ6	K0908299		Integral	September 2009 I	9/5/2009	1790	1820	2.71 *U*	5.06 *U*
WQ6	K0908619		Integral	September 2009 II	9/12/2009	2020	2130	1.3 *U*	0.5 *U*
WQ6	K0910115		Integral	October 2009	10/17/2009	1970	1920	0.28 *UJ*	0.46 *UJ*
WQ6	K1000512		Integral	January 2010	1/15/2010	2510	2400	0.97 *U*	2 *U*
WQ6	K1004032		Integral	April 2010	4/22/2010	3770	3730	0.43 *UJ*	1.54 *U*
WQ6	K1008751		Integral	August 2010	8/10/2010	2600	2740	1.03 *U*	0.86 *U*
WQ6	K1011739		Integral	October 2010	10/19/2010	3000	3090	0.4 *U*	0.4 *U*
WQ6	K1100642		Integral	January 2011	1/21/2011	2480	2550	0.48 *UJ*	0.48 *UJ*
WQ6	K1103541		Integral	April 2011	4/20/2011	2510	2530	0.2 *U*	0.29 *U*
WQ6	K1106865		Integral	July 2011 II	7/25/2011	1930	1810	0.6 *U*	0.6 *U*
WQ6	K1112358		Integral	December 2011	12/21/2011	2680	2730	0.24 *UJ*	0.71 *U*
WQ7		X2213	Knight Piesold	February 2006 II	2/15/2006	3200	3200	5 *U*	5 *U*
WQ7		X5977	Knight Piesold	May 2006 II	5/16/2006	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ7		Z2004	Knight Piesold	August 2006 II	8/29/2006	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ7		Z3908	Knight Piesold	October 2006	10/17/2006	2300	2300	5 *U*	5 *U*
WQ7		Z6128	Knight Piesold	December 2006	12/7/2006	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ7		L482967	Knight Piesold	February 2007	2/26/2007	2900	2900	5 *U*	5 *U*
WQ7		L495369	Knight Piesold	April 2007	4/10/2007	2500	2600	1 *U*	1 *U*
WQ7		L507191	Knight Piesold	May 2007	5/14/2007	2000 *U*	2000 *U*	1 *U*	1 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements			
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ7		L515743	Knight Piesold	June 2007	6/4/2007	2000 *U*	2000 *U*	1 *U*	1.1
WQ7		L526591	Knight Piesold	July 2007 I	7/1/2007	2000 *U*	2000 *U*	1 *U*	1 *U*
WQ7	K0706569		Integral	July 2007 II	7/24/2007	1840	1890	7.7 *U*	9.64 *U*
WQ7	K0707317		Integral	August 2007 I	8/14/2007	2760	2460	0.62 *U*	1.78 *U*
WQ7	K0707782		Integral	August 2007 II	8/27/2007	2140	2120	4.5 *U*	24.7 *U*
WQ7	K0708240		Integral	September 2007 I	9/11/2007	2110	2180	4.9 *U*	4.5 *U*
WQ7	K0709126		Integral	September 2007 II	10/2/2007	1800	1780	4.91 *U*	4.94 *U*
WQ7	K0709804		Integral	October 2007	10/17/2007	1930	1930	3.81 *U*	3.59 *U*
WQ7	K0710773		Integral	November 2007	11/13/2007	2480	2410	5.95 *U*	7.39 *U*
WQ7	K0711891		Integral	December 2007 I	12/15/2007	2430	2390	4.5 *U*	11 *J*
WQ7	K0800335		Integral	January 2008	1/9/2008	3580	3640	19 *J*	14 *J*
WQ7	K0801400		Integral	Februrary 2008	2/14/2008	3680	3650	6.5 *U*	18.3 *J*
WQ7	K0802328		Integral	March 2008	3/15/2008	3340	3230	4.1 *U*	8.3 *U*
WQ7	K0803239		Integral	April 2008	4/14/2008	3940	3830	0.63 *U*	1.68 *U*
WQ7	K0804080		Integral	May 2008	5/8/2008	3200	3170	4.6 *U*	3.3 *U*
WQ7	K0805877		Integral	June 2008	6/28/2008	1230	1210	7.7 *U*	4.2 *U*
WQ7	K0806880		Integral	July 2008	7/24/2008	1450	1400	1 *U*	1.3 *U*
WQ8		X2213	Knight Piesold	February 2006 II	2/15/2006	3500	3500	5 *U*	5 *U*
WQ8		X5977	Knight Piesold	May 2006 II	5/17/2006	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ8		Z2004	Knight Piesold	August 2006 II	8/29/2006	2000 *U*	2000	5 *U*	5 *U*
WQ8		Z3908	Knight Piesold	October 2006	10/17/2006	3000	3000	5 *U*	5 *U*
WQ8		Z6128	Knight Piesold	December 2006	12/7/2006	2300	2200	5 *U*	5 *U*
WQ8		L482967	Knight Piesold	February 2007	2/26/2007	3200	3200	5 *U*	5 *U*
WQ8		L495369	Knight Piesold	April 2007	4/10/2007	3100	3100	1 *U*	1 *U*
WQ8		L507191	Knight Piesold	May 2007	5/14/2007	2600	2600	1 *U*	1.3
WQ8		L515743	Knight Piesold	June 2007	6/4/2007	2000 *U*	2000 *U*	2 *U*	1 *U*
WQ8		L526591	Knight Piesold	July 2007 I	7/1/2007	2000 *U*	2000 *U*	1 *U*	4.9
WQ8	K0706569		Integral	July 2007 II	7/24/2007	2780	2930	2.43 *U*	8.72 *U*
WQ8	K0707317		Integral	August 2007 I	8/14/2007	3190	3040	1.04 *U*	3.63 *U*
WQ8	K0707782		Integral	August 2007 II	8/27/2007	2370	2350	2.1 *U*	9.24 *U*
WQ8	K0708240		Integral	September 2007 I	9/11/2007	2940	2850	5.2 *U*	4.9 *U*
WQ8	K0709126		Integral	September 2007 II	10/2/2007	2140	2070	6.76 *U*	2.51 *U*
WQ8	K0709804		Integral	October 2007	10/17/2007	2030	2040	3.78 *U*	2.61 *U*
WQ8	K0710773		Integral	November 2007	11/13/2007	2770	2760	3.49 *U*	2.59 *U*
WQ8	K0711891		Integral	December 2007 I	12/15/2007	2500	2530	1.84 *U*	3.77 *U*
WQ8	K0800335		Integral	January 2008	1/9/2008	3740	3660	3.3 *U*	13.1 *J*
WQ8	K0801400		Integral	Februrary 2008	2/14/2008	3550	3480	6.9 *U*	5.95 *U*
WQ8	K0802328		Integral	March 2008	3/15/2008	3280	3290	5.7 *U*	31.5
WQ8	K0803239		Integral	April 2008	4/14/2008	3810	3820	2.34 *U*	0.69 *U*
WQ8	K0804080		Integral	May 2008	5/8/2008	3310	3420	2.6 *U*	2.2 *U*
WQ8	K0805877		Integral	June 2008	6/28/2008	1620	1620	2.8 *U*	1.1 *U*
WQ8	K0806880		Integral	July 2008	7/24/2008	2340	2350	1 *U*	0.8 *U*
WQ10		Z2004	Knight Piesold	August 2006 II	8/29/2006	2800	2600	5 *U*	5 *U*
WQ10		Z3908	Knight Piesold	October 2006	10/17/2006	3400	3400	9.7	5 *U*
WQ10		Z6128	Knight Piesold	December 2006	12/7/2006	2500	2600	5 *U*	5 *U*
WQ10		L482967	Knight Piesold	February 2007	2/26/2007	3400	3400	5 *U*	5 *U*
WQ10		L495369	Knight Piesold	April 2007	4/10/2007	3100	3100	1 *U*	1
WQ10		L507191	Knight Piesold	May 2007	5/14/2007	3100	3200	1 *U*	1.1
WQ10		L515743	Knight Piesold	June 2007	6/4/2007	2300	2300	1 *U*	1.6
WQ10		L526591	Knight Piesold	July 2007 I	7/1/2007	2800	2800	1.5	1.5
WQ10	K0706569		Integral	July 2007 II	7/24/2007	3370	3490	4.1 *U*	6.22 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements			
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ10	K0707317		Integral	August 2007 I	8/14/2007	3560	3320	1.46 *U*	2.23 *U*
WQ10	K0707782		Integral	August 2007 II	8/27/2007	3220	3100	3.8 *U*	3.8 *U*
WQ10	K0708240		Integral	September 2007 I	9/11/2007	3310	3280	2.8 *U*	6.3 *U*
WQ10	K0709126		Integral	September 2007 II	10/1/2007	3030	3110	2.98 *U*	2.49 *U*
WQ10	K0709804		Integral	October 2007	10/17/2007	2600	2600	4.22 *U*	3.97 *U*
WQ10	K0710773		Integral	November 2007	11/13/2007	3240	3110	5.9 *U*	3 *U*
WQ10	K0711891		Integral	December 2007 I	12/15/2007	3440	3600	3.94 *U*	7.63 *U*
WQ10	K0800335		Integral	January 2008	1/9/2008	4450	4450	5.5 *U*	4.6 *U*
WQ10	K0801400		Integral	Februrary 2008	2/14/2008	3570	3620	4 *U*	4.43 *U*
WQ10	K0802328		Integral	March 2008	3/15/2008	3590	3470	3.8 *U*	6 *U*
WQ10	K0803239		Integral	April 2008	4/14/2008	4840	4830	1.71 *U*	2.47 *U*
WQ10	K0804080		Integral	May 2008	5/8/2008	4180	4000	4.1 *U*	5.4 *U*
WQ10	K0805877		Integral	June 2008	6/28/2008	5180	5130	1.5 *U*	2.5 *U*
WQ10	K0806880		Integral	July 2008	7/24/2008	5080	4820	2.9 *U*	1.6 *U*
WQ10	K0810253		Integral	October 2008	10/15/2008	3090	3230	1.7 *U*	1.29 *U*
WQ10	K0902142		Integral	March 2009	3/9/2009	2860	2930	2.81 *U*	2.04 *U*
WQ10	K0904395		Integral	May 2009	5/13/2009	2250	2160	1.6 *U*	2.29 *U*
WQ10	K0906701		Integral	July 2009	7/23/2009	2800	2820	3.29 *U*	5.05 *U*
WQ10	K0908299		Integral	September 2009 I	9/5/2009	2890	2950	0.74 *UJ*	3.54 *U*
WQ10	K0908619		Integral	September 2009 II	9/12/2009	3110	3090	1.7 *U*	1.2 *U*
WQ10	K0910115		Integral	October 2009	10/17/2009	2980	2860	1.18 *U*	0.86 *UJ*
WQ10	K1000512		Integral	January 2010	1/15/2010	3410	3560	0.85 *U*	1.09 *U*
WQ10	K1004032		Integral	April 2010	4/22/2010	5500	5550	0.75 *U*	1.22 *U*
WQ10	K1008752		Integral	August 2010	8/10/2010	5100	5190	0.63 *U*	0.74 *U*
WQ10	K1011739		Integral	October 2010	10/19/2010	4690	4590	0.4 *U*	0.5 *U*
WQ10	K1100642		Integral	January 2011	1/21/2011	3250	3130	3.91 *U*	1.14 *U*
WQ10	K1103545		Integral	April 2011	4/20/2011	3280	3160	0.4 *U*	0.28 *U*
WQ10	K1106865		Integral	July 2011 II	7/25/2011	3430	3240	0.7 *U*	0.3 *UJ*
WQ10	K1112358		Integral	December 2011	12/21/2011	3190	3180	0.43 *UJ*	0.5 *UJ*
WQ12		Z2004	Knight Piesold	August 2006 II	8/29/2006	3000	3000	5 *U*	5 *U*
WQ12		Z3908	Knight Piesold	October 2006	10/17/2006	2500	2400	5 *U*	5 *U*
WQ12		Z6128	Knight Piesold	December 2006	12/7/2006	2400	2400	5 *U*	5 *U*
WQ12		L482967	Knight Piesold	February 2007	2/26/2007	3300	3300	5 *U*	5 *U*
WQ12		L495369	Knight Piesold	April 2007	4/10/2007	3300	3200	1 *U*	1 *U*
WQ12		L507191	Knight Piesold	May 2007	5/14/2007	3900	3800	1 *U*	1 *U*
WQ12		L515743	Knight Piesold	June 2007	6/4/2007	3900	3900	1 *U*	1.1
WQ12		L526591	Knight Piesold	July 2007 I	7/1/2007	3500	3400	1 *U*	1.3
WQ12	K0706569		Integral	July 2007 II	7/24/2007	4070	4070	6.2 *U*	5 *U*
WQ12	K0707317		Integral	August 2007 I	8/14/2007	3940	3800	1.11 *U*	1.76 *U*
WQ12	K0707782		Integral	August 2007 II	8/27/2007	3800	3820	4.1 *U*	18.3 *U*
WQ12	K0708240		Integral	September 2007 I	9/11/2007	3950	3770	3.9 *U*	3.4 *U*
WQ12	K0709126		Integral	September 2007 II	10/1/2007	2980	3060	3.13 *U*	2.37 *U*
WQ12	K0709804		Integral	October 2007	10/17/2007	2490	2510	3.09 *U*	2.78 *U*
WQ12	K0710773		Integral	November 2007	11/13/2007	3360	3290	3.66 *U*	15.1 *U*
WQ12	K0711891		Integral	December 2007 I	12/15/2007	3020	3070	7 *J*	8.17 *U*
WQ12	K0800335		Integral	January 2008	1/9/2008	4000	4210	5.6 *U*	5.5 *U*
WQ12	K0801400		Integral	Februrary 2008	2/14/2008	3140	3370	3.3 *U*	3.39 *U*
WQ12	K0802328		Integral	March 2008	3/15/2008	3640	3580	4.7 *U*	9.9 *U*
WQ12	K0803239		Integral	April 2008	4/14/2008	4010	3850	0.92 *U*	8.99 *U*
WQ12	K0804080		Integral	May 2008	5/8/2008	4080	4150	3 *U*	5.2 *U*
WQ12	K0805877		Integral	June 2008	6/28/2008	2680	2680	10.6 *U*	3.1 *U*

Table B-1. Surface Water Quality Monitoring Data

						Trace Elements			
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ12	K0806880		Integral	July 2008	7/24/2008	3320	3320	2.5 *U*	2.1 *U*
WQ13		L482967	Knight Piesold	February 2007	2/26/2007	3300	3300	5 *U*	5 *U*
WQ13		L495369	Knight Piesold	April 2007	4/10/2007	2700	2800	3 *U*	1.7
WQ13		L507191	Knight Piesold	May 2007	5/14/2007	2500	2500	1 *U*	1.5
WQ13		L515743	Knight Piesold	June 2007	6/4/2007	2000 *U*	2000 *U*	1 *U*	1.4
WQ13		L526591	Knight Piesold	July 2007 I	7/1/2007	2000 *U*	2000 *U*	1	1.3
WQ13	K0706569		Integral	July 2007 II	7/24/2007	2750	2800	4.75 *U*	4.92 *U*
WQ13	K0707317		Integral	August 2007 I	8/14/2007	3260	3040	2.6 *U*	3.68 *U*
WQ13	K0707782		Integral	August 2007 II	8/27/2007	2410	2380	5.1 *U*	10.9 *U*
WQ13	K0708240		Integral	September 2007 I	9/11/2007	2770	2660	4.6 *U*	8 *U*
WQ13	K0709126		Integral	September 2007 II	10/1/2007	2480	2380	3.61 *U*	4.03 *U*
WQ13	K0709804		Integral	October 2007	10/17/2007	2110	2170	3.93 *U*	2.58 *U*
WQ13	K0710773		Integral	November 2007	11/13/2007	2750	2730	2.18 *U*	6.7 *U*
WQ13	K0711891		Integral	December 2007 I	12/16/2007	2810	2880	4.18 *U*	12.8 *J*
WQ13	K0800335		Integral	January 2008	1/9/2008	3870	3990	7.9 *U*	9.1 *U*
WQ13	K0801400		Integral	Februrary 2008	2/14/2008	3960	4180	4 *U*	4.08 *U*
WQ13	K0802328		Integral	March 2008	3/15/2008	3370	3320	2.2 *U*	2.1 *U*
WQ13	K0803239		Integral	April 2008	4/15/2008	3910	3760	1.95 *U*	4 *U*
WQ13	K0804080		Integral	May 2008	5/8/2008	3500	3430	2.6 *U*	1.6 *U*
WQ13	K0805877		Integral	June 2008	6/27/2008	2090	2070	9.2 *U*	1.9 *U*
WQ13	K0806880		Integral	July 2008	7/25/2008	2240	2190	1.5 *U*	6.2 *U*
WQ13	K0810253		Integral	October 2008	10/15/2008	2130	2230	1.43 *U*	2.14 *U*
WQ13	K0902142		Integral	March 2009	3/8/2009	2870	2730	7.25 *U*	9.06 *J*
WQ13	K0904395		Integral	May 2009	5/13/2009	1990	1820	1.44 *U*	3.48 *U*
WQ13	K0906701		Integral	July 2009	7/23/2009	1600	1640	7.95 *U*	2.63 *U*
WQ13	K0910115		Integral	October 2009	10/17/2009	2350	2350	0.92 *UJ*	1.22 *U*
WQ13	K1000512		Integral	January 2010	1/17/2010	3610	3620	1.47 *U*	1.95 *U*
WQ13	K1004032		Integral	April 2010	4/22/2010	4100	4200	1.14 *U*	1.32 *U*
WQ13	K1008751		Integral	August 2010	8/10/2010	3280	3220	5.2 *U*	4.84 *U*
WQ13	K1011737		Integral	October 2010	10/18/2010	3730	3650	3.4 *U*	1.9 *U*
WQ13	K1100642		Integral	January 2011	1/19/2011	3360	3220	2.04 *U*	1.31 *U*
WQ13	K1103541		Integral	April 2011	4/20/2011	3350	3420	1.26 *U*	1.51 *U*
WQ13	K1106865		Integral	July 2011 II	7/25/2011	2660	2500	1.2 *U*	1.2 *U*
WQ13	K1112358		Integral	December 2011	12/21/2011	3290	3290	1.16 *UJ*	1.08 *U*

Notes:

Data Qualifiers:

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit; however, the reported quantitation limit is approximate.
R = The sample results are rejected.

-- = data not available
ALS = ALS Laboratory Group
CAS = Columbia Analytical Services
DO = dissolved oxygen
SDG = sample digestion group
TDS = total dissolved solids
TSS = total suspended solids

Table B-2. Surface Water Method Detection Limits

				Analytical Physical Tests			Dissolved Anions and Nutrients				
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)
	V7277	Knight Piesold	April 2005 II	10	0.54	3	2	0.5	0.5	0.005	--
	X2213	Knight Piesold	February 2006 II	10	0.54	3	2	0.5	0.5	0.005	--
	X5977	Knight Piesold	May 2006 II	10	0.54	3	2	0.5	0.5	0.02	--
	Z2004	Knight Piesold	August 2006 II	10	0.54	3	2	0.5	0.5	0.005	--
	Z3908	Knight Piesold	October 2006	10	0.54	3	2	0.5	0.5	0.005	--
	Z6128	Knight Piesold	December 2006	10	0.66	3	2	0.5	0.5	--	--
	L482967	Knight Piesold	February 2007	10	0.7	3	2	0.5	0.5	0.005	--
	L482968	Knight Piesold	February 2007	10	0.7	3	2	0.5	0.5	0.005	--
	L495369	Knight Piesold	April 2007	10	0.5	3	2	0.5	0.5	0.005	--
	L507191	Knight Piesold	May 2007	10	0.5	3	2	0.5	0.5	0.005	--
	L515743	Knight Piesold	June 2007	10	0.5	3	2	0.5	0.5	0.005	--
	L526591	Knight Piesold	July 2007 I	10	0.5	3	2	0.5	0.5	0.005	--
K0706569		Integral	July 2007 II	5	0.7	5	0.8	0.009	0.02	0.006	0.006
K0707317		Integral	August 2007 I	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0707782		Integral	August 2007 II	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0708240		Integral	September 2007 I	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0709126		Integral	September 2007 II	5	0.7	5	0.8	0.018	0.014	0.006 - 0.012	0.006
K0709804		Integral	October 2007	5	0.7	5	1	0.018	0.014	0.01	0.006
K0710757		Integral	November 2007	5	0.7	5	--	0.018	0.014	--	--
K0710773		Integral	November 2007	5	0.7	5	1	0.018	0.014	0.006	0.006
K0711443		Integral	December 2007 (Portal only)	5	0.7	5	1	0.018	0.035	0.01	0.006
K0711891		Integral	December 2007 I	5	0.7	5	1	0.018	0.014	0.01	0.006
K0800335		Integral	January 2008	5	0.7	5	1	0.018	0.014	0.01	0.006
K0801400		Integral	Februrary 2008	5	0.7	5	1	0.018	0.014	0.01	0.005
K0802328		Integral	March 2008	10 - 5	0.7	5	1	0.018	0.014	0.01	0.005
K0803239		Integral	April 2008	5	0.7	5	1	0.018	0.014	0.01	0.005
K0804080		Integral	May 2008	5	0.7	5	1	0.016	0.04	0.01 - 0.02	0.004
K0805877		Integral	June 2008	5	0.7	5	1	0.016	0.012	0.02	0.005
K0806880		Integral	July 2008	5	0.7	5	1	0.016	0.012 - 0.3	0.02	0.005
K0807967		Integral	August 2008	5	0.7	5	1	0.016	0.012 - 0.3	0.02	0.005
K0807974		Integral	August 2008	5	0.7	--	1	--	0.3	--	0.1
K0807975		Integral	August 2008	5	0.7	5	1	0.016	0.012	0.02	0.005
K0808787		Integral	September 2008	5	0.7	5	1	0.016 - 0.04	0.012 - 0.6	0.02	0.005 - 0.25
K0810253		Integral	October 2008	5	0.7	5	1	0.016	0.012 - 0.6	0.02	0.005 - 0.05
K0902142		Integral	March 2009	5	0.9	5	1	0.016	0.012	0.02	0.009
K0902552		Integral	March 2009	5	0.9	5	1	0.016	0.012	0.02	0.009
K0903584		Integral	March 2009	5	0.8	5	1	0.008	0.12	0.009	0.009
K0904395		Integral	May 2009	5	0.8	5	1	0.016	0.012	0.009	0.009
K0904619		Integral	May 2009	5	0.8	5	1	0.016	0.3	0.009	0.009
K0905553		Integral	June 2009	5	0.8	5	1	0.016	0.3	0.009	0.009
K0906701		Integral	July 2009	5	0.8	5	1	0.06	0.02 - 0.5	0.009	0.009
K0908166		Integral	August 2009	5	0.8	5	1	0.06	0.5	0.009	0.009
K0908299		Integral	September 2009 I	5	0.8	5	1	0.06	0.02	0.009	0.009
K0908619		Integral	September 2009 II	5	0.8	5	1	0.06	0.02 - 1	0.009	0.009
K0908796		Integral	September 2009 III	5	0.8	5	1	0.06	0.02	0.009	0.009
K0910115		Integral	October 2009	5	0.8	5	1	0.06	0.02 - 1	0.009	0.009
K0910128		Integral	October 2009	5	0.8	5	1	0.06	0.1	0.009	0.009
K0910635		Integral	November 2009	5	0.8	5	1	0.06	0.02	0.009	0.009
K0910640		Integral	November 2009	5	0.8	5	1	0.06	0.1 - 0.2	0.009	0.009
K0910642		Integral	November 2009	5	0.8	5	1	0.06	0.02	0.009	0.009

Table B-2. Surface Water Method Detection Limits

				Analytical Physical Tests			Dissolved Anions and Nutrients				
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)
K0912614		Integral	December 2009 I	5	0.8	5	1	0.06	0.1	0.009	0.009
K0912614		Integral	December 2009 II	5	0.8	5	1	0.06	0.2	0.009	0.009
K1000085		Integral	December 2009 II	5	0.8	5	1	0.03	0.01	0.009	0.009
K1000512		Integral	January 2010	5	0.8	5	1	0.06	0.02 - 0.1	0.009	0.005
K1001408		Integral	February 2010	5	0.8	5	1	0.06	0.02	0.009	0.009
K1001411		Integral	February 2010	5	0.8	5	1	0.06	0.2	0.009	0.009
K1002121		Integral	March 2010	5	0.8	5	1	0.06	0.2	0.009	0.009
K1002122		Integral	March 2010	5	0.8	5	1	0.06	0.02	0.009	0.009
K1004032		Integral	April 2010	5	0.8	5	1	0.06	0.01 - 0.2	0.009	0.009
K1004034		Integral	April 2010	5	0.8	5	1 - 3	0.06	0.02	0.009	0.009
K1005179		Integral	May 2010	5	0.8	5	1	0.06	0.02 - 0.2	0.009	0.009
K1006773		Integral	June 2010	10	0.8	5	3	0.06	0.02 - 0.2	0.009	0.009
K1007431		Integral	July 2010	10	0.8	5	1 - 3	0.06	0.02 - 1	0.009	0.009
K1007635		Integral	July 2010	10	0.8	5	3	0.06	1	0.009	0.009
K1008751		Integral	August 2010	10	0.8	5	1 - 3	0.06	0.02	0.009	0.009
K1008752		Integral	August 2010	10 - 5	0.8	5	1	0.06	0.02	0.009	0.009
K1008755		Integral	August 2010	10	0.8	5 - 6.7	3	0.06	0.02 - 0.5	0.009	0.009
K1009889		Integral	September 2010	10	0.8	5	3	0.06	0.02	0.009	0.009
K1009890		Integral	September 2010	10	0.8	5	3	0.06	1	0.009	0.009
K1011737		Integral	October 2010	10 - 5	0.8	5	3	0.06	0.02	0.01	0.009
K1011739		Integral	October 2010	10	0.8	5	3	0.06	0.02 - 0.1	--	0.009
K1012347		Integral	November 2010	5	0.8	5	3	0.06	0.2	--	0.009
K1014375		Integral	December 2010	10 - 5	0.8	5	1	0.06	0.02 - 0.1	0.009	0.009
K1100642		Integral	January 2011	5	0.8	5	1	0.06	0.02	--	0.009
K1100726		Integral	January 2011	10	0.8	5	1 - 3	0.06	0.02 - 0.3	0.009	0.009
K1101112		Integral	February 2011	10 - 5	0.8	5	3	0.06	0.02 - 0.1	0.009	0.009
K1102183		Integral	March 2011	10 - 5	0.8	5	1 - 3	0.06 - 0.2	0.02	0.009	0.009
K1103541		Integral	April 2011	10 - 5	0.8	5	3	0.06	0.02 - 0.1	--	0.009
K1103545		Integral	April 2011	10 - 5	0.8	5	1	0.06	0.02	0.009	0.009
K1104448		Integral	May 2011	10 - 5	0.8	5	3	0.06	0.02 - 0.2	--	0.009
K1105280		Integral	June 2011	10	0.8	10 - 5	1 - 3	0.06	0.02 - 0.2	0.009 - 0.05	0.009
K1106351		Integral	July 2011	10	0.8	5	3	0.06	0.02 - 0.5	0.009	0.009
K1106865		Integral	July 2011 II	5	0.8	5	1	0.06	0.02	0.009	0.009
K1107897		Integral	August 2011	10 - 5	0.8	5	1	0.06	0.02 - 0.2	0.009	0.009
K1108477		Integral	September 2011	10	0.8	5	3	0.06	0.1	0.009	0.009
K1109861		Integral	October 2011	10	0.8	5	3	0.06	0.02 - 0.1	0.009	0.009
K1111032		Integral	November 2011	10	0.8	5	3	0.06	0.2	0.009	0.009
K1112358		Integral	December 2011	10 - 5	0.8	5	3	0.06	0.02 - 0.1	0.009	0.009

Table B-2. Surface Water Method Detection Limits

				Dissolved Anions and Nutrients		Trace Elements						
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Nitrate (mg/L)	Nitrite (mg/L)	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total
	V7277	Knight Piesold	April 2005 II	0.005	0.001	0.005	0.005	0.0005	0.0005	0.00005	0.00005	0.1
	X2213	Knight Piesold	February 2006 II	0.005	0.001	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.05 - 0.1
	X5977	Knight Piesold	May 2006 II	0.005	0.001	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.05 - 0.1
	Z2004	Knight Piesold	August 2006 II	0.005	0.001	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1
	Z3908	Knight Piesold	October 2006	0.005	0.001	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1
	Z6128	Knight Piesold	December 2006	0.005	0.001	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1
	L482967	Knight Piesold	February 2007	0.005	0.001	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1
	L482968	Knight Piesold	February 2007	0.005	0.001	0.005	0.005	0.002	0.0006	0.000017	0.000017	0.1
	L495369	Knight Piesold	April 2007	0.005	0.001	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05
	L507191	Knight Piesold	May 2007	0.005	0.001	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05
	L515743	Knight Piesold	June 2007	0.005	0.001	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05
	L526591	Knight Piesold	July 2007 I	0.005	0.001	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05
K0706569		Integral	July 2007 II	--	--	0.2	0.2	0.06	0.06	0.007	0.007	7
K0707317		Integral	August 2007 I	--	--	0.2	0.2	0.06	0.06	0.008	0.008	7
K0707782		Integral	August 2007 II	--	--	0.2	0.3	0.08	0.07	0.005	0.008	7
K0708240		Integral	September 2007 I	--	--	0.2	0.2	0.06	0.06 - 0.08	0.007	0.005 - 0.007	7
K0709126		Integral	September 2007 II	--	--	0.2	0.2	0.06	0.06	0.007	0.007	7
K0709804		Integral	October 2007	--	0.004	0.2 - 2	0.2	0.06	0.06	0.007	0.007	7
K0710757		Integral	November 2007	0.006	0.004	0.2	--	0.06	--	0.008	--	--
K0710773		Integral	November 2007	--	--	0.2	0.2	0.06	0.06	0.008	0.008	7
K0711443		Integral	December 2007 (Portal only)	--	--	20	20	0.06	0.06	0.007	0.007	30
K0711891		Integral	December 2007 I	--	--	0.2 - 30	0.2	0.06	0.06	0.007	0.007	7
K0800335		Integral	January 2008	--	--	0.2 - 20	0.2	0.06	0.08	0.007	0.005	30
K0801400		Integral	Februrary 2008	--	--	0.2 - 30	0.2	0.08	0.06	0.005	0.007	7
K0802328		Integral	March 2008	--	--	0.2	0.2 - 1.5	0.08	0.08	0.005	0.005	30
K0803239		Integral	April 2008	--	--	0.2	0.2	0.06	0.06	0.007	0.007	30
K0804080		Integral	May 2008	--	--	0.2	0.2	0.08	0.08	0.005	0.005	30
K0805877		Integral	June 2008	--	--	0.5	0.5	0.2	0.2	0.005	0.005	30
K0806880		Integral	July 2008	--	--	0.5 - 4	0.5	0.2	0.2	0.005	0.005	30
K0807967		Integral	August 2008	--	--	0.5 - 30	0.5	0.2	0.2	0.005	0.005	9
K0807974		Integral	August 2008	--	--	0.5	0.5	0.2	0.2	0.005	0.005	9
K0807975		Integral	August 2008	--	--	0.5	0.5	0.2	0.2	0.005	0.005	9
K0808787		Integral	September 2008	--	--	0.5	0.5	0.2	0.2	0.005	0.005	9
K0810253		Integral	October 2008	--	--	0.5	0.5	0.2	0.2	0.005	0.005	30 - 9
K0902142		Integral	March 2009	--	--	0.5	0.5	0.2	0.2	0.005	0.005	30
K0902552		Integral	March 2009	--	--	0.5	0.5	0.2	0.2	0.005	0.005	30
K0903584		Integral	March 2009	--	--	0.5	0.5	0.2	0.2	0.005	0.005	9
K0904395		Integral	May 2009	--	--	0.5	0.5	0.2	0.2	0.005	0.005	30
K0904619		Integral	May 2009	--	--	0.5	0.5	0.2	0.2	0.005	0.005	60
K0905553		Integral	June 2009	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K0906701		Integral	July 2009	--	--	0.3 - 30	0.3	0.07	0.07	0.003	0.003	6
K0908166		Integral	August 2009	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K0908299		Integral	September 2009 I	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K0908619		Integral	September 2009 II	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K0908796		Integral	September 2009 III	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K0910115		Integral	October 2009	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K0910128		Integral	October 2009	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K0910635		Integral	November 2009	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K0910640		Integral	November 2009	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K0910642		Integral	November 2009	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6

Table B-2. Surface Water Method Detection Limits

				Dissolved Anions and Nutrients		Trace Elements						
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Nitrate (mg/L)	Nitrite (mg/L)	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total
K0912614		Integral	December 2009 I	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K0912614		Integral	December 2009 II	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1000085		Integral	December 2009 II	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1000512		Integral	January 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1001408		Integral	February 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1001411		Integral	February 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1002121		Integral	March 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1002122		Integral	March 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1004032		Integral	April 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1004034		Integral	April 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1005179		Integral	May 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1006773		Integral	June 2010	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K1007431		Integral	July 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1007635		Integral	July 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1008751		Integral	August 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1008752		Integral	August 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1008755		Integral	August 2010	--	--	0.3 - 2	0.3	0.07	0.07	0.003	0.003	6
K1009889		Integral	September 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1009890		Integral	September 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1011737		Integral	October 2010	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K1011739		Integral	October 2010	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K1012347		Integral	November 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1014375		Integral	December 2010	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1100642		Integral	January 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1100726		Integral	January 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1101112		Integral	February 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1102183		Integral	March 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1103541		Integral	April 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1103545		Integral	April 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1104448		Integral	May 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1105280		Integral	June 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1106351		Integral	July 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1106865		Integral	July 2011 II	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K1107897		Integral	August 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1108477		Integral	September 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1109861		Integral	October 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1111032		Integral	November 2011	--	--	0.2	0.2	0.02	0.02	0.007	0.007	6
K1112358		Integral	December 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6

Table B-2. Surface Water Method Detection Limits

				Trace Elements								
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
	V7277	Knight Piesold	April 2005 II	0.05	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	X2213	Knight Piesold	February 2006 II	0.05	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	X5977	Knight Piesold	May 2006 II	0.05	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	Z2004	Knight Piesold	August 2006 II	0.05	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	Z3908	Knight Piesold	October 2006	0.05	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	Z6128	Knight Piesold	December 2006	0.1	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	L482967	Knight Piesold	February 2007	0.1	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	L482968	Knight Piesold	February 2007	0.1	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	L495369	Knight Piesold	April 2007	0.05	0.0005	0.0005	0.0001	0.0001	0.03	0.03	0.00005	0.00005
	L507191	Knight Piesold	May 2007	0.05	0.0005	0.0005	0.0001	0.0001	0.03	0.03	0.00005	0.00005
	L515743	Knight Piesold	June 2007	0.05	0.0005	0.0005	0.0001	0.0001	0.03	0.03	0.00005	0.00005
	L526591	Knight Piesold	July 2007 I	0.05	0.0005	0.0005	0.0001	0.0001	0.03	0.03	0.00005	0.00005
K0706569		Integral	July 2007 II	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0707317		Integral	August 2007 I	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0707782		Integral	August 2007 II	7	0.07	0.03	0.02	0.02	3	3	0.009	0.003
K0708240		Integral	September 2007 I	7	0.03	0.03 - 0.07	0.02	0.02	3	3	0.003	0.003 - 0.009
K0709126		Integral	September 2007 II	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0709804		Integral	October 2007	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0710757		Integral	November 2007	--	0.03	--	0.02	--	6	--	0.003	--
K0710773		Integral	November 2007	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0711443		Integral	December 2007 (Portal only)	30	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0711891		Integral	December 2007 I	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0800335		Integral	January 2008	30	0.03	0.07	0.02	0.02	3	3	0.003	0.009
K0801400		Integral	Februrary 2008	7	0.07	0.03	0.02	0.02	3	3	0.009	0.003
K0802328		Integral	March 2008	30	0.07	0.07	0.02	0.02	3	3	0.009	0.009
K0803239		Integral	April 2008	30	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0804080		Integral	May 2008	30	0.07	0.07	0.02	0.02	4	4	0.003 - 0.009	0.003 - 0.009
K0805877		Integral	June 2008	30	0.05	0.05	0.02	0.02	4	4	0.006	0.006
K0806880		Integral	July 2008	30	0.05	0.05	0.02	0.02	4	4	0.006	0.006
K0807967		Integral	August 2008	9	0.05	0.05	0.02	0.02	2	2	0.006	0.006
K0807974		Integral	August 2008	9	0.05	0.05	0.02	0.02	2	2	0.006	0.006
K0807975		Integral	August 2008	9	0.05	0.05	0.02	0.02	2	2	0.006	0.006
K0808787		Integral	September 2008	9	0.05	0.05	0.02	0.02	2	2	0.006	0.006
K0810253		Integral	October 2008	30	0.05	0.05	0.02	0.02	2 - 4	4	0.006	0.006
K0902142		Integral	March 2009	30	--	--	0.02	0.02	4	4	0.006	0.006
K0902552		Integral	March 2009	30	0.05	0.05	0.02	0.02	4	4	0.006	0.006
K0903584		Integral	March 2009	9	0.05	0.05	0.02	0.02	2	2	0.006	0.006
K0904395		Integral	May 2009	30	--	--	0.02	0.02	4	4	0.006	0.006
K0904619		Integral	May 2009	60	0.03	0.03	0.03	0.03	8	8	0.003	0.003
K0905553		Integral	June 2009	6	0.02	0.02	0.02	0.02	0.8	0.8	0.005	0.005
K0906701		Integral	July 2009	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K0908166		Integral	August 2009	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K0908299		Integral	September 2009 I	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K0908619		Integral	September 2009 II	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K0908796		Integral	September 2009 III	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K0910115		Integral	October 2009	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K0910128		Integral	October 2009	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K0910635		Integral	November 2009	6	0.04	0.04	0.02	0.02	3	3	0.005	0.005
K0910640		Integral	November 2009	6	--	--	0.02	0.02	3	3	0.005	0.005
K0910642		Integral	November 2009	6	0.04	0.04	0.02	0.02	3	3	0.005	0.005

Table B-2. Surface Water Method Detection Limits

				Trace Elements								
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
K0912614		Integral	December 2009 I	6	--	--	0.02	0.02	3	3	0.005	0.005
K0912614		Integral	December 2009 II	6	--	--	0.02	0.02	3	3	0.005	0.005
K1000085		Integral	December 2009 II	6	0.04	0.04	0.02	0.02	--	--	0.005	0.005
K1000512		Integral	January 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1001408		Integral	February 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1001411		Integral	February 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1002121		Integral	March 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1002122		Integral	March 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1004032		Integral	April 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1004034		Integral	April 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1005179		Integral	May 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1006773		Integral	June 2010	6	0.02	0.02	0.02	0.02	0.8	0.8	0.005	0.005
K1007431		Integral	July 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1007635		Integral	July 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1008751		Integral	August 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1008752		Integral	August 2010	6	0.04	0.04	0.02	0.02	3	3	0.005	0.005
K1008755		Integral	August 2010	6	--	--	0.02	0.02	3	3	0.005	0.005
K1009889		Integral	September 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1009890		Integral	September 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1011737		Integral	October 2010	6	0.02	0.02	0.02	0.02	0.8	0.8	0.005	0.005
K1011739		Integral	October 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1012347		Integral	November 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1014375		Integral	December 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1100642		Integral	January 2011	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1100726		Integral	January 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1101112		Integral	February 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1102183		Integral	March 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1103541		Integral	April 2011	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1103545		Integral	April 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1104448		Integral	May 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1105280		Integral	June 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1106351		Integral	July 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1106865		Integral	July 2011 II	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1107897		Integral	August 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1108477		Integral	September 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1109861		Integral	October 2011	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1111032		Integral	November 2011	6	--	--	0.02	0.02	3	3	0.002	0.002
K1112358		Integral	December 2011	6	--	--	0.02	0.02	3	3	0.005	0.005

Table B-2. Surface Water Method Detection Limits

				Trace Elements								
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total
	V7277	Knight Piesold	April 2005 II	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	X2213	Knight Piesold	February 2006 II	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	X5977	Knight Piesold	May 2006 II	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	Z2004	Knight Piesold	August 2006 II	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	Z3908	Knight Piesold	October 2006	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	Z6128	Knight Piesold	December 2006	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	L482967	Knight Piesold	February 2007	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	L482968	Knight Piesold	February 2007	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	L495369	Knight Piesold	April 2007	0.1	0.1	0.00005	0.00005	0.0005	0.0005	2	2	0.001
	L507191	Knight Piesold	May 2007	0.1	0.1	0.00005	0.00005	0.0005	0.0005	2	2	0.001
	L515743	Knight Piesold	June 2007	0.1	0.1	0.00001	0.00001	0.0005	0.0005	2	2	0.001
	L526591	Knight Piesold	July 2007 I	0.1	0.1	0.00001	0.00001	0.0005	0.0005	2	2	0.001
K0706569		Integral	July 2007 II	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0707317		Integral	August 2007 I	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.1
K0707782		Integral	August 2007 II	0.7	0.7	0.03	0.03	0.04	0.07	900	900	0.6
K0708240		Integral	September 2007 I	0.7	0.7	0.03	0.03	0.03	0.03 - 0.04	900	900	0.2
K0709126		Integral	September 2007 II	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0709804		Integral	October 2007	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0710757		Integral	November 2007	--	--	0.03	--	0.03	--	--	--	0.2
K0710773		Integral	November 2007	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0711443		Integral	December 2007 (Portal only)	6	6	0.03	0.03	0.03	0.03	60	60	0.2
K0711891		Integral	December 2007 I	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0800335		Integral	January 2008	6	6	0.03	0.03	0.03	0.04	60	60	0.2
K0801400		Integral	Februrary 2008	0.7	0.7	0.03	0.03	0.04	0.03	900	900	0.4
K0802328		Integral	March 2008	6	6	0.03	0.03	0.04	0.04	60	60	0.4
K0803239		Integral	April 2008	6	6	0.03	0.03	0.03	0.03	60	60	0.2
K0804080		Integral	May 2008	2	2	0.03	0.03	0.04	0.04	100	100	0.4
K0805877		Integral	June 2008	2	2	0.05	0.05	0.04	0.04	100	100	0.5
K0806880		Integral	July 2008	2	2	0.05	0.05	0.04	0.04	100	100	0.4
K0807967		Integral	August 2008	0.7	0.7	0.05	0.05	0.04	0.04	30	30	0.4
K0807974		Integral	August 2008	4	4	0.05	0.05	0.04	0.04	30	30	0.2
K0807975		Integral	August 2008	0.7	0.7	0.05	0.05	0.04	0.04	30	30	0.4
K0808787		Integral	September 2008	0.7 - 4	0.7 - 4	0.05	0.05	0.04	0.04	30	30	0.2
K0810253		Integral	October 2008	0.7 - 2	2	0.05	0.05	0.04	0.04	30 - 50	50	0.5
K0902142		Integral	March 2009	2	2	0.05	0.05	0.04	0.04	50	50	0.4
K0902552		Integral	March 2009	2	2	0.05	--	0.04	0.04	50	50	0.2
K0903584		Integral	March 2009	0.7	0.7	0.05	0.05	0.04	0.04	30	30	0.4
K0904395		Integral	May 2009	2	2	0.02	0.02	0.04	0.04	50	50	0.4
K0904619		Integral	May 2009	4	4	0.02	0.02	0.07	0.07	100	100	0.4
K0905553		Integral	June 2009	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.3
K0906701		Integral	July 2009	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.2
K0908166		Integral	August 2009	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K0908299		Integral	September 2009 I	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K0908619		Integral	September 2009 II	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.2
K0908796		Integral	September 2009 III	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.2
K0910115		Integral	October 2009	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K0910128		Integral	October 2009	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K0910635		Integral	November 2009	2	2	0.02	0.02	0.03	0.03	50	50	0.3
K0910640		Integral	November 2009	2	2	0.02	0.02	0.03	0.03	50	50	0.3
K0910642		Integral	November 2009	2	2	0.02	0.02	0.03	0.03	50	50	0.3

Table B-2. Surface Water Method Detection Limits

				Trace Elements								
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total
K0912614		Integral	December 2009 I	2	2	0.02	0.02	0.03	0.03	50	50	0.3
K0912614		Integral	December 2009 II	2	2	0.02	0.02	0.03	0.03	50	50	0.3
K1000085		Integral	December 2009 II	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1000512		Integral	January 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1001408		Integral	February 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1001411		Integral	February 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1002121		Integral	March 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1002122		Integral	March 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1004032		Integral	April 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1004034		Integral	April 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1005179		Integral	May 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1006773		Integral	June 2010	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.3
K1007431		Integral	July 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1007635		Integral	July 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1008751		Integral	August 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1008752		Integral	August 2010	2	2	0.02	0.02	0.03	0.03	50	50	0.3
K1008755		Integral	August 2010	2	2	0.02	0.02	0.03	0.03	50	50	0.3
K1009889		Integral	September 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1009890		Integral	September 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1011737		Integral	October 2010	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.3
K1011739		Integral	October 2010	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.3
K1012347		Integral	November 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.2
K1014375		Integral	December 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1100642		Integral	January 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1100726		Integral	January 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1101112		Integral	February 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1102183		Integral	March 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1103541		Integral	April 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1103545		Integral	April 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1104448		Integral	May 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1105280		Integral	June 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1106351		Integral	July 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1106865		Integral	July 2011 II	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.3
K1107897		Integral	August 2011	0.3	0.3	0.02 - 0.05	0.02	0.03	0.03	40	40	0.3
K1108477		Integral	September 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1109861		Integral	October 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.2
K1111032		Integral	November 2011	2	2	0.02	0.02	0.01	0.01	50	50	0.08
K1112358		Integral	December 2011	2	2	0.02	0.02	0.03	0.03	50	50	0.3

Table B-2. Surface Water Method Detection Limits

				Trace Elements						
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
	V7277	Knight Piesold	April 2005 II	0.001	0.00002	0.00002	2	2	0.005	0.005
	X2213	Knight Piesold	February 2006 II	0.001	0.00002	0.00002	2	2	0.005	0.005
	X5977	Knight Piesold	May 2006 II	0.001	0.00002	0.00002	2	2	0.005	0.005
	Z2004	Knight Piesold	August 2006 II	0.001	0.00002	0.00002	2	2	0.005	0.005
	Z3908	Knight Piesold	October 2006	0.001	2e-005 - 9e-005	0.00002	2	2	0.005	0.005
	Z6128	Knight Piesold	December 2006	0.001	0.00002	0.00002	2	2	0.005	0.005
	L482967	Knight Piesold	February 2007	0.001	0.00002	0.00002	2	2	0.005	0.005
	L482968	Knight Piesold	February 2007	0.001	0.00002	0.00002	2	2	0.005	0.005
	L495369	Knight Piesold	April 2007	0.001	0.00001	0.00001	2	2	0.001 - 0.003	0.001
	L507191	Knight Piesold	May 2007	0.001	0.00001	0.00001	2	2	0.001	0.001
	L515743	Knight Piesold	June 2007	0.001	0.00001	0.00001	2	2	0.001	0.001
	L526591	Knight Piesold	July 2007 I	0.001	0.00001	0.00001	2	2	0.001 - 0.006	0.001
K0706569		Integral	July 2007 II	0.2	0.009	0.009	50	50	0.05	0.05
K0707317		Integral	August 2007 I	0.1	0.009	0.009	50	50	0.05	0.05
K0707782		Integral	August 2007 II	0.2	0.005	0.003	50	50	0.1	0.06
K0708240		Integral	September 2007 I	0.2 - 0.4	0.009	0.009	50	50	0.1	0.1
K0709126		Integral	September 2007 II	0.2	0.009	0.009	50	50	0.05	0.05
K0709804		Integral	October 2007	0.2	0.009	0.009	50	50	0.05	0.05
K0710757		Integral	November 2007	--	0.009	--	100	--	0.05	--
K0710773		Integral	November 2007	0.2	0.009	0.009	50	50	0.05	0.05
K0711443		Integral	December 2007 (Portal only)	0.2	0.009	0.009	20	20	0.05	0.05
K0711891		Integral	December 2007 I	0.2	0.009	0.009	50	50	0.05	0.05
K0800335		Integral	January 2008	0.4	0.009	0.004	20	20	0.1	0.1
K0801400		Integral	Februrary 2008	0.2	0.005	0.009	50	50	0.1	0.05
K0802328		Integral	March 2008	0.4	0.005	0.005	20	20	0.1	0.1
K0803239		Integral	April 2008	0.2	0.009	0.009	20	20	0.05	0.05
K0804080		Integral	May 2008	0.4	0.005	0.005	70	70	0.05 - 0.1	0.05 - 0.1
K0805877		Integral	June 2008	0.5	0.009	0.009	70	70	0.1	0.1
K0806880		Integral	July 2008	0.4	0.009	0.009	70	70	0.1	0.1
K0807967		Integral	August 2008	0.4	0.009	0.009	20	20	0.08	0.08
K0807974		Integral	August 2008	0.2	0.009	0.009	20	20	0.08	0.08
K0807975		Integral	August 2008	0.4	0.009	0.009	20	20	0.08	0.08
K0808787		Integral	September 2008	0.2	0.009	0.009	20	20	0.08	0.08
K0810253		Integral	October 2008	0.5	0.009	0.009	20 - 70	70	0.08	0.08
K0902142		Integral	March 2009	0.4	0.009	0.009	70	70	0.08	0.08
K0902552		Integral	March 2009	0.2	0.009	0.009	70	70	0.6	0.6
K0903584		Integral	March 2009	0.4	0.009	0.009	20	20	0.08	0.08
K0904395		Integral	May 2009	0.4	0.009	0.009	70	70	0.08	0.08
K0904619		Integral	May 2009	0.4	0.005	0.005	140	140	0.3	0.3
K0905553		Integral	June 2009	0.3	0.004	0.004	20	20	0.2	0.2
K0906701		Integral	July 2009	0.2	0.004	0.004	20	20	0.2	0.2
K0908166		Integral	August 2009	0.3	0.004	0.004	20	20	0.2	0.2
K0908299		Integral	September 2009 I	0.3	0.004	0.004	20	20	0.2	0.2
K0908619		Integral	September 2009 II	0.2	0.004	0.004	20	20	0.2	0.2
K0908796		Integral	September 2009 III	0.2	0.004	0.004	20	20	0.2	0.2
K0910115		Integral	October 2009	0.3	0.004	0.004	20	20	0.2	0.2
K0910128		Integral	October 2009	0.3	0.004	0.004	20	20	0.8	0.8
K0910635		Integral	November 2009	0.3	0.004	0.004	20	20	0.2	0.2
K0910640		Integral	November 2009	0.3	0.004	0.004	20	20	0.2	0.2
K0910642		Integral	November 2009	0.3	0.004	0.004	20	20	0.2	0.2

Table B-2. Surface Water Method Detection Limits

				Trace Elements						
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
K0912614		Integral	December 2009 I	0.3	0.004	0.004	20	20	0.2	0.2
K0912614		Integral	December 2009 II	0.3	0.004	0.004	20	20	0.2	0.2
K1000085		Integral	December 2009 II	0.3	0.004	0.004	20	20	0.2	0.2
K1000512		Integral	January 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1001408		Integral	February 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1001411		Integral	February 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1002121		Integral	March 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1002122		Integral	March 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1004032		Integral	April 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1004034		Integral	April 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1005179		Integral	May 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1006773		Integral	June 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1007431		Integral	July 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1007635		Integral	July 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1008751		Integral	August 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1008752		Integral	August 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1008755		Integral	August 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1009889		Integral	September 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1009890		Integral	September 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1011737		Integral	October 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1011739		Integral	October 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1012347		Integral	November 2010	0.2	0.004	0.004	20	20	0.2	0.2
K1014375		Integral	December 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1100642		Integral	January 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1100726		Integral	January 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1101112		Integral	February 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1102183		Integral	March 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1103541		Integral	April 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1103545		Integral	April 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1104448		Integral	May 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1105280		Integral	June 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1106351		Integral	July 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1106865		Integral	July 2011 II	0.3	0.004	0.004	20	20	0.2	0.2
K1107897		Integral	August 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1108477		Integral	September 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1109861		Integral	October 2011	0.2	0.004	0.004	20	20	0.2	0.2
K1111032		Integral	November 2011	0.08	0.005	0.005	20	20	0.08	0.08
K1112358		Integral	December 2011	0.3	0.004	0.004	20	20	0.2	0.2

Notes:
-- = data not available
ALS = ALS Laboratory Group
CAS = Columbia Analytical Services
DO = dissolved oxygen
SDG = sample digestion group
TDS = total dissolved solids
TSS = total suspended solids

Table B-3. Groundwater Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)
EFF1	K0710773		Integral	November 2007	11/13/2007	14:40	3.54	120	12.81	20.4	11.17	66 *J*	56	38
EFF1	K0711891		Integral	December 2007 I	12/16/2007	10:45	2.67	336	14.49	42.3	11.03	139 *J*	117	81
EFF1	K0800335		Integral	January 2008	1/9/2008	07:45	3.35	319	15.74	43.8	8.86	117 *J*	113	60
EFF1	K0801400		Integral	Februrary 2008	2/13/2008	13:20	1.65	208	14.12	146	10.27	121 *J*	113	60
EFF1	K0802328		Integral	March 2008	3/17/2008	7:00	5.4	259	9.14	132	10.67	155 *J*	106 *U*	101
EFF1	K0803239		Integral	April 2008	4/15/2008	8:30	5.8	236	10.18	47.7	11.16	147 *J*	112	57 *U*
EFF1	K0804080		Integral	May 2008	5/8/2008	11:45	8.6	221	10.59	7.46	10.56	146 *J*	102	56 *U*
EFF1	K0805877		Integral	June 2008	6/27/2008	15:15	11.3	311	9.43	136	10.17	211 *J*	185	73
EFF1	K0806880		Integral	July 2008	7/25/2008	10:00	12.7	258	9.17	98.5	8.09	142 *J*	113	108
EFF1	K0807975		Integral	August 2008	8/19/2008	16:30	13	308	9.15	135	8.42	127 *J*	91	100
EFF1	K0808787		Integral	September 2008	9/9/2008	15:30	12.5	284	8.56	36.8	7.29	148 *J*	173	120
EFF1	K0810253		Integral	October 2008	10/15/2008	14:30	8.3	255	9.88	13.3	6.84	125 *J*	131	101
EFF1	K0902142		Integral	March 2009	3/9/2009	14:00	1.74	242	12.48	6.6	6.91	98 *J*	97	76
EFF1	K0904395		Integral	May 2009	5/14/2009	10:20	10.98	233	9.58	1.7	7.6	106 *J*	106	83
EFF1	K0906701		Integral	July 2009	7/23/2009	11:50	14.38	201	9.7	8.5	8.09	100 *J*	107	80
EFF1	K0910233		Integral	October 2009	10/18/2009	10:40	8.57	202	10.09	28.9	7.49	93 *J*	108	84
EFF1	K1000512		Integral	January 2010	1/16/2010	10:00	6.76	209	10.77	32.6	6.03	93 *J*	34 *UJ*	80
EFF1	K1004032		Integral	April 2010	4/21/2010	11:00	8.7	297	10.82	71.5	7.13	106 *J*	101	86
EFF1	K1007431		Integral	July 2010	7/14/2010	08:30	12.1	312	10.89	38.8	6.28	122 *J*	63	103
EFF1	K1008751		Integral	August 2010	8/11/2010	06:15	11.8	339	10.45	60.6	7.44	126 *J*	103	101
EFF1	K1011739		Integral	October 2010	10/18/2010	15:30	8.3	588	10.17	145	8.51	105 *J*	94	86.4
EFF1	K1100642		Integral	January 2011	1/19/2011	14:35	4.3	334	11	390	8.41	113 *J*	112	98.4
EFF1	K1103541		Integral	April 2011	4/21/2011	11:30	7.02	210	13.18	67	8.4	106 *J*	144	87.2
EFF1	K1106862		Integral	July 2011 II	7/24/2011	10:15	9.84	200	11.43	63	7.8	72 *J*	90	70
EFF1	K1108476		Integral	September 2011	9/7/2011	8:20	11.15	230	11.14	67	6.6	102 *J*	88	81.6
EFF1	K1109861		Integral	October 2011	10/11/2011		--	--	--	--	--	105 *J*	81	82.8
EFF1	K1112358		Integral	December 2011	12/21/2011	10:00	3.44	230	11.17	10	7.1	98 *J*	149	80
MW1		L482967	Knight Piesold	February 2007	2/28/2007	08:45	1.07	73	4.23	24.7	5.84	43	60	29.4
MW1		L495369	Knight Piesold	April 2007	4/10/2007	08:25	3.2	114	3.06	23.5	6.54	70	82	41.3
MW1		L507191	Knight Piesold	May 2007	5/14/2007	10:49	5.24	101	1.93	14.5	6.36	64	71	41.7
MW1		L515743	Knight Piesold	June 2007	6/4/2007	13:06	8.48	111	3.42	8.4	6.39	71	85	51.2
MW1		L526591	Knight Piesold	July 2007 I	7/2/2007	11:45	9.02	113	5.04	7.5	6.31	70	104	50.5
MW1	K0706569		Integral	July 2007 II	7/24/2007	11:44	10.56	117	6.14	54	6.28	70 *J*	102	52
MW1	K0707317		Integral	August 2007 I	8/14/2007	11:05	11.24	115	5.52	13	6.18	72 *J*	75	49
MW1	K0707782		Integral	August 2007 II	8/28/2007	17:40	10.44	116	4.49	10.5	6.2	71	100	63
MW1	K0708240		Integral	September 2007 I	9/11/2007	10:20	10.61	108	5.02	5.2	6.38	64 *J*	94	60
MW1	K0709126		Integral	September 2007 II	9/30/2007	15:45	7.87	107	6.2	15.2	6.68	59 *J*	102	60
MW1	K0709804		Integral	October 2007	10/16/2007	12:25	7.49	97	5.57	44.5	6.77	58	42	84
MW1	K0710773		Integral	November 2007	11/12/2007	14:05	4.69	97	6.09	18.8	6.95	59 *J*	61	36
MW1	K0711891		Integral	December 2007 I	12/14/2007	13:00	1.7	87	7.89	48.7	6.33	48 *J*	47 *U*	104
MW1	K0800335		Integral	January 2008	1/9/2008	10:00	1.26	100	5.71	13	6.1	55 *J*	65	45
MW1	K0801400		Integral	Februrary 2008	2/14/2008	8:30	1.35	97	6.05	47.5	6.29	58 *J*	55 *U*	48
MW1	K0802328		Integral	March 2008	3/14/2008	10:10	3.43	100	4.96	17.2	6.47	61 *J*	72 *U*	49 *U*
MW1	K0803239		Integral	April 2008	4/15/2008	6:30	4.2	111	0	2.9	5.83	58 *J*	48	51 *U*
MW1	K0804080		Integral	May 2008	5/7/2008	17:15	5.4	109	0	4.5	6.08	56 *J*	27	40 *U*
MW1	K0805877		Integral	June 2008	6/26/2008	17:15	8.6	99	0	28.2	6.36	55 *J*	86	45

Table B-3. Groundwater Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)
MW1	K0806880		Integral	July 2008	7/24/2008	13:35	10.5	101	0	--	6.17	55 *J*	79	56
MW1	K0807975		Integral	August 2008	8/19/2008	11:45	11.9	91	0	21.5	6.12	50 *J*	47	10
MW1	K0808787		Integral	September 2008	9/9/2008	13:30	10.5	99	0	8.1	6.23	44 *J*	66	46
MW1	K0810253		Integral	October 2008	10/15/2008	15:00	7.9	82	0	6.7	6.27	40 *J*	60	59
MW1	K0902142		Integral	March 2009	3/9/2009	10:10	1.15	115	0	12.4	5.8	41	46	31
MW1	K0904395		Integral	May 2009	5/13/2009	12:45	6.93	106	0	11.7	6.27	51 *J*	59	41
MW1	K0906701		Integral	July 2009	7/24/2009	15:15	11.64	87	0	65.2	5.97	47 *J*	76	33
MW1	K0910115		Integral	October 2009	10/17/2009	16:02	8.38	97	0	8.8	5.98	49 *J*	59	35.6
MW1	K1000512		Integral	January 2010	1/17/2010	09:37	5.21	104	0	14.7	5.22	45 *J*	51 *UJ*	26
MW1	K1004032		Integral	April 2010	4/22/2010	15:00	5.9	240	0.81	0.3	6.11	58 *J*	61	30.4
MW1	K1008751		Integral	August 2010	8/10/2010	16:00	12.6	204	1.41	81.7	6.39	61 *J*	77	49.2
MW1	K1011739		Integral	October 2010	10/19/2010	13:40	8.5	167	1.31	13.7	6.33	56 *J*	75	33.6
MW1	K1100642		Integral	January 2011	1/20/2011	15:15	1.6	135	0.84	78	6.26	41 *J*	83	37.6
MW1	K1103541		Integral	April 2011	4/20/2011	14:40	3.7	100	1.15	100	6.1	53 *J*	57	42.4
MW1	K1106862		Integral	July 2011 II	7/25/2011	14:10	11.42	140	3.43	11	5.3	63 *J*	71	50
MW1	K1112358		Integral	December 2011	12/20/2011	15:10	3.49	110	2.52	22	6	53 *J*	78	41.2
MW2		L495369	Knight Piesold	April 2007	4/10/2007	15:10	3.5	65	3.59	70.4	4.97	42	46	8.01
MW2		L507191	Knight Piesold	May 2007	5/14/2007	11:20	4.43	80	1.05	294	5.06	60	103	10.4
MW2		L515743	Knight Piesold	June 2007	6/4/2007	13:58	7.02	76	2.53	60	5.23	53	82	13.4
MW2		L526591	Knight Piesold	July 2007 I	7/2/2007	14:00	7.89	95	4.86	43.9	4.99	37	120	27.9
MW2	K0706569		Integral	July 2007 II	7/24/2007	12:10	9.48	125	6.18	90	5.01	59	104	28
MW2	K0707317		Integral	August 2007 I	8/14/2007	11:40	9.96	83	6.4	171	5.24	45	80	22
MW2	K0707782		Integral	August 2007 II	8/28/2007	16:20	9.75	86	4.77	375	5.21	49 *J*	167	29
MW2	K0708240		Integral	September 2007 I	9/11/2007	11:00	9.88	78	5.78	316	5.42	39 *J*	102	41
MW2	K0709126		Integral	September 2007 II	9/30/2007	16:15	8.3	81	6.45	738	5.56	40 *J*	104	24 *U*
MW2	K0709804		Integral	October 2007	10/16/2007	13:30	7.61	71	5.97	611	5.86	35 *J*	64	138
MW2	K0710773		Integral	November 2007	11/12/2007	14:30	5.42	76	6.68	475	5.76	40 *J*	82	152
MW2	K0711891		Integral	December 2007 I	12/14/2007	14:30	3.3	54	7.18	601	5.35	29 *J*	47 *U*	49
MW2	K0800335		Integral	January 2008	1/8/2008	12:49	2.62	66	5.94	401	5.64	29 *J*	48	6 *U*
MW2	K0801400		Integral	Februrary 2008	2/13/2008	15:30	2.25	70	6.16	219	5.62	28 *J*	50 *U*	19 *U*
MW2	K0802328		Integral	March 2008	3/14/2008	13:00	6.4	57	2.29	394	4.62	22 *J*	14 *U*	15 *U*
MW2	K0803239		Integral	April 2008	4/14/2008	13:00	4	56	0.47	142	5.18	23 *J*	75	13 *U*
MW2	K0804080		Integral	May 2008	5/7/2008	16:20	5.1	63	1.43	107	5.7	27 *J*	28	12 *U*
MW2	K0805877		Integral	June 2008	6/26/2008	16:10	7.8	60	0.2	63.4	5.47	25 *J*	27 *U*	28
MW2	K0806880		Integral	July 2008	7/24/2008	12:15	9.6	76	0.36	57	5.14	78 *J*	18	169
MW2	K0807975		Integral	August 2008	8/19/2008	11:00	10.5	72	0.56	73.2	5.09	20 *J*	16 *U*	13
MW2	K0808787		Integral	September 2008	9/9/2008	14:00	10.1	90	0.82	33.9	5.5	19 *J*	47	20
MW2	K0810253		Integral	October 2008	10/15/2008	13:45	8.2	82	0.19	47	5.2	19 *J*	24	27
MW2	K0902142		Integral	March 2009	3/8/2009	15:35	2.19	52	--	36.6	4.77	20 *J*	27	7
MW2	K0904395		Integral	May 2009	5/13/2009	11:45	5.67	82	0.21	28.1	5.07	20 *J*	40	1 *J*
MW2	K0906701		Integral	July 2009	7/24/2009	15:45	10.66	96	--	810	4.92	24 *J*	71	13
MW2	K0908619		Integral	September 2009 II	9/12/2009	17:00	11.32	274	0.26	23.7	4.51	26 *J*	68.5	8
MW2	K0910115		Integral	October 2009	10/17/2009	08:52	8.64	78	0	38.4	4.59	25 *J*	53.5	13.6
MW2	K1000512		Integral	January 2010	1/15/2010	11:49	5.2	75	0.66	298	4.65	23 *J*	44 *UJ*	5.6
MW2	K1004032		Integral	April 2010	4/22/2010	11:40	5.6	90	1.8	38.1	4.55	23 *J*	37	7.6
MW2	K1008751		Integral	August 2010	8/10/2010	14:15	11.6	111	1.64	61.7	4.94	27 *J*	45	12.4

Table B-3. Groundwater Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)
MW2	K1011739		Integral	October 2010	10/19/2010	14:25	8.9	106	3.3	20	5.05	26 *J*	37	8
MW2	K1100642		Integral	January 2011	1/20/2011	12:10	2.9	88	1.78	34.1	5.26	24 *J*	26	11.6
MW2	K1103541		Integral	April 2011	4/20/2011	13:20	3.74	70	2.81	20	4.6	25 *J*	38.5	14.8
MW2	K1106862		Integral	July 2011 II	7/24/2011	17:10	10.77	80	3.87	140	5.3	29	42	13
MW2	K1112358		Integral	December 2011	12/20/2011	14:10	4.08	100	4.56	66	4.7	22 *J*	38 *J*	4.8
MW3		L482967	Knight Piesold	February 2007	2/28/2007	11:12	0.42	31	4.91	46.1	4.63	18	63	4.91
MW3		L495369	Knight Piesold	April 2007	4/10/2007	12:35	2.86	44	3.29	858	5.17	27	121	2.06
MW3		L507191	Knight Piesold	May 2007	5/14/2007	11:57	4.45	49	2.57	221	5.29	40	113	5.03
MW3		L515743	Knight Piesold	June 2007	6/4/2007	14:54	6.21	55	5.15	282	5.26	36	68	6.51
MW3		L526591	Knight Piesold	July 2007 I	7/2/2007	15:45	7.2	47	4.57	79.9	5.09	30	99	8.09
MW3	K0706569		Integral	July 2007 II	7/24/2007	13:20	8.8	63	6.4	200	5.11	35	76	48
MW3	K0707317		Integral	August 2007 I	8/14/2007	12:20	10.22	52	7.51	175	5.14	29 *J*	94	23
MW3	K0707782		Integral	August 2007 II	8/28/2007	16:55	9.94	37	6.2	34.2	4.59	21	54 *U*	15
MW3	K0708240		Integral	September 2007 I	9/10/2007	16:20	10.12	48	5.75	63	5.09	31 *J*	98	35
MW3	K0709126		Integral	September 2007 II	9/30/2007	16:55	7.89	40	5.98	241	5.36	28	83	30 *U*
MW3	K0709804		Integral	October 2007	10/17/2007	09:10	7.55	43	6.64	205	4.89	24 *J*	70	31
MW3	K0710773		Integral	November 2007	11/12/2007	13:20	5.15	9 *U*	12.62	166	5.89	27 *J*	27	152
MW3	K0711891		Integral	December 2007 I	12/15/2007	09:00	2.38	47	10.31	66	4.41	20 *J*	51 *U*	11 *U*
MW3	K0800335		Integral	January 2008	1/8/2008	13:18	1.44	9 *U*	13.75	176	4.73	22 *J*	31	15 *U*
MW3	K0801400		Integral	Februrary 2008	2/13/2008	15:40	1.84	38	5.77	76.2	5.22	20 *J*	26 *U*	13 *U*
MW3	K0802328		Integral	March 2008	3/14/2008	14:20	3.7	32	1.88	10	4.5	20 *J*	54 *U*	20 *U*
MW3	K0803239		Integral	April 2008	4/14/2008	13:35	4	57	0.34	21.1	5.14	28 *J*	35	17 *U*
MW3	K0804080		Integral	May 2008	5/7/2008	15:45	4.9	58	0.34	9	4.8	27 *J*	37	20 *U*
MW3	K0805877		Integral	June 2008	6/27/2008	10:15	7.6	51	0.04	50.9	4.82	30 *J*	47	47
MW3	K0806880		Integral	July 2008	7/24/2008	12:40	9.1	57	0.25	15.2	4.73	32 *J*	29	207
MW3	K0807975		Integral	August 2008	8/19/2008	9:30	10.3	71	0.37	7.8	4.55	32 *J*	143	25
MW3	K0808787		Integral	September 2008	9/9/2008	11:30	9.9	72	0.29	19.6	4.95	29 *J*	49	50
MW3	K0810253		Integral	October 2008	10/15/2008	10:20	8.2	58	0	24.9	4.87	25 *J*	31	154
MW3	K0902142		Integral	March 2009	3/8/2009	15:10	1.68	31	1.05	50.7	4.94	12 *J*	19	5
MW3	K0904395		Integral	May 2009	5/13/2009	10:00	5.45	49	0.7	14.1	4.93	20 *J*	64	1.2 *J*
MW3	K0906701		Integral	July 2009	7/24/2009	14:15	11.1	38	0	16.2	4.2	15 *J*	72	6
MW3	K0908619		Integral	September 2009 II	9/12/2009	14:35	11.36	71	0.43	5.5	5.01	21 *J*	79.5	6.4
MW3	K0910115		Integral	October 2009	10/17/2009	09:44	8.54	42	0.72	7.5	4.83	15 *J*	28	6.8
MW3	K1000512		Integral	January 2010	1/15/2010	12:36	5.32	58	0.8	8.2	5.04	23 *J*	34 *UJ*	6.8
MW3	K1004032		Integral	April 2010	4/22/2010	8:45	5.4	142	1.97	2.6	4.91	41 *J*	44	20.8
MW3	K1008751		Integral	August 2010	8/10/2010	10:05	11.3	87	1.47	648	4.86	25 *J*	10	14.8
MW3	K1011739		Integral	October 2010	10/19/2010	09:55	8.7	111	1.52	81	4.53	28 *J*	38	9.2
MW3	K1100642		Integral	January 2011	1/20/2011	10:40	2.6	70	2.19	128	4.58	17 *J*	29	21.2
MW3	K1103541		Integral	April 2011	4/20/2011	13:00	3.63	40	3.22	92	4.8	14 *J*	30	13.6
MW3	K1106862		Integral	July 2011 II	7/24/2011	15:00	10.31	50	3.97	40	4.7	17 *J*	36.5	12
MW3	K1112358		Integral	December 2011	12/20/2011	11:45	3.77	50	2.79	58	4.9	21 *J*	9.5	7.6
MW4		L482967	Knight Piesold	February 2007	2/27/2007	08:39	1.95	23	3.61	402	4.86	16	102	3.28
MW4		L495369	Knight Piesold	April 2007	4/10/2007	13:23	3.71	33	3.81	68.6	5.36	21	62	3.36
MW4		L507191	Knight Piesold	May 2007	5/14/2007	13:13	4.84	34	1.45	58.3	5.39	23	49	6.59
MW4		L515743	Knight Piesold	June 2007	6/4/2007	11:02	8.87	31	6.83	14.5	4.99	20	48	5.69
MW4	K0706569		Integral	July 2007 II	7/23/2007	17:00	10.13	45	6.09	27	5.45	36	20 *U*	29

Table B-3. Groundwater Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)
MW4	K0707782		Integral	August 2007 II	8/27/2007	16:20	10.68	39	5.68	43.4	4.73	25	68	12
MW4	K0708240		Integral	September 2007 I	9/10/2007	17:00	10.4	44	5.3	60	5.57	33 *J*	65	23 *U*
MW4	K0709126		Integral	September 2007 II	9/30/2007	17:30	8.28	60	5.81	33.6	5.9	37 *J*	96	45
MW4	K0709804		Integral	October 2007	10/16/2007	16:40	7.47	65	5.62	107	6.24	44 *J*	80	41
MW4	K0710773		Integral	November 2007	11/12/2007	11:50	5.19	84	5.98	12	6.49	37 *J*	41	51
MW4	K0711891		Integral	December 2007 I	12/15/2007	09:45	2.63	36	10.55	131	4.61	19 *J*	25 *U*	10 *U*
MW4	K0800335		Integral	January 2008	1/8/2008	14:48	0.77	52	8.19	20.7	5.13	21 *J*	38 *J*	18 *U*
MW4	K0801400		Integral	Februrary 2008	2/13/2008	11:30	0.82	41	9.66	21.4	4.96	15 *J*	10 *U*	17 *U*
MW4	K0802328		Integral	March 2008	3/15/2008	8:15	3.2	31	3.14	18	4.72	18 *J*	36 *U*	26 *U*
MW4	K0803239		Integral	April 2008	4/14/2008	10:00	3.9	56	0.41	37	4.6	24 *J*	5 *U*	24 *U*
MW4	K0804080		Integral	May 2008	5/8/2008	15:50	5.2	52	0	12.5	5.55	24 *J*	28	17 *U*
MW4	K0805877		Integral	June 2008	6/27/2008	11:15	8.6	40	0.26	7.4	5.12	21 *J*	29 *U*	22 *U*
MW4	K0806880		Integral	July 2008	7/24/2008	10:15	10	66	0	5.1	4.97	35 *J*	28	21
MW4	K0807975		Integral	August 2008	8/19/2008	10:15	12.1	90	0	10.9	5.27	45 *J*	59	11
MW4	K0808787		Integral	September 2008	9/9/2008	14:45	10.8	124	0	4.5	6.01	61 *J*	68	20
MW4	K0810253		Integral	October 2008	10/15/2008	11:40	8.1	89	0	5.9	6.11	40 *J*	47	39
MW4	K0902142		Integral	March 2009	3/8/2009	14:12	1.62	39	2.49	24.2	5.14	13 *J*	19	6
MW4	K0904395		Integral	May 2009	5/13/2009	11:00	6.64	69	2.18	14.5	5.15	29 *J*	46	9
MW4	K0906701		Integral	July 2009	7/23/2009	9:20	11.81	91	0.86	135	5.61	37 *J*	75	12
MW4	K0908619		Integral	September 2009 II	9/13/2009	07:50	11.65	99	1.07	9.4	5.36	48 *J*	74.5	9.6
MW4	K0910115		Integral	October 2009	10/17/2009	11:00	8.79	83	0.09	7.4	5.93	42 *J*	69.5	16.8
MW4	K1000512		Integral	January 2010	1/15/2010	13:34	5.38	69	0.36	17.9	5.6	29 *J*	36 *UJ*	12.4
MW4	K1004032		Integral	April 2010	4/22/2010	10:00	5.7	164	1.61	3.2	6.17	53 *J*	55	14
MW4	K1008751		Integral	August 2010	8/10/2010	11:45	12.3	200	0.93	24.6	6.28	67 *J*	67	37
MW4	K1011739		Integral	October 2010	10/19/2010	10:50	8.7	169	0.93	11.2	6.7	54 *J*	118	24
MW4	K1100642		Integral	January 2011	1/20/2011	11:45	2.3	182	1.97	50.2	5.84	55 *J*	59	36
MW4	K1103541		Integral	April 2011	4/20/2011	11:15	4.05	130	3.2	43	6.1	62 *J*	90	44.4
MW4	K1106862		Integral	July 2011 II	7/24/2011	16:10	11.36	180	4.6	41	6.1	76 *J*	81	50
MW4	K1112358		Integral	December 2011	12/20/2011	13:00	4.09	110	4.13	62	6.1	43 *J*	75	24.8
MW7		L482967	Knight Piesold	February 2007	2/28/2007	13:00	2.14	52	3.32	--	5.34	29	67	16.3
MW7		L495369	Knight Piesold	April 2007	4/10/2007	14:24	3.13	89	1.4	21.4	6.24	53	61	22
MW7		L507191	Knight Piesold	May 2007	5/15/2007	08:40	5.27	95	1.58	17.6	6.17	63	76	26.1
MW7		L515743	Knight Piesold	June 2007	6/5/2007	09:00	7.47	99	3.74	8.1	6.15	60	62	28.2
MW7		L526591	Knight Piesold	July 2007 I	7/1/2007	11:20	8.68	103	4.17	1.7	6.08	53	75	26.3
MW7	K0706569		Integral	July 2007 II	7/23/2007	13:47	9.77	87	6.12	13.5	6.13	52 *J*	71	27
MW7	K0707317		Integral	August 2007 I	8/13/2007	12:55	10.4	98	6.37	21.3	6.14	53 *J*	71	32
MW7	K0707782		Integral	August 2007 II	8/28/2007	14:35	10.03	90	4.82	6.6	6.23	50 *J*	90	36
MW7	K0708240		Integral	September 2007 I	9/10/2007	12:25	9.91	90	5.85	12	6.53	52 *J*	55	41
MW7	K0709126		Integral	September 2007 II	9/30/2007	13:40	7.9	88	5.91	25.2	6.45	49 *J*	59	48
MW7	K0709804		Integral	October 2007	10/16/2007	10:35	7.65	81	5.74	14.5	6.5	35 *J*	48	30 *U*
MW7	K0710773		Integral	November 2007	11/13/2007	07:45	5.57	92	6.05	9.6	6.32	42 *J*	43	25
MW7	K0711891		Integral	December 2007 I	12/15/2007	11:20	1.73	64	6.05	36.1	5.83	40 *J*	54 *U*	23 *U*
MW7	K0800335		Integral	January 2008	1/9/2008	09:18	1.63	83	6.23	13.2	6.64	39 *J*	37	28 *U*
MW7	K0801400		Integral	Februrary 2008	2/14/2008	12:05	1.08	74	5.94	12.9	6.44	34 *J*	51 *U*	23 *U*
MW7	K0802328		Integral	March 2008	3/13/2008	15:10	2.56	63	5	23.5	6.47	28 *J*	39 *U*	35 *U*
MW7	K0803239		Integral	April 2008	4/13/2008	15:45	4.2	79	0.17	12.9	5.4	36 *J*	24	34 *U*

Table B-3. Groundwater Quality Monitoring Data

							In situ (field measurements)					Calculated Test	Analytical Physical Tests	
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)
MW7	K0804080		Integral	May 2008	5/6/2008	10:45	5	96	0	3.4	5.3	38 *J*	38	24 *U*
MW7	K0805877		Integral	June 2008	6/26/2008	13:30	8.1	69	0.07	35.7	6.21	35 *J*	33 *U*	30
MW7	K0806880		Integral	July 2008	7/25/2008	9:30	10	70	3.8	4.6	6.19	34 *J*	39	28
MW8		L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	6.25	116	9.49	21.9	6.29	75	76	40.1
MW8	K0706569		Integral	July 2007 II	7/23/2007	12:00	7.5	99	6.96	9.5	6.1	63	96	40
MW8	K0707317		Integral	August 2007 I	8/13/2007	12:00	8.47	111	5.71	30.4	6.05	65 *J*	66	43
MW8	K0707782		Integral	August 2007 II	8/28/2007	10:00	7.79	102	4.79	41.7	5.83	63 *J*	71	47
MW8	K0708240		Integral	September 2007 I	9/10/2007	11:20	8.42	107	6.24	12	6.1	66 *J*	59	50
MW8	K0709126		Integral	September 2007 II	9/30/2007	10:45	7.76	115	6.26	31.2	6.14	66	96	56
MW8	K0709804		Integral	October 2007	10/16/2007	15:50	7.29	91	7.24	16.4	6.32	63 *J*	59	52
MW8	K0710773		Integral	November 2007	11/12/2007	16:15	6.25	98	6.67	93.9	6.49	60 *J*	65	46
MW8	K0711891		Integral	December 2007 I	12/14/2007	10:50	4.74	116	5.46	21.2	6.09	67 *J*	71	49
MW8	K0800335		Integral	January 2008	1/8/2008	09:41	3.9	105	7.28	13.7	5.94	60 *J*	46	46
MW8	K0801400		Integral	Februrary 2008	2/13/2008	10:00	3.57	114	5.64	8.5	5.99	69 *J*	59	52
MW8	K0802328		Integral	March 2008	3/13/2008	12:45	3.4	101	6.51	10.1	6.3	60 *J*	54 *U*	52 *U*
MW8	K0803239		Integral	April 2008	4/14/2008	9:00	4.4	111	2.57	0	5.95	73 *J*	46	50 *U*
MW8	K0804080		Integral	May 2008	5/6/2008	15:15	4.9	121	0.64	1.2	6.04	67 *J*	40	49 *U*
MW8	K0805877		Integral	June 2008	6/26/2008	10:45	6.9	122	0.74	2.5	6.32	67 *J*	53	60
MW9		L526591	Knight Piesold	July 2007 I	7/2/2007	12:30	10.56	156	9.97	128	7.34	92	94	71.6
MW9	K0706569		Integral	July 2007 II	7/23/2007	16:07	8.02	176	7.69	220	7.74	97 *J*	111	76
MW9	K0707317		Integral	August 2007 I	8/13/2007	15:20	9.01	165	7.65	138	7.45	98 *J*	96	79
MW9	K0707782		Integral	August 2007 II	8/28/2007	15:00	7.05	167	7.64	350	6.97	86 *J*	101	76
MW9	K0708240		Integral	September 2007 I	9/10/2007	13:20	8.49	177	7.16	140	7.18	90 *J*	72	75
MW9	K0709126		Integral	September 2007 II	9/30/2007	14:30	8.28	173	7.84	119	7.27	94 *J*	100	83
MW9	K0709804		Integral	October 2007	10/16/2007	16:55	7.74	173	7.04	87.6	7.91	66 *J*	49	93
MW9	K0710773		Integral	November 2007	11/12/2007	15:00	7.2	175	6.58	49.2	7.87	92 *J*	83	78
MW9	K0711891		Integral	December 2007 I	12/14/2007	11:15	5.86	181	6.94	60.5	6.74	86 *J*	84	85
MW9	K0800335		Integral	January 2008	1/8/2008	08:35	5.01	191	6.72	81	7.19	86 *J*	89	72
MW9	K0801400		Integral	Februrary 2008	2/13/2008	12:00	4.86	171	5.91	75.5	7.26	88 *J*	123	72
MW9	K0802328		Integral	March 2008	3/13/2008	16:15	4.47	160	5.99	95.1	7.25	81 *J*	89 *U*	80
MW9	K0803239		Integral	April 2008	4/14/2008	10:40	5.3	175	1.75	44.8	7.25	84 *J*	71	84
MW9	K0804080		Integral	May 2008	5/6/2008	17:45	5.8	171	1.78	36.5	7.19	84 *J*	58	74
MW9	K0805877		Integral	June 2008	6/26/2008	15:15	7.3	175	2.55	55.9	7.77	85 *J*	108	68

Table B-3. Groundwater Quality Monitoring Data

							Analytical Physical Tests	Dissolved Anions and Nutrients						
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	TSS (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
EFF1	K0710773		Integral	November 2007	11/13/2007	14:40	12	42	4	3.9	0.42	1.32	--	--
EFF1	K0711891		Integral	December 2007 I	12/16/2007	10:45	9	70	4.2	15.2	2.39	5.22	--	--
EFF1	K0800335		Integral	January 2008	1/9/2008	07:45	5 *U*	40	4.7	14.5	2.62	5.66	--	--
EFF1	K0801400		Integral	Februrary 2008	2/13/2008	13:20	40	48	4.7	20.5	3.03	3.26	--	--
EFF1	K0802328		Integral	March 2008	3/17/2008	7:00	422	108	3.6	24	1.9	3.95 *U*	--	--
EFF1	K0803239		Integral	April 2008	4/15/2008	8:30	30	63	4.1	25.3	1.61	5.42	--	--
EFF1	K0804080		Integral	May 2008	5/8/2008	11:45	45	50	3.7	23.7	2.41	7.37	--	--
EFF1	K0805877		Integral	June 2008	6/27/2008	15:15	98	51	3.7	31	5.59	17.2	--	--
EFF1	K0806880		Integral	July 2008	7/25/2008	10:00	70	71	2.9	22.3	1.44	5.09	--	--
EFF1	K0807975		Integral	August 2008	8/19/2008	16:30	105	74	2.7	25.2	0.65	2.71	--	--
EFF1	K0808787		Integral	September 2008	9/9/2008	15:30	13	76	2.8	45	0.4	1.01	--	--
EFF1	K0810253		Integral	October 2008	10/15/2008	14:30	5 *U*	64	2.7	33.8	0.14 *UJ*	1.37	--	--
EFF1	K0902142		Integral	March 2009	3/9/2009	14:00	5 *U*	70	2.8	16.1	0.02 *U*	0.16	--	--
EFF1	K0904395		Integral	May 2009	5/14/2009	10:20	5 *U*	76	3.2	18.4	0.031 *UJ*	0.15	--	--
EFF1	K0906701		Integral	July 2009	7/23/2009	11:50	5 *U*	71	2.7	19.1	0.02 *UJ*	0.11	--	--
EFF1	K0910233		Integral	October 2009	10/18/2009	10:40	16	71.2	2.91	10.6	0.022 *J*	0.038 *J*	--	--
EFF1	K1000512		Integral	January 2010	1/16/2010	10:00	19.5	70.2	3.37	13.5	0.009 *UJ*	0.017 *J*	--	--
EFF1	K1004032		Integral	April 2010	4/21/2010	11:00	22	80.1	4.01	16.3	0.153	0.072 *UJ*	--	--
EFF1	K1007431		Integral	July 2010	7/14/2010	08:30	13	80.5	3.51	20.8	0.009 *UJ*	0.069 *UJ*	--	--
EFF1	K1008751		Integral	August 2010	8/11/2010	06:15	17	82	3.72	30	0.041 *UJ*	0.085 *UJ*	--	--
EFF1	K1011739		Integral	October 2010	10/18/2010	15:30	100	70.5	4.59	21.2	--	0.014 *J*	--	--
EFF1	K1100642		Integral	January 2011	1/19/2011	14:35	114	72.8	7.43	19.8	--	0.046 *J*	--	--
EFF1	K1103541		Integral	April 2011	4/21/2011	11:30	18	76	4.41	17.2	--	0.062 *UJ*	--	--
EFF1	K1106862		Integral	July 2011 II	7/24/2011	10:15	26.5	31	3.69	18	0.009 *UJ*	0.041 *UJ*	--	--
EFF1	K1108476		Integral	September 2011	9/7/2011	8:20	27	62.7	3.37	23.6	0.017 *UJ*	0.022 *J*	--	--
EFF1	K1109861		Integral	October 2011	10/11/2011		11	71.4	4.19	20.1	0.045 *UJ*	0.104	--	--
EFF1	K1112358		Integral	December 2011	12/21/2011	10:00	5 *U*	67	3.22	19 *J*	0.112 *U*	0.047 *UJ*	--	--
MW1		L482967	Knight Piesold	February 2007	2/28/2007	08:45	17.7	25.3	4.18	4.73	0.007	--	0.0062	0.001 *U*
MW1		L495369	Knight Piesold	April 2007	4/10/2007	08:25	33	37.2	7.99	6.35	0.005 *U*	--	0.005 *U*	0.001 *U*
MW1		L507191	Knight Piesold	May 2007	5/14/2007	10:49	12.5	40.3	5.53	3.11	0.005 *U*	--	0.005 *U*	0.001 *U*
MW1		L515743	Knight Piesold	June 2007	6/4/2007	13:06	3 *U*	45.6	4.9	3.97	0.02 *U*	--	0.005 *U*	0.001 *U*
MW1		L526591	Knight Piesold	July 2007 I	7/2/2007	11:45	12	44.6	4.17	4.48	0.02 *U*	--	0.005 *U*	0.001 *U*
MW1	K0706569		Integral	July 2007 II	7/24/2007	11:44	8	51	3	2.3	0.08 *U*	0.022 *J*	--	--
MW1	K0707317		Integral	August 2007 I	8/14/2007	11:05	5 *U*	46	3.7	8.2	0.028 *J*	0.039 *J*	--	--
MW1	K0707782		Integral	August 2007 II	8/28/2007	17:40	6	51	2.9	3.4	0.05 *U*	0.006 *U*	--	--
MW1	K0708240		Integral	September 2007 I	9/11/2007	10:20	6	48	2.2	1.3	0.09 *UJ*	0.02 *J*	--	--
MW1	K0709126		Integral	September 2007 II	9/30/2007	15:45	9	37	3.4	2.7	0.04 *U*	0.014 *J*	--	--
MW1	K0709804		Integral	October 2007	10/16/2007	12:25	6	36	5	1.5	0.07 *UJ*	0.006 *U*	--	--
MW1	K0710773		Integral	November 2007	11/12/2007	14:05	35	34	6.7	3.2	0.05 *UJ*	0.033 *J*	--	--
MW1	K0711891		Integral	December 2007 I	12/14/2007	13:00	40	22	4.3	8.3	0.1 *UJ*	0.026 *UJ*	--	--
MW1	K0800335		Integral	January 2008	1/9/2008	10:00	13	26	7.7	6.8	0.01 *U*	0.006 *U*	--	--
MW1	K0801400		Integral	Februrary 2008	2/14/2008	8:30	65	30	5.3	7.7	0.04 *J*	0.036 *UJ*	--	--
MW1	K0802328		Integral	March 2008	3/14/2008	10:10	6	43	6	5.2	0.08 *UJ*	0.048 *U*	--	--
MW1	K0803239		Integral	April 2008	4/15/2008	6:30	5 *U*	30	9	5	0.02 *UJ*	0.005 *U*	--	--
MW1	K0804080		Integral	May 2008	5/7/2008	17:15	21	30	7.2	4.8	0.03 *UJ*	0.004 *UJ*	--	--
MW1	K0805877		Integral	June 2008	6/26/2008	17:15	26	33	4.2	4.2	0.52	0.031 *UJ*	--	--

Table B-3. Groundwater Quality Monitoring Data

							Analytical Physical Tests	Dissolved Anions and Nutrients						
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	TSS (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
MW1	K0806880		Integral	July 2008	7/24/2008	13:35	6	38	2.9	3.5	0.04 *UJ*	0.029 *J*	--	--
MW1	K0807975		Integral	August 2008	8/19/2008	11:45	6	36	3.4	2.6	0.06 *UJ*	0.006 *UJ*	--	--
MW1	K0808787		Integral	September 2008	9/9/2008	13:30	5 *U*	25	2.6	2.4	0.02 *U*	0.035 *UJ*	--	--
MW1	K0810253		Integral	October 2008	10/15/2008	15:00	6	28	2	1.9	0.09 *UJ*	0.019 *J*	--	--
MW1	K0902142		Integral	March 2009	3/9/2009	10:10	10	23	2.1	8	0.03 *J*	0.009 *U*	--	--
MW1	K0904395		Integral	May 2009	5/13/2009	12:45	5 *U*	30	3.3	9	0.041 *UJ*	0.011 *J*	--	--
MW1	K0906701		Integral	July 2009	7/24/2009	15:15	17	32	3	5.6	0.037 *UJ*	0.021 *UJ*	--	--
MW1	K0910115		Integral	October 2009	10/17/2009	16:02	6	27.4	5.47	6.91	0.018 *UJ*	0.024 *J*	--	--
MW1	K1000512		Integral	January 2010	1/17/2010	09:37	5 *U*	17.3	10.1	6.67	0.028 *UJ*	0.041 *J*	--	--
MW1	K1004032		Integral	April 2010	4/22/2010	15:00	6	23	14.1	7.46	0.044 *J*	0.04 *UJ*	--	--
MW1	K1008751		Integral	August 2010	8/10/2010	16:00	5 *U*	36.6	4.26	10.8	0.041 *UJ*	0.061 *UJ*	--	--
MW1	K1011739		Integral	October 2010	10/19/2010	13:40	18	19.2	17.5	4.43	--	0.009 *U*	--	--
MW1	K1100642		Integral	January 2011	1/20/2011	15:15	6	23.7 *UJ*	4.43	11.1	--	0.009 *U*	--	--
MW1	K1103541		Integral	April 2011	4/20/2011	14:40	16.5	31.5	3.73	9.55	--	0.026 *UJ*	--	--
MW1	K1106862		Integral	July 2011 II	7/25/2011	14:10	5 *U*	42	3.93	9.01	0.069	0.016 *UJ*	--	--
MW1	K1112358		Integral	December 2011	12/20/2011	15:10	5 *U*	26.4	3.63	13 *J*	0.045 *UJ*	0.017 *UJ*	--	--
MW2		L495369	Knight Piesold	April 2007	4/10/2007	15:10	109	10.6	6.89	2.79	0.0574	--	0.005 *U*	0.001 *U*
MW2		L507191	Knight Piesold	May 2007	5/14/2007	11:20	100	27.9	7.03	0.6	0.424	--	0.005 *U*	0.001 *U*
MW2		L515743	Knight Piesold	June 2007	6/4/2007	13:58	4.3	14.8	6.11	0.5 *U*	0.024	--	0.005 *U*	0.001 *U*
MW2		L526591	Knight Piesold	July 2007 I	7/2/2007	14:00	37.5	22.1	5.75	0.5 *U*	0.051	--	0.005 *U*	0.001 *U*
MW2	K0706569		Integral	July 2007 II	7/24/2007	12:10	131	27	5.5	0.02 *U*	1.73	0.08	--	--
MW2	K0707317		Integral	August 2007 I	8/14/2007	11:40	155	20	4.8	0.2	0.93	0.06	--	--
MW2	K0707782		Integral	August 2007 II	8/28/2007	16:20	520	20	5	0.6	1.09	0.028 *J*	--	--
MW2	K0708240		Integral	September 2007 I	9/11/2007	11:00	285	16	4	0.136 *UJ*	0.76	0.1	--	--
MW2	K0709126		Integral	September 2007 II	9/30/2007	16:15	610	20	3.5	0.3	0.46	0.049 *J*	--	--
MW2	K0709804		Integral	October 2007	10/16/2007	13:30	373	15	3.6	0.172 *J*	0.71	0.03 *J*	--	--
MW2	K0710773		Integral	November 2007	11/12/2007	14:30	360	16	4.9	0.7	0.47	0.035 *J*	--	--
MW2	K0711891		Integral	December 2007 I	12/14/2007	14:30	415	8	4.6	0.9	0.53	0.13	--	--
MW2	K0800335		Integral	January 2008	1/8/2008	12:49	260	8	6.4	0.3	0.43	0.006 *U*	--	--
MW2	K0801400		Integral	Februrary 2008	2/13/2008	15:30	200	8	6.5	0.2	0.41	0.022 *UJ*	--	--
MW2	K0802328		Integral	March 2008	3/14/2008	13:00	158	5 *U*	5.3	0.151 *J*	0.38	0.06 *U*	--	--
MW2	K0803239		Integral	April 2008	4/14/2008	13:00	112	8 *UJ*	6.1	0.117 *J*	0.26	0.041 *U*	--	--
MW2	K0804080		Integral	May 2008	5/7/2008	16:20	80	6 *UJ*	6.5	0.18 *J*	0.29	0.004 *UJ*	--	--
MW2	K0805877		Integral	June 2008	6/26/2008	16:10	69	4	5.3	0.11 *UJ*	0.39	0.045 *UJ*	--	--
MW2	K0806880		Integral	July 2008	7/24/2008	12:15	75	97	3.8	0.178 *J*	0.43	0.039 *J*	--	--
MW2	K0807975		Integral	August 2008	8/19/2008	11:00	48	5	3.6	0.146 *UJ*	0.37	0.024 *UJ*	--	--
MW2	K0808787		Integral	September 2008	9/9/2008	14:00	53	4	3.5	0.128 *J*	0.45	0.043 *UJ*	--	--
MW2	K0810253		Integral	October 2008	10/15/2008	13:45	56	4	3.7	0.148 *J*	0.46	0.032 *J*	--	--
MW2	K0902142		Integral	March 2009	3/8/2009	15:35	58	4	3.3	2.9	0.25	0.019 *J*	--	--
MW2	K0904395		Integral	May 2009	5/13/2009	11:45	64	4	3.4	2	0.25	0.29	--	--
MW2	K0906701		Integral	July 2009	7/24/2009	15:45	98	10	3.6	0.7	0.4	0.031 *UJ*	--	--
MW2	K0908619		Integral	September 2009 II	9/12/2009	17:00	32	10.2	4.09	0.28	0.455	0.013 *J*	--	--
MW2	K0910115		Integral	October 2009	10/17/2009	08:52	28	10.2	3.99	0.19 *J*	0.527	0.009 *U*	--	--
MW2	K1000512		Integral	January 2010	1/15/2010	11:49	136	3.8	5.78	2.37	0.375	0.022 *J*	--	--
MW2	K1004032		Integral	April 2010	4/22/2010	11:40	47.1	2.4	6.55	3.42	0.244	0.05 *UJ*	--	--
MW2	K1008751		Integral	August 2010	8/10/2010	14:15	50	8.1	4.39	2.9	0.391	0.062 *UJ*	--	--

Table B-3. Groundwater Quality Monitoring Data

							Analytical Physical Tests	Dissolved Anions and Nutrients						
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	TSS (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
MW2	K1011739		Integral	October 2010	10/19/2010	14:25	15	8.5	6.65	1.29	--	0.009 *U*	--	--
MW2	K1100642		Integral	January 2011	1/20/2011	12:10	32.7	6.5 *UJ*	5.4	2.85	--	0.112	--	--
MW2	K1103541		Integral	April 2011	4/20/2011	13:20	31	8 *J*	5.28	2.75	--	0.037 *UJ*	--	--
MW2	K1106862		Integral	July 2011 II	7/24/2011	17:10	21	16.2	4.16	1.57	0.347	0.112	--	--
MW2	K1112358		Integral	December 2011	12/20/2011	14:10	23	12	4.09	0.65 *J*	2.31	0.013 *UJ*	--	--
MW3		L482967	Knight Piesold	February 2007	2/28/2007	11:12	40.7	2	6	2.5 *U*	0.005 *U*	--	0.025 *U*	0.0087
MW3		L495369	Knight Piesold	April 2007	4/10/2007	12:35	384	4.4	6.95	1.6	0.0079	--	0.005 *U*	0.001 *U*
MW3		L507191	Knight Piesold	May 2007	5/14/2007	11:57	444	9.9	6.2	5 *U*	0.0069	--	0.05 *U*	0.01 *U*
MW3		L515743	Knight Piesold	June 2007	6/4/2007	14:54	279	5.4	5.37	1.55	0.02 *U*	--	0.005 *U*	0.001 *U*
MW3		L526591	Knight Piesold	July 2007 I	7/2/2007	15:45	70.5	5.5	4.44	0.5 *U*	0.02 *U*	--	0.005 *U*	0.001 *U*
MW3	K0706569		Integral	July 2007 II	7/24/2007	13:20	88	6	3.5	0.5	0.33	0.06	--	--
MW3	K0707317		Integral	August 2007 I	8/14/2007	12:20	86	4	3.4	0.4	0.22	0.048 *J*	--	--
MW3	K0707782		Integral	August 2007 II	8/28/2007	16:55	55	0.8 *U*	3	1.3	0.05 *U*	0.06	--	--
MW3	K0708240		Integral	September 2007 I	9/10/2007	16:20	43	4	2.7	0.156 *UJ*	0.14	0.05	--	--
MW3	K0709126		Integral	September 2007 II	9/30/2007	16:55	316	4	3	0.2	0.03 *U*	0.06	--	--
MW3	K0709804		Integral	October 2007	10/17/2007	09:10	204	1 *UJ*	3.6	0.141 *J*	0.12 *UJ*	0.023 *J*	--	--
MW3	K0710773		Integral	November 2007	11/12/2007	13:20	126	4 *UJ*	6.5	0.185 *J*	0.1 *UJ*	0.06	--	--
MW3	K0711891		Integral	December 2007 I	12/15/2007	09:00	39	1 *U*	6.6	1.6	0.07 *UJ*	0.025 *UJ*	--	--
MW3	K0800335		Integral	January 2008	1/8/2008	13:18	17 *J*	1 *U*	10.1	1.3	0.04 *UJ*	0.006 *U*	--	--
MW3	K0801400		Integral	Februrary 2008	2/13/2008	15:40	18	1 *U*	7.4	0.9	0.05	0.013 *UJ*	--	--
MW3	K0802328		Integral	March 2008	3/14/2008	14:20	7	1 *U*	7	0.9	0.08 *UJ*	0.05 *U*	--	--
MW3	K0803239		Integral	April 2008	4/14/2008	13:35	23	3 *UJ*	10.1	1.3	0.08 *UJ*	0.021 *U*	--	--
MW3	K0804080		Integral	May 2008	5/7/2008	15:45	13	1 *UJ*	9.4	1.1	0.05 *UJ*	0.004 *UJ*	--	--
MW3	K0805877		Integral	June 2008	6/27/2008	10:15	31	1 *U*	5	2.5	0.07 *UJ*	0.047 *UJ*	--	--
MW3	K0806880		Integral	July 2008	7/24/2008	12:40	14	3	3.7	0.3	0.14 *UJ*	0.06	--	--
MW3	K0807975		Integral	August 2008	8/19/2008	9:30	20	4	3.9	0.175 *UJ*	0.19	0.05 *UJ*	--	--
MW3	K0808787		Integral	September 2008	9/9/2008	11:30	18	4	3.5	0.081 *J*	0.22	0.08 *UJ*	--	--
MW3	K0810253		Integral	October 2008	10/15/2008	10:20	16	3	3.9	0.119 *J*	0.27	0.06	--	--
MW3	K0902142		Integral	March 2009	3/8/2009	15:10	8	1 *U*	2.6	1.5	0.26	0.022 *J*	--	--
MW3	K0904395		Integral	May 2009	5/13/2009	10:00	9	4	3.7	0.9	0.2 *UJ*	0.016 *J*	--	--
MW3	K0906701		Integral	July 2009	7/24/2009	14:15	5 *U*	1 *U*	2.8	1.9	0.07 *UJ*	0.022 *UJ*	--	--
MW3	K0908619		Integral	September 2009 II	9/12/2009	14:35	5.5	1 *U*	5	0.54	0.09 *UJ*	0.027 *J*	--	--
MW3	K0910115		Integral	October 2009	10/17/2009	09:44	5 *U*	1 *U*	4.76	1.3	0.091	0.009 *U*	--	--
MW3	K1000512		Integral	January 2010	1/15/2010	12:36	5 *U*	1 *U*	9.1	2.86	0.109 *UJ*	0.02 *J*	--	--
MW3	K1004032		Integral	April 2010	4/22/2010	8:45	11	1 *U*	20.8	1.13	0.099	0.051 *UJ*	--	--
MW3	K1008751		Integral	August 2010	8/10/2010	10:05	67	1 *U*	6.98	3.49	0.139 *UJ*	0.162 *UJ*	--	--
MW3	K1011739		Integral	October 2010	10/19/2010	09:55	5 *U*	3 *U*	14	1.02	--	0.009 *U*	--	--
MW3	K1100642		Integral	January 2011	1/20/2011	10:40	13.5	1 *UJ*	6.67	0.78	--	0.02 *J*	--	--
MW3	K1103541		Integral	April 2011	4/20/2011	13:00	8.5	3 *U*	4.1	0.85	--	0.032 *UJ*	--	--
MW3	K1106862		Integral	July 2011 II	7/24/2011	15:00	5 *U*	2.9 *J*	3.5	0.76	0.112	0.029 *UJ*	--	--
MW3	K1112358		Integral	December 2011	12/20/2011	11:45	35	6 *J*	5.46	0.02 *U*	0.192	0.027 *UJ*	--	--
MW4		L482967	Knight Piesold	February 2007	2/27/2007	08:39	175	3.4	3.4	2.5 *U*	0.0065	--	0.025 *U*	0.0076
MW4		L495369	Knight Piesold	April 2007	4/10/2007	13:23	108	3.7	5.65	1.94	0.0069	--	0.005 *U*	0.001 *U*
MW4		L507191	Knight Piesold	May 2007	5/14/2007	13:13	51	5.6	4.96	0.85	0.021	--	0.005 *U*	0.001 *U*
MW4		L515743	Knight Piesold	June 2007	6/4/2007	11:02	11.3	3.6	4.53	1.29	0.02 *U*	--	0.005 *U*	0.001 *U*
MW4	K0706569		Integral	July 2007 II	7/23/2007	17:00	21	8	2.3	0.9	0.19 *U*	0.83	--	--

Table B-3. Groundwater Quality Monitoring Data

							Analytical Physical Tests	Dissolved Anions and Nutrients						
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	TSS (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
MW4	K0707782		Integral	August 2007 II	8/27/2007	16:20	38	5	2.5	2.4	0.09 *U*	0.006 *U*	--	--
MW4	K0708240		Integral	September 2007 I	9/10/2007	17:00	66	9	1.9	0.6	0.12	0.16	--	--
MW4	K0709126		Integral	September 2007 II	9/30/2007	17:30	23	8	3.2	0.4	0.13 *U*	0.07	--	--
MW4	K0709804		Integral	October 2007	10/16/2007	16:40	19	10	3.3	0.3	0.16	0.045 *J*	--	--
MW4	K0710773		Integral	November 2007	11/12/2007	11:50	10	9 *UJ*	5.3	0.4	0.18	0.06	--	--
MW4	K0711891		Integral	December 2007 I	12/15/2007	09:45	92	2 *J*	6.1	1.7	0.06 *UJ*	0.011 *UJ*	--	--
MW4	K0800335		Integral	January 2008	1/8/2008	14:48	5 *J*	2 *UJ*	8.6	2	0.04 *UJ*	0.006 *U*	--	--
MW4	K0801400		Integral	Februrary 2008	2/13/2008	11:30	8	1 *U*	5.6	2	0.03 *J*	0.005 *UJ*	--	--
MW4	K0802328		Integral	March 2008	3/15/2008	8:15	8	1 *U*	7	1.3	0.05 *UJ*	0.049 *U*	--	--
MW4	K0803239		Integral	April 2008	4/14/2008	10:00	12	7 *UJ*	9.7	2	0.05 *UJ*	0.005 *U*	--	--
MW4	K0804080		Integral	May 2008	5/8/2008	15:50	13	2 *UJ*	8.5	1.8	0.09 *UJ*	0.004 *UJ*	--	--
MW4	K0805877		Integral	June 2008	6/27/2008	11:15	13	3	3.9	1.6	0.09 *UJ*	0.043 *UJ*	--	--
MW4	K0806880		Integral	July 2008	7/24/2008	10:15	5 *U*	4	2.8	9.8	0.12 *UJ*	0.036 *J*	--	--
MW4	K0807975		Integral	August 2008	8/19/2008	10:15	19	5	2.8	20.7	0.19	0.11	--	--
MW4	K0808787		Integral	September 2008	9/9/2008	14:45	7	2 *J*	2.8	28.9	0.23	0.11 *UJ*	--	--
MW4	K0810253		Integral	October 2008	10/15/2008	11:40	7	10	3.1	10.2	0.26	0.06	--	--
MW4	K0902142		Integral	March 2009	3/8/2009	14:12	9	1 *U*	2	4.3	0.2	0.14	--	--
MW4	K0904395		Integral	May 2009	5/13/2009	11:00	8	1 *J*	3.3	15.3	0.18 *UJ*	0.06	--	--
MW4	K0906701		Integral	July 2009	7/23/2009	9:20	48	7	3	10.5	0.23	0.044 *UJ*	--	--
MW4	K0908619		Integral	September 2009 II	9/13/2009	07:50	9	16.2	4.76	3.36	0.575	0.052	--	--
MW4	K0910115		Integral	October 2009	10/17/2009	11:00	8	14.1	4.2	3.7	0.46	0.02 *J*	--	--
MW4	K1000512		Integral	January 2010	1/15/2010	13:34	12	2.9	7.27	4.8	0.303	0.075	--	--
MW4	K1004032		Integral	April 2010	4/22/2010	10:00	8.1	13.4	5.7	10.1	0.213	0.074 *UJ*	--	--
MW4	K1008751		Integral	August 2010	8/10/2010	11:45	8.5	15.3	3.98	21.7	0.431	0.101 *UJ*	--	--
MW4	K1011739		Integral	October 2010	10/19/2010	10:50	10.5	15.5	10.4	3.96	--	0.014 *J*	--	--
MW4	K1100642		Integral	January 2011	1/20/2011	11:45	7	21.8 *UJ*	5.26	13.1	--	0.032 *J*	--	--
MW4	K1103541		Integral	April 2011	4/20/2011	11:15	5 *U*	28.2	5.17	12.2	--	0.045 *UJ*	--	--
MW4	K1106862		Integral	July 2011 II	7/24/2011	16:10	5 *U*	39.9	3.87	16.8	0.291	0.043 *UJ*	--	--
MW4	K1112358		Integral	December 2011	12/20/2011	13:00	16 *J*	26	3.65	1.71 *J*	0.327	0.046 *UJ*	--	--
MW7		L482967	Knight Piesold	February 2007	2/28/2007	13:00	173	12.4	5.4	2.5 *U*	0.0764	--	0.025 *U*	0.0094
MW7		L495369	Knight Piesold	April 2007	4/10/2007	14:24	32.5	23.8	9.59	2.1	0.216	--	0.005 *U*	0.001 *U*
MW7		L507191	Knight Piesold	May 2007	5/15/2007	08:40	28	35.7	6.37	1.54	0.349	--	0.005 *U*	0.001 *U*
MW7		L515743	Knight Piesold	June 2007	6/5/2007	09:00	9.8	37.1	4.39	0.68	0.338	--	0.005 *U*	0.001 *U*
MW7		L526591	Knight Piesold	July 2007 I	7/1/2007	11:20	7	34.1	3.18	0.77	0.297	--	0.005 *U*	0.001 *U*
MW7	K0706569		Integral	July 2007 II	7/23/2007	13:47	12	35	2.6	0.3	0.44	0.044 *J*	--	--
MW7	K0707317		Integral	August 2007 I	8/13/2007	12:55	6	35	2.4	0.14 *J*	0.39	0.037 *J*	--	--
MW7	K0707782		Integral	August 2007 II	8/28/2007	14:35	6	35	2.6	0.085 *UJ*	0.35	0.017 *J*	--	--
MW7	K0708240		Integral	September 2007 I	9/10/2007	12:25	5 *U*	36	2	0.091 *UJ*	0.3	0.031 *J*	--	--
MW7	K0709126		Integral	September 2007 II	9/30/2007	13:40	48	32	2.5	0.105 *J*	0.26	0.09	--	--
MW7	K0709804		Integral	October 2007	10/16/2007	10:35	85	12	3.4	0.191 *J*	0.27	0.009 *J*	--	--
MW7	K0710773		Integral	November 2007	11/13/2007	07:45	13	23	6.8	0.064 *J*	0.23	0.019 *J*	--	--
MW7	K0711891		Integral	December 2007 I	12/15/2007	11:20	40	14	6.1	0.6	0.07 *UJ*	0.045 *UJ*	--	--
MW7	K0800335		Integral	January 2008	1/9/2008	09:18	17	11	11.1	1	0.15	0.024 *J*	--	--
MW7	K0801400		Integral	Februrary 2008	2/14/2008	12:05	16	13	8	1.1	0.14	0.014 *UJ*	--	--
MW7	K0802328		Integral	March 2008	3/13/2008	15:10	22	12 *U*	7	0.7	0.1 *UJ*	0.07 *U*	--	--
MW7	K0803239		Integral	April 2008	4/13/2008	15:45	14	11	10.4	0.9	0.12	0.014 *U*	--	--

Table B-3. Groundwater Quality Monitoring Data

							Analytical Physical Tests	Dissolved Anions and Nutrients						
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	TSS (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
MW7	K0804080		Integral	May 2008	5/6/2008	10:45	11	14	10.3	0.9	0.12 *UJ*	0.004 *UJ*	--	--
MW7	K0805877		Integral	June 2008	6/26/2008	13:30	43	18	4.7	0.6	0.04 *UJ*	0.025 *UJ*	--	--
MW7	K0806880		Integral	July 2008	7/25/2008	9:30	6	22	2.9	0.3	0.14 *UJ*	0.033 *J*	--	--
MW8		L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	9.1	49.7	5.48	2.35	0.0469	--	0.0237	0.001 *U*
MW8	K0706569		Integral	July 2007 II	7/23/2007	12:00	5 *U*	43	5	1.7	0.05 *U*	0.06	--	--
MW8	K0707317		Integral	August 2007 I	8/13/2007	12:00	5 *U*	45	5.4	1.9	0.006 *U*	0.021 *J*	--	--
MW8	K0707782		Integral	August 2007 II	8/28/2007	10:00	5 *U*	45	5.5	1.6	0.03 *UJ*	0.006 *J*	--	--
MW8	K0708240		Integral	September 2007 I	9/10/2007	11:20	5 *U*	46	4.8	2.3	0.02 *UJ*	0.028 *J*	--	--
MW8	K0709126		Integral	September 2007 II	9/30/2007	10:45	5 *U*	45	4.5	2.3	0.1 *U*	0.006 *U*	--	--
MW8	K0709804		Integral	October 2007	10/16/2007	15:50	5	28	2.8	14.6	0.02 *UJ*	0.22	--	--
MW8	K0710773		Integral	November 2007	11/12/2007	16:15	5 *U*	38	5.6	2.4	0.032 *UJ*	0.015 *J*	--	--
MW8	K0711891		Integral	December 2007 I	12/14/2007	10:50	5 *U*	48	4.5	2	0.02 *UJ*	0.042 *UJ*	--	--
MW8	K0800335		Integral	January 2008	1/8/2008	09:41	5 *U*	35	6.9	3	0.02 *UJ*	0.006 *U*	--	--
MW8	K0801400		Integral	Februrary 2008	2/13/2008	10:00	5 *U*	45	5.7	3.7	0.04 *J*	0.01 *UJ*	--	--
MW8	K0802328		Integral	March 2008	3/13/2008	12:45	5 *U*	40	5.7	2.5	0.02 *UJ*	0.06 *U*	--	--
MW8	K0803239		Integral	April 2008	4/14/2008	9:00	5 *U*	57	7.1	2.7	0.02 *UJ*	0.018 *U*	--	--
MW8	K0804080		Integral	May 2008	5/6/2008	15:15	5 *U*	46	5.8	2.7	0.02 *UJ*	0.037 *UJ*	--	--
MW8	K0805877		Integral	June 2008	6/26/2008	10:45	5 *U*	44	6.7	3.4	0.02 *UJ*	0.05 *UJ*	--	--
MW9		L526591	Knight Piesold	July 2007 I	7/2/2007	12:30	53.1	77.7	5.36	2.15	0.0078	--	0.0172	0.001 *U*
MW9	K0706569		Integral	July 2007 II	7/23/2007	16:07	92	86	5.1	2.7	0.01 *U*	0.011 *J*	--	--
MW9	K0707317		Integral	August 2007 I	8/13/2007	15:20	810	89	4.8	2.1	0.039 *J*	0.046 *J*	--	--
MW9	K0707782		Integral	August 2007 II	8/28/2007	15:00	31	73	4.8	2.1	0.006 *U*	0.036 *J*	--	--
MW9	K0708240		Integral	September 2007 I	9/10/2007	13:20	48	77	4.3	2.2	0.02 *UJ*	0.015 *J*	--	--
MW9	K0709126		Integral	September 2007 II	9/30/2007	14:30	26	80	4.2	2.3	0.11 *U*	0.006 *U*	--	--
MW9	K0709804		Integral	October 2007	10/16/2007	16:55	5 *U*	35	4.5	2.4	0.04 *UJ*	0.014 *J*	--	--
MW9	K0710773		Integral	November 2007	11/12/2007	15:00	15	76	4.6	2.2	0.017 *UJ*	0.007 *J*	--	--
MW9	K0711891		Integral	December 2007 I	12/14/2007	11:15	5 *U*	74	3.9	2.1	0.05 *UJ*	0.018 *UJ*	--	--
MW9	K0800335		Integral	January 2008	1/8/2008	08:35	10	69	5	3.7	0.01 *UJ*	0.006 *U*	--	--
MW9	K0801400		Integral	Februrary 2008	2/13/2008	12:00	5 *U*	73	5.7	3.9	0.03 *J*	0.018 *UJ*	--	--
MW9	K0802328		Integral	March 2008	3/13/2008	16:15	68	68	5.4	2.3	0.16 *UJ*	0.048 *U*	--	--
MW9	K0803239		Integral	April 2008	4/14/2008	10:40	48	70	5.6	2.3	0.02 *UJ*	0.019 *U*	--	--
MW9	K0804080		Integral	May 2008	5/6/2008	17:45	24	66	5.9	2.2	0.01 *UJ*	0.013 *UJ*	--	--
MW9	K0805877		Integral	June 2008	6/26/2008	15:15	18	68	6.8	2.6	0.03 *UJ*	0.028 *UJ*	--	--

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
EFF1	K0710773		Integral	November 2007	11/13/2007	14:40	460	238	0.21 *J*	0.19 *J*	0.029 *UJ*	0.025 *UJ*	14100	13600
EFF1	K0711891		Integral	December 2007 I	12/16/2007	10:45	451 *J*	316 *J*	0.26 *UJ*	0.26 *UJ*	0.024 *U*	0.026 *U*	27300	25900
EFF1	K0800335		Integral	January 2008	1/9/2008	07:45	301	214	0.56 *J*	0.3 *UJ*	0.044 *UJ*	0.017 *UJ*	18000	18200
EFF1	K0801400		Integral	Februrary 2008	2/13/2008	13:20	1330 *J*	120 *J*	1.01	0.76	0.042 *UJ*	0.031 *UJ*	19000	16900
EFF1	K0802328		Integral	March 2008	3/17/2008	7:00	2390 *J*	196 *J*	1.14	0.59	0.071	0.015 *UJ*	36800	29600
EFF1	K0803239		Integral	April 2008	4/15/2008	8:30	1060	287	0.85	0.48 *J*	0.045 *UJ*	0.024 *UJ*	18000	15400
EFF1	K0804080		Integral	May 2008	5/8/2008	11:45	1630 *J*	222 *J*	0.87	0.66	0.028	0.018 *J*	14700	11700
EFF1	K0805877		Integral	June 2008	6/27/2008	15:15	2670 *J*	75.2	3.4	3.09	0.413	0.024 *UJ*	23900	20500
EFF1	K0806880		Integral	July 2008	7/25/2008	10:00	3580 *J*	53.1 *J*	2	1.73	0.205	0.013 *UJ*	28500	27000
EFF1	K0807975		Integral	August 2008	8/19/2008	16:30	2980	48.2	1.26	0.75	0.292	0.042 *UJ*	32100	30300
EFF1	K0808787		Integral	September 2008	9/9/2008	15:30	359 *J*	44.7 *UJ*	1.06	0.93 *J*	0.05 *UJ*	0.023 *U*	37600	37300
EFF1	K0810253		Integral	October 2008	10/15/2008	14:30	133 *J*	34.6 *J*	0.85	0.76	0.086	0.07	31300	32900
EFF1	K0902142		Integral	March 2009	3/9/2009	14:00	48	49.1	1.1	1	0.197	0.197	27900	28300
EFF1	K0904395		Integral	May 2009	5/14/2009	10:20	42.2	39	1.1	1.1	0.217	0.214	29800	29400
EFF1	K0906701		Integral	July 2009	7/23/2009	11:50	45.9 *J*	38.2 *J*	0.88	0.87	0.223	0.218	27700	27400
EFF1	K0910233		Integral	October 2009	10/18/2009	10:40	310 *J*	21.8 *J*	0.43 *J*	0.4 *J*	0.066	0.034 *UJ*	29200	28600
EFF1	K1000512		Integral	January 2010	1/16/2010	10:00	774	24.6	0.49 *J*	0.3 *J*	0.14	0.049	27900	26700
EFF1	K1004032		Integral	April 2010	4/21/2010	11:00	530	35	0.48 *J*	0.32 *UJ*	0.086	0.039 *UJ*	27800 *J*	29200 *J*
EFF1	K1007431		Integral	July 2010	7/14/2010	08:30	557	24.9	0.72	0.57	0.024	0.009 *J*	31200	31100
EFF1	K1008751		Integral	August 2010	8/11/2010	06:15	562	37.9	0.76	0.69	0.045	0.029	33100	32300
EFF1	K1011739		Integral	October 2010	10/18/2010	15:30	1190	34.7	0.8	0.6	0.065	0.02 *J*	30000	27700
EFF1	K1100642		Integral	January 2011	1/19/2011	14:35	1900	123	0.94	0.79	0.162	0.049	35000	31900
EFF1	K1103541		Integral	April 2011	4/21/2011	11:30	331	37.4	0.94	0.83	0.062	0.019 *J*	31900	31400
EFF1	K1106862		Integral	July 2011 II	7/24/2011	10:15	870	68	0.5	0.4 *J*	0.951	0.213	24500	24000
EFF1	K1108476		Integral	September 2011	9/7/2011	8:20	821	38.7	0.56	0.37 *J*	0.948	0.621	30200	29400
EFF1	K1109861		Integral	October 2011	10/11/2011		254 *J*	28.1 *J*	0.5 *UJ*	0.56 *UJ*	0.065 *J*	0.038 *J*	31700 *J*	30600 *J*
EFF1	K1112358		Integral	December 2011	12/21/2011	10:00	53.1	18.7	1.11	1.2	0.064	0.059	28200	27500
MW1		L482967	Knight Piesold	February 2007	2/28/2007	08:45	603	169	1.14	0.75	0.091	0.017 *U*	9940	10100
MW1		L495369	Knight Piesold	April 2007	4/10/2007	08:25	742	169	0.34	0.21	0.032	0.017 *U*	14400	14200
MW1		L507191	Knight Piesold	May 2007	5/14/2007	10:49	874	176	0.28	0.2	0.017 *U*	0.017 *U*	14700	14500
MW1		L515743	Knight Piesold	June 2007	6/4/2007	13:06	251	192	0.21	0.18	0.017 *U*	0.017 *U*	17100	17800
MW1		L526591	Knight Piesold	July 2007 I	7/2/2007	11:45	192	168	0.26	0.26	0.017 *U*	0.017 *U*	16900	17600
MW1	K0706569		Integral	July 2007 II	7/24/2007	11:44	184	194	0.4 *J*	0.34 *J*	0.032 *U*	0.016 *U*	17500	17700
MW1	K0707317		Integral	August 2007 I	8/14/2007	11:05	149	130	0.25 *J*	0.2 *J*	0.016 *U*	0.008 *U*	16600	16100
MW1	K0707782		Integral	August 2007 II	8/28/2007	17:40	294 *J*	229	0.24 *J*	0.21 *J*	0.008 *J*	0.008 *UJ*	16400	16800
MW1	K0708240		Integral	September 2007 I	9/11/2007	10:20	469 *J*	430 *J*	0.33 *J*	0.3 *J*	0.018 *UJ*	0.007 *U*	15300	15600
MW1	K0709126		Integral	September 2007 II	9/30/2007	15:45	1130	396	0.31 *J*	0.29 *J*	0.024 *U*	0.018 *U*	14200	13500
MW1	K0709804		Integral	October 2007	10/16/2007	12:25	346	338	0.16 *J*	0.17 *J*	0.007 *U*	0.007 *U*	12200	12700
MW1	K0710773		Integral	November 2007	11/12/2007	14:05	303	237	0.27 *J*	0.27 *J*	0.026 *UJ*	0.008 *UJ*	11100	11300
MW1	K0711891		Integral	December 2007 I	12/14/2007	13:00	3520 *J*	129 *J*	1.19	0.18 *UJ*	0.202	0.015 *U*	12400	9310
MW1	K0800335		Integral	January 2008	1/9/2008	10:00	339	96.6 *UJ*	0.27 *J*	0.17 *UJ*	0.028 *UJ*	0.007 *UJ*	10800	11200
MW1	K0801400		Integral	Februrary 2008	2/14/2008	8:30	653 *J*	98.5 *J*	0.44 *UJ*	0.06 *UJ*	0.035 *UJ*	0.007 *UJ*	12700	11800
MW1	K0802328		Integral	March 2008	3/14/2008	10:10	145 *J*	110 *J*	0.21 *J*	0.16 *J*	0.007 *UJ*	0.005 *UJ*	11600	10900
MW1	K0803239		Integral	April 2008	4/15/2008	6:30	112	105	0.06 *U*	0.06 *U*	0.007 *UJ*	0.007 *UJ*	12100	12100
MW1	K0804080		Integral	May 2008	5/7/2008	17:15	192 *J*	119 *J*	0.16 *J*	0.08 *U*	0.005 *U*	0.005 *U*	12300	12000
MW1	K0805877		Integral	June 2008	6/26/2008	17:15	383 *J*	256	0.3 *J*	0.28 *J*	0.014 *UJ*	0.006 *UJ*	12100	11800

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
MW1	K0806880		Integral	July 2008	7/24/2008	13:35	241 *J*	222 *J*	0.2 *U*	0.23 *J*	0.016 *UJ*	0.005 *UJ*	13400	13400
MW1	K0807975		Integral	August 2008	8/19/2008	11:45	338	275	0.2 *U*	0.2 *U*	0.019 *UJ*	0.006 *UJ*	12900	12800
MW1	K0808787		Integral	September 2008	9/9/2008	13:30	386 *J*	323 *J*	0.34 *J*	0.41 *J*	0.012 *UJ*	0.046 *U*	12900	13900
MW1	K0810253		Integral	October 2008	10/15/2008	15:00	275 *J*	187 *J*	0.25 *J*	0.2 *U*	0.015 *UJ*	0.005 *UJ*	9590	10500
MW1	K0902142		Integral	March 2009	3/9/2009	10:10	155	103	0.2 *U*	0.2 *U*	0.011 *J*	0.007 *J*	9890	10200
MW1	K0904395		Integral	May 2009	5/13/2009	12:45	1950	120	0.9	0.2 *U*	0.119	0.013 *J*	14600	12200
MW1	K0906701		Integral	July 2009	7/24/2009	15:15	347 *J*	230 *J*	0.33 *J*	0.24 *J*	0.022 *UJ*	0.02 *UJ*	12200	11700
MW1	K0910115		Integral	October 2009	10/17/2009	16:02	174	163	0.1 *J*	0.11 *J*	0.01 *UJ*	0.005 *UJ*	11800	12200
MW1	K1000512		Integral	January 2010	1/17/2010	09:37	135	114	0.12 *J*	0.13 *J*	0.012 *J*	0.009 *J*	9440	9300
MW1	K1004032		Integral	April 2010	4/22/2010	15:00	135	127	0.14 *UJ*	0.08 *UJ*	0.006 *UJ*	0.003 *UJ*	10700 *J*	10900 *J*
MW1	K1008751		Integral	August 2010	8/10/2010	16:00	148	127	0.17 *J*	0.16 *J*	0.021	0.017 *UJ*	16000	15500
MW1	K1011739		Integral	October 2010	10/19/2010	13:40	297	202	0.3 *J*	0.2 *J*	0.024	0.019 *J*	11400	11700
MW1	K1100642		Integral	January 2011	1/20/2011	15:15	112	88.9	0.1 *J*	0.07 *U*	0.014 *UJ*	0.011 *UJ*	11300	11300
MW1	K1103541		Integral	April 2011	4/20/2011	14:40	179	105	0.16 *J*	0.19 *J*	0.013 *J*	0.01 *J*	13600	13500
MW1	K1106862		Integral	July 2011 II	7/25/2011	14:10	218	217	0.2 *J*	0.1 *J*	0.028 *UJ*	0.012 *UJ*	16600	16100
MW1	K1112358		Integral	December 2011	12/20/2011	15:10	202	142	0.17 *J*	0.15 *J*	0.01 *UJ*	0.005 *UJ*	12200	12300
MW2		L495369	Knight Piesold	April 2007	4/10/2007	15:10	3400	519	0.81	0.48	0.036	0.017 *U*	1090	1160
MW2		L507191	Knight Piesold	May 2007	5/14/2007	11:20	2960	561	0.84	0.41	0.03	0.017 *U*	1260	1360
MW2		L515743	Knight Piesold	June 2007	6/4/2007	13:58	1970	702	0.87	0.7	0.024	0.017 *U*	1870	1920
MW2		L526591	Knight Piesold	July 2007 I	7/2/2007	14:00	29.7	27.7	0.1 *U*	0.1 *U*	0.026	0.035	9430	9190
MW2	K0706569		Integral	July 2007 II	7/24/2007	12:10	2140	782	1.07	0.71	0.053 *U*	0.016 *U*	1810	1690
MW2	K0707317		Integral	August 2007 I	8/14/2007	11:40	4120	740	0.93	0.77	0.022 *U*	0.008 *U*	1130	1050
MW2	K0707782		Integral	August 2007 II	8/28/2007	16:20	6600 *J*	1460	2.25	0.88	0.15	0.016 *J*	5180	908
MW2	K0708240		Integral	September 2007 I	9/11/2007	11:00	3710 *J*	1280 *J*	0.99	0.61	0.073	0.007 *UJ*	1650	976
MW2	K0709126		Integral	September 2007 II	9/30/2007	16:15	4190	946	1.07	0.62	0.079	0.018 *U*	1570	835
MW2	K0709804		Integral	October 2007	10/16/2007	13:30	3070	838	0.78	0.43 *J*	0.045	0.016 *J*	1210	731
MW2	K0710773		Integral	November 2007	11/12/2007	14:30	4000	719	1.09	0.64	0.092	0.018 *UJ*	1200	637
MW2	K0711891		Integral	December 2007 I	12/14/2007	14:30	10300 *J*	666 *J*	1.3	0.35 *UJ*	0.102	0.011 *U*	1400	547
MW2	K0800335		Integral	January 2008	1/8/2008	12:49	5780	549	1.04	0.27 *UJ*	0.07 *UJ*	0.005 *UJ*	965	613
MW2	K0801400		Integral	Februrary 2008	2/13/2008	15:30	2130 *J*	425 *J*	0.79	0.3 *UJ*	0.036 *UJ*	0.007 *UJ*	683	523
MW2	K0802328		Integral	March 2008	3/14/2008	13:00	1740 *J*	420 *J*	0.57	0.35 *J*	0.033 *UJ*	0.005 *UJ*	582	430
MW2	K0803239		Integral	April 2008	4/14/2008	13:00	1480	288	0.4 *J*	0.13 *J*	0.026 *UJ*	0.007 *UJ*	559	400
MW2	K0804080		Integral	May 2008	5/7/2008	16:20	1570 *J*	355 *J*	0.54 *J*	0.46 *J*	0.027 *J*	0.005 *U*	616	449
MW2	K0805877		Integral	June 2008	6/26/2008	16:10	1300 *J*	537	0.56	0.38 *J*	0.029 *UJ*	0.007 *UJ*	597	574
MW2	K0806880		Integral	July 2008	7/24/2008	12:15	1640 *J*	500 *J*	0.65	0.51	0.021 *UJ*	0.005 *UJ*	628	570
MW2	K0807975		Integral	August 2008	8/19/2008	11:00	1850	528	0.69	0.28 *J*	0.026 *UJ*	0.005 *UJ*	592	526
MW2	K0808787		Integral	September 2008	9/9/2008	14:00	1810 *J*	575 *J*	0.69 *J*	0.55 *J*	0.029 *UJ*	0.06 *U*	581	521
MW2	K0810253		Integral	October 2008	10/15/2008	13:45	1090 *J*	580 *J*	0.43 *J*	0.42 *J*	0.015 *UJ*	0.006 *UJ*	641	482
MW2	K0902142		Integral	March 2009	3/8/2009	15:35	1180	279	0.3 *J*	0.3 *J*	0.014 *J*	0.005 *U*	422 *U*	463
MW2	K0904395		Integral	May 2009	5/13/2009	11:45	1360	331	0.3 *J*	0.3 *J*	0.021	0.005 *J*	522	407 *U*
MW2	K0906701		Integral	July 2009	7/24/2009	15:45	1460 *J*	582 *J*	0.49 *J*	0.36 *J*	0.023 *UJ*	0.006 *UJ*	502	565
MW2	K0908619		Integral	September 2009 II	9/12/2009	17:00	924	577	0.4 *UJ*	0.4 *UJ*	0.013 *UJ*	0.005 *UJ*	539 *J*	517 *J*
MW2	K0910115		Integral	October 2009	10/17/2009	08:52	904	496	0.45 *J*	0.34 *J*	0.015 *UJ*	0.006 *UJ*	426	433
MW2	K1000512		Integral	January 2010	1/15/2010	11:49	1280	313	0.4 *J*	0.24 *J*	0.021	0.004 *J*	718	643
MW2	K1004032		Integral	April 2010	4/22/2010	11:40	752	199	0.3 *UJ*	0.27 *UJ*	0.014 *UJ*	0.005 *UJ*	382 *J*	366 *J*
MW2	K1008751		Integral	August 2010	8/10/2010	14:15	615	247	0.33 *J*	0.28 *J*	0.017 *UJ*	0.011 *UJ*	1040	1110

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
MW2	K1011739		Integral	October 2010	10/19/2010	14:25	440	248	0.3 *J*	0.1 *J*	0.01 *J*	0.005 *U*	911	855
MW2	K1100642		Integral	January 2011	1/20/2011	12:10	410	188	0.25 *J*	0.16 *J*	0.014 *UJ*	0.003 *UJ*	881	838
MW2	K1103541		Integral	April 2011	4/20/2011	13:20	339	188	0.25 *J*	0.22 *J*	0.016 *J*	0.003 *U*	955	908
MW2	K1106862		Integral	July 2011 II	7/24/2011	17:10	362	218	0.3 *J*	0.3 *J*	0.022 *UJ*	0.005 *UJ*	1270	1130
MW2	K1112358		Integral	December 2011	12/20/2011	14:10	330	194	0.29 *J*	0.29 *J*	0.02 *UJ*	0.004 *UJ*	498	693
MW3		L482967	Knight Piesold	February 2007	2/28/2007	11:12	950	483	0.5 *U*	0.5 *U*	0.02	0.019	1070	1110
MW3		L495369	Knight Piesold	April 2007	4/10/2007	12:35	7770	583	0.98	0.38	0.065	0.017 *U*	2550	501
MW3		L507191	Knight Piesold	May 2007	5/14/2007	11:57	15300	903	1.34	0.87	0.07	0.017 *U*	2720	1200
MW3		L515743	Knight Piesold	June 2007	6/4/2007	14:54	9560	1100	1.12	0.62	0.048	0.017 *U*	3520	1520
MW3		L526591	Knight Piesold	July 2007 I	7/2/2007	15:45	1740	874	0.45	0.41	0.017 *U*	0.017 *U*	2090	1910
MW3	K0706569		Integral	July 2007 II	7/24/2007	13:20	1630	1240	0.82	0.75	0.03 *U*	0.017 *U*	2280	2000
MW3	K0707317		Integral	August 2007 I	8/14/2007	12:20	7510	1170	0.88	0.68	0.03 *U*	0.008 *U*	2360	1890
MW3	K0707782		Integral	August 2007 II	8/28/2007	16:55	860 *J*	392	0.27 *J*	0.21 *J*	0.028	0.018 *J*	1130	867
MW3	K0708240		Integral	September 2007 I	9/10/2007	16:20	1630 *J*	1550 *J*	0.76	0.78	0.045 *UJ*	0.062	1730	1570
MW3	K0709126		Integral	September 2007 II	9/30/2007	16:55	2740	1100	0.75	0.45 *J*	0.071	0.019 *U*	2400	1430
MW3	K0709804		Integral	October 2007	10/17/2007	09:10	1300	865	0.39 *J*	0.37 *J*	0.017 *J*	0.007 *U*	1600	1380
MW3	K0710773		Integral	November 2007	11/12/2007	13:20	1220	638	0.49 *J*	0.44 *J*	0.037 *UJ*	0.011 *UJ*	1610	1380
MW3	K0711891		Integral	December 2007 I	12/15/2007	09:00	1600 *J*	326 *J*	0.15 *UJ*	0.11 *UJ*	0.033 *U*	0.007 *U*	704	625
MW3	K0800335		Integral	January 2008	1/8/2008	13:18	436	180	0.29 *J*	0.13 *UJ*	0.029 *UJ*	0.029 *UJ*	849	869
MW3	K0801400		Integral	Februrary 2008	2/13/2008	15:40	552 *J*	261 *J*	0.36 *UJ*	0.08 *UJ*	0.009 *UJ*	0.015 *UJ*	864	728
MW3	K0802328		Integral	March 2008	3/14/2008	14:20	289 *J*	273 *J*	0.27 *J*	0.21 *J*	0.006 *UJ*	0.008 *UJ*	638	656
MW3	K0803239		Integral	April 2008	4/14/2008	13:35	430	295	0.16 *J*	0.14 *J*	0.011 *UJ*	0.007 *UJ*	1320	1170
MW3	K0804080		Integral	May 2008	5/7/2008	15:45	293 *J*	276 *J*	0.21 *J*	0.17 *J*	0.005 *U*	0.005 *U*	1170	1150
MW3	K0805877		Integral	June 2008	6/27/2008	10:15	1100 *J*	798	0.49 *J*	0.44 *J*	0.014 *UJ*	0.013 *UJ*	1460	1400
MW3	K0806880		Integral	July 2008	7/24/2008	12:40	1680 *J*	1610 *J*	0.76	0.74	0.016 *UJ*	0.014 *UJ*	1970	1960
MW3	K0807975		Integral	August 2008	8/19/2008	9:30	1770	1550	0.66	1.01	0.019 *UJ*	0.015 *UJ*	2360	2320
MW3	K0808787		Integral	September 2008	9/9/2008	11:30	1920 *J*	1510 *J*	0.89 *J*	0.82 *J*	0.042 *UJ*	0.053 *U*	2510	2140
MW3	K0810253		Integral	October 2008	10/15/2008	10:20	1280 *J*	1120 *J*	0.63	0.66	0.015 *UJ*	0.015 *UJ*	1890	1760
MW3	K0902142		Integral	March 2009	3/8/2009	15:10	427	332	0.2 *U*	0.2 *U*	0.008 *J*	0.006 *J*	736	762
MW3	K0904395		Integral	May 2009	5/13/2009	10:00	903	642	0.4 *J*	0.3 *J*	0.01 *J*	0.005 *J*	1180	1090
MW3	K0906701		Integral	July 2009	7/24/2009	14:15	954 *J*	403 *J*	0.38 *J*	0.29 *J*	0.02 *UJ*	0.012 *UJ*	1030	818
MW3	K0908619		Integral	September 2009 II	9/12/2009	14:35	640	613	0.6 *UJ*	0.6 *UJ*	0.014 *UJ*	0.008 *UJ*	1010 *J*	1070 *J*
MW3	K0910115		Integral	October 2009	10/17/2009	09:44	313	304	0.21 *J*	0.14 *J*	0.012 *UJ*	0.013 *UJ*	849	857
MW3	K1000512		Integral	January 2010	1/15/2010	12:36	244	234	0.13 *J*	0.2 *J*	0.01 *J*	0.01 *J*	1060	993
MW3	K1004032		Integral	April 2010	4/22/2010	8:45	121	113	0.08 *UJ*	0.1 *UJ*	0.003 *UJ*	0.003 *UJ*	1820 *J*	1620 *J*
MW3	K1008751		Integral	August 2010	8/10/2010	10:05	799	422	0.28 *J*	0.22 *J*	0.017 *UJ*	0.016 *UJ*	1500	1270
MW3	K1011739		Integral	October 2010	10/19/2010	09:55	290	257	0.2 *J*	0.2 *J*	0.015 *J*	0.01 *J*	1370	1340
MW3	K1100642		Integral	January 2011	1/20/2011	10:40	336	293	0.11 *J*	0.15 *J*	0.009 *UJ*	0.008 *UJ*	788	791
MW3	K1103541		Integral	April 2011	4/20/2011	13:00	301	260	0.22 *J*	0.16 *J*	0.006 *J*	0.006 *J*	747	725
MW3	K1106862		Integral	July 2011 II	7/24/2011	15:00	577	534	0.2 *J*	0.2 *J*	0.016 *UJ*	0.005 *UJ*	1140	1150
MW3	K1112358		Integral	December 2011	12/20/2011	11:45	559	482	0.33 *J*	0.31 *J*	0.062	0.006 *UJ*	978	1010
MW4		L482967	Knight Piesold	February 2007	2/27/2007	08:39	5170	457	0.71	0.5 *U*	0.044	0.017 *U*	1240	700
MW4		L495369	Knight Piesold	April 2007	4/10/2007	13:23	1960	433	0.29	0.1 *U*	0.053	0.028	1050	702
MW4		L507191	Knight Piesold	May 2007	5/14/2007	13:13	1650	518	0.37	0.19	0.082	0.038	1360	1340
MW4		L515743	Knight Piesold	June 2007	6/4/2007	11:02	837	475	0.17	0.11	0.05	0.028	1220	1140
MW4	K0706569		Integral	July 2007 II	7/23/2007	17:00	881	698	0.53	0.53	0.061 *U*	0.036 *U*	1910	1800

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
MW4	K0707782		Integral	August 2007 II	8/27/2007	16:20	845 *J*	551	0.28 *J*	0.19 *J*	0.054	0.035 *J*	1340	1070
MW4	K0708240		Integral	September 2007 I	9/10/2007	17:00	1660 *J*	1340 *J*	0.82	0.64	0.107	0.058	2230	1910
MW4	K0709126		Integral	September 2007 II	9/30/2007	17:30	1130	1080	0.82	0.78	0.128	0.097	2570	2250
MW4	K0709804		Integral	October 2007	10/16/2007	16:40	1250	1090	0.79	0.74	0.084	0.056	2420	2490
MW4	K0710773		Integral	November 2007	11/12/2007	11:50	653	611	0.7	0.7	0.113	0.042 *UJ*	1670	1620
MW4	K0711891		Integral	December 2007 I	12/15/2007	09:45	1590 *J*	260 *J*	0.15 *UJ*	0.06 *U*	0.054 *U*	0.026 *U*	770	560
MW4	K0800335		Integral	January 2008	1/8/2008	14:48	265	140	0.2 *J*	0.1 *UJ*	0.062 *UJ*	0.026 *UJ*	923	956
MW4	K0801400		Integral	Februrary 2008	2/13/2008	11:30	151 *J*	100 *J*	0.27 *UJ*	0.06 *UJ*	0.035 *UJ*	0.032 *UJ*	633	643
MW4	K0802328		Integral	March 2008	3/15/2008	8:15	272 *J*	176 *J*	0.23 *J*	0.12 *J*	0.049	0.033 *UJ*	922	871
MW4	K0803239		Integral	April 2008	4/14/2008	10:00	205	126	0.06 *U*	0.06 *U*	0.046	0.032 *UJ*	1150	1060
MW4	K0804080		Integral	May 2008	5/8/2008	15:50	214 *J*	178 *J*	0.18 *J*	0.15 *J*	0.025	0.045	1320	1280
MW4	K0805877		Integral	June 2008	6/27/2008	11:15	647 *J*	534	0.26 *J*	0.36 *J*	0.05	0.045 *UJ*	1070	1060
MW4	K0806880		Integral	July 2008	7/24/2008	10:15	483 *J*	485 *J*	0.38 *J*	0.48 *J*	0.029 *UJ*	0.025 *UJ*	1480	1430
MW4	K0807975		Integral	August 2008	8/19/2008	10:15	878	309	0.2 *U*	0.2 *U*	0.082	0.058 *UJ*	1610	1480
MW4	K0808787		Integral	September 2008	9/9/2008	14:45	542 *J*	402 *J*	0.84 *J*	0.66 *J*	0.125	0.104 *U*	2520	2360
MW4	K0810253		Integral	October 2008	10/15/2008	11:40	462 *J*	434 *J*	0.56	0.53	0.034	0.01 *UJ*	2010	1670
MW4	K0902142		Integral	March 2009	3/8/2009	14:12	199	121	0.2 *U*	0.2 *U*	0.018 *J*	0.016 *J*	1120	1050
MW4	K0904395		Integral	May 2009	5/13/2009	11:00	177	94.9	0.2 *U*	0.2 *U*	0.065	0.039	2850	2680
MW4	K0906701		Integral	July 2009	7/23/2009	9:20	743 *J*	341 *J*	0.71	0.58	0.168	0.027	3310	3040
MW4	K0908619		Integral	September 2009 II	9/13/2009	07:50	478	473	0.7 *UJ*	0.8	0.012 *UJ*	0.005 *UJ*	3990 *J*	4170 *J*
MW4	K0910115		Integral	October 2009	10/17/2009	11:00	392	367	0.46 *J*	0.48 *J*	0.01 *UJ*	0.007 *UJ*	3180	3390
MW4	K1000512		Integral	January 2010	1/15/2010	13:34	308	252	0.4 *J*	0.37 *J*	0.025	0.016 *J*	2820	2840
MW4	K1004032		Integral	April 2010	4/22/2010	10:00	254	214	0.56	0.54	0.022 *UJ*	0.011 *UJ*	3940 *J*	4020 *J*
MW4	K1008751		Integral	August 2010	8/10/2010	11:45	185	160	0.78	0.75	0.043	0.016 *UJ*	7520	7710
MW4	K1011739		Integral	October 2010	10/19/2010	10:50	231	177	0.6	0.6	0.029	0.005 *U*	6030	5990
MW4	K1100642		Integral	January 2011	1/20/2011	11:45	116	97.4	0.47 *J*	0.35 *J*	0.01 *UJ*	0.004 *UJ*	7520	7320
MW4	K1103541		Integral	April 2011	4/20/2011	11:15	95.1	83.7	0.4 *J*	0.37 *J*	0.011 *J*	0.009 *J*	11500	11400
MW4	K1106862		Integral	July 2011 II	7/24/2011	16:10	81.8	71	0.6	0.5	0.014 *UJ*	0.011 *UJ*	15000	14700
MW4	K1112358		Integral	December 2011	12/20/2011	13:00	1110	178	0.63	0.49 *J*	0.03 *U*	0.008 *UJ*	7770	7660
MW7		L482967	Knight Piesold	February 2007	2/28/2007	13:00	4970	246	2.36	0.74	0.518	0.051	6040	5390
MW7		L495369	Knight Piesold	April 2007	4/10/2007	14:24	845	217	0.76	0.53	0.152	0.017 *U*	7330	7260
MW7		L507191	Knight Piesold	May 2007	5/15/2007	08:40	746	460	0.78	0.67	0.114	0.045	8400	8610
MW7		L515743	Knight Piesold	June 2007	6/5/2007	09:00	348	243	0.68	0.76	0.092	0.019	8760	9330
MW7		L526591	Knight Piesold	July 2007 I	7/1/2007	11:20	326	196	0.76	0.76	0.046	0.017 *U*	8380	8790
MW7	K0706569		Integral	July 2007 II	7/23/2007	13:47	387	253	0.97	0.93	0.078 *U*	0.04 *U*	8100	8040
MW7	K0707317		Integral	August 2007 I	8/13/2007	12:55	386	251	1.1	1.08	0.074 *U*	0.02 *U*	8400	8400
MW7	K0707782		Integral	August 2007 II	8/28/2007	14:35	269 *J*	216	1.02	0.97	0.047	0.017 *J*	7940	7820
MW7	K0708240		Integral	September 2007 I	9/10/2007	12:25	581 *J*	297 *J*	0.86	0.84	0.055	0.008 *UJ*	7830	8130
MW7	K0709126		Integral	September 2007 II	9/30/2007	13:40	657	251	0.89	0.75	0.076	0.015 *U*	8270	7580
MW7	K0709804		Integral	October 2007	10/16/2007	10:35	448	245	0.62	0.54	0.059	0.007 *U*	7000	7020
MW7	K0710773		Integral	November 2007	11/13/2007	07:45	282	193	0.59	0.53	0.075 *UJ*	0.033 *UJ*	6690	6640
MW7	K0711891		Integral	December 2007 I	12/15/2007	11:20	1530 *J*	819 *J*	0.38 *UJ*	0.3 *UJ*	0.078 *U*	0.026 *U*	5250	4760
MW7	K0800335		Integral	January 2008	1/9/2008	09:18	550	179	0.43 *J*	0.34 *UJ*	0.062 *UJ*	0.016 *UJ*	5900	5650
MW7	K0801400		Integral	Februrary 2008	2/14/2008	12:05	248 *J*	170 *J*	0.43 *UJ*	0.15 *UJ*	0.043 *UJ*	0.032 *UJ*	4470	4370
MW7	K0802328		Integral	March 2008	3/13/2008	15:10	296 *J*	145 *J*	0.28 *J*	0.16 *J*	0.044 *UJ*	0.011 *UJ*	4620	4600
MW7	K0803239		Integral	April 2008	4/13/2008	15:45	501	105	0.26 *J*	0.06 *U*	0.095	0.017 *UJ*	5250	5030

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
MW7	K0804080		Integral	May 2008	5/6/2008	10:45	159 *J*	104 *J*	0.27 *J*	0.19 *J*	0.039	0.034	5330	5280
MW7	K0805877		Integral	June 2008	6/26/2008	13:30	686 *J*	182	0.56	0.32 *J*	0.143	0.017 *UJ*	5520	5350
MW7	K0806880		Integral	July 2008	7/25/2008	9:30	215 *J*	168 *J*	0.47 *J*	0.36 *J*	0.049	0.015 *UJ*	4930	5130
MW8		L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	617	137	0.32	0.31	0.034	0.031	14600	14000
MW8	K0706569		Integral	July 2007 II	7/23/2007	12:00	36.3	9.1	0.21 *J*	0.21 *J*	0.047 *U*	0.057 *U*	15100	14800
MW8	K0707317		Integral	August 2007 I	8/13/2007	12:00	46.4	6.6	0.34 *J*	0.28 *J*	0.06 *U*	0.044 *U*	14400	14200
MW8	K0707782		Integral	August 2007 II	8/28/2007	10:00	34.3 *J*	6 *U*	0.09 *J*	0.07 *U*	0.04	0.036 *J*	13000	13300
MW8	K0708240		Integral	September 2007 I	9/10/2007	11:20	19.6 *J*	11.8 *J*	0.27 *J*	0.19 *J*	0.048	0.031 *UJ*	15100	15600
MW8	K0709126		Integral	September 2007 II	9/30/2007	10:45	11.6	9.7	0.21 *J*	0.19 *J*	0.036 *U*	0.041 *U*	17300	17000
MW8	K0709804		Integral	October 2007	10/16/2007	15:50	70.1	28.7	0.06 *U*	0.07 *J*	0.025	0.015 *J*	13500	13700
MW8	K0710773		Integral	November 2007	11/12/2007	16:15	31.7	14.4	0.19 *J*	0.22 *J*	0.084	0.045 *UJ*	14800	15300
MW8	K0711891		Integral	December 2007 I	12/14/2007	10:50	11.1 *U*	3.2 *UJ*	0.13 *UJ*	0.14 *UJ*	0.046 *U*	0.047 *U*	15900	17100
MW8	K0800335		Integral	January 2008	1/8/2008	09:41	18.8	5.4	0.36 *J*	0.08 *U*	0.035 *UJ*	0.032 *UJ*	13900	15500
MW8	K0801400		Integral	Februrary 2008	2/13/2008	10:00	10.1 *U*	4.6 *J*	0.29 *UJ*	0.15 *UJ*	0.032 *UJ*	0.032 *UJ*	17600	17900
MW8	K0802328		Integral	March 2008	3/13/2008	12:45	15.2 *J*	4.8 *UJ*	0.13 *J*	0.18 *J*	0.021 *UJ*	0.026 *UJ*	14300	15100
MW8	K0803239		Integral	April 2008	4/14/2008	9:00	20.8	4.4	0.11 *J*	0.06 *U*	0.032 *UJ*	0.031 *UJ*	15700	15500
MW8	K0804080		Integral	May 2008	5/6/2008	15:15	9.7 *U*	9.2 *J*	0.13 *J*	0.08 *U*	0.059	0.045	17300	16800
MW8	K0805877		Integral	June 2008	6/26/2008	10:45	8 *J*	3.5	0.21 *J*	0.2 *U*	0.03 *UJ*	0.035 *UJ*	17300	16900
MW9		L526591	Knight Piesold	July 2007 I	7/2/2007	12:30	612	37	0.16	0.1 *U*	0.017 *U*	0.017 *U*	25800	26400
MW9	K0706569		Integral	July 2007 II	7/23/2007	16:07	1110	58.6	0.38 *J*	0.18 *J*	0.041 *U*	0.035 *U*	24100	23200
MW9	K0707317		Integral	August 2007 I	8/13/2007	15:20	2580	37	0.4 *J*	0.14 *J*	0.03 *U*	0.008 *U*	26500	24600
MW9	K0707782		Integral	August 2007 II	8/28/2007	15:00	401 *J*	36	0.09 *J*	0.07 *U*	0.008 *J*	0.008 *UJ*	22500	23500
MW9	K0708240		Integral	September 2007 I	9/10/2007	13:20	467 *J*	29.8 *J*	0.31 *J*	0.18 *J*	0.031 *UJ*	0.007 *U*	24300	25500
MW9	K0709126		Integral	September 2007 II	9/30/2007	14:30	370	31.9	0.25 *J*	0.2 *J*	0.028 *U*	0.015 *U*	25400	25000
MW9	K0709804		Integral	October 2007	10/16/2007	16:55	1610	30	0.33 *J*	0.07 *J*	0.018 *J*	0.007 *U*	26000	25100
MW9	K0710773		Integral	November 2007	11/12/2007	15:00	211	25	0.28 *J*	0.18 *J*	0.025 *UJ*	0.022 *UJ*	26000	26900
MW9	K0711891		Integral	December 2007 I	12/14/2007	11:15	3520 *J*	22.9 *J*	0.38 *UJ*	0.16 *UJ*	0.041 *U*	0.023 *U*	24800	23200
MW9	K0800335		Integral	January 2008	1/8/2008	08:35	943	24.5	0.42 *J*	0.13 *UJ*	0.035 *UJ*	0.008 *UJ*	22700	23800
MW9	K0801400		Integral	Februrary 2008	2/13/2008	12:00	86.7 *J*	19.3 *J*	0.25 *UJ*	0.15 *UJ*	0.021 *UJ*	0.016 *UJ*	24400	23100
MW9	K0802328		Integral	March 2008	3/13/2008	16:15	1360 *J*	29.3 *J*	0.27 *J*	0.09 *J*	0.017 *UJ*	0.005 *UJ*	25300	22400
MW9	K0803239		Integral	April 2008	4/14/2008	10:40	448	32.8	0.22 *J*	0.09 *J*	0.01 *UJ*	0.007 *UJ*	23100	22600
MW9	K0804080		Integral	May 2008	5/6/2008	17:45	420 *J*	20.8 *J*	0.15 *J*	0.23 *J*	0.007 *J*	0.005 *U*	23600	24800
MW9	K0805877		Integral	June 2008	6/26/2008	15:15	194 *J*	19.9	0.22 *J*	0.2 *U*	0.008 *UJ*	0.008 *UJ*	24000	24100

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
EFF1	K0710773		Integral	November 2007	11/13/2007	14:40	7.31	6.8	3.55	1.15	505	13.9 *UJ*	0.399	0.028 *UJ*
EFF1	K0711891		Integral	December 2007 I	12/16/2007	10:45	17.7	17.7	3.7 *J*	2.11 *J*	179	33.2	0.615	0.044 *UJ*
EFF1	K0800335		Integral	January 2008	1/9/2008	07:45	15.5	16.5	2.4	1.81	62.8 *UJ*	19.8 *UJ*	0.129	0.026 *UJ*
EFF1	K0801400		Integral	Februrary 2008	2/13/2008	13:20	15.8	12.9	6.3	1.37	1690	33.2 *UJ*	1.58	0.104
EFF1	K0802328		Integral	March 2008	3/17/2008	7:00	37.5	32.6	12.8	2.94	6080	30.4	3.03	0.02 *J*
EFF1	K0803239		Integral	April 2008	4/15/2008	8:30	35.3	33.4	9.55	5.19	2070	67.1	1.68	0.025 *UJ*
EFF1	K0804080		Integral	May 2008	5/8/2008	11:45	29.1	25.6	8.12	2.65	3100	53 *UJ*	2.11	0.065 *UJ*
EFF1	K0805877		Integral	June 2008	6/27/2008	15:15	17.9	11.6	16.6 *J*	1.76 *U*	4890	13.4 *UJ*	6.3	0.041 *UJ*
EFF1	K0806880		Integral	July 2008	7/25/2008	10:00	7.42	2.15	27	0.76	4480	16.9 *UJ*	5.92	0.048
EFF1	K0807975		Integral	August 2008	8/19/2008	16:30	4.91	1 *U*	37.4	1.09	4260	9.6 *UJ*	3.76	0.028 *UJ*
EFF1	K0808787		Integral	September 2008	9/9/2008	15:30	1.85	1.08	4.45 *J*	2.2 *J*	574	95.6	0.87	0.164
EFF1	K0810253		Integral	October 2008	10/15/2008	14:30	1.02	0.73	3.08	1.3	218	7.7 *UJ*	0.716	0.051 *UJ*
EFF1	K0902142		Integral	March 2009	3/9/2009	14:00	1.34	1.3	7.53	6.91	15.8 *UJ*	6.5 *UJ*	1.3	0.785
EFF1	K0904395		Integral	May 2009	5/14/2009	10:20	1.07	1.15	7.41	6.43	12.8 *UJ*	4 *UJ*	1.48	0.664
EFF1	K0906701		Integral	July 2009	7/23/2009	11:50	1.22	0.99	7.4	5.87	24.2 *UJ*	12.2 *UJ*	1.44	0.488
EFF1	K0910233		Integral	October 2009	10/18/2009	10:40	--	--	4.03	0.62	545	15.9 *U*	0.972	0.057
EFF1	K1000512		Integral	January 2010	1/16/2010	10:00	--	--	13.1	0.73 *U*	1380	22.6 *UJ*	3.05	0.076 *U*
EFF1	K1004032		Integral	April 2010	4/21/2010	11:00	--	--	3.8 *J*	1.13 *J*	1160	47.5	0.488	0.06
EFF1	K1007431		Integral	July 2010	7/14/2010	08:30	2.1	0.53 *UJ*	3.78	0.36	831	10.9 *UJ*	0.714	0.026 *U*
EFF1	K1008751		Integral	August 2010	8/11/2010	06:15	2.11	0.44 *UJ*	4.38	0.89	793	40.2	0.367	0.098
EFF1	K1011739		Integral	October 2010	10/18/2010	15:30	0.6 *U*	--	6.83	0.92	2050 *J*	27.3 *UJ*	1.32	0.038
EFF1	K1100642		Integral	January 2011	1/19/2011	14:35	7.81	1.93	15	1.12	2460	173	1.47	0.098
EFF1	K1103541		Integral	April 2011	4/21/2011	11:30	--	--	4.99	0.78 *U*	881 *J*	15.9 *UJ*	1.16	0.042 *UJ*
EFF1	K1106862		Integral	July 2011 II	7/24/2011	10:15	5.11	2.1	63.5	6.39	1660	8.2 *UJ*	0.342	0.005 *UJ*
EFF1	K1108476		Integral	September 2011	9/7/2011	8:20	5.61	0.75	46.6	20.1	1770 *J*	234 *J*	0.27	0.052 *UJ*
EFF1	K1109861		Integral	October 2011	10/11/2011		1.63 *J*	0.31 *UJ*	3.22	0.58	686 *J*	19.9 *UJ*	0.198 *J*	0.013 *J*
EFF1	K1112358		Integral	December 2011	12/21/2011	10:00	0.77	0.73	2.23	1.32	78	3.5 *UJ*	0.155	0.016 *J*
MW1		L482967	Knight Piesold	February 2007	2/28/2007	08:45	1.1	1 *U*	18.1	1.8	1150	686	3.33	0.59
MW1		L495369	Knight Piesold	April 2007	4/10/2007	08:25	0.5 *U*	0.5 *U*	2.69	0.66	2050	1890	1.18	0.253
MW1		L507191	Knight Piesold	May 2007	5/14/2007	10:49	0.5 *U*	0.5 *U*	1.49	0.7	1950	1940	0.847	0.293
MW1		L515743	Knight Piesold	June 2007	6/4/2007	13:06	0.5 *U*	0.5 *U*	2.71	0.86	2190	2280	0.789	0.301
MW1		L526591	Knight Piesold	July 2007 I	7/2/2007	11:45	0.5 *U*	0.5 *U*	3.85	0.6	2160	2230	0.556	0.263
MW1	K0706569		Integral	July 2007 II	7/24/2007	11:44	0.64 *U*	0.95 *U*	2.46	1.55	2520	2520	0.944	0.544
MW1	K0707317		Integral	August 2007 I	8/14/2007	11:05	0.37 *U*	0.35 *U*	1.52	0.81	1760	1730	0.467	0.218
MW1	K0707782		Integral	August 2007 II	8/28/2007	17:40	0.63 *U*	0.69 *U*	1.83	1.1 *J*	2230	2210	0.603	0.348 *J*
MW1	K0708240		Integral	September 2007 I	9/11/2007	10:20	0.83 *U*	0.68 *U*	2.53	1.83	2180	2200	0.954	0.617
MW1	K0709126		Integral	September 2007 II	9/30/2007	15:45	0.81 *U*	0.78 *U*	2.87	1.77	2480	2280	1.16	0.814
MW1	K0709804		Integral	October 2007	10/16/2007	12:25	0.78 *U*	0.86 *U*	2.57	1.78	2400	2530	1.35	1.04
MW1	K0710773		Integral	November 2007	11/12/2007	14:05	0.85 *U*	0.7 *U*	2.82	1.37	3350	3030	1.42	0.759
MW1	K0711891		Integral	December 2007 I	12/14/2007	13:00	3.44	0.56 *U*	38.5 *J*	1.1 *J*	4670	1120	11.6	0.398
MW1	K0800335		Integral	January 2008	1/9/2008	10:00	0.47 *U*	0.58 *U*	2.56	0.7	1860	1630	0.549	0.231
MW1	K0801400		Integral	Februrary 2008	2/14/2008	8:30	1.26 *U*	0.43 *U*	6.08	0.78	2580	1690	2.22	0.247
MW1	K0802328		Integral	March 2008	3/14/2008	10:10	0.56 *U*	0.63 *U*	0.94	0.54	1920	1730	0.352	0.199
MW1	K0803239		Integral	April 2008	4/15/2008	6:30	0.44 *U*	0.56 *U*	0.73	0.51	2080	2030	0.278	0.196
MW1	K0804080		Integral	May 2008	5/7/2008	17:15	0.58 *U*	0.39 *U*	2.49 *U*	0.76	2030	1840	0.83	0.285
MW1	K0805877		Integral	June 2008	6/26/2008	17:15	0.72 *U*	0.68 *U*	2.1 *U*	1.38 *U*	2120	1920	0.877	0.485

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
MW1	K0806880		Integral	July 2008	7/24/2008	13:35	0.72 *U*	0.66 *U*	2.23	1.2	2150	2110	0.822	0.394
MW1	K0807975		Integral	August 2008	8/19/2008	11:45	--	--	3.09	1.7	2210	2110	1.09	0.573
MW1	K0808787		Integral	September 2008	9/9/2008	13:30	--	--	2.51 *J*	1.43 *J*	2260	2290	0.897	0.603
MW1	K0810253		Integral	October 2008	10/15/2008	15:00	--	--	2.12	0.98 *U*	1920	1880	0.768	0.344
MW1	K0902142		Integral	March 2009	3/9/2009	10:10	--	--	1.64	0.85 *U*	1120	993	0.542	0.282
MW1	K0904395		Integral	May 2009	5/13/2009	12:45	--	--	25.7	0.92	3430	1400	7.24	0.386
MW1	K0906701		Integral	July 2009	7/24/2009	15:15	--	--	2.74	1.74	1250	1030	1.22	0.774
MW1	K0910115		Integral	October 2009	10/17/2009	16:02	--	--	1.32	0.9	1210	1210	0.465	0.314
MW1	K1000512		Integral	January 2010	1/17/2010	09:37	--	--	0.96	0.64 *U*	1050	988	0.479	0.336
MW1	K1004032		Integral	April 2010	4/22/2010	15:00	--	--	1.17 *J*	0.78 *J*	1270	1220	0.438	0.274
MW1	K1008751		Integral	August 2010	8/10/2010	16:00	--	--	1.77	1.24	709	668	0.453	0.334
MW1	K1011739		Integral	October 2010	10/19/2010	13:40	--	--	2.87	1.88	978 *J*	786 *J*	1.09	0.69
MW1	K1100642		Integral	January 2011	1/20/2011	15:15	--	--	1.65	0.91	386	320	0.462	0.218
MW1	K1103541		Integral	April 2011	4/20/2011	14:40	--	--	1.91	1.03 *U*	672 *J*	507 *J*	0.614	0.274
MW1	K1106862		Integral	July 2011 II	7/25/2011	14:10	--	--	2.2	1.65	954	931	0.712	0.58
MW1	K1112358		Integral	December 2011	12/20/2011	15:10	--	--	1.39	0.95	922	798	0.532	0.301
MW2		L495369	Knight Piesold	April 2007	4/10/2007	15:10	7.36	0.5 *U*	10.3	0.83	4610	2970	1.45	0.137
MW2		L507191	Knight Piesold	May 2007	5/14/2007	11:20	7.16	1.3	10.2	0.84	6590	8430	1.26	0.111
MW2		L515743	Knight Piesold	June 2007	6/4/2007	13:58	4.72	1.45	7.59	1.78	7640	8650	1.03	0.171
MW2		L526591	Knight Piesold	July 2007 I	7/2/2007	14:00	0.5 *U*	0.5 *U*	1.49	1.5	33	30 *U*	0.05 *U*	0.05 *U*
MW2	K0706569		Integral	July 2007 II	7/24/2007	12:10	4.07	1.73	8.12	1.88	10500	7210	1.52	0.266
MW2	K0707317		Integral	August 2007 I	8/14/2007	11:40	3.35 *U*	2.4 *U*	7.07	1.32	7730	5660	1.01	0.15
MW2	K0707782		Integral	August 2007 II	8/28/2007	16:20	7.99	2.6	16.6	3.01 *J*	11100	1560	14.3	1.9 *J*
MW2	K0708240		Integral	September 2007 I	9/11/2007	11:00	5.64	2.03 *U*	12.6	2.34	8320	3450	3.06	0.399
MW2	K0709126		Integral	September 2007 II	9/30/2007	16:15	7.09	2.24	13.3	2.53	8110	2750	2.96	0.481
MW2	K0709804		Integral	October 2007	10/16/2007	13:30	5.18	2.23	10.4	2.51	5750	2500	2.81	0.576
MW2	K0710773		Integral	November 2007	11/12/2007	14:30	7.99	1.88	13.7	1.76	8420	2190	3.65	0.493
MW2	K0711891		Integral	December 2007 I	12/14/2007	14:30	13.6	1.75	19.2 *J*	1.83 *J*	10500	1950	5.96	0.354
MW2	K0800335		Integral	January 2008	1/8/2008	12:49	7.61	1.3	13.4	1.47	8320	2660	3.03	0.248
MW2	K0801400		Integral	Februrary 2008	2/13/2008	15:30	3.66	1.17 *U*	6.89	1.32	4180	2720	1.26	0.211
MW2	K0802328		Integral	March 2008	3/14/2008	13:00	3.96	1.2 *U*	6.64	0.98	4020	2460	1.15	0.155
MW2	K0803239		Integral	April 2008	4/14/2008	13:00	3.69	1.18 *U*	5.59	0.91	4120	2120	0.931	0.161
MW2	K0804080		Integral	May 2008	5/7/2008	16:20	3.68	1.13 *U*	6.42	1.16	4670	2580	1.19	0.339
MW2	K0805877		Integral	June 2008	6/26/2008	16:10	2.62	1.25	4.5 *J*	1.1 *U*	4070	3250	0.72	0.124
MW2	K0806880		Integral	July 2008	7/24/2008	12:15	2.9	1.28 *U*	4.75	1.04	3880	3180	0.754	0.17
MW2	K0807975		Integral	August 2008	8/19/2008	11:00	--	--	4.87	1 *U*	4400	3420	0.89	0.177
MW2	K0808787		Integral	September 2008	9/9/2008	14:00	--	--	4.65 *J*	0.72 *J*	4700	3640	0.91	0.258
MW2	K0810253		Integral	October 2008	10/15/2008	13:45	--	--	2.93	0.79 *U*	4000	3740	0.496	0.143
MW2	K0902142		Integral	March 2009	3/8/2009	15:35	--	--	2.84	0.98 *U*	3710	2680	0.42	0.104
MW2	K0904395		Integral	May 2009	5/13/2009	11:45	--	--	3.42	0.53 *U*	3600	3100	0.52	0.074 *UJ*
MW2	K0906701		Integral	July 2009	7/24/2009	15:45	--	--	3.48	0.86	4180	3710	0.591	0.128
MW2	K0908619		Integral	September 2009 II	9/12/2009	17:00	--	--	2.86	0.86	4420	4670	0.386	0.124
MW2	K0910115		Integral	October 2009	10/17/2009	08:52	--	--	2.95	1	3960	4240	0.474	0.175
MW2	K1000512		Integral	January 2010	1/15/2010	11:49	--	--	3.12	0.6 *U*	4340	3050	0.789	0.134 *U*
MW2	K1004032		Integral	April 2010	4/22/2010	11:40	--	--	2.59 *J*	0.35 *J*	3520	2670	0.654	0.115
MW2	K1008751		Integral	August 2010	8/10/2010	14:15	--	--	1.85	0.45	3620	3410	0.442	0.111

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
MW2	K1011739		Integral	October 2010	10/19/2010	14:25	--	--	1.53	0.42	3420 *J*	3570 *J*	0.298	0.111
MW2	K1100642		Integral	January 2011	1/20/2011	12:10	--	--	1.34	0.36	3870	3690	0.247	0.098
MW2	K1103541		Integral	April 2011	4/20/2011	13:20	--	--	1.2	0.29 *U*	3140 *J*	2940 *J*	0.323	0.08
MW2	K1106862		Integral	July 2011 II	7/24/2011	17:10	--	--	1.3	0.51	2720	2810	0.318	0.1
MW2	K1112358		Integral	December 2011	12/20/2011	14:10	--	--	1.03	0.54	2590	1890	0.221	0.115
MW3		L482967	Knight Piesold	February 2007	2/28/2007	11:12	2.9	1 *U*	7.6	4.6	1460	1100	0.64	0.5 *U*
MW3		L495369	Knight Piesold	April 2007	4/10/2007	12:35	3.58	0.5 *U*	10.6	2.78	5350	620	6.63	1.32
MW3		L507191	Knight Piesold	May 2007	5/14/2007	11:57	4.75	1.19	18.5	2.98	10900	3210	5.61	1.59
MW3		L515743	Knight Piesold	June 2007	6/4/2007	14:54	3.52	1.26	10.9	2.21	9870	3770	5.03	1.07
MW3		L526591	Knight Piesold	July 2007 I	7/2/2007	15:45	2.56	1.29	5.57	1.3	4810	4410	1.35	0.43
MW3	K0706569		Integral	July 2007 II	7/24/2007	13:20	2.67	2.1	5.51	2.7	7360	5760	1.72	0.887
MW3	K0707317		Integral	August 2007 I	8/14/2007	12:20	3.08 *U*	1.79	5.27	1.43	7770	3970	2.13	0.377
MW3	K0707782		Integral	August 2007 II	8/28/2007	16:55	1.45 *U*	0.96 *U*	7.85 *J*	2.72 *J*	2760	2130	1.06	0.539 *J*
MW3	K0708240		Integral	September 2007 I	9/10/2007	16:20	2.64	1.91 *U*	7.06	2.77	6660	5340	1.24	0.57
MW3	K0709126		Integral	September 2007 II	9/30/2007	16:55	6.3	1.63	9.95	1.76	8610	4260	3.37	0.437
MW3	K0709804		Integral	October 2007	10/17/2007	09:10	2.2	2.37	4.6	1.92	5240	4150	1.39	0.534
MW3	K0710773		Integral	November 2007	11/12/2007	13:20	2.81	1.52	4.49	1.5	5100	3750	1.3	0.354
MW3	K0711891		Integral	December 2007 I	12/15/2007	09:00	0.68 *U*	0.46 *U*	1.84 *J*	1.28 *J*	1040	523	0.59	0.257
MW3	K0800335		Integral	January 2008	1/8/2008	13:18	0.65 *U*	0.61 *U*	1.12	0.88	1020	833	0.266	0.129
MW3	K0801400		Integral	Februrary 2008	2/13/2008	15:40	1.58 *U*	0.75 *U*	1.84	0.66	2600	1800	0.444	0.092
MW3	K0802328		Integral	March 2008	3/14/2008	14:20	0.87 *U*	1.01 *U*	0.88	0.58	2330	2340	0.132	0.091
MW3	K0803239		Integral	April 2008	4/14/2008	13:35	1.46	1.36 *U*	1.35	0.45	4040	3670	0.27	0.125
MW3	K0804080		Integral	May 2008	5/7/2008	15:45	0.84 *U*	2.3 *U*	0.93 *U*	0.52 *U*	3350	3160	0.161 *U*	0.093 *UJ*
MW3	K0805877		Integral	June 2008	6/27/2008	10:15	2.27	1.6	2.57 *U*	1.23 *U*	4140	3640	0.542	0.204
MW3	K0806880		Integral	July 2008	7/24/2008	12:40	2.67	2.41	3.63	2.48	5600	5320	0.624	0.41
MW3	K0807975		Integral	August 2008	8/19/2008	9:30	--	--	3.53	2.75	7420	7360	0.7	0.508
MW3	K0808787		Integral	September 2008	9/9/2008	11:30	--	--	3.62 *J*	2.37 *J*	7380	6470	0.737	0.554
MW3	K0810253		Integral	October 2008	10/15/2008	10:20	--	--	2.67	1.91	5860	5010	0.627	0.342
MW3	K0902142		Integral	March 2009	3/8/2009	15:10	--	--	2	1.32	1350	1250	0.222	0.139
MW3	K0904395		Integral	May 2009	5/13/2009	10:00	--	--	2.54	1.01	3900	3680	0.378	0.163
MW3	K0906701		Integral	July 2009	7/24/2009	14:15	--	--	3.62	1.79	2960	2170	0.739	0.257
MW3	K0908619		Integral	September 2009 II	9/12/2009	14:35	--	--	1.42	1.29	3930	4070	0.244	0.232
MW3	K0910115		Integral	October 2009	10/17/2009	09:44	--	--	1.38	1.26	1720	1710	0.18	0.163
MW3	K1000512		Integral	January 2010	1/15/2010	12:36	--	--	0.8	0.64 *U*	2440	2150	0.105 *U*	0.11 *U*
MW3	K1004032		Integral	April 2010	4/22/2010	8:45	--	--	0.26 *J*	0.21 *J*	4460	4520	0.034 *UJ*	0.038 *UJ*
MW3	K1008751		Integral	August 2010	8/10/2010	10:05	--	--	1.83	0.65	3490	3300	0.384	0.093
MW3	K1011739		Integral	October 2010	10/19/2010	09:55	--	--	0.95	0.69	1890 *J*	1890 *J*	0.079	0.058
MW3	K1100642		Integral	January 2011	1/20/2011	10:40	--	--	0.86	0.51	1660	1560	0.09	0.055
MW3	K1103541		Integral	April 2011	4/20/2011	13:00	--	--	0.88	0.71 *U*	1740 *J*	1520 *J*	0.072	0.06 *UJ*
MW3	K1106862		Integral	July 2011 II	7/24/2011	15:00	--	--	1.59	1.07	2170	2190	0.127	0.089
MW3	K1112358		Integral	December 2011	12/20/2011	11:45	--	--	0.95	0.73	3050	3070	0.171 *J*	0.076 *J*
MW4		L482967	Knight Piesold	February 2007	2/27/2007	08:39	71.5	1.9	7.6	2.6	6000	699	2.24	0.5 *U*
MW4		L495369	Knight Piesold	April 2007	4/10/2007	13:23	14.9	2.03	8.97	5.14	1810	380	2.54	0.404
MW4		L507191	Knight Piesold	May 2007	5/14/2007	13:13	18.2	3.56	6.15	2.99	2780	1500	0.942	0.331
MW4		L515743	Knight Piesold	June 2007	6/4/2007	11:02	2.39	1.2	3.67	3.45	962	654	0.538	0.212
MW4	K0706569		Integral	July 2007 II	7/23/2007	17:00	7.1	5.38	5.75	3.74	7120	6590	0.592	0.277

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
MW4	K0707782		Integral	August 2007 II	8/27/2007	16:20	3.49	2.44	6.81 *J*	5.35 *J*	1760	916	0.62	0.297 *J*
MW4	K0708240		Integral	September 2007 I	9/10/2007	17:00	7.84	7.04	10.6	6.5	6280	4340	1.55	0.713
MW4	K0709126		Integral	September 2007 II	9/30/2007	17:30	8.49	7.27	9.05	6.49	8720	7240	1.17	0.903
MW4	K0709804		Integral	October 2007	10/16/2007	16:40	9.88	8.23	7.08	5.38	11400	11400	1.28	0.967
MW4	K0710773		Integral	November 2007	11/12/2007	11:50	6.16	5.86	5.2	3.54	11500	10600	0.91	0.601
MW4	K0711891		Integral	December 2007 I	12/15/2007	09:45	1.16 *U*	0.76 *U*	2.14 *J*	1.06 *J*	1000	311	0.87	0.206
MW4	K0800335		Integral	January 2008	1/8/2008	14:48	1.09	0.96 *U*	1.3	1.33	757	598	0.184	0.128
MW4	K0801400		Integral	Februrary 2008	2/13/2008	11:30	0.96 *U*	0.7 *U*	1.08	0.84	342	232	0.153	0.071
MW4	K0802328		Integral	March 2008	3/15/2008	8:15	1.88	1.46	2.12	1.37	1180	971	0.232	0.094
MW4	K0803239		Integral	April 2008	4/14/2008	10:00	1.81	1.23 *U*	1.35	1	1080	654	0.207	0.079
MW4	K0804080		Integral	May 2008	5/8/2008	15:50	1.67	1.36 *U*	1.56 *U*	0.89	1830	1730	0.13 *U*	0.072 *UJ*
MW4	K0805877		Integral	June 2008	6/27/2008	11:15	2.68	2.11	5.12 *J*	3.66 *J*	1640	1490	0.381	0.208
MW4	K0806880		Integral	July 2008	7/24/2008	10:15	3.18	2.9	2.29	1.55	2810	2730	0.149	0.117
MW4	K0807975		Integral	August 2008	8/19/2008	10:15	--	--	5.01	2.89	2790	1850	0.75	0.287
MW4	K0808787		Integral	September 2008	9/9/2008	14:45	--	--	4.73 *J*	2.52 *J*	9950	7550	0.877	0.55
MW4	K0810253		Integral	October 2008	10/15/2008	11:40	--	--	2.96	2.07	9170	7240	0.527	0.362
MW4	K0902142		Integral	March 2009	3/8/2009	14:12	--	--	1.35	1.25	882	631	0.146	0.06
MW4	K0904395		Integral	May 2009	5/13/2009	11:00	--	--	1.59	0.94	808	620	0.253	0.067 *UJ*
MW4	K0906701		Integral	July 2009	7/23/2009	9:20	--	--	7.92	2.29	6950	5280	1.34	0.304
MW4	K0908619		Integral	September 2009 II	9/13/2009	07:50	--	--	1.88	1.46	10500	10900	0.228	0.156
MW4	K0910115		Integral	October 2009	10/17/2009	11:00	--	--	1.57	1.15	9880	9970	0.151	0.105
MW4	K1000512		Integral	January 2010	1/15/2010	13:34	--	--	2.2	1.41 *U*	3600	3490	0.223 *U*	0.111 *U*
MW4	K1004032		Integral	April 2010	4/22/2010	10:00	--	--	1.75 *J*	0.79 *J*	9900	9950	0.189	0.11
MW4	K1008751		Integral	August 2010	8/10/2010	11:45	--	--	1.37	0.8	9670	8970	0.118	0.075
MW4	K1011739		Integral	October 2010	10/19/2010	10:50	--	--	1.9	0.69	10700 *J*	10200 *J*	0.285	0.097
MW4	K1100642		Integral	January 2011	1/20/2011	11:45	--	--	0.52	0.33	9130	9040	0.056	0.034 *UJ*
MW4	K1103541		Integral	April 2011	4/20/2011	11:15	--	--	0.5	0.35 *U*	5320 *J*	5000 *J*	0.041	0.03 *UJ*
MW4	K1106862		Integral	July 2011 II	7/24/2011	16:10	--	--	0.81	1.69	6150	5700	0.138	0.112
MW4	K1112358		Integral	December 2011	12/20/2011	13:00	--	--	2.43	0.6	7430	5540	0.911 *J*	0.056
MW7		L482967	Knight Piesold	February 2007	2/28/2007	13:00	12.8	1 *U*	44.7	3.1	4840	998	8.74	0.5
MW7		L495369	Knight Piesold	April 2007	4/10/2007	14:24	1.9	0.5 *U*	7.9	1.16	4070	3600	1.52	0.21
MW7		L507191	Knight Piesold	May 2007	5/15/2007	08:40	1.93	1.02	4.81	2.4	5360	5060	1.09	0.753
MW7		L515743	Knight Piesold	June 2007	6/5/2007	09:00	0.94	0.74	2.95	1.32	4890	5220	0.641	0.268
MW7		L526591	Knight Piesold	July 2007 I	7/1/2007	11:20	0.93	0.77	2.7	1.07	4910	4970	0.545	0.196
MW7	K0706569		Integral	July 2007 II	7/23/2007	13:47	1.32 *U*	1.12 *U*	2.9	1.37	5140	4820	0.59	0.202
MW7	K0707317		Integral	August 2007 I	8/13/2007	12:55	1.41 *U*	1.15 *U*	2.91	1.44	5130	5020	0.608	0.201
MW7	K0707782		Integral	August 2007 II	8/28/2007	14:35	1.32 *U*	1.14 *U*	2.03 *J*	1.3 *J*	4780	4670	0.302	0.166 *J*
MW7	K0708240		Integral	September 2007 I	9/10/2007	12:25	1.24 *U*	1.04 *U*	2.6	1.36	4860	4880	0.485	0.194
MW7	K0709126		Integral	September 2007 II	9/30/2007	13:40	1.54 *U*	0.99 *U*	3.28	1.11	5520	4730	1.21	0.177
MW7	K0709804		Integral	October 2007	10/16/2007	10:35	1.44	1.4 *U*	3.04	1.21	4510	4220	0.785	0.201
MW7	K0710773		Integral	November 2007	11/13/2007	07:45	1.41 *U*	1.04 *U*	2.32	1.18	4460	3850	0.543	0.197
MW7	K0711891		Integral	December 2007 I	12/15/2007	11:20	1.12 *U*	0.91 *U*	2.89 *J*	1.14 *J*	3970	3100	1.4	0.376
MW7	K0800335		Integral	January 2008	1/9/2008	09:18	0.92 *U*	0.76 *U*	2.07	1	4350	3690	0.561	0.191
MW7	K0801400		Integral	Februrary 2008	2/14/2008	12:05	0.99 *U*	0.7 *U*	1.42	0.7	2870	2620	0.429	0.165
MW7	K0802328		Integral	March 2008	3/13/2008	15:10	0.93 *U*	0.82 *U*	1.83	0.77	3180	3010	0.486	0.153
MW7	K0803239		Integral	April 2008	4/13/2008	15:45	0.83 *U*	0.66 *U*	1.72	0.51	3050	2940	0.564	0.167

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
MW7	K0804080		Integral	May 2008	5/6/2008	10:45	0.56 *U*	0.57 *U*	1.52 *U*	0.68 *U*	3180	2840	0.33	0.135
MW7	K0805877		Integral	June 2008	6/26/2008	13:30	1.73	0.9 *U*	5.61 *J*	0.98 *U*	3970	3340	1.4	0.162
MW7	K0806880		Integral	July 2008	7/25/2008	9:30	1.16 *U*	0.94 *U*	1.79	0.99	3120	3060	0.366	0.157
MW8		L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	0.5 *U*	0.5 *U*	3.79	0.89	241	62	0.176	0.05 *U*
MW8	K0706569		Integral	July 2007 II	7/23/2007	12:00	0.4 *U*	0.36 *U*	1.49	1.02	36	37	0.031 *U*	0.019 *U*
MW8	K0707317		Integral	August 2007 I	8/13/2007	12:00	0.31 *U*	0.21 *U*	3	1.18	57 *U*	3.8 *U*	0.042	0.023 *U*
MW8	K0707782		Integral	August 2007 II	8/28/2007	10:00	0.38 *U*	0.43 *U*	1.48 *J*	1.06 *J*	40 *J*	30 *J*	0.022 *U*	0.014 *U*
MW8	K0708240		Integral	September 2007 I	9/10/2007	11:20	0.27 *U*	0.11 *U*	1.37	0.95	24.5 *UJ*	29.2 *UJ*	0.033	0.01 *UJ*
MW8	K0709126		Integral	September 2007 II	9/30/2007	10:45	0.31 *U*	0.25 *U*	1.23	1.08	19.2 *U*	8.2 *U*	0.007 *U*	0.007 *U*
MW8	K0709804		Integral	October 2007	10/16/2007	15:50	0.35 *U*	0.51 *U*	2.22	1.65	64.6	28.6 *UJ*	0.028	0.051
MW8	K0710773		Integral	November 2007	11/12/2007	16:15	0.38 *U*	0.56 *U*	1.9	1.54	28	30.6	0.016 *UJ*	0.057
MW8	K0711891		Integral	December 2007 I	12/14/2007	10:50	0.34 *U*	0.29 *U*	1.21 *J*	1.44 *J*	13.8 *J*	7.8 *J*	0.005 *UJ*	0.011 *UJ*
MW8	K0800335		Integral	January 2008	1/8/2008	09:41	0.34 *U*	0.35 *U*	1.76	1.51	18.5 *UJ*	7.9 *UJ*	0.006 *UJ*	0.012 *UJ*
MW8	K0801400		Integral	Februrary 2008	2/13/2008	10:00	0.59 *U*	0.48 *U*	1.59	1.25	14.2 *UJ*	10.2 *UJ*	0.012 *J*	0.003 *U*
MW8	K0802328		Integral	March 2008	3/13/2008	12:45	0.36 *U*	0.25 *U*	1.63	1.35	10.8 *UJ*	4.8 *UJ*	0.009 *U*	0.009 *U*
MW8	K0803239		Integral	April 2008	4/14/2008	9:00	0.38 *U*	0.44 *U*	1.84	1.54	38.9 *UJ*	3.5 *UJ*	0.003 *UJ*	0.014 *UJ*
MW8	K0804080		Integral	May 2008	5/6/2008	15:15	0.4 *U*	0.64 *U*	2.01 *U*	1.91	24	19.9 *UJ*	0.016 *U*	0.027 *UJ*
MW8	K0805877		Integral	June 2008	6/26/2008	10:45	0.48 *U*	0.38 *U*	1.77 *U*	1.64 *U*	11 *UJ*	4 *UJ*	0.006 *U*	0.014 *UJ*
MW9		L526591	Knight Piesold	July 2007 I	7/2/2007	12:30	1.54	0.5 *U*	5.22	0.53	841	30 *U*	0.424	0.05 *U*
MW9	K0706569		Integral	July 2007 II	7/23/2007	16:07	2.02	0.41 *U*	10.1	0.98	3400	61	1.13	0.046 *U*
MW9	K0707317		Integral	August 2007 I	8/13/2007	15:20	1.94 *U*	0.4 *U*	10.3	0.77	3820	30	1.24	0.036
MW9	K0707782		Integral	August 2007 II	8/28/2007	15:00	0.9 *U*	0.34 *U*	3.15 *J*	0.54 *J*	747	11 *U*	0.346	0.026 *U*
MW9	K0708240		Integral	September 2007 I	9/10/2007	13:20	0.9 *U*	0.41 *U*	3.85	0.5	1490	23.5 *UJ*	0.473	0.014 *UJ*
MW9	K0709126		Integral	September 2007 II	9/30/2007	14:30	1.33 *U*	0.41 *U*	3.76	0.63	1060	8.7 *U*	0.349	0.021 *U*
MW9	K0709804		Integral	October 2007	10/16/2007	16:55	2.5	0.49 *U*	14	0.66	4780	12.5 *UJ*	1.65	0.031
MW9	K0710773		Integral	November 2007	11/12/2007	15:00	0.9 *U*	0.55 *U*	2.32	0.63	481	13.1 *UJ*	0.239	0.017 *UJ*
MW9	K0711891		Integral	December 2007 I	12/14/2007	11:15	2.67	0.57 *U*	13.8 *J*	0.73 *J*	5500	17.1 *J*	1.43	0.026 *UJ*
MW9	K0800335		Integral	January 2008	1/8/2008	08:35	1.12	0.39 *U*	4.63	0.71	1580	13 *UJ*	0.515	0.03 *UJ*
MW9	K0801400		Integral	Februrary 2008	2/13/2008	12:00	1.24 *U*	0.56 *U*	4	0.52	1180	11.6 *UJ*	0.418	0.026
MW9	K0802328		Integral	March 2008	3/13/2008	16:15	2.38	0.51 *U*	9.94	0.55	3780	25.7	1.2	0.031 *J*
MW9	K0803239		Integral	April 2008	4/14/2008	10:40	1.29 *U*	0.63 *U*	3.91	0.55	1250	54.8	0.411	0.048 *UJ*
MW9	K0804080		Integral	May 2008	5/6/2008	17:45	0.95 *U*	0.39 *U*	4.04	0.56 *U*	1040	16.2 *UJ*	0.411	0.034 *UJ*
MW9	K0805877		Integral	June 2008	6/26/2008	15:15	0.58 *U*	0.45 *U*	2 *U*	0.67 *U*	488	7.1 *UJ*	0.212	0.012 *UJ*

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
EFF1	K0710773		Integral	November 2007	11/13/2007	14:40	548	252	0.03 *U*	0.03 *U*	1.17	1.17	1090 *J*	900 *U*
EFF1	K0711891		Integral	December 2007 I	12/16/2007	10:45	288	175	0.03 *U*	0.03 *U*	0.76	0.96	3050	2560
EFF1	K0800335		Integral	January 2008	1/9/2008	07:45	486 *J*	456 *J*	0.03 *U*	0.03 *U*	1.59	0.5 *UJ*	3470	3120
EFF1	K0801400		Integral	Februrary 2008	2/13/2008	13:20	1680	826	0.03 *U*	0.03 *U*	5.9	0.88	1530 *J*	2390
EFF1	K0802328		Integral	March 2008	3/17/2008	7:00	3610 *J*	630 *J*	0.03 *U*	0.03 *U*	5.29	2.02	4710	4420
EFF1	K0803239		Integral	April 2008	4/15/2008	8:30	1420	494	0.03 *U*	0.03 *U*	1.96	0.78	5760	5580
EFF1	K0804080		Integral	May 2008	5/8/2008	11:45	2050	570	0.03 *UJ*	0.03 *UJ*	2.47	0.99	4930	4830
EFF1	K0805877		Integral	June 2008	6/27/2008	15:15	5000	1690	0.05 *U*	0.05 *U*	3.26	0.43 *UJ*	4280	4050
EFF1	K0806880		Integral	July 2008	7/25/2008	10:00	5080 *R*	2970 *R*	0.05 *U*	0.05 *U*	3.58	1.56	1390 *J*	1380 *J*
EFF1	K0807975		Integral	August 2008	8/19/2008	16:30	5140	2910	0.05 *U*	0.05 *U*	2.74	1.11	1150 *J*	1010 *J*
EFF1	K0808787		Integral	September 2008	9/9/2008	15:30	3630	3490	0.05 *U*	0.05 *U*	1.29	0.94	844 *J*	826 *J*
EFF1	K0810253		Integral	October 2008	10/15/2008	14:30	3250	3330	0.05 *U*	0.05 *U*	0.75	0.56	1060 *J*	1150 *J*
EFF1	K0902142		Integral	March 2009	3/9/2009	14:00	2100	2130	0.05 *U*	0.05 *U*	0.54 *U*	0.6	569	586
EFF1	K0904395		Integral	May 2009	5/14/2009	10:20	2380	2340	0.02 *U*	0.02 *U*	0.59	0.77	608	628
EFF1	K0906701		Integral	July 2009	7/23/2009	11:50	2290	2270	0.02 *U*	0.02 *U*	0.19 *UJ*	0.2 *UJ*	589	615
EFF1	K0910233		Integral	October 2009	10/18/2009	10:40	3210 *J*	2950 *J*	0.02 *U*	0.02 *U*	0.9	0.83	402	398 *J*
EFF1	K1000512		Integral	January 2010	1/16/2010	10:00	3340 *J*	2760 *J*	0.02 *U*	0.02 *U*	2.39	1.64	445	447
EFF1	K1004032		Integral	April 2010	4/21/2010	11:00	3780 *J*	3450 *J*	0.02 *U*	0.02 *U*	1.25	0.66	513	489
EFF1	K1007431		Integral	July 2010	7/14/2010	08:30	4130	3750	0.02 *U*	0.02 *U*	1.36	0.91	391 *J*	379 *J*
EFF1	K1008751		Integral	August 2010	8/11/2010	06:15	4280	3960	0.04 *J*	0.02 *U*	1.34	0.83	461	432
EFF1	K1011739		Integral	October 2010	10/18/2010	15:30	3820	2850	0.02 *U*	0.02 *U*	1.22 *U*	0.43 *U*	554	498
EFF1	K1100642		Integral	January 2011	1/19/2011	14:35	3760	2880	0.02 *U*	0.02 *U*	2.67	0.93	892	818
EFF1	K1103541		Integral	April 2011	4/21/2011	11:30	2830	2460	0.02 *U*	0.02 *U*	0.97	0.59 *U*	520	512
EFF1	K1106862		Integral	July 2011 II	7/24/2011	10:15	2800	2110	0.02 *UJ*	0.02 *UJ*	1.34	0.33	675	654
EFF1	K1108476		Integral	September 2011	9/7/2011	8:20	2580	1960	0.02 *U*	0.02 *U*	2.24	1.36	660	645
EFF1	K1109861		Integral	October 2011	10/11/2011		2240 *J*	1870 *J*	0.02 *U*	0.02 *U*	0.64	0.43	438	422
EFF1	K1112358		Integral	December 2011	12/21/2011	10:00	2650	2590	0.02 *U*	0.02 *U*	0.92	0.95	477	428
MW1		L482967	Knight Piesold	February 2007	2/28/2007	08:45	1040	990	0.02 *U*	0.02 *U*	1.5	1 *U*	2000 *U*	2000 *U*
MW1		L495369	Knight Piesold	April 2007	4/10/2007	08:25	1460	1380	0.05 *U*	0.05 *U*	1.81	0.86	2000 *U*	2000 *U*
MW1		L507191	Knight Piesold	May 2007	5/14/2007	10:49	1350	1340	0.05 *U*	0.05 *U*	0.5 *U*	0.57	2000 *U*	2000 *U*
MW1		L515743	Knight Piesold	June 2007	6/4/2007	13:06	1580	1630	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*
MW1		L526591	Knight Piesold	July 2007 I	7/2/2007	11:45	1520	1610	0.01 *U*	0.01 *U*	0.76	0.5 *U*	2000 *U*	2000 *U*
MW1	K0706569		Integral	July 2007 II	7/24/2007	11:44	1540	1530	0.03 *U*	0.05 *U*	1.03	1.64	900 *U*	900 *U*
MW1	K0707317		Integral	August 2007 I	8/14/2007	11:05	1440	1400	0.03 *U*	0.03 *U*	4.03 *UJ*	4.18 *J*	900 *U*	900 *U*
MW1	K0707782		Integral	August 2007 II	8/28/2007	17:40	1420	1460	0.03 *U*	0.03 *U*	0.54	1.02	1190 *U*	977 *U*
MW1	K0708240		Integral	September 2007 I	9/11/2007	10:20	1310	1320	0.03 *U*	0.03 *U*	0.79	1.19	900 *U*	900 *U*
MW1	K0709126		Integral	September 2007 II	9/30/2007	15:45	1220	1160	0.03 *U*	0.03 *U*	0.76	1.59	900 *U*	900 *U*
MW1	K0709804		Integral	October 2007	10/16/2007	12:25	1060	1100	0.03 *U*	0.03 *U*	0.47	1.21	900 *U*	900 *U*
MW1	K0710773		Integral	November 2007	11/12/2007	14:05	1010	1040	0.03 *U*	0.03 *U*	0.91	1.14	900 *U*	900 *U*
MW1	K0711891		Integral	December 2007 I	12/14/2007	13:00	1630	909	0.03 *J*	0.03 *U*	3.3	0.73	900 *U*	900 *U*
MW1	K0800335		Integral	January 2008	1/9/2008	10:00	1050 *J*	1000 *J*	0.03 *U*	0.03 *U*	1.04	0.73	137 *UJ*	62.4 *UJ*
MW1	K0801400		Integral	Februrary 2008	2/14/2008	8:30	1200	1070	0.03 *U*	0.03 *U*	3.46	0.76	900 *U*	900 *U*
MW1	K0802328		Integral	March 2008	3/14/2008	10:10	1030 *J*	984 *J*	0.03 *U*	0.03 *U*	0.87	1	94 *J*	88 *J*
MW1	K0803239		Integral	April 2008	4/15/2008	6:30	1020	1010	0.03 *J*	0.03 *U*	0.43 *UJ*	0.56	82 *J*	72 *UJ*
MW1	K0804080		Integral	May 2008	5/7/2008	17:15	1110	1080	0.03 *UJ*	0.03 *UJ*	0.9	1.01	117 *J*	103 *J*
MW1	K0805877		Integral	June 2008	6/26/2008	17:15	1140	1110	0.05 *U*	0.05 *U*	1.1 *UJ*	0.63 *UJ*	112 *J*	115 *J*

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
MW1	K0806880		Integral	July 2008	7/24/2008	13:35	1120 *R*	1090 *R*	0.05 *U*	0.05 *U*	0.87	1.05	100 *U*	100 *U*
MW1	K0807975		Integral	August 2008	8/19/2008	11:45	1120	1110	0.05 *U*	0.05 *U*	0.57	0.57	123 *J*	30 *U*
MW1	K0808787		Integral	September 2008	9/9/2008	13:30	1030	1190	0.05 *U*	0.05 *U*	0.66	0.4 *UJ*	133 *UJ*	131 *UJ*
MW1	K0810253		Integral	October 2008	10/15/2008	15:00	974	994	0.05 *U*	0.05 *U*	0.79	0.04 *UJ*	122 *UJ*	52 *UJ*
MW1	K0902142		Integral	March 2009	3/9/2009	10:10	915	929	0.05 *U*	0.05 *U*	0.44 *U*	0.42 *UJ*	50 *U*	50 *U*
MW1	K0904395		Integral	May 2009	5/13/2009	12:45	1590	1150	0.02 *J*	0.02 *U*	1.88	0.71	114 *J*	50 *U*
MW1	K0906701		Integral	July 2009	7/24/2009	15:15	1200	1150	0.02 *U*	0.02 *U*	0.54	0.6	106 *J*	100 *J*
MW1	K0910115		Integral	October 2009	10/17/2009	16:02	1090	1110	0.02 *U*	0.02 *U*	0.35 *UJ*	0.4	47 *J*	40 *U*
MW1	K1000512		Integral	January 2010	1/17/2010	09:37	1030 *J*	1030 *J*	0.02 *U*	0.02 *U*	0.72	0.8	40 *U*	40 *U*
MW1	K1004032		Integral	April 2010	4/22/2010	15:00	1190 *J*	1200 *J*	0.02 *U*	0.02 *U*	0.34	0.46	69 *J*	68 *J*
MW1	K1008751		Integral	August 2010	8/10/2010	16:00	1510	1480	0.02 *U*	0.02 *U*	0.6 *UJ*	0.54 *UJ*	70 *J*	69 *J*
MW1	K1011739		Integral	October 2010	10/19/2010	13:40	1310	1310	0.02 *U*	0.02 *U*	0.51 *U*	0.47 *U*	246 *J*	249 *J*
MW1	K1100642		Integral	January 2011	1/20/2011	15:15	1160	1140	0.02 *U*	0.02 *U*	0.33 *UJ*	0.41	41 *J*	51 *J*
MW1	K1103541		Integral	April 2011	4/20/2011	14:40	1320	1300	0.02 *U*	0.02 *U*	0.47 *UJ*	0.55 *U*	97 *UJ*	72 *UJ*
MW1	K1106862		Integral	July 2011 II	7/25/2011	14:10	1430	1400	0.02 *UJ*	0.02 *UJ*	0.4 *UJ*	0.44	101 *UJ*	120 *UJ*
MW1	K1112358		Integral	December 2011	12/20/2011	15:10	1320	1320	0.02 *U*	0.02 *U*	0.61	0.58	50 *U*	60.3 *UJ*
MW2		L495369	Knight Piesold	April 2007	4/10/2007	15:10	1950	1240	0.05 *U*	0.05 *U*	4.66	1.88	2000 *U*	2000 *U*
MW2		L507191	Knight Piesold	May 2007	5/14/2007	11:20	1990	1700	0.05 *U*	0.05 *U*	2.27	1.94	2000	2400
MW2		L515743	Knight Piesold	June 2007	6/4/2007	13:58	2280	2100	0.032	0.01 *U*	1.95	2.12	2600	2600
MW2		L526591	Knight Piesold	July 2007 I	7/2/2007	14:00	1240	1210	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*	2000 *U*	2000 *U*
MW2	K0706569		Integral	July 2007 II	7/24/2007	12:10	2240	1580	0.07 *U*	0.03 *U*	1.92	2.08	3970	3760
MW2	K0707317		Integral	August 2007 I	8/14/2007	11:40	1630	1020	0.03 *U*	0.03 *U*	1.68 *UJ*	1.82 *J*	1630 *J*	2530
MW2	K0707782		Integral	August 2007 II	8/28/2007	16:20	3660	375	0.1 *J*	0.03 *U*	5.27	1.17	3450	2900
MW2	K0708240		Integral	September 2007 I	9/11/2007	11:00	2460	742	0.07 *J*	0.03 *U*	2.13	1.25	1250 *J*	900 *U*
MW2	K0709126		Integral	September 2007 II	9/30/2007	16:15	2050	584	0.07 *U*	0.03 *U*	2.34	1.37	1850 *J*	979 *J*
MW2	K0709804		Integral	October 2007	10/16/2007	13:30	1420	513	0.06 *J*	0.03 *U*	1.62	1.32	1090 *J*	900 *U*
MW2	K0710773		Integral	November 2007	11/12/2007	14:30	2320	456	0.05 *J*	0.09 *J*	2.65	1.71	1420 *J*	985 *J*
MW2	K0711891		Integral	December 2007 I	12/14/2007	14:30	3660	427	0.07 *J*	0.03 *U*	4.2	1.03	1360 *J*	900 *U*
MW2	K0800335		Integral	January 2008	1/8/2008	12:49	2010 *J*	434 *J*	0.05 *J*	0.03 *U*	2.24	1.19	1100 *J*	743 *J*
MW2	K0801400		Integral	Februrary 2008	2/13/2008	15:30	926	490	0.03 *U*	0.03 *U*	1.1	0.6	900 *U*	900 *U*
MW2	K0802328		Integral	March 2008	3/14/2008	13:00	832 *J*	372 *J*	0.03 *U*	0.03 *U*	1.16	0.6	660 *J*	626 *J*
MW2	K0803239		Integral	April 2008	4/14/2008	13:00	788	353	0.03 *J*	0.03 *U*	1.05	0.56	648 *J*	530 *J*
MW2	K0804080		Integral	May 2008	5/7/2008	16:20	1010	400	0.03 *UJ*	0.03 *UJ*	1.18	0.6	639 *J*	669 *J*
MW2	K0805877		Integral	June 2008	6/26/2008	16:10	858	531	0.05 *U*	0.05 *U*	0.7 *UJ*	0.52 *UJ*	535 *J*	515 *J*
MW2	K0806880		Integral	July 2008	7/24/2008	12:15	764 *R*	471 *R*	0.05 *U*	0.05 *U*	0.82	0.78	434 *J*	357 *J*
MW2	K0807975		Integral	August 2008	8/19/2008	11:00	904	460	0.05 *U*	0.05 *U*	0.93	0.49	542 *J*	406 *J*
MW2	K0808787		Integral	September 2008	9/9/2008	14:00	907	481	0.05 *U*	0.05 *U*	1.2	0.59	551 *J*	498 *J*
MW2	K0810253		Integral	October 2008	10/15/2008	13:45	759	500	0.05 *U*	0.05 *U*	0.38	0.43	354 *J*	431 *J*
MW2	K0902142		Integral	March 2009	3/8/2009	15:35	700	390	0.05 *U*	0.05 *U*	0.65 *U*	1.78	388 *J*	329 *J*
MW2	K0904395		Integral	May 2009	5/13/2009	11:45	692	401	0.02 *J*	0.02 *U*	0.96	0.66	379 *J*	311 *J*
MW2	K0906701		Integral	July 2009	7/24/2009	15:45	733	380	0.02 *U*	0.02 *U*	0.61	1.01	428	386 *J*
MW2	K0908619		Integral	September 2009 II	9/12/2009	17:00	600	478	0.02 *U*	0.02 *U*	0.79	0.88	459	459
MW2	K0910115		Integral	October 2009	10/17/2009	08:52	526	441	0.02 *U*	0.02 *U*	0.63	0.6	464	422
MW2	K1000512		Integral	January 2010	1/15/2010	11:49	764 *J*	402 *J*	0.02 *U*	0.02 *U*	0.84	0.73	560	491
MW2	K1004032		Integral	April 2010	4/22/2010	11:40	577 *J*	353 *J*	0.02 *U*	0.02 *U*	1.58	0.6	584	527
MW2	K1008751		Integral	August 2010	8/10/2010	14:15	799	717	0.02 *J*	0.02 *U*	0.78	0.74	681	701

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
MW2	K1011739		Integral	October 2010	10/19/2010	14:25	651	561	0.02 *U*	0.02 *U*	0.52 *U*	0.6 *U*	547	559
MW2	K1100642		Integral	January 2011	1/20/2011	12:10	689	607	0.02 *U*	0.02 *U*	0.64	0.61	516	511
MW2	K1103541		Integral	April 2011	4/20/2011	13:20	702	589	0.02 *U*	0.02 *U*	0.51 *UJ*	0.72 *U*	567	533
MW2	K1106862		Integral	July 2011 II	7/24/2011	17:10	808	683	0.02 *UJ*	0.02 *UJ*	0.5 *UJ*	0.41	702	671
MW2	K1112358		Integral	December 2011	12/20/2011	14:10	486	520	0.02 *U*	0.02 *U*	0.38	0.5	1070	891
MW3		L482967	Knight Piesold	February 2007	2/28/2007	11:12	630	520	0.02 *U*	0.02 *U*	1.5	1 *U*	2000 *U*	2000 *U*
MW3		L495369	Knight Piesold	April 2007	4/10/2007	12:35	2470	200	0.05 *U*	0.05 *U*	4.05	1.12	2000 *U*	2000 *U*
MW3		L507191	Knight Piesold	May 2007	5/14/2007	11:57	3510	490	0.05 *U*	0.05 *U*	3.79	1.88	2000 *U*	2000 *U*
MW3		L515743	Knight Piesold	June 2007	6/4/2007	14:54	2670	660	0.04	0.01 *U*	3.78	1.09	2000 *U*	2000 *U*
MW3		L526591	Knight Piesold	July 2007 I	7/2/2007	15:45	1020	810	0.017	0.01 *U*	5.48	1.61	2000 *U*	2000 *U*
MW3	K0706569		Integral	July 2007 II	7/24/2007	13:20	1280	868	0.03 *U*	0.03 *U*	1.35	1.51	900 *U*	900 *U*
MW3	K0707317		Integral	August 2007 I	8/14/2007	12:20	1750	702	0.03 *U*	0.03 *U*	2.42 *UJ*	1.23 *J*	900 *U*	900 *U*
MW3	K0707782		Integral	August 2007 II	8/28/2007	16:55	697	425	0.03 *J*	0.03 *U*	0.61	1.36	1180 *U*	1730 *U*
MW3	K0708240		Integral	September 2007 I	9/10/2007	16:20	1150	745	0.04 *J*	0.03 *U*	1.8	1.48	900 *U*	900 *U*
MW3	K0709126		Integral	September 2007 II	9/30/2007	16:55	1730	605	0.09 *U*	0.03 *U*	1.79	1.52	900 *U*	900 *U*
MW3	K0709804		Integral	October 2007	10/17/2007	09:10	814	573	0.03 *J*	0.03 *U*	0.96	1.14	900 *U*	900 *U*
MW3	K0710773		Integral	November 2007	11/12/2007	13:20	926	618	0.03 *U*	0.03 *U*	1.04	1.32	900 *U*	900 *U*
MW3	K0711891		Integral	December 2007 I	12/15/2007	09:00	677	400	0.03 *U*	0.03 *U*	0.39 *J*	0.75	900 *U*	900 *U*
MW3	K0800335		Integral	January 2008	1/8/2008	13:18	643 *J*	559 *J*	0.03 *U*	0.03 *U*	0.36 *UJ*	0.86	356 *UJ*	263 *UJ*
MW3	K0801400		Integral	Februrary 2008	2/13/2008	15:40	519	415	0.03 *U*	0.03 *U*	0.5	0.45	900 *U*	900 *U*
MW3	K0802328		Integral	March 2008	3/14/2008	14:20	353 *J*	340 *J*	0.03 *U*	0.03 *U*	0.26	0.45	281 *J*	241 *J*
MW3	K0803239		Integral	April 2008	4/14/2008	13:35	610	517	0.03 *U*	0.03 *U*	0.48 *UJ*	0.53	213 *J*	188 *UJ*
MW3	K0804080		Integral	May 2008	5/7/2008	15:45	605	572	0.03 *UJ*	0.03 *UJ*	0.42	0.76	254 *J*	195 *J*
MW3	K0805877		Integral	June 2008	6/27/2008	10:15	768	605	0.05 *U*	0.05 *U*	0.55 *UJ*	0.42 *UJ*	201 *J*	195 *J*
MW3	K0806880		Integral	July 2008	7/24/2008	12:40	756 *R*	702 *R*	0.05 *U*	0.05 *U*	0.99	1.23	134 *J*	108 *J*
MW3	K0807975		Integral	August 2008	8/19/2008	9:30	974	936	0.05 *U*	0.05 *U*	1.12	1.24	331 *J*	324 *J*
MW3	K0808787		Integral	September 2008	9/9/2008	11:30	1020	871	0.05 *U*	0.05 *U*	1.23	1.13	443 *J*	427 *J*
MW3	K0810253		Integral	October 2008	10/15/2008	10:20	746	679	0.05 *U*	0.05 *U*	0.69	0.66	451 *J*	445 *J*
MW3	K0902142		Integral	March 2009	3/8/2009	15:10	382	339	0.05 *U*	0.05 *U*	0.32 *U*	0.42 *UJ*	258 *J*	297 *J*
MW3	K0904395		Integral	May 2009	5/13/2009	10:00	590	505	0.02 *J*	0.02 *U*	0.62	0.83	364 *J*	344 *J*
MW3	K0906701		Integral	July 2009	7/24/2009	14:15	709	445	0.02 *U*	0.02 *U*	0.45 *UJ*	0.46	487	421
MW3	K0908619		Integral	September 2009 II	9/12/2009	14:35	579	588	0.02 *U*	0.02 *U*	0.54	0.84	598	635
MW3	K0910115		Integral	October 2009	10/17/2009	09:44	512	512	0.02 *U*	0.02 *U*	0.27 *UJ*	0.45	303 *J*	294 *J*
MW3	K1000512		Integral	January 2010	1/15/2010	12:36	544 *J*	525 *J*	0.02 *U*	0.02 *U*	0.33 *UJ*	0.5 *UJ*	338 *J*	359 *J*
MW3	K1004032		Integral	April 2010	4/22/2010	8:45	1060 *J*	1080 *J*	0.02 *U*	0.02 *U*	0.37	0.36	377 *J*	374 *J*
MW3	K1008751		Integral	August 2010	8/10/2010	10:05	839	699	0.02 *J*	0.02 *J*	0.67 *UJ*	0.55 *UJ*	249 *J*	223 *J*
MW3	K1011739		Integral	October 2010	10/19/2010	09:55	819	786	0.02 *U*	0.02 *U*	0.38 *U*	0.43 *U*	313 *J*	294 *J*
MW3	K1100642		Integral	January 2011	1/20/2011	10:40	450	434	0.02 *U*	0.02 *U*	0.37 *UJ*	0.4	169 *J*	182 *J*
MW3	K1103541		Integral	April 2011	4/20/2011	13:00	376	375	0.02 *U*	0.02 *U*	0.43 *UJ*	0.4 *U*	186 *UJ*	190 *UJ*
MW3	K1106862		Integral	July 2011 II	7/24/2011	15:00	543	538	0.02 *UJ*	0.02 *UJ*	0.35 *UJ*	0.38	217 *UJ*	213 *UJ*
MW3	K1112358		Integral	December 2011	12/20/2011	11:45	540	532	0.02 *U*	0.02 *U*	0.52	0.93	193 *UJ*	267 *UJ*
MW4		L482967	Knight Piesold	February 2007	2/27/2007	08:39	3800	370	0.025	0.02 *U*	9.7	1.6	2000 *U*	2000 *U*
MW4		L495369	Knight Piesold	April 2007	4/10/2007	13:23	1390	390	0.05 *U*	0.05 *U*	5.69	1.02	2000 *U*	2000 *U*
MW4		L507191	Knight Piesold	May 2007	5/14/2007	13:13	1490	790	0.05 *U*	0.05 *U*	2.65	1.14	2000 *U*	2000 *U*
MW4		L515743	Knight Piesold	June 2007	6/4/2007	11:02	850	690	0.015	0.01 *U*	0.63	0.87	2000 *U*	2000 *U*
MW4	K0706569		Integral	July 2007 II	7/23/2007	17:00	1260	964	0.03 *U*	0.03 *U*	1.77	1.97	900 *U*	900 *U*

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
MW4	K0707782		Integral	August 2007 II	8/27/2007	16:20	741	502	0.03 *U*	0.03 *U*	1.16	1.81	1730 *U*	900 *U*
MW4	K0708240		Integral	September 2007 I	9/10/2007	17:00	1400	864	0.04 *J*	0.03 *U*	2.62	2.52	900 *U*	900 *U*
MW4	K0709126		Integral	September 2007 II	9/30/2007	17:30	1230	1010	0.05 *U*	0.03 *U*	1.76	2.32	1110 *J*	991 *J*
MW4	K0709804		Integral	October 2007	10/16/2007	16:40	1340	1190	0.03 *J*	0.03 *U*	1.75	1.98	1070 *J*	900 *U*
MW4	K0710773		Integral	November 2007	11/12/2007	11:50	1030	989	0.03 *J*	0.03 *U*	1.22	1.2	900 *U*	900 *U*
MW4	K0711891		Integral	December 2007 I	12/15/2007	09:45	676	334	0.03 *U*	0.03 *U*	0.86	0.76	900 *U*	900 *U*
MW4	K0800335		Integral	January 2008	1/8/2008	14:48	596 *J*	554 *J*	0.03 *U*	0.03 *U*	0.6	0.86	283 *UJ*	186 *UJ*
MW4	K0801400		Integral	Februrary 2008	2/13/2008	11:30	423	401	0.03 *U*	0.03 *U*	0.34	0.35 *UJ*	900 *U*	900 *U*
MW4	K0802328		Integral	March 2008	3/15/2008	8:15	628 *J*	540 *J*	0.03 *U*	0.03 *U*	0.68	0.77	284 *J*	258 *J*
MW4	K0803239		Integral	April 2008	4/14/2008	10:00	793	693	0.03 *U*	0.03 *U*	0.7 *UJ*	0.77	324 *J*	270 *UJ*
MW4	K0804080		Integral	May 2008	5/8/2008	15:50	833	769	0.03 *UJ*	0.03 *UJ*	0.7	0.82	276 *J*	319 *J*
MW4	K0805877		Integral	June 2008	6/27/2008	11:15	586	564	0.05 *U*	0.05 *U*	0.5 *UJ*	0.77 *UJ*	286 *J*	257 *J*
MW4	K0806880		Integral	July 2008	7/24/2008	10:15	690 *R*	661 *R*	0.05 *U*	0.05 *U*	0.67	0.76	221 *J*	244 *J*
MW4	K0807975		Integral	August 2008	8/19/2008	10:15	1430	1090	0.05 *U*	0.05 *U*	1.02	0.73	1020 *J*	985 *J*
MW4	K0808787		Integral	September 2008	9/9/2008	14:45	2130	2060	0.05 *U*	0.05 *U*	1.54	0.87	1440 *J*	1400 *J*
MW4	K0810253		Integral	October 2008	10/15/2008	11:40	1780	1330	0.05 *U*	0.05 *U*	0.43	0.37	961 *J*	634 *J*
MW4	K0902142		Integral	March 2009	3/8/2009	14:12	706	602	0.05 *U*	0.05 *U*	0.44 *U*	0.43 *UJ*	296 *J*	268 *J*
MW4	K0904395		Integral	May 2009	5/13/2009	11:00	1320	1250	0.02 *U*	0.02 *U*	0.86	1.06	531	520
MW4	K0906701		Integral	July 2009	7/23/2009	9:20	1490	1230	0.02 *U*	0.02 *U*	1.04	1.14	724	683
MW4	K0908619		Integral	September 2009 II	9/13/2009	07:50	1700	1780	0.02 *U*	0.02 *U*	0.81	1.2	842	860
MW4	K0910115		Integral	October 2009	10/17/2009	11:00	1490	1520	0.02 *U*	0.02 *U*	0.64	0.95	581	587
MW4	K1000512		Integral	January 2010	1/15/2010	13:34	1050 *J*	995 *J*	0.02 *U*	0.02 *U*	0.67	0.82	420	409
MW4	K1004032		Integral	April 2010	4/22/2010	10:00	1360 *J*	1370 *J*	0.02 *U*	0.02 *U*	0.62	0.85	633	608
MW4	K1008751		Integral	August 2010	8/10/2010	11:45	2740	2710	0.02 *U*	0.02 *U*	1.07	1.12	719	706
MW4	K1011739		Integral	October 2010	10/19/2010	10:50	1860	1820	0.02 *U*	0.02 *U*	0.48 *U*	0.7 *U*	449	448
MW4	K1100642		Integral	January 2011	1/20/2011	11:45	2140	2070	0.02 *U*	0.02 *U*	0.41 *UJ*	0.69	460	448
MW4	K1103541		Integral	April 2011	4/20/2011	11:15	2420	2360	0.02 *U*	0.02 *U*	0.67 *UJ*	0.67 *U*	602	599
MW4	K1106862		Integral	July 2011 II	7/24/2011	16:10	2530	2470	0.02 *UJ*	0.02 *UJ*	0.61 *UJ*	0.6	607	578
MW4	K1112358		Integral	December 2011	12/20/2011	13:00	2070	1300	0.02 *U*	0.02 *U*	1.33	0.62	332 *J*	277 *UJ*
MW7		L482967	Knight Piesold	February 2007	2/28/2007	13:00	1870	690	0.031	0.02 *U*	3.7	1 *U*	2000 *U*	2000 *U*
MW7		L495369	Knight Piesold	April 2007	4/10/2007	14:24	1160	950	0.05 *U*	0.05 *U*	5	1.39	2000 *U*	2000 *U*
MW7		L507191	Knight Piesold	May 2007	5/15/2007	08:40	1210	1110	0.05 *U*	0.05 *U*	1.2	0.85	2000 *U*	2000 *U*
MW7		L515743	Knight Piesold	June 2007	6/5/2007	09:00	1120	1190	0.013	0.01 *U*	0.6	1.04	2000 *U*	2000 *U*
MW7		L526591	Knight Piesold	July 2007 I	7/1/2007	11:20	1050	1060	0.012	0.01 *U*	1.21	0.9	2000 *U*	2000 *U*
MW7	K0706569		Integral	July 2007 II	7/23/2007	13:47	1000	947	0.03 *U*	0.03 *U*	0.93	0.94	900 *U*	900 *U*
MW7	K0707317		Integral	August 2007 I	8/13/2007	12:55	1020	983	0.03 *U*	0.03 *U*	2.18 *UJ*	3.02 *J*	900 *U*	900 *U*
MW7	K0707782		Integral	August 2007 II	8/28/2007	14:35	959	935	0.03 *U*	0.03 *U*	0.54	1.3	1250 *U*	1140 *U*
MW7	K0708240		Integral	September 2007 I	9/10/2007	12:25	969	962	0.03 *U*	0.03 *U*	0.97	0.96	900 *U*	900 *U*
MW7	K0709126		Integral	September 2007 II	9/30/2007	13:40	1130	924	0.03 *U*	0.03 *U*	0.94	1.37	900 *U*	900 *U*
MW7	K0709804		Integral	October 2007	10/16/2007	10:35	895	832	0.03 *U*	0.03 *U*	0.7	1.26	900 *U*	900 *U*
MW7	K0710773		Integral	November 2007	11/13/2007	07:45	883	806	0.03 *U*	0.03 *U*	0.93	1.34	900 *U*	900 *U*
MW7	K0711891		Integral	December 2007 I	12/15/2007	11:20	870	684	0.03 *U*	0.03 *U*	0.86	1.07	900 *U*	900 *U*
MW7	K0800335		Integral	January 2008	1/9/2008	09:18	747 *J*	624 *J*	0.03 *U*	0.03 *U*	0.85	1.01	294 *UJ*	173 *UJ*
MW7	K0801400		Integral	Februrary 2008	2/14/2008	12:05	566	542	0.03 *U*	0.03 *U*	1.32	0.73	900 *U*	900 *U*
MW7	K0802328		Integral	March 2008	3/13/2008	15:10	558 *J*	503 *J*	0.03 *U*	0.03 *U*	0.6	0.69	162 *J*	164 *J*
MW7	K0803239		Integral	April 2008	4/13/2008	15:45	588	547	0.03 *U*	0.03 *U*	0.46 *UJ*	0.49	177 *J*	164 *UJ*

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
MW7	K0804080		Integral	May 2008	5/6/2008	10:45	677	646	0.03 *UJ*	0.03 *UJ*	0.56	0.68	203 *J*	186 *J*
MW7	K0805877		Integral	June 2008	6/26/2008	13:30	839	633	0.05 *U*	0.05 *U*	0.5 *UJ*	0.36 *UJ*	204 *J*	209 *J*
MW7	K0806880		Integral	July 2008	7/25/2008	9:30	571 *R*	570 *R*	0.05 *U*	0.05 *U*	0.39 *UJ*	0.48 *UJ*	100 *U*	164 *J*
MW8		L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	1320	1240	0.01 *U*	0.01 *U*	0.86	1.1	2000 *U*	2000 *U*
MW8	K0706569		Integral	July 2007 II	7/23/2007	12:00	1030	996	0.03 *U*	0.03 *U*	1.08	1.15	900 *U*	900 *U*
MW8	K0707317		Integral	August 2007 I	8/13/2007	12:00	1010	967	0.03 *U*	0.03 *U*	3.55 *UJ*	3.23 *J*	900 *U*	900 *U*
MW8	K0707782		Integral	August 2007 II	8/28/2007	10:00	891	884	0.03 *U*	0.03 *U*	0.42	0.47	1520 *U*	1100 *U*
MW8	K0708240		Integral	September 2007 I	9/10/2007	11:20	912	944	0.03 *U*	0.03 *U*	0.59	0.61 *UJ*	900 *U*	900 *U*
MW8	K0709126		Integral	September 2007 II	9/30/2007	10:45	1010	987	0.03 *U*	0.03 *U*	0.61	0.84	900 *U*	900 *U*
MW8	K0709804		Integral	October 2007	10/16/2007	15:50	827	825	0.03 *U*	0.03 *U*	0.4	0.53	900 *U*	900 *U*
MW8	K0710773		Integral	November 2007	11/12/2007	16:15	935	962	0.03 *U*	0.03 *U*	1.01	1.43	900 *U*	900 *U*
MW8	K0711891		Integral	December 2007 I	12/14/2007	10:50	1020	1040	0.03 *U*	0.03 *U*	0.51	0.53	900 *U*	900 *U*
MW8	K0800335		Integral	January 2008	1/8/2008	09:41	838 *J*	899 *J*	0.03 *U*	0.03 *U*	1.23	0.48 *UJ*	223 *UJ*	141 *UJ*
MW8	K0801400		Integral	Februrary 2008	2/13/2008	10:00	1010	1030	0.03 *U*	0.03 *U*	5.11	0.94	900 *U*	900 *U*
MW8	K0802328		Integral	March 2008	3/13/2008	12:45	792 *J*	819 *J*	0.03 *U*	0.03 *U*	1.03	1.09	173 *J*	175 *J*
MW8	K0803239		Integral	April 2008	4/14/2008	9:00	927	913	0.03 *U*	0.03 *U*	0.5 *UJ*	0.54	188 *J*	200 *UJ*
MW8	K0804080		Integral	May 2008	5/6/2008	15:15	1050	1030	0.03 *UJ*	0.03 *UJ*	0.92	1.09	183 *J*	168 *J*
MW8	K0805877		Integral	June 2008	6/26/2008	10:45	1020	1000	0.05 *U*	0.05 *U*	0.34 *UJ*	0.54 *UJ*	184 *J*	201 *J*
MW9		L526591	Knight Piesold	July 2007 I	7/2/2007	12:30	1780	1370	0.01 *U*	0.01 *U*	2.06	0.5 *U*	2000 *U*	2000 *U*
MW9	K0706569		Integral	July 2007 II	7/23/2007	16:07	4150	2450	0.03 *U*	0.03 *U*	2.14	1.67	900 *U*	906 *J*
MW9	K0707317		Integral	August 2007 I	8/13/2007	15:20	3440	1420	0.03 *U*	0.03 *U*	5.82 *J*	5.41 *J*	900 *U*	1210 *J*
MW9	K0707782		Integral	August 2007 II	8/28/2007	15:00	2600	1690	0.03 *U*	0.03 *U*	0.57	0.4	1470 *U*	992 *U*
MW9	K0708240		Integral	September 2007 I	9/10/2007	13:20	3000	1680	0.03 *U*	0.03 *U*	1.14	0.82 *UJ*	968 *J*	900 *U*
MW9	K0709126		Integral	September 2007 II	9/30/2007	14:30	2910	2210	0.03 *U*	0.03 *U*	1.34	1.29	1510 *J*	1440 *J*
MW9	K0709804		Integral	October 2007	10/16/2007	16:55	4450	2320	0.03 *U*	0.03 *U*	1.85	0.94	900 *U*	900 *U*
MW9	K0710773		Integral	November 2007	11/12/2007	15:00	2400	2000	0.03 *U*	0.03 *U*	2.01	2.2	900 *J*	900 *U*
MW9	K0711891		Integral	December 2007 I	12/14/2007	11:15	4830	1980	0.03 *U*	0.03 *U*	2.24	0.92	900 *U*	900 *U*
MW9	K0800335		Integral	January 2008	1/8/2008	08:35	2760 *J*	1910 *J*	0.03 *U*	0.03 *U*	2.62	0.55	1190 *J*	977 *J*
MW9	K0801400		Integral	Februrary 2008	2/13/2008	12:00	2470	1510	0.03 *U*	0.03 *U*	1.55	1.24	900 *U*	900 *U*
MW9	K0802328		Integral	March 2008	3/13/2008	16:15	2930 *J*	1040 *J*	0.03 *U*	0.03 *U*	2.6	1.52	617 *J*	431 *J*
MW9	K0803239		Integral	April 2008	4/14/2008	10:40	2350	1410	0.03 *U*	0.03 *U*	1.12	0.73	1080 *J*	788 *J*
MW9	K0804080		Integral	May 2008	5/6/2008	17:45	2300	1550	0.03 *UJ*	0.03 *UJ*	1.73	1.23	1000 *J*	806 *J*
MW9	K0805877		Integral	June 2008	6/26/2008	15:15	1740	1300	0.05 *U*	0.05 *U*	1.1 *UJ*	0.83 *UJ*	802 *J*	616 *J*

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
EFF1	K0710773		Integral	November 2007	11/13/2007	14:40	0.3 *J*	0.2 *J*	0.009 *U*	0.009 *U*	5420	5090	7.71 *U*	2.27 *U*
EFF1	K0711891		Integral	December 2007 I	12/16/2007	10:45	0.5 *J*	0.5 *J*	0.009 *U*	0.009 *U*	13500	13300	7 *J*	7.58 *U*
EFF1	K0800335		Integral	January 2008	1/9/2008	07:45	1 *J*	0.9 *J*	0.009 *U*	0.006 *J*	14700	15400	6.1 *U*	4.3 *U*
EFF1	K0801400		Integral	Februrary 2008	2/13/2008	13:20	0.9 *J*	0.7 *J*	0.241	0.009 *UJ*	18900	19500	10.3 *U*	11.9 *U*
EFF1	K0802328		Integral	March 2008	3/17/2008	7:00	1	0.9 *J*	0.219	0.054 *UJ*	15100	14500	17.2 *J*	1.3 *U*
EFF1	K0803239		Integral	April 2008	4/15/2008	8:30	1 *J*	0.5 *J*	0.009 *R*	0.009 *R*	21100	20400	8.18 *U*	0.71 *U*
EFF1	K0804080		Integral	May 2008	5/8/2008	11:45	0.9 *J*	0.7 *J*	0.014 *UJ*	0.005 *UJ*	24200	24300	11.3 *U*	3.21 *U*
EFF1	K0805877		Integral	June 2008	6/27/2008	15:15	0.8 *J*	0.7 *J*	0.312	0.009 *UJ*	26900	26000	95.7	3.6 *U*
EFF1	K0806880		Integral	July 2008	7/25/2008	10:00	0.9 *J*	0.6 *J*	0.23	0.009 *UJ*	11400	12200	49.5	4.9 *U*
EFF1	K0807975		Integral	August 2008	8/19/2008	16:30	0.7 *UJ*	0.4 *U*	0.659	0.009 *UJ*	9130	8680	67.2 *J*	5.52 *U*
EFF1	K0808787		Integral	September 2008	9/9/2008	15:30	0.6 *J*	0.6 *J*	0.077 *UJ*	0.02 *UJ*	8010	8110	14.1 *U*	7.7 *U*
EFF1	K0810253		Integral	October 2008	10/15/2008	14:30	0.8 *J*	0.8 *J*	0.027	0.009 *U*	6090	6430	17.5 *J*	11.9 *U*
EFF1	K0902142		Integral	March 2009	3/9/2009	14:00	0.8 *J*	0.8 *J*	0.009 *U*	0.009 *U*	5290	5350	145	145
EFF1	K0904395		Integral	May 2009	5/14/2009	10:20	0.9 *J*	1 *J*	0.009 *UJ*	0.009 *UJ*	5280	5180	129 *J*	131 *J*
EFF1	K0906701		Integral	July 2009	7/23/2009	11:50	0.6 *J*	0.5 *J*	0.004 *U*	0.004 *U*	4700	4870	111	106
EFF1	K0910233		Integral	October 2009	10/18/2009	10:40	0.5 *J*	0.5 *J*	0.069	0.014 *UJ*	4270	4120	14.9 *J*	3.07 *U*
EFF1	K1000512		Integral	January 2010	1/16/2010	10:00	0.7 *J*	0.6 *J*	0.362	0.004 *UJ*	3900	3780	29.5 *U*	4.28 *U*
EFF1	K1004032		Integral	April 2010	4/21/2010	11:00	0.5 *J*	0.4 *J*	0.374	0.015 *UJ*	4320	4370	9.04 *U*	2.9 *U*
EFF1	K1007431		Integral	July 2010	7/14/2010	08:30	0.8 *J*	0.7 *J*	0.216	0.004 *UJ*	5070	4910	9.64 *J*	1.14 *U*
EFF1	K1008751		Integral	August 2010	8/11/2010	06:15	0.6 *J*	0.7 *J*	0.194	0.005 *UJ*	6680	6450	9.13 *U*	2.87 *U*
EFF1	K1011739		Integral	October 2010	10/18/2010	15:30	0.9 *UJ*	0.7 *UJ*	1.12	0.011 *UJ*	5980	5570	17.6 *J*	2.8 *U*
EFF1	K1100642		Integral	January 2011	1/19/2011	14:35	0.6 *J*	0.6 *J*	0.612	0.041 *UJ*	6070	5880	28	2.06 *U*
EFF1	K1103541		Integral	April 2011	4/21/2011	11:30	0.7 *J*	0.6 *J*	0.177	0.004 *UJ*	4800	4750	10.4 *J*	0.8 *U*
EFF1	K1106862		Integral	July 2011 II	7/24/2011	10:15	0.5 *J*	0.5 *J*	0.374	0.004 *UJ*	4330	4380	110	10.3 *J*
EFF1	K1108476		Integral	September 2011	9/7/2011	8:20	0.5 *J*	0.4 *J*	1.05	0.088 *UJ*	4900	4610	107	63.7
EFF1	K1109861		Integral	October 2011	10/11/2011		0.6 *UJ*	0.4 *UJ*	0.101 *J*	0.004 *UJ*	4250	4160	9.68	2.15
EFF1	K1112358		Integral	December 2011	12/21/2011	10:00	0.9 *J*	1 *J*	0.023 *U*	0.004 *U*	5250	5170	11.6 *J*	9.92 *J*
MW1		L482967	Knight Piesold	February 2007	2/28/2007	08:45	1 *U*	1 *U*	0.047	0.02 *U*	4800	5000	8 *U*	5 *U*
MW1		L495369	Knight Piesold	April 2007	4/10/2007	08:25	1 *U*	1 *U*	0.01 *U*	0.01 *U*	8300	8800	5 *U*	2.1
MW1		L507191	Knight Piesold	May 2007	5/14/2007	10:49	1 *U*	1 *U*	0.01 *U*	0.01 *U*	6200	6100	1.3	1.2
MW1		L515743	Knight Piesold	June 2007	6/4/2007	13:06	1 *U*	1 *U*	0.01 *U*	0.01 *U*	4800	4900	3 *U*	1 *U*
MW1		L526591	Knight Piesold	July 2007 I	7/2/2007	11:45	1 *U*	1.1	0.01 *U*	0.01 *U*	4200	4400	20.2	1 *U*
MW1	K0706569		Integral	July 2007 II	7/24/2007	11:44	0.5 *J*	0.5 *J*	0.029 *U*	0.009 *U*	4620	4740	5.36 *U*	7.62 *U*
MW1	K0707317		Integral	August 2007 I	8/14/2007	11:05	0.5 *U*	0.5 *U*	0.018 *U*	0.013 *U*	4550	4400	4.02 *J*	2.83 *U*
MW1	K0707782		Integral	August 2007 II	8/28/2007	17:40	0.6 *U*	0.2 *U*	0.005 *U*	0.005 *U*	4850	5030	5.9 *U*	6.06 *U*
MW1	K0708240		Integral	September 2007 I	9/11/2007	10:20	0.4 *J*	0.4 *J*	0.009 *U*	0.009 *U*	5000	5210	3 *U*	3.6 *U*
MW1	K0709126		Integral	September 2007 II	9/30/2007	15:45	0.4 *J*	0.4 *J*	0.009 *U*	0.009 *U*	7350	6980	4.55 *U*	2.72 *U*
MW1	K0709804		Integral	October 2007	10/16/2007	12:25	0.2 *U*	0.3 *J*	0.009 *U*	0.009 *U*	6350	6890	4.56 *U*	3.9 *U*
MW1	K0710773		Integral	November 2007	11/12/2007	14:05	0.3 *J*	0.4 *J*	0.009 *U*	0.009 *U*	7160	6830	4.3 *U*	3.97 *U*
MW1	K0711891		Integral	December 2007 I	12/14/2007	13:00	0.7 *J*	0.2 *U*	0.104	0.027 *UJ*	5440	4960	25.1 *J*	5.93 *U*
MW1	K0800335		Integral	January 2008	1/9/2008	10:00	0.3 *J*	0.4 *U*	0.034 *J*	0.011 *J*	5240	5410	7.9 *U*	5.4 *U*
MW1	K0801400		Integral	Februrary 2008	2/14/2008	8:30	0.7 *J*	0.2 *U*	0.021 *UJ*	0.009 *UJ*	5900	5630	7 *U*	9.41 *U*
MW1	K0802328		Integral	March 2008	3/14/2008	10:10	0.4 *U*	0.4 *U*	0.088 *UJ*	0.106	4700	4380	6.8 *U*	2.8 *U*
MW1	K0803239		Integral	April 2008	4/15/2008	6:30	0.2 *U*	0.2 *U*	0.009 *R*	0.009 *R*	5520	5450	2.9 *U*	2.86 *U*
MW1	K0804080		Integral	May 2008	5/7/2008	17:15	0.4 *U*	0.4 *U*	0.025 *UJ*	0.005 *UJ*	6070	5880	3.5 *U*	5.2 *U*
MW1	K0805877		Integral	June 2008	6/26/2008	17:15	0.5 *U*	0.5 *U*	0.048 *UJ*	0.057 *UJ*	5790	5750	3.9 *U*	7.3 *U*

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW1	K0806880		Integral	July 2008	7/24/2008	13:35	0.4 *U*	0.4 *U*	0.048 *UJ*	0.054 *UJ*	4120	3960	6.6 *U*	1.6 *U*
MW1	K0807975		Integral	August 2008	8/19/2008	11:45	0.4 *UJ*	0.4 *U*	0.101	0.079 *UJ*	4400	4290	8.59 *U*	4.09 *U*
MW1	K0808787		Integral	September 2008	9/9/2008	13:30	0.5 *U*	0.5 *U*	0.012 *UJ*	0.009 *UJ*	4020	4260	6.31 *U*	2.43 *U*
MW1	K0810253		Integral	October 2008	10/15/2008	15:00	0.5 *U*	0.5 *U*	0.011 *J*	0.009 *U*	4050	4170	2.41 *U*	1.25 *U*
MW1	K0902142		Integral	March 2009	3/9/2009	10:10	0.4 *U*	0.4 *U*	0.016 *UJ*	0.011 *UJ*	3780	3980	10 *J*	6.11 *U*
MW1	K0904395		Integral	May 2009	5/13/2009	12:45	0.7 *J*	0.4 *U*	0.034 *UJ*	0.009 *UJ*	4050	4400	19.9 *J*	5.78 *U*
MW1	K0906701		Integral	July 2009	7/24/2009	15:15	0.2 *U*	0.2 *U*	0.061 *UJ*	0.099	4530	4410	6.16 *U*	5.21 *U*
MW1	K0910115		Integral	October 2009	10/17/2009	16:02	0.3 *U*	0.3 *U*	0.128	0.109	4270	4240	1.58 *U*	1.24 *U*
MW1	K1000512		Integral	January 2010	1/17/2010	09:37	0.3 *U*	0.3 *J*	0.004 *UJ*	0.015 *UJ*	5590	5600	2.23 *U*	3.32 *U*
MW1	K1004032		Integral	April 2010	4/22/2010	15:00	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	8220	8430	1.47 *U*	2.5 *U*
MW1	K1008751		Integral	August 2010	8/10/2010	16:00	0.3 *U*	0.3 *U*	0.016 *UJ*	0.012 *UJ*	5190	5310	4.39 *U*	4.26 *U*
MW1	K1011739		Integral	October 2010	10/19/2010	13:40	0.3 *UJ*	0.3 *UJ*	0.031	0.014 *UJ*	7960	7780	4.5 *U*	4.1 *U*
MW1	K1100642		Integral	January 2011	1/20/2011	15:15	0.3 *UJ*	0.3 *UJ*	0.004 *UJ*	0.004 *UJ*	4960	5020	2.34 *U*	2.09 *U*
MW1	K1103541		Integral	April 2011	4/20/2011	14:40	0.3 *U*	0.3 *J*	0.008 *UJ*	0.019 *UJ*	4520	4680	2.22 *U*	2.02 *U*
MW1	K1106862		Integral	July 2011 II	7/25/2011	14:10	0.3 *U*	0.3 *U*	0.017 *UJ*	0.007 *UJ*	5140	4880	1.9 *U*	2.1 *U*
MW1	K1112358		Integral	December 2011	12/20/2011	15:10	0.4 *J*	0.4 *J*	0.008 *UJ*	0.005 *UJ*	4870	4850	1.76 *U*	1.48 *U*
MW2		L495369	Knight Piesold	April 2007	4/10/2007	15:10	1 *U*	1 *U*	0.033	0.01 *U*	7700	10600	8.4	4.9
MW2		L507191	Knight Piesold	May 2007	5/14/2007	11:20	1 *U*	1 *U*	0.029	0.01 *U*	6600	9200	5.9	3.5
MW2		L515743	Knight Piesold	June 2007	6/4/2007	13:58	1 *U*	1 *U*	0.023	0.01 *U*	7900	9200	6 *U*	4.8
MW2		L526591	Knight Piesold	July 2007 I	7/2/2007	14:00	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2700	2700	4.2	5.2
MW2	K0706569		Integral	July 2007 II	7/24/2007	12:10	0.9 *J*	0.8 *J*	0.015 *U*	0.041 *U*	11100	9870	12.8	7.68 *U*
MW2	K0707317		Integral	August 2007 I	8/14/2007	11:40	0.7 *U*	0.6 *U*	0.033 *U*	0.017 *U*	5890	6130	10.4 *J*	3.36 *U*
MW2	K0707782		Integral	August 2007 II	8/28/2007	16:20	1.5 *J*	0.5 *J*	0.104	0.019 *U*	13800	12800	39.2	7.93 *U*
MW2	K0708240		Integral	September 2007 I	9/11/2007	11:00	1 *J*	0.7 *J*	0.056 *UJ*	0.01 *UJ*	7520	6650	12.3 *U*	5.7 *U*
MW2	K0709126		Integral	September 2007 II	9/30/2007	16:15	0.7 *J*	0.7 *J*	0.052	0.021	8350	8260	12.3 *J*	5.97 *U*
MW2	K0709804		Integral	October 2007	10/16/2007	13:30	0.2 *J*	0.5 *J*	0.009 *U*	0.013 *J*	8270	7980	20.5	11.3
MW2	K0710773		Integral	November 2007	11/12/2007	14:30	0.4 *J*	0.7 *J*	0.047 *UJ*	0.009 *U*	8670	8810	12.9	7.5 *U*
MW2	K0711891		Integral	December 2007 I	12/14/2007	14:30	0.2 *U*	0.2 *J*	0.11	0.048 *UJ*	6830	5980	21.5 *J*	9.84 *J*
MW2	K0800335		Integral	January 2008	1/8/2008	12:49	1 *J*	0.4 *U*	0.101	0.013 *J*	5460	5460	12.7 *J*	9.6 *U*
MW2	K0801400		Integral	Februrary 2008	2/13/2008	15:30	1 *J*	0.2 *J*	0.031 *UJ*	0.009 *UJ*	5270	5650	29.5	7.8 *U*
MW2	K0802328		Integral	March 2008	3/14/2008	13:00	0.6 *J*	0.4 *U*	0.122	0.105	4680	4700	6.6 *U*	8.8 *U*
MW2	K0803239		Integral	April 2008	4/14/2008	13:00	0.2 *J*	0.2 *U*	0.026 *R*	0.013 *R*	5020	4630	3.72 *U*	5.28 *U*
MW2	K0804080		Integral	May 2008	5/7/2008	16:20	0.8 *U*	0.4 *U*	0.041 *UJ*	0.005 *UJ*	5240	8030	17.6 *J*	10.2 *U*
MW2	K0805877		Integral	June 2008	6/26/2008	16:10	0.5 *U*	0.5 *U*	0.042 *UJ*	0.035 *UJ*	4580	4580	5 *U*	10.9 *U*
MW2	K0806880		Integral	July 2008	7/24/2008	12:15	0.7 *J*	0.4 *J*	0.065 *UJ*	0.047 *UJ*	4430	4340	4.1 *U*	3.2 *U*
MW2	K0807975		Integral	August 2008	8/19/2008	11:00	0.7 *UJ*	0.4 *U*	0.112	0.072 *UJ*	4400	4530	8.34 *U*	7.36 *U*
MW2	K0808787		Integral	September 2008	9/9/2008	14:00	0.5 *U*	0.5 *U*	0.036 *UJ*	0.009 *UJ*	4580	4400	5.97 *U*	3.69 *U*
MW2	K0810253		Integral	October 2008	10/15/2008	13:45	0.5 *U*	0.5 *U*	0.015 *J*	0.009 *U*	4140	3910	5.08 *U*	2.57 *U*
MW2	K0902142		Integral	March 2009	3/8/2009	15:35	0.4 *U*	0.4 *U*	0.076	0.038 *UJ*	4670	4820	3.35 *U*	6.74 *U*
MW2	K0904395		Integral	May 2009	5/13/2009	11:45	0.4 *U*	0.4 *U*	0.013 *UJ*	0.009 *UJ*	4140	4100	9.39 *J*	5.68 *U*
MW2	K0906701		Integral	July 2009	7/24/2009	15:45	0.2 *U*	0.2 *U*	0.065 *UJ*	0.078	5480	5270	5.73 *U*	4.38 *U*
MW2	K0908619		Integral	September 2009 II	9/12/2009	17:00	0.3 *J*	0.2 *U*	0.017 *UJ*	0.004 *UJ*	5150	5330	2.9 *U*	2.5 *U*
MW2	K0910115		Integral	October 2009	10/17/2009	08:52	0.5 *J*	0.4 *J*	0.118	0.1	5580	5270	3.71 *U*	1.61 *U*
MW2	K1000512		Integral	January 2010	1/15/2010	11:49	0.4 *J*	0.3 *U*	0.028 *UJ*	0.016 *UJ*	5190	4920	9.91 *U*	7.5 *U*
MW2	K1004032		Integral	April 2010	4/22/2010	11:40	0.3 *U*	0.3 *U*	0.018 *UJ*	0.004 *UJ*	5680	5580	3.04 *U*	2.89 *U*
MW2	K1008751		Integral	August 2010	8/10/2010	14:15	0.3 *U*	0.3 *U*	0.029 *UJ*	0.018 *UJ*	5700	5780	7.1 *U*	7.73 *U*

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW2	K1011739		Integral	October 2010	10/19/2010	14:25	0.3 *UJ*	0.3 *UJ*	0.036	0.016 *UJ*	5120	5080	1.1 *U*	1 *U*
MW2	K1100642		Integral	January 2011	1/20/2011	12:10	0.3 *UJ*	0.3 *UJ*	0.023 *UJ*	0.004 *UJ*	5220	5150	0.84 *U*	0.88 *U*
MW2	K1103541		Integral	April 2011	4/20/2011	13:20	0.3 *U*	0.3 *U*	0.017 *UJ*	0.005 *UJ*	4760	4880	1.49 *U*	1.02 *U*
MW2	K1106862		Integral	July 2011 II	7/24/2011	17:10	0.3 *J*	0.4 *J*	0.022 *UJ*	0.004 *UJ*	5260	5250	1.3 *U*	0.7 *U*
MW2	K1112358		Integral	December 2011	12/20/2011	14:10	0.4 *J*	0.4 *J*	0.01 *UJ*	0.008 *UJ*	4610	4560	1.11 *U*	0.76 *U*
MW3		L482967	Knight Piesold	February 2007	2/28/2007	11:12	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3500	3900	7 *U*	5.8
MW3		L495369	Knight Piesold	April 2007	4/10/2007	12:35	1 *U*	1 *U*	0.039	0.01 *U*	7500	8800	25.7	4.9
MW3		L507191	Knight Piesold	May 2007	5/14/2007	11:57	1 *U*	1 *U*	0.124	0.01 *U*	9300	10000	22.6	8.6
MW3		L515743	Knight Piesold	June 2007	6/4/2007	14:54	1 *U*	1 *U*	0.06	0.01 *U*	8500	8800	21.1	8.1
MW3		L526591	Knight Piesold	July 2007 I	7/2/2007	15:45	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3900	4600	7 *U*	7
MW3	K0706569		Integral	July 2007 II	7/24/2007	13:20	1	1 *J*	0.019 *U*	0.009 *U*	6030	5880	10.3	12.4 *U*
MW3	K0707317		Integral	August 2007 I	8/14/2007	12:20	0.9 *U*	0.7 *U*	0.047 *U*	0.015 *U*	4340	4040	10.1 *J*	4.26 *U*
MW3	K0707782		Integral	August 2007 II	8/28/2007	16:55	0.2 *U*	0.2 *U*	0.018 *U*	0.005 *U*	5120	5300	9.97 *U*	9.6 *U*
MW3	K0708240		Integral	September 2007 I	9/10/2007	16:20	0.8 *J*	0.8 *J*	0.021 *UJ*	0.011 *UJ*	4810	4650	11.3 *U*	10.8 *U*
MW3	K0709126		Integral	September 2007 II	9/30/2007	16:55	0.6 *J*	0.5 *J*	0.033	0.009 *U*	4710	4280	11.6 *J*	5.17 *U*
MW3	K0709804		Integral	October 2007	10/17/2007	09:10	0.3 *J*	0.4 *J*	0.009 *U*	0.009 *U*	4410	4540	7.39	8.58
MW3	K0710773		Integral	November 2007	11/12/2007	13:20	0.6 *J*	0.6 *J*	0.009 *U*	0.009 *U*	4590	4380	10	6.87 *U*
MW3	K0711891		Integral	December 2007 I	12/15/2007	09:00	0.2 *U*	0.2 *U*	0.017 *UJ*	0.027 *UJ*	4460	4650	8.84 *J*	7 *U*
MW3	K0800335		Integral	January 2008	1/8/2008	13:18	0.4 *J*	0.4 *U*	0.039 *J*	0.006 *J*	4570	4790	10.6 *J*	7 *U*
MW3	K0801400		Integral	Februrary 2008	2/13/2008	15:40	0.6 *J*	0.2 *U*	0.006 *UJ*	0.009 *UJ*	3830	3870	7 *U*	4.06 *U*
MW3	K0802328		Integral	March 2008	3/14/2008	14:20	0.4 *U*	0.4 *U*	0.053 *UJ*	0.069 *UJ*	4050	3880	3.7 *U*	4.3 *U*
MW3	K0803239		Integral	April 2008	4/14/2008	13:35	0.2 *U*	0.2 *U*	0.01 *R*	0.01 *R*	4630	4410	10.6 *J*	3.17 *U*
MW3	K0804080		Integral	May 2008	5/7/2008	15:45	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	5360	5040	4.8 *U*	8.2 *U*
MW3	K0805877		Integral	June 2008	6/27/2008	10:15	0.5 *U*	0.5 *U*	0.024 *UJ*	0.023 *UJ*	5590	5540	7.6 *U*	10 *U*
MW3	K0806880		Integral	July 2008	7/24/2008	12:40	1.1	1.1	0.046 *UJ*	0.044 *UJ*	5500	5310	9.8 *U*	4.7 *U*
MW3	K0807975		Integral	August 2008	8/19/2008	9:30	0.5 *UJ*	1.3	0.009 *UJ*	0.009 *UJ*	6080	6050	6.14 *U*	9.43 *U*
MW3	K0808787		Integral	September 2008	9/9/2008	11:30	0.5 *U*	0.5 *J*	0.02 *UJ*	0.009 *UJ*	5980	5370	6.68 *U*	4.05 *U*
MW3	K0810253		Integral	October 2008	10/15/2008	10:20	0.5 *U*	0.5 *U*	0.012 *J*	0.009 *J*	4780	4800	3.77 *U*	5.3 *U*
MW3	K0902142		Integral	March 2009	3/8/2009	15:10	0.4 *U*	0.4 *U*	0.045 *UJ*	0.036 *UJ*	2980	2990	3.61 *U*	2.9 *U*
MW3	K0904395		Integral	May 2009	5/13/2009	10:00	0.4 *J*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	3700	3750	7.42 *U*	6.5 *U*
MW3	K0906701		Integral	July 2009	7/24/2009	14:15	0.2 *U*	0.2 *U*	0.059 *UJ*	0.049 *UJ*	3810	3640	6.88 *U*	5.61 *U*
MW3	K0908619		Integral	September 2009 II	9/12/2009	14:35	0.2 *U*	0.2 *U*	0.004 *UJ*	0.004 *UJ*	4190	4340	3.6 *U*	4 *U*
MW3	K0910115		Integral	October 2009	10/17/2009	09:44	0.3 *U*	0.3 *U*	0.062	0.056	3450	3440	2.45 *U*	2.53 *U*
MW3	K1000512		Integral	January 2010	1/15/2010	12:36	0.3 *U*	0.3 *U*	0.006 *UJ*	0.004 *UJ*	4610	4470	5.27 *U*	19.6 *J*
MW3	K1004032		Integral	April 2010	4/22/2010	8:45	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	7610	8110	2.22 *U*	3.07 *U*
MW3	K1008751		Integral	August 2010	8/10/2010	10:05	0.3 *U*	0.3 *U*	0.024 *UJ*	0.016 *UJ*	5210	5210	7.91 *U*	7.75 *U*
MW3	K1011739		Integral	October 2010	10/19/2010	09:55	0.3 *UJ*	0.3 *UJ*	0.027	0.017 *UJ*	5930	5810	2.8 *U*	2.9 *U*
MW3	K1100642		Integral	January 2011	1/20/2011	10:40	0.3 *UJ*	0.3 *UJ*	0.005 *UJ*	0.004 *UJ*	4430	4410	1.65 *U*	1.69 *U*
MW3	K1103541		Integral	April 2011	4/20/2011	13:00	0.3 *U*	0.3 *U*	0.007 *UJ*	0.004 *UJ*	3500	3590	1.56 *U*	1.69 *U*
MW3	K1106862		Integral	July 2011 II	7/24/2011	15:00	0.3 *U*	0.3 *U*	0.021 *UJ*	0.004 *UJ*	4300	4360	3.5 *U*	2.1 *U*
MW3	K1112358		Integral	December 2011	12/20/2011	11:45	0.4 *J*	0.4 *J*	0.062	0.004 *UJ*	3830	3980	2.08 *U*	2.28 *U*
MW4		L482967	Knight Piesold	February 2007	2/27/2007	08:39	1 *U*	1 *U*	0.025	0.02 *U*	4200	4500	20.7	8.1
MW4		L495369	Knight Piesold	April 2007	4/10/2007	13:23	1 *U*	1 *U*	0.025	0.01 *U*	5900	6000	18.5	7
MW4		L507191	Knight Piesold	May 2007	5/14/2007	13:13	1 *U*	1 *U*	0.015	0.01 *U*	4300	4500	13.8	10.7
MW4		L515743	Knight Piesold	June 2007	6/4/2007	11:02	1 *U*	1 *U*	0.012	0.01 *U*	4000	4000	10 *U*	9.1
MW4	K0706569		Integral	July 2007 II	7/23/2007	17:00	0.8 *J*	0.8 *J*	0.014 *U*	0.009 *U*	4430	4260	14.5	14.7 *U*

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW4	K0707782		Integral	August 2007 II	8/27/2007	16:20	0.2 *J*	0.2 *U*	0.023 *U*	0.008 *U*	5560	6070	26.7	12.3 *U*
MW4	K0708240		Integral	September 2007 I	9/10/2007	17:00	0.8 *J*	0.7 *J*	0.031 *UJ*	0.013 *UJ*	5100	4940	17.5 *U*	14.3 *U*
MW4	K0709126		Integral	September 2007 II	9/30/2007	17:30	0.8 *J*	0.9 *J*	0.02 *J*	0.018 *J*	5740	5200	16.3 *J*	14.2 *U*
MW4	K0709804		Integral	October 2007	10/16/2007	16:40	0.7 *J*	0.7 *J*	0.016 *J*	0.012 *J*	5130	5150	16.5	15.9
MW4	K0710773		Integral	November 2007	11/12/2007	11:50	0.7 *J*	0.8 *J*	0.009 *UJ*	0.009 *U*	4680	4200	9.99	9.83 *U*
MW4	K0711891		Integral	December 2007 I	12/15/2007	09:45	0.2 *U*	0.2 *U*	0.025 *UJ*	0.012 *UJ*	4820	4800	9.24 *J*	6.54 *U*
MW4	K0800335		Integral	January 2008	1/8/2008	14:48	0.3 *J*	0.4 *U*	0.02 *J*	0.005 *J*	4530	5040	10.1 *J*	11 *U*
MW4	K0801400		Integral	Februrary 2008	2/13/2008	11:30	0.4 *J*	0.2 *U*	0.006 *UJ*	0.009 *UJ*	3970	4060	5.7 *U*	7.06 *U*
MW4	K0802328		Integral	March 2008	3/15/2008	8:15	0.5 *J*	0.4 *U*	0.029 *UJ*	0.032 *UJ*	4060	3940	9.5 *U*	8.5 *U*
MW4	K0803239		Integral	April 2008	4/14/2008	10:00	0.2 *U*	0.2 *U*	0.009 *R*	0.009 *R*	5550	5120	11 *J*	8.84 *U*
MW4	K0804080		Integral	May 2008	5/8/2008	15:50	0.4 *U*	0.4 *U*	0.005 *UJ*	0.033 *UJ*	5370	5420	8.9 *U*	21.5 *J*
MW4	K0805877		Integral	June 2008	6/27/2008	11:15	0.5 *U*	0.5 *U*	0.029 *UJ*	0.016 *UJ*	4550	4700	12.7 *U*	10.8 *U*
MW4	K0806880		Integral	July 2008	7/24/2008	10:15	0.5 *J*	0.6 *J*	0.027 *UJ*	0.02 *UJ*	6570	6380	5.9 *U*	6.1 *U*
MW4	K0807975		Integral	August 2008	8/19/2008	10:15	0.4 *UJ*	0.4 *U*	0.02 *UJ*	0.009 *UJ*	10800	10500	13.9 *U*	15.8 *U*
MW4	K0808787		Integral	September 2008	9/9/2008	14:45	0.5 *U*	0.5 *U*	0.024 *UJ*	0.009 *UJ*	9810	9350	12.9 *U*	22.7 *J*
MW4	K0810253		Integral	October 2008	10/15/2008	11:40	0.5 *U*	0.5 *U*	0.014 *J*	0.009 *U*	5230	4230	2.68 *U*	2.19 *U*
MW4	K0902142		Integral	March 2009	3/8/2009	14:12	0.4 *U*	0.4 *U*	0.02 *UJ*	0.014 *UJ*	2450	2390	13 *J*	12.6 *J*
MW4	K0904395		Integral	May 2009	5/13/2009	11:00	0.4 *U*	0.4 *U*	0.012 *UJ*	0.009 *UJ*	4310	4310	20.6 *J*	20.9 *J*
MW4	K0906701		Integral	July 2009	7/23/2009	9:20	0.2 *U*	0.2 *U*	0.077	0.043 *UJ*	4950	4940	9.4 *J*	12.9 *J*
MW4	K0908619		Integral	September 2009 II	9/13/2009	07:50	0.4 *J*	0.3 *J*	0.019 *UJ*	0.007 *UJ*	4760	4670	4.4 *U*	2.1 *U*
MW4	K0910115		Integral	October 2009	10/17/2009	11:00	0.3 *U*	0.3 *U*	0.062	0.051	3590	3530	1.15 *U*	2.72 *U*
MW4	K1000512		Integral	January 2010	1/15/2010	13:34	0.5 *J*	0.4 *J*	0.012 *UJ*	0.006 *UJ*	4580	4460	13 *U*	8.32 *U*
MW4	K1004032		Integral	April 2010	4/22/2010	10:00	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	6400	6530	6.55 *U*	5.51 *U*
MW4	K1008751		Integral	August 2010	8/10/2010	11:45	0.3 *U*	0.3 *U*	0.023 *UJ*	0.019 *UJ*	6130	5890	9.14 *U*	8.7 *UJ*
MW4	K1011739		Integral	October 2010	10/19/2010	10:50	0.3 *UJ*	0.4 *UJ*	0.042	0.023 *UJ*	5530	5470	1.1 *U*	0.7 *U*
MW4	K1100642		Integral	January 2011	1/20/2011	11:45	0.3 *UJ*	0.3 *UJ*	0.009 *UJ*	0.004 *UJ*	5490	5510	0.74 *U*	0.94 *U*
MW4	K1103541		Integral	April 2011	4/20/2011	11:15	0.3 *J*	0.3 *U*	0.007 *UJ*	0.004 *UJ*	4780	4790	1.56 *U*	1.87 *U*
MW4	K1106862		Integral	July 2011 II	7/24/2011	16:10	0.3 *U*	0.3 *U*	0.007 *UJ*	0.004 *UJ*	4810	4720	9.1 *J*	1.7 *U*
MW4	K1112358		Integral	December 2011	12/20/2011	13:00	0.5 *J*	0.5 *J*	0.029 *U*	0.008 *UJ*	3830	3900	3.24 *U*	0.94 *U*
MW7		L482967	Knight Piesold	February 2007	2/28/2007	13:00	1 *U*	1 *U*	0.137	0.02 *U*	4700	5000	84.3	21
MW7		L495369	Knight Piesold	April 2007	4/10/2007	14:24	1 *U*	1 *U*	0.021	0.01 *U*	8400	9300	23.6	9.9
MW7		L507191	Knight Piesold	May 2007	5/15/2007	08:40	1 *U*	1 *U*	0.021	0.01 *U*	10300	11300	11.5	8.1
MW7		L515743	Knight Piesold	June 2007	6/5/2007	09:00	1 *U*	1 *U*	0.013	0.01 *U*	8400	9100	7 *U*	4
MW7		L526591	Knight Piesold	July 2007 I	7/1/2007	11:20	1 *U*	1 *U*	0.01 *U*	0.01 *U*	5900	6400	6 *U*	2.3
MW7	K0706569		Integral	July 2007 II	7/23/2007	13:47	0.6 *J*	0.6 *J*	0.018 *U*	0.011 *U*	7130	6880	10.5	10.2 *U*
MW7	K0707317		Integral	August 2007 I	8/13/2007	12:55	0.7 *U*	0.7 *U*	0.029 *U*	0.013 *U*	7080	7230	7.32 *J*	4.28 *U*
MW7	K0707782		Integral	August 2007 II	8/28/2007	14:35	0.4 *J*	0.4 *J*	0.028 *U*	0.011 *U*	6430	6230	6.47 *U*	5.64 *U*
MW7	K0708240		Integral	September 2007 I	9/10/2007	12:25	0.4 *J*	0.5 *J*	0.019 *UJ*	0.014 *UJ*	6250	6290	9.9 *U*	7.3 *U*
MW7	K0709126		Integral	September 2007 II	9/30/2007	13:40	0.4 *J*	0.5 *J*	0.019 *J*	0.009 *U*	6000	5820	11.2 *U*	4.72 *U*
MW7	K0709804		Integral	October 2007	10/16/2007	10:35	0.2 *J*	0.4 *J*	0.014 *J*	0.009 *U*	5600	5540	10.7	6.67 *U*
MW7	K0710773		Integral	November 2007	11/13/2007	07:45	0.5 *J*	0.4 *J*	0.009 *U*	0.009 *U*	5520	4950	10.4	7.48 *U*
MW7	K0711891		Integral	December 2007 I	12/15/2007	11:20	0.2 *U*	0.2 *U*	0.023 *UJ*	0.04 *UJ*	5240	5120	10.3 *J*	8.39 *J*
MW7	K0800335		Integral	January 2008	1/9/2008	09:18	0.5 *J*	0.5 *J*	0.021 *J*	0.007 *J*	5750	5830	11.8 *J*	7.1 *U*
MW7	K0801400		Integral	Februrary 2008	2/14/2008	12:05	0.6 *J*	0.2 *U*	0.005 *UJ*	0.01 *UJ*	5510	5420	5.2 *U*	5.26 *U*
MW7	K0802328		Integral	March 2008	3/13/2008	15:10	0.4 *U*	0.4 *U*	0.035 *UJ*	0.036 *UJ*	4870	4990	7.9 *U*	3.7 *U*
MW7	K0803239		Integral	April 2008	4/13/2008	15:45	0.3 *J*	0.2 *U*	0.19 *R*	0.009 *R*	5370	5290	5.74 *U*	3.2 *U*

Table B-3. Groundwater Quality Monitoring Data

							Trace Elements							
Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW7	K0804080		Integral	May 2008	5/6/2008	10:45	0.4 *U*	0.4 *U*	0.005 *UJ*	0.05 *UJ*	5980	5840	6.64 *U*	4.57 *U*
MW7	K0805877		Integral	June 2008	6/26/2008	13:30	0.5 *U*	0.5 *U*	0.023 *UJ*	0.009 *UJ*	4920	5010	25.3	5.2 *U*
MW7	K0806880		Integral	July 2008	7/25/2008	9:30	0.6 *J*	0.4 *U*	0.022 *UJ*	0.014 *UJ*	4080	4380	3.5 *U*	10 *U*
MW8		L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	1 *U*	1 *U*	0.01 *U*	0.01 *U*	9800	11000	1.6	1.6
MW8	K0706569		Integral	July 2007 II	7/23/2007	12:00	0.5 *J*	0.5 *J*	0.015 *U*	0.032 *U*	5700	5530	4.05 *U*	2.5 *U*
MW8	K0707317		Integral	August 2007 I	8/13/2007	12:00	0.7 *U*	0.5 *U*	0.009 *U*	0.009 *U*	5820	6330	3.19 *J*	1.68 *U*
MW8	K0707782		Integral	August 2007 II	8/28/2007	10:00	0.2 *U*	0.2 *U*	0.01 *U*	0.008 *U*	5310	5370	1.97 *U*	1.75 *U*
MW8	K0708240		Integral	September 2007 I	9/10/2007	11:20	0.7 *J*	0.5 *J*	0.009 *U*	0.009 *U*	5000	5220	3.8 *U*	5.4 *U*
MW8	K0709126		Integral	September 2007 II	9/30/2007	10:45	0.5 *J*	0.6 *J*	0.009 *U*	0.009 *U*	4860	4830	3.42 *U*	3.38 *U*
MW8	K0709804		Integral	October 2007	10/16/2007	15:50	0.4 *J*	0.5 *J*	0.009 *U*	0.009 *U*	4400	4550	2.05 *U*	2.85 *U*
MW8	K0710773		Integral	November 2007	11/12/2007	16:15	0.7 *J*	0.7 *J*	0.009 *UJ*	0.009 *U*	4260	4370	1.69 *U*	3.19 *U*
MW8	K0711891		Integral	December 2007 I	12/14/2007	10:50	0.4 *J*	0.5 *J*	0.009 *U*	0.009 *U*	4340	4270	2.18 *U*	3.66 *U*
MW8	K0800335		Integral	January 2008	1/8/2008	09:41	0.8 *J*	0.4 *U*	0.009 *U*	0.004 *U*	4190	4380	11.2 *J*	3.8 *U*
MW8	K0801400		Integral	Februrary 2008	2/13/2008	10:00	1.2	0.4 *J*	0.005 *UJ*	0.009 *UJ*	4440	4660	2.4 *U*	4.96 *U*
MW8	K0802328		Integral	March 2008	3/13/2008	12:45	0.7 *J*	0.7 *J*	0.089 *UJ*	0.005 *UJ*	4330	4150	4.3 *U*	1.2 *U*
MW8	K0803239		Integral	April 2008	4/14/2008	9:00	0.3 *J*	0.2 *U*	0.009 *R*	0.009 *R*	4440	4390	1 *U*	0.97 *U*
MW8	K0804080		Integral	May 2008	5/6/2008	15:15	0.6 *J*	0.4 *J*	0.048 *UJ*	0.013 *UJ*	4830	4620	4.36 *U*	1.47 *U*
MW8	K0805877		Integral	June 2008	6/26/2008	10:45	0.5 *J*	0.8 *J*	0.009 *UJ*	0.009 *UJ*	4780	4570	1 *U*	3.2 *U*
MW9		L526591	Knight Piesold	July 2007 I	7/2/2007	12:30	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3800	3900	4 *U*	1 *U*
MW9	K0706569		Integral	July 2007 II	7/23/2007	16:07	0.5 *J*	0.5 *J*	0.014 *U*	0.01 *U*	5650	5210	6.21 *U*	9.42 *U*
MW9	K0707317		Integral	August 2007 I	8/13/2007	15:20	0.8 *U*	0.7 *U*	0.009 *U*	0.009 *U*	4560	4140	9.29 *J*	2.04 *U*
MW9	K0707782		Integral	August 2007 II	8/28/2007	15:00	0.2 *U*	0.2 *U*	0.012 *U*	0.003 *U*	4330	4150	3.76 *U*	2.74 *U*
MW9	K0708240		Integral	September 2007 I	9/10/2007	13:20	0.6 *J*	0.4 *J*	0.025 *UJ*	0.009 *U*	4510	4240	5.5 *U*	2.3 *U*
MW9	K0709126		Integral	September 2007 II	9/30/2007	14:30	0.4 *J*	0.5 *J*	0.009 *U*	0.009 *U*	4590	4460	3.5 *U*	1.92 *U*
MW9	K0709804		Integral	October 2007	10/16/2007	16:55	0.3 *J*	0.3 *J*	0.009 *U*	0.009 *U*	4510	4530	9.37	2.34 *U*
MW9	K0710773		Integral	November 2007	11/12/2007	15:00	0.6 *J*	0.5 *J*	0.009 *U*	0.009 *U*	4300	4290	4.32 *U*	5.95 *U*
MW9	K0711891		Integral	December 2007 I	12/14/2007	11:15	0.3 *J*	0.4 *J*	0.031 *UJ*	0.014 *UJ*	4370	4000	7.99 *J*	4.94 *U*
MW9	K0800335		Integral	January 2008	1/8/2008	08:35	0.6 *J*	0.4 *U*	0.009 *U*	0.004 *U*	3600	3790	6.4 *U*	6.3 *U*
MW9	K0801400		Integral	Februrary 2008	2/13/2008	12:00	0.4 *J*	0.3 *J*	0.032 *UJ*	0.009 *UJ*	4090	3820	2.7 *U*	3 *U*
MW9	K0802328		Integral	March 2008	3/13/2008	16:15	0.4 *U*	0.6 *J*	0.048 *UJ*	0.08 *UJ*	3560	3460	7 *U*	2.4 *U*
MW9	K0803239		Integral	April 2008	4/14/2008	10:40	0.4 *J*	0.2 *U*	0.009 *R*	0.009 *R*	3570	3400	2.44 *U*	0.91 *U*
MW9	K0804080		Integral	May 2008	5/6/2008	17:45	0.4 *U*	0.8 *J*	0.022 *UJ*	0.005 *UJ*	3840	3950	3.25 *U*	2.17 *U*
MW9	K0805877		Integral	June 2008	6/26/2008	15:15	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	4000	3960	4.3 *U*	3.2 *U*

Notes:
-- = data not available
ALS = ALS Laboratory Group
CAS = Columbia Analytical Services
DO = dissolved oxygen
SDG = sample digestion group
TDS = total dissolved solids
TSS = total suspended solids

Table B-4. Groundwater Method Detection Limits

				Analytical Physical Tests			Dissolved Anions and Nutrients				
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)
	Z3908	Knight Piesold	October 2006	10	0.54	3 - 4.5	2	0.5 - 2.5	0.5 - 2.5	0.005 - 0.02	--
	Z6128	Knight Piesold	December 2006	10 - 20	0.66	3 - 4.5	2	0.5	0.5	--	--
	L482967	Knight Piesold	February 2007	10	0.7	11.25 - 9	2	0.5 - 2.5	0.5 - 2.5	0.005	--
	L495369	Knight Piesold	April 2007	10	0.5	3 - 9	2	0.5	0.5	0.005	--
	L507191	Knight Piesold	May 2007	10 - 40	0.5	3 - 9	1 - 2	0.5 - 5	0.5 - 5	0.005	--
	L515743	Knight Piesold	June 2007	10	0.5	3 - 9	2	0.5	0.5	0.005 - 0.02	--
	L526591	Knight Piesold	July 2007 I	10	0.5	3 - 6	2	0.5	0.5	0.005 - 0.02	--
	L526594	Knight Piesold	July 2007 I	10	0.5	3	2	0.5	0.5	0.005	--
K0706551		Integral	July 2007 II	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0706569		Integral	July 2007 II	5	0.7	5	0.8	0.009	0.02	0.006	0.006
K0707317		Integral	August 2007 I	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0707319		Integral	August 2007 I	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0707781		Integral	August 2007 II	5	0.7	5	1	0.018	0.035	0.01	0.006
K0707782		Integral	August 2007 II	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0708240		Integral	September 2007 I	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0708243		Integral	September 2007 I	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0709126		Integral	September 2007 II	5	0.7	5	0.8	0.018	0.014	0.006	0.006
K0709129		Integral	September 2007 II	5	0.7	5	1	0.018	0.035	0.05	0.006
K0709804		Integral	October 2007	5	0.7	5	1	0.018	0.014	0.01	0.006
K0709830		Integral	October 2007	5	0.7	5	1	0.018	0.014	0.006	0.006
K0710766		Integral	November 2007	5	0.7	5	1	0.018	0.014	0.006	0.006
K0710773		Integral	November 2007	5	0.7	5	1	0.018	0.014	0.006	0.006
K0711891		Integral	December 2007 I	5	0.7	5	1	0.018	0.014	0.01	0.006 - 0.030
K0711894		Integral	December 2007 I	5	0.7	5	1	0.018	0.014	0.01	0.006
K0800335		Integral	January 2008	10 - 5	0.7	5	1	0.018	0.014	0.01	0.006
K0800336		Integral	January 2008	5	0.7	5	1	0.018	0.014	0.01	0.006
K0801400		Integral	Februrary 2008	5	0.7	5	1	0.018	0.014 - 0.035	0.01	0.005 - 0.01
K0801403		Integral	Februrary 2008	5	0.7	5	1	0.018	0.014	0.01	0.005
K0802327		Integral	March 2008	5	0.7	5	1	0.018	0.014	0.01	0.005
K0802328		Integral	March 2008	5	0.7	5	1	0.018	0.014 - 0.035	0.01	0.005
K0803239		Integral	April 2008	5	0.7	5	1 - 5	0.018	0.007 - 0.035	0.01	0.005 - 0.025
K0803240		Integral	April 2008	5	0.7	5	1	0.018	0.014	0.01	0.005
K0804080		Integral	May 2008	5	0.7	5	1	0.016	0.04 - 0.1	0.01	0.004 - 0.02
K0804081		Integral	May 2008	5	0.7	5	1	0.016	0.04	0.02	0.004
K0805877		Integral	June 2008	5	0.7	5	1	0.016	0.012 - 0.03	0.02	0.005 - 0.05
K0806880		Integral	July 2008	5	0.7	5	1	0.016	0.012 - 0.03	0.02	0.005 - 0.025
K0807975		Integral	August 2008	5	0.7 - 3.5	5	1	0.016	0.006 - 0.06	0.02	0.005
K0808787		Integral	September 2008	5	0.7	5	1	0.016	0.012 - 0.12	0.02	0.005
K0810253		Integral	October 2008	5	0.7	5	1	0.008 - 0.016	0.012 - 0.12	0.02	0.005
K0902142		Integral	March 2009	5	0.9	5	1	0.008 - 0.016	0.006 - 0.012	0.02	0.009
K0904395		Integral	May 2009	5	0.8	5	1	0.016	0.012	0.009	0.009
K0906701		Integral	July 2009	5	0.8	5	1	0.06	0.02 - 0.05	0.009	0.009
K0908619		Integral	September 2009 II	5	0.8	5	1	0.06	0.02	0.009	0.009
K0910115		Integral	October 2009	5	0.8	5	1	0.06	0.02	0.009	0.009
K0910233		Integral	October 2009	5	0.8	5	1	0.06	0.02	0.009	0.009
K1000512		Integral	January 2010	5	0.8	5	1	0.06	0.02	0.009	0.005
K1004032		Integral	April 2010	5	0.8	5	1	0.06 - 0.2	0.02	0.009	0.009

Table B-4. Groundwater Method Detection Limits

				Analytical Physical Tests			Dissolved Anions and Nutrients				
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulphate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)
K1007431		Integral	July 2010	10	0.8	5	1 - 3	0.06	0.1	0.009	0.009
K1008751		Integral	August 2010	10	0.8	10 - 5	1 - 3	0.06	0.02	0.009	0.009
K1011739		Integral	October 2010	10	0.8	40 - 5	3	0.06	0.02 - 0.05	--	0.009
K1100642		Integral	January 2011	10 - 5	0.8	10 - 9.1	1 - 3	0.06	0.02 - 0.05	--	0.009
K1103541		Integral	April 2011	10 - 5	0.8	10 - 5	3	0.06	0.02	--	0.009
K1106862		Integral	July 2011 II	10 - 5	0.8	5	1	0.06	0.02 - 0.05	0.009	0.009
K1106865		Integral	July 2011 II	10	0.8	5	1	0.06	0.05	0.009	0.009
K1108476		Integral	September 2011	10	0.8	10	3	0.06	0.05	0.009	0.009
K1108477		Integral	September 2011	10	0.8	10	3	0.06	0.05	0.009	0.009
K1109861		Integral	October 2011	10	0.8	5	3	0.06	0.05	0.009	0.009
K1112358		Integral	December 2011	10 - 5	0.8	10 - 5	3	0.06	0.02 - 0.05	0.009	0.009

Table B-4. Groundwater Method Detection Limits

				Dissolved Anions and Nutrients		Trace Elements						
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Nitrate (mg/L)	Nitrite (mg/L)	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total
	Z3908	Knight Piesold	October 2006	0.005 - 0.025	0.001 - 0.005	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1
	Z6128	Knight Piesold	December 2006	0.005	0.001	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1
	L482967	Knight Piesold	February 2007	0.005 - 0.025	0.001 - 0.005	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1
	L495369	Knight Piesold	April 2007	0.005	0.001	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05
	L507191	Knight Piesold	May 2007	0.005 - 0.05	0.001 - 0.01	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05
	L515743	Knight Piesold	June 2007	0.005	0.001	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05
	L526591	Knight Piesold	July 2007 I	0.005	0.001	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05
	L526594	Knight Piesold	July 2007 I	0.005	0.001	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05
K0706551		Integral	July 2007 II	--	--	20	0.2	0.06	0.06	0.005	0.005	7
K0706569		Integral	July 2007 II	--	--	0.2 - 20	0.2 - 4	0.06	0.06	0.007	0.007	7
K0707317		Integral	August 2007 I	--	--	0.2 - 30	0.2 - 30	0.06	0.06	0.008	0.008	7
K0707319		Integral	August 2007 I	--	--	30	0.2	0.06	0.06	0.008	0.008	7
K0707781		Integral	August 2007 II	--	--	0.2	0.3	0.08	0.07	0.005	0.008	7
K0707782		Integral	August 2007 II	--	--	0.2 - 20	0.3 - 15	0.07 - 0.08	0.07	0.005 - 0.008	0.008	7
K0708240		Integral	September 2007 I	--	--	0.2 - 4	0.2 - 2	0.06	0.06	0.007	0.007	7
K0708243		Integral	September 2007 I	--	--	0.2	0.2	0.06	0.06	0.007	0.007	7
K0709126		Integral	September 2007 II	--	--	0.2 - 4	0.2 - 4	0.06	0.06	0.007	0.007	7
K0709129		Integral	September 2007 II	--	--	0.2	0.2	0.06	0.06	0.007	0.007	7
K0709804		Integral	October 2007	--	--	0.2 - 20	0.2 - 4	0.06	0.06	0.007	0.007	7
K0709830		Integral	October 2007	--	--	0.2	0.2	0.06	0.06	0.007	0.007	7
K0710766		Integral	November 2007	--	--	4	0.2	0.06	0.06	0.008	0.008	7
K0710773		Integral	November 2007	--	--	0.2 - 4	0.2 - 4	0.06	0.06	0.008	0.008	7
K0711891		Integral	December 2007 I	--	--	0.2 - 30	0.2 - 30	0.06	0.06	0.007	0.007	7
K0711894		Integral	December 2007 I	--	--	30	0.2	0.06	0.06	0.007	0.007	7
K0800335		Integral	January 2008	--	--	0.2 - 20	0.2 - 20	0.06	0.08	0.007	0.005	30
K0800336		Integral	January 2008	--	--	20	0.2	0.06	0.08	0.007	0.005	30
K0801400		Integral	Februrary 2008	--	--	0.2 - 30	0.2 - 30	0.06 - 0.08	0.06	0.005 - 0.007	0.007	7
K0801403		Integral	Februrary 2008	--	--	4	0.2	0.06	0.06	0.007	0.007	7
K0802327		Integral	March 2008	--	--	3	0.2	0.08	0.08	0.005	0.005	30
K0802328		Integral	March 2008	--	--	0.2 - 4	0.2	0.08	0.08	0.005	0.005	30
K0803239		Integral	April 2008	--	--	0.2 - 4	0.2 - 4	0.06	0.06	0.007	0.007	30
K0803240		Integral	April 2008	--	--	0.2	0.2	0.06	0.06	0.007	0.007	30
K0804080		Integral	May 2008	--	--	0.2 - 4	0.2	0.08 - 0.16	0.08	0.005 - 0.01	0.005	30
K0804081		Integral	May 2008	--	--	0.2	0.2	0.08	0.08	0.005	0.005	30
K0805877		Integral	June 2008	--	--	0.5 - 5	0.5 - 5	0.2	0.2	0.005	0.005	30
K0806880		Integral	July 2008	--	--	0.5 - 4	0.5 - 4	0.2	0.2	0.005	0.005	30
K0807975		Integral	August 2008	--	--	0.5 - 30	0.5 - 30	0.2	0.2	0.005	0.005	9
K0808787		Integral	September 2008	--	--	30	0.5 - 30	0.2	0.2	0.005	0.005	9
K0810253		Integral	October 2008	--	--	0.5 - 5	0.5 - 5	0.2	0.2	0.005	0.005	30 - 9
K0902142		Integral	March 2009	--	--	0.5 - 2.5	0.5	0.2	0.2	0.005	0.005	30
K0904395		Integral	May 2009	--	--	0.5 - 4	0.5 - 5	0.2	0.2	0.005	0.005	30
K0906701		Integral	July 2009	--	--	0.3 - 30	0.3 - 30	0.07	0.07	0.003	0.003	6
K0908619		Integral	September 2009 II	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K0910115		Integral	October 2009	--	--	0.3 - 30	0.3 - 30	0.07	0.07	0.003	0.003	6
K0910233		Integral	October 2009	--	--	30	0.3	0.07	0.07	0.003	0.003	6
K1000512		Integral	January 2010	--	--	0.3 - 6	0.3	0.07	0.07	0.003	0.003	6
K1004032		Integral	April 2010	--	--	0.3 - 6	0.3	0.07	0.07	0.003	0.003	6

Table B-4. Groundwater Method Detection Limits

				Dissolved Anions and Nutrients		Trace Elements						
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Nitrate (mg/L)	Nitrite (mg/L)	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total
K1007431		Integral	July 2010	--	--	30	0.3	0.07	0.07	0.003	0.003	6
K1008751		Integral	August 2010	--	--	0.3 - 30	0.3	0.07	0.07	0.003	0.003	6
K1011739		Integral	October 2010	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K1100642		Integral	January 2011	--	--	0.3 - 6	0.3	0.07	0.07	0.003	0.003	6
K1103541		Integral	April 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1106862		Integral	July 2011 II	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K1106865		Integral	July 2011 II	--	--	0.3	0.3	0.1	0.1	0.005	0.005	6
K1108476		Integral	September 2011	--	--	6	0.3	0.07	0.07	0.003	0.003	6
K1108477		Integral	September 2011	--	--	6	0.3	0.07	0.07	0.003	0.003	6
K1109861		Integral	October 2011	--	--	0.3	0.3	0.07	0.07	0.003	0.003	6
K1112358		Integral	December 2011	--	--	0.3 - 2	0.3 - 2	0.07	0.07	0.003	0.003	6

Table B-4. Groundwater Method Detection Limits

				Trace Elements								
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
	Z3908	Knight Piesold	October 2006	0.05	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	Z6128	Knight Piesold	December 2006	0.1	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	L482967	Knight Piesold	February 2007	0.1	0.001	0.001	0.001	0.001	0.03	0.03	0.0005	0.0005
	L495369	Knight Piesold	April 2007	0.05	0.0005	0.0005	0.0001	0.0001	0.03	0.03	0.00005	0.00005
	L507191	Knight Piesold	May 2007	0.05	0.0005	0.0005	0.0001	0.0001	0.03	0.03	0.00005	0.00005
	L515743	Knight Piesold	June 2007	0.05	0.0005	0.0005	0.0001	0.0001	0.03	0.03	0.00005	0.00005
	L526591	Knight Piesold	July 2007 I	0.05	0.0005	0.0005	0.0001	0.0001	0.03	0.03	0.00005	0.00005
	L526594	Knight Piesold	July 2007 I	0.05	0.0005	0.0005	0.0001	0.0001	0.03	0.03	0.00005	0.00005
K0706551		Integral	July 2007 II	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0706569		Integral	July 2007 II	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0707317		Integral	August 2007 I	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0707319		Integral	August 2007 I	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0707781		Integral	August 2007 II	7	0.07	0.03	0.02	0.02	3	3	0.009	0.003
K0707782		Integral	August 2007 II	7	0.03 - 0.07	0.03	0.02	0.02	3	3	0.003 - 0.009	0.003
K0708240		Integral	September 2007 I	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0708243		Integral	September 2007 I	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0709126		Integral	September 2007 II	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0709129		Integral	September 2007 II	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0709804		Integral	October 2007	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0709830		Integral	October 2007	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0710766		Integral	November 2007	14	0.03	0.03	0.02	0.02	3	6	0.003	0.003
K0710773		Integral	November 2007	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0711891		Integral	December 2007 I	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0711894		Integral	December 2007 I	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0800335		Integral	January 2008	30	0.03	0.07	0.02	0.02	3	3	0.003	0.009
K0800336		Integral	January 2008	30	0.03	0.07	0.02	0.02	3	3	0.003	0.009
K0801400		Integral	Februrary 2008	7	0.03 - 0.07	0.03	0.02	0.02	3	3	0.003 - 0.009	0.003
K0801403		Integral	Februrary 2008	7	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0802327		Integral	March 2008	30	0.07	0.07	0.02	0.02	3	3	0.009	0.009
K0802328		Integral	March 2008	30	0.07	0.07	0.02	0.02	3	3	0.009	0.009
K0803239		Integral	April 2008	30	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0803240		Integral	April 2008	30	0.03	0.03	0.02	0.02	3	3	0.003	0.003
K0804080		Integral	May 2008	30	0.07 - 0.14	0.07	0.02 - 0.04	0.02	4	4	0.003 - 0.018	0.003 - 0.009
K0804081		Integral	May 2008	30	0.07	0.07	0.02	0.02	4	4	0.003	0.003
K0805877		Integral	June 2008	30	0.05	0.05	0.02	0.02	4	4	0.006	0.006
K0806880		Integral	July 2008	30	0.05	0.05	0.02	0.02	4	4	0.006	0.006
K0807975		Integral	August 2008	9	0.05	0.05	0.02	0.02	2	2	0.006	0.006
K0808787		Integral	September 2008	9	0.05	0.05	0.02	0.02	2	2	0.006	0.006
K0810253		Integral	October 2008	30 - 9	0.05	0.05	0.02	0.02	2 - 4	2 - 4	0.006	0.006
K0902142		Integral	March 2009	30	0.05	0.05	0.02	0.02	4	4	0.006	0.006
K0904395		Integral	May 2009	30	0.05	0.05	0.02	0.02	4	4	0.006	0.006
K0906701		Integral	July 2009	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K0908619		Integral	September 2009 II	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K0910115		Integral	October 2009	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K0910233		Integral	October 2009	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1000512		Integral	January 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1004032		Integral	April 2010	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005

Table B-4. Groundwater Method Detection Limits

				Trace Elements								
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Calcium (µg/L), Dissolved	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
K1007431		Integral	July 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1008751		Integral	August 2010	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1011739		Integral	October 2010	6	0.6	--	0.02	0.02	0.8	0.8	0.005	0.005
K1100642		Integral	January 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1103541		Integral	April 2011	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1106862		Integral	July 2011 II	6	0.02	0.02	0.02	0.02	0.8	0.8	0.005	0.005
K1106865		Integral	July 2011 II	6	--	--	0.02	0.02	0.8	0.8	0.005	0.005
K1108476		Integral	September 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1108477		Integral	September 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1109861		Integral	October 2011	6	0.04	0.04	0.02	0.02	0.8	0.8	0.005	0.005
K1112358		Integral	December 2011	6	0.04	0.04	0.02	0.02	3	3	0.005	0.005

Table B-4. Groundwater Method Detection Limits

				Trace Elements								
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total
	Z3908	Knight Piesold	October 2006	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	Z6128	Knight Piesold	December 2006	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	L482967	Knight Piesold	February 2007	0.1	0.1	0.00002	0.00002	0.001	0.001	2	2	0.001
	L495369	Knight Piesold	April 2007	0.1	0.1	0.00005	0.00005	0.0005	0.0005	2	2	0.001
	L507191	Knight Piesold	May 2007	0.1	0.1	0.00005	0.00005	0.0005	0.0005	2	2	0.001
	L515743	Knight Piesold	June 2007	0.1	0.1	0.00001	0.00001	0.0005	0.0005	2	2	0.001
	L526591	Knight Piesold	July 2007 I	0.1	0.1	0.00001	0.00001	0.0005	0.0005	2	2	0.001
	L526594	Knight Piesold	July 2007 I	0.1	0.1	0.00001	0.00001	0.0005	0.0005	2	2	0.001
K0706551		Integral	July 2007 II	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0706569		Integral	July 2007 II	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0707317		Integral	August 2007 I	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.1
K0707319		Integral	August 2007 I	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.1
K0707781		Integral	August 2007 II	0.7	0.7	0.03	0.03	0.04	0.07	900	900	0.6
K0707782		Integral	August 2007 II	0.7	0.7	0.03	0.03	0.04 - 0.07	0.07	900	900	0.2 - 0.6
K0708240		Integral	September 2007 I	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0708243		Integral	September 2007 I	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.4
K0709126		Integral	September 2007 II	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0709129		Integral	September 2007 II	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0709804		Integral	October 2007	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0709830		Integral	October 2007	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0710766		Integral	November 2007	0.7	1.4	0.03	0.03	0.03	0.03	900	1800	0.2
K0710773		Integral	November 2007	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0711891		Integral	December 2007 I	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0711894		Integral	December 2007 I	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0800335		Integral	January 2008	6	6	0.03	0.03	0.03	0.04	60	60	0.2
K0800336		Integral	January 2008	6	6	0.03	0.03	0.03	0.04	60	60	0.2
K0801400		Integral	Februrary 2008	0.7	0.7	0.03	0.03	0.03 - 0.04	0.03	900	900	0.2 - 0.4
K0801403		Integral	Februrary 2008	0.7	0.7	0.03	0.03	0.03	0.03	900	900	0.2
K0802327		Integral	March 2008	6	6	0.03	0.03	0.04	0.04	60	60	0.4
K0802328		Integral	March 2008	6	6	0.03	0.03	0.04	0.04	60	60	0.4
K0803239		Integral	April 2008	6	6	0.03	0.03	0.03	0.03	60	60	0.2
K0803240		Integral	April 2008	6	6	0.03	0.03	0.03	0.03	60	60	0.2
K0804080		Integral	May 2008	2	2	0.03	0.03	0.04 - 0.08	0.04	100	100	0.4 - 0.8
K0804081		Integral	May 2008	2	2	0.03	0.03	0.04	0.04	100	100	0.4
K0805877		Integral	June 2008	2	2	0.05	0.05	0.04	0.04	100	100	0.5
K0806880		Integral	July 2008	2	2	0.05	0.05	0.04	0.04	100	100	0.4
K0807975		Integral	August 2008	0.7	0.7	0.05	0.05	0.04	0.04	30	30	0.4
K0808787		Integral	September 2008	0.7 - 4	0.7	0.05	0.05	0.04	0.04	30	30	0.5
K0810253		Integral	October 2008	0.7 - 2	0.7 - 2	0.05	0.05	0.04	0.04	30 - 50	30 - 50	0.5
K0902142		Integral	March 2009	2	2	0.05	0.05	0.04	0.04	50	50	0.4
K0904395		Integral	May 2009	2	2	0.02	0.02	0.04	0.04	50	50	0.4
K0906701		Integral	July 2009	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.2
K0908619		Integral	September 2009 II	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.2
K0910115		Integral	October 2009	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K0910233		Integral	October 2009	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1000512		Integral	January 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1004032		Integral	April 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3

Table B-4. Groundwater Method Detection Limits

				Trace Elements								
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	Selenium (µg/L), Total
K1007431		Integral	July 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1008751		Integral	August 2010	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1011739		Integral	October 2010	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.3
K1100642		Integral	January 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1103541		Integral	April 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1106862		Integral	July 2011 II	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.3
K1106865		Integral	July 2011 II	0.3	0.3	0.02	0.02	0.02	0.02	40	40	0.3
K1108476		Integral	September 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1108477		Integral	September 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.3
K1109861		Integral	October 2011	0.3	0.3	0.02	0.02	0.03	0.03	40	40	0.2
K1112358		Integral	December 2011	2	2	0.02	0.02	0.03	0.03	50	50	0.3

Table B-4. Groundwater Method Detection Limits

				Trace Elements						
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
	Z3908	Knight Piesold	October 2006	0.001	0.00002	0.00002	2	2	0.005	0.005
	Z6128	Knight Piesold	December 2006	0.001	0.00002	0.00002	2	2	0.005	0.005
	L482967	Knight Piesold	February 2007	0.001	0.00002	0.00002	2	2	0.005 - 0.008	0.005
	L495369	Knight Piesold	April 2007	0.001	0.00001	0.00001	2	2	0.001 - 0.005	0.001
	L507191	Knight Piesold	May 2007	0.001	0.00001	0.00001	2	2	0.001	0.001
	L515743	Knight Piesold	June 2007	0.001	0.00001	0.00001	2	2	0.001 - 0.01	0.001
	L526591	Knight Piesold	July 2007 I	0.001	0.00001	0.00001	2	2	0.001 - 0.007	0.001
	L526594	Knight Piesold	July 2007 I	0.001	0.00001	0.00001	2	2	0.001	0.001
K0706551		Integral	July 2007 II	0.2	0.009	0.009	50	50	0.05	0.05
K0706569		Integral	July 2007 II	0.2	0.009	0.009	50	50	0.05	0.05
K0707317		Integral	August 2007 I	0.1	0.009	0.009	50	50	0.05	0.05
K0707319		Integral	August 2007 I	0.1	0.009	0.009	50	50	0.05	0.05
K0707781		Integral	August 2007 II	0.2	0.005	0.003	50	50	0.1	0.06
K0707782		Integral	August 2007 II	0.2	0.003 - 0.005	0.003	50	50	0.06 - 0.1	0.06
K0708240		Integral	September 2007 I	0.2	0.009	0.009	50	50	0.1	0.1
K0708243		Integral	September 2007 I	0.4	0.009	0.009	50	50	0.05	0.05
K0709126		Integral	September 2007 II	0.2	0.009	0.009	50	50	0.05	0.05
K0709129		Integral	September 2007 II	0.2	0.009	0.009	50	50	0.05	0.05
K0709804		Integral	October 2007	0.2	0.009	0.009	50	50	0.05	0.05
K0709830		Integral	October 2007	0.2	0.009	0.009	50	50	0.05	0.05
K0710766		Integral	November 2007	0.2	0.009	0.009	50	100	0.05	0.05
K0710773		Integral	November 2007	0.2	0.009	0.009	50	50	0.05	0.05
K0711891		Integral	December 2007 I	0.2	0.009	0.009	50	50	0.05	0.05
K0711894		Integral	December 2007 I	0.2	0.009	0.009	50	50	0.05	0.05
K0800335		Integral	January 2008	0.4	0.009	0.004	20	20	0.1	0.1
K0800336		Integral	January 2008	0.4	0.009	0.004	20	20	0.1	0.1
K0801400		Integral	Februrary 2008	0.2	0.005 - 0.009	0.009	50	50	0.05 - 0.1	0.05
K0801403		Integral	Februrary 2008	0.2	0.009	0.009	50	50	0.05	0.05
K0802327		Integral	March 2008	0.4	0.005	0.005	20	20	0.1	0.1
K0802328		Integral	March 2008	0.4	0.005	0.005	20	20	0.1	0.1
K0803239		Integral	April 2008	0.2	0.009	0.009	20	20	0.05	0.05
K0803240		Integral	April 2008	0.2	0.009	0.009	20	20	0.05	0.05
K0804080		Integral	May 2008	0.4	0.005 - 0.01	0.005	70	70	0.05 - 0.2	0.05 - 0.1
K0804081		Integral	May 2008	0.4	0.005	0.005	70	70	0.05	0.05
K0805877		Integral	June 2008	0.5	0.009	0.009	70	70	0.1	0.1
K0806880		Integral	July 2008	0.4	0.009	0.009	70	70	0.1	0.1
K0807975		Integral	August 2008	0.4	0.009	0.009	20	20	0.08	0.08
K0808787		Integral	September 2008	0.5	0.009	0.009	20	20	0.08	0.08
K0810253		Integral	October 2008	0.5	0.009	0.009	20 - 70	20 - 70	0.08	0.08
K0902142		Integral	March 2009	0.4	0.009	0.009	70	70	0.08	0.08
K0904395		Integral	May 2009	0.4	0.009	0.009	70	70	0.08	0.08
K0906701		Integral	July 2009	0.2	0.004	0.004	20	20	0.2	0.2
K0908619		Integral	September 2009 II	0.2	0.004	0.004	20	20	0.2	0.2
K0910115		Integral	October 2009	0.3	0.004	0.004	20	20	0.2	0.2
K0910233		Integral	October 2009	0.3	0.004	0.004	20	20	0.2	0.2
K1000512		Integral	January 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1004032		Integral	April 2010	0.3	0.004	0.004	20	20	0.2	0.2

Table B-4. Groundwater Method Detection Limits

				Trace Elements						
CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
K1007431		Integral	July 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1008751		Integral	August 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1011739		Integral	October 2010	0.3	0.004	0.004	20	20	0.2	0.2
K1100642		Integral	January 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1103541		Integral	April 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1106862		Integral	July 2011 II	0.3	0.004	0.004	20	20	0.2	0.2
K1106865		Integral	July 2011 II	0.3	0.004	0.004	20	20	0.2	0.2
K1108476		Integral	September 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1108477		Integral	September 2011	0.3	0.004	0.004	20	20	0.2	0.2
K1109861		Integral	October 2011	0.2	0.004	0.004	20	20	0.2	0.2
K1112358		Integral	December 2011	0.3	0.004	0.004	20	20	0.2	0.2

Notes:
-- = data not available
ALS = ALS Laboratory Group
CAS = Columbia Analytical Services
DO = dissolved oxygen
SDG = sample digestion group
TDS = total dissolved solids
TSS = total suspended solids

APPENDIX C

FIELD REPLICATE CONTROL CHARTS

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								In situ (field measurements)					Analytical Physical Tests		
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
WQ-06	**WQ-06**			**Knight Piesold**	**September 1997**	**9/3/1997**		--	--	--	--	--	**20 *U***	--	**4 *U***
WQ-06	**WQ-066 (Dup)**			**Knight Piesold**	**September 1997**	**9/3/1997**		--	--	--	--	--	**20 *U***	**8.92**	**4 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-06	**WQ-06**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**5.8**	**33**	**13.22**	--	**5.91**	**17**	**8.53**	**3 *U***
WQ-06	**WQ-066 (Dup WQ-16)**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	--	--	--	--	--	**17**	**8.61**	**3 *U***
	Sample Difference							NC	NC	NC	NC	NC	0	0.08	NC
	RPD							NC	NC	NC	NC	NC	0%	-1%	NC
	abs (RPD)							NC	NC	NC	NC	NC	0%	1%	NC
WQ-08	**WQ-08**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**10.02**	**40**	**11.92**	--	**6.77**	**16**	**15**	**3 *U***
WQ-08	**WQ-20**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	--	--	--	--	--	**20**	**15.1**	**3 *U***
	Sample Difference							NC	NC	NC	NC	NC	4	0.1	NC
	RPD							NC	NC	NC	NC	NC	-22%	-1%	NC
	abs (RPD)							NC	NC	NC	NC	NC	22%	1%	NC
WQ-04	**WQ-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**1.42**	**55**	**12.8**	**15**	**6.45**	**29**	**24.6**	**3 *U***
WQ-04	**WQ-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	--	--	--	--	--	**32**	**23.9**	**3 *U***
	Sample Difference							NC	NC	NC	NC	NC	3	-0.7	NC
	RPD							NC	NC	NC	NC	NC	-10%	3%	NC
	abs (RPD)							NC	NC	NC	NC	NC	10%	3%	NC
WQ-13	**WQ-13**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**1.72**	**33**	**13.16**	**14.8**	**6.41**	**18**	**9.34**	**3 *U***
WQ-13	**WQ-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	--	--	--	--	--	**16**	**9.34**	**3 *U***
	Sample Difference							NC	NC	NC	NC	NC	-2	0	NC
	RPD							NC	NC	NC	NC	NC	12%	0%	NC
	abs (RPD)							NC	NC	NC	NC	NC	12%	0%	NC
WQ-04	**WQ-04**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**4.18**	**29**	**13**	**11.8**	**6.64**	**21**	**10.6**	**3 *U***
WQ-04	**WQ-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	--	--	--	--	--	**22**	**10.7**	**3 *U***
	Sample Difference							NC	NC	NC	NC	NC	1	0.1	NC
	RPD							NC	NC	NC	NC	NC	-5%	-1%	NC
	abs (RPD)							NC	NC	NC	NC	NC	5%	1%	NC
WQ-12	**WQ-12**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**6.55**	**97**	**11.77**	**8**	**6.91**	**60**	**44.1**	**3 *U***
WQ-12	**WQ-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	--	--	--	--	--	**63**	**45**	**3 *U***
	Sample Difference							NC	NC	NC	NC	NC	3	0.9	NC
	RPD							NC	NC	NC	NC	NC	-5%	-2%	NC
	abs (RPD)							NC	NC	NC	NC	NC	5%	2%	NC
WQ-13	**WQ-13**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**7.18**	**49**	**12.37**	**6.1**	**7.02**	**21**	**20.9**	**3 *U***
WQ-13	**WQ-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	--	--	--	--	--	**22**	**20.6**	**3 *U***
	Sample Difference							NC	NC	NC	NC	NC	1	-0.3	NC
	RPD							NC	NC	NC	NC	NC	-5%	1%	NC
	abs (RPD)							NC	NC	NC	NC	NC	5%	1%	NC
WQ-04	**WQ-04**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**9.41**	**64**	**11.89**	**16**	**6.89**	**43**	**26**	**5 *U***
WQ-04	**WQ-20**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	--	--	--	--	--	**53**	**27**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	10	1	NC
	RPD							NC	NC	NC	NC	NC	-21%	-4%	NC
	abs (RPD)							NC	NC	NC	NC	NC	21%	4%	NC
WQ-07	**WQ-07**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**10.3**	**51**	**11.92**	**4**	**7.2**	**29**	**16**	**5 *U***
WQ-07	**WQ-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	--	--	--	--	--	**27**	**19**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-2	3	NC
	RPD							NC	NC	NC	NC	NC	7%	-17%	NC
	abs (RPD)							NC	NC	NC	NC	NC	7%	17%	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								In situ (field measurements)					Analytical Physical Tests		
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
WQ-13	**WQ-13**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**8.36**	**59**	**12.91**	**10.1**	**6.12**	**59 *U***	**36**	**5 *U***
WQ-13	**WQ-20**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	--	--	--	--	--	**47 *U***	**37**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	1	NC
	RPD							NC	NC	NC	NC	NC	NC	-3%	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	3%	NC
WQ-10	**WQ-10**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**9.6**	**41**	**11.64**	**2.2**	**7.43**	**18**	**27**	**5 *U***
WQ-10	**WQ-20**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	--	--	--	--	--	**20**	**29**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	2	2	NC
	RPD							NC	NC	NC	NC	NC	-11%	-7%	NC
	abs (RPD)							NC	NC	NC	NC	NC	11%	7%	NC
WQ-12	**WQ-12**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**8.49**	**43**	**12.73**	**15.3**	**6.45**	**23**	**17 *U***	**5 *U***
WQ-12	**WQ-20**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	--	--	--	--	--	**25**	**18 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	2	NC	NC
	RPD							NC	NC	NC	NC	NC	-8%	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	8%	NC	NC
WQ-06	**WQ-06**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**6.74**	**19**	**14.88**	**11.5**	**5.96**	**7**	**14 *U***	**5 *U***
WQ-06	**WQ-20**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	--	--	--	--	--	**7**	**11 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	0	NC	NC
	RPD							NC	NC	NC	NC	NC	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	0%	NC	NC
WQ-08	**WQ-08**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**3.95**	**39**	**13.31**	**2.2**	**7.15**	**25**	**16**	**5 *U***
WQ-08	**WQ-20**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	--	--	--	--	--	**14**	**17**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-11	1	NC
	RPD							NC	NC	NC	NC	NC	56%	-6%	NC
	abs (RPD)							NC	NC	NC	NC	NC	56%	6%	NC
WQ-06	**WQ-06**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**1.46**	**29**	**15.14**	**12**	**6.08**	**18 *U***	**13 *U***	**5 *U***
WQ-06	**WQ-20**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	--	--	--	--	--	**11 *U***	**13 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**2.11**	**66**	**15.56**	**12.9**	**6.81**	**22**	**28 *U***	**5 *U***
WQ-13	**WQ-20**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	--	--	--	--	--	**17**	**27 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-5	NC	NC
	RPD							NC	NC	NC	NC	NC	26%	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	26%	NC	NC
WQ-13	**WQ-13**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**1.93**	**44**	**14.84**	**8.5**	**6.54**	**36 *UJ***	**17 *U***	**5 *U***
WQ-13	**WQ-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	--	--	--	--	--	**32 *UJ***	**24 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-10	**WQ-10**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**2.6**	**31**	**13.04**	**10**	**6.3**	**41 *U***	**36 *U***	**5**
WQ-10	**WQ-20**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	--	--	--	--	--	**10 *U***	**23 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-07	**WQ-07**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**2.6**	**51**	**14.07**	**34.3**	**6.89**	**61**	**25 *U***	**5 *U***
WQ-07	**WQ-20**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	--	--	--	--	--	**59**	**18 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-2	NC	NC
	RPD							NC	NC	NC	NC	NC	3%	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	3%	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								In situ (field measurements)					Analytical Physical Tests		
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
WQ-07	**WQ-07**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**3.3**	**38**	**13.41**	**8**	**6.95**	**21**	**16 *U***	**5 *U***
WQ-07	**WQ-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	--	--	--	--	--	**6**	**13 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-15	NC	NC
	RPD							NC	NC	NC	NC	NC	111%	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	111%	NC	NC
WQ-13	**WQ-13**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**6.6**	**36**	**12.06**	**1.3**	**5.83**	**28 *U***	**19 *U***	**5 *U***
WQ-13	**WQ-20**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	--	--	--	--	--	**10 *U***	**15 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**8.1**	**62**	**11.51**	**4.1**	**5.78**	**19**	**19**	**5 *U***
WQ-13	**WQ-20**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	--	--	--	--	--	**21**	**19**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	2	0	NC
	RPD							NC	NC	NC	NC	NC	-10%	0%	NC
	abs (RPD)							NC	NC	NC	NC	NC	10%	0%	NC
WQ-06	**WQ-06**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	**7.5**	**31**	**11.64**	**3.4**	**5.7**	**20**	**14**	**5 *U***
WQ-06	**WQ-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	--	--	--	--	--	**16**	**10**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-4	-4	NC
	RPD							NC	NC	NC	NC	NC	22%	33%	NC
	abs (RPD)							NC	NC	NC	NC	NC	22%	33%	NC
WQ-13	**WQ-13**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**10:57**	**1.78**	**120**	**12.83**	**3.5**	**5.67**	**29**	**21**	**8**
WQ-13	**WQ-20**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**09:00**	--	--	--	--	--	**28**	**21**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-1	0	NC
	RPD							NC	NC	NC	NC	NC	4%	0%	NC
	abs (RPD)							NC	NC	NC	NC	NC	4%	0%	NC
WQ-10	**WQ-10**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	**5.92**	**33**	**13.23**	**6.1**	**6.8**	**20**	**5**	**5 *U***
WQ-10	**WQ-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	--	--	--	--	--	**24**	**7**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	4	2	NC
	RPD							NC	NC	NC	NC	NC	-18%	-33%	NC
	abs (RPD)							NC	NC	NC	NC	NC	18%	33%	NC
WQ-04	**WQ-04**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**11.31**	**116**	**8.67**	**4.4**	**7.17**	**24**	**17.6**	**5 *U***
WQ-04	**WQ-20**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	--	--	--	--	--	**21**	**18**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-3	0.4	NC
	RPD							NC	NC	NC	NC	NC	13%	-2%	NC
	abs (RPD)							NC	NC	NC	NC	NC	13%	2%	NC
WQ-04	**WQ-04**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**11.02**	**86**	**10.32**	**4.6**	**6.95**	**34 *U***	**16.8**	**5 *U***
WQ-04	**WQ-20**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	--	--	--	--	--	**38 *U***	**13.6**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	-3.2	NC
	RPD							NC	NC	NC	NC	NC	NC	21%	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	21%	NC
WQ-10	**WQ-10**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	**8.89**	**73**	**10.53**	**6.1**	**7.06**	**39**	**21.6**	**5 *U***
WQ-10	**WQ-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	--	--	--	--	--	**38.5**	**20.4**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-0.5	-1.2	NC
	RPD							NC	NC	NC	NC	NC	1%	6%	NC
	abs (RPD)							NC	NC	NC	NC	NC	1%	6%	NC
WQ-10	**WQ-10**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	**5.18**	**49**	**11.52**	**9**	**6.18**	**19.5 *UJ***	**10**	**5 *U***
WQ-10	**WQ-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	--	--	--	--	--	**17.5 *UJ***	**7.6**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	-2.4	NC
	RPD							NC	NC	NC	NC	NC	NC	27%	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	27%	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								In situ (field measurements)					Analytical Physical Tests		
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
WQ-10	**WQ-10**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**5.6**	**107**	**11.51**	**0.8**	**6.65**	**32**	**17.2**	**5 *U***
WQ-10	**WQ-20**	**K1004034**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	--	--	--	--	--	**30**	**16**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-2	-1.2	NC
	RPD							NC	NC	NC	NC	NC	6%	7%	NC
	abs (RPD)							NC	NC	NC	NC	NC	6%	7%	NC
WQ-10	**WQ-10**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**11.4**	**121**	**10.02**	**4.7**	**6.81**	**27**	**30.4**	**5 *U***
WQ-10	**WQ-20**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	--	--	--	--	--	**66**	**30**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	39	-0.4	NC
	RPD							NC	NC	NC	NC	NC	-84%	1%	NC
	abs (RPD)							NC	NC	NC	NC	NC	84%	1%	NC
WQ-13	**WQ-13**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**8.3**	**95**	**10.97**	**8.5**	**7.06**	**19**	**10.4**	**5 *U***
WQ-13	**WQ-20**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	--	--	--	--	--	**22**	**10.8**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	3	0.4	NC
	RPD							NC	NC	NC	NC	NC	-15%	-4%	NC
	abs (RPD)							NC	NC	NC	NC	NC	15%	4%	NC
WQ-04	**WQ-04**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**15:15**	**1.3**	**64**	**12.85**	**23.5**	**7.35**	**66**	**22**	**5 *U***
WQ-04	**WQ-20**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**13:00**	--	--	--	--	--	**20**	**20.4**	**9.5**
	Sample Difference							NC	NC	NC	NC	NC	-46	-1.6	NC
	RPD							NC	NC	NC	NC	NC	107%	8%	NC
	abs (RPD)							NC	NC	NC	NC	NC	107%	8%	NC
WQ-10	**WQ-10**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**4.5**	**50**	**12.91**	**19**	**5.4**	**28.5**	**12.8**	**5 *U***
WQ-10	**WQ-20**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	--	--	--	--	--	**25**	**24**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-3.5	11.2	NC
	RPD							NC	NC	NC	NC	NC	13%	-61%	NC
	abs (RPD)							NC	NC	NC	NC	NC	13%	61%	NC
WQ-13	**WQ-13**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	**3.91**	**60**	**11.85**	**13**	**6.4**	**41.5**	**13.6**	**5 *U***
WQ-13	**WQ-20**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	--	--	--	--	--	**63**	**14**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	21.5	0.4	NC
	RPD							NC	NC	NC	NC	NC	-41%	-3%	NC
	abs (RPD)							NC	NC	NC	NC	NC	41%	3%	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Dissolved Anions and Nutrients						
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
WQ-06	**WQ-06**			**Knight Piesold**	**September 1997**	**9/3/1997**		**3**	**1.95**	**2 *U***	--	--	**0.1 *U***	**0.1 *U***
WQ-06	**WQ-066 (Dup)**			**Knight Piesold**	**September 1997**	**9/3/1997**		**6.6**	**1.96**	**2 *U***	--	--	**0.1 *U***	**0.1 *U***
	Sample Difference							3.6	0.01	NC	NC	NC	NC	NC
	RPD							-75%	-1%	NC	NC	NC	NC	NC
	abs (RPD)							75%	1%	NC	NC	NC	NC	NC
WQ-06	**WQ-06**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**9**	**4.84**	**1.61**	**0.02 *U***	--	**0.0399**	**0.001 *U***
WQ-06	**WQ-066 (Dup WQ-16)**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	**6.6**	**4.88**	**1.65**	**0.02 *U***	--	**0.0397**	**0.001 *U***
	Sample Difference							-2.4	0.04	0.04	NC	NC	-0.0002	NC
	RPD							31%	-1%	-2%	NC	NC	1%	NC
	abs (RPD)							31%	1%	2%	NC	NC	1%	NC
WQ-08	**WQ-08**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**14.4**	**2.32**	**1.48**	**0.005 *U***	--	**0.104**	**0.001 *U***
WQ-08	**WQ-20**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	**14.4**	**2.31**	**1.48**	**0.005 *U***	--	**0.103**	**0.001 *U***
	Sample Difference							0	-0.01	0	NC	NC	-0.001	NC
	RPD							0%	0%	0%	NC	NC	1%	NC
	abs (RPD)							0%	0%	0%	NC	NC	1%	NC
WQ-04	**WQ-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**20.3**	**4.23**	**3.18**	**0.005 *U***	--	**0.097**	**0.001 *U***
WQ-04	**WQ-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	**20.7**	**4.23**	**3.15**	**0.0051**	--	**0.0977**	**0.001 *U***
	Sample Difference							0.4	0	-0.03	NC	NC	0.0007	NC
	RPD							-2%	0%	1%	NC	NC	-1%	NC
	abs (RPD)							2%	0%	1%	NC	NC	1%	NC
WQ-13	**WQ-13**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**7.1**	**4.17**	**1.82**	**0.005 *U***	--	**0.0655**	**0.001 *U***
WQ-13	**WQ-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	**7.1**	**4.15**	**1.81**	**0.005 *U***	--	**0.0639**	**0.001 *U***
	Sample Difference							0	-0.02	-0.01	NC	NC	-0.0016	NC
	RPD							0%	0%	1%	NC	NC	2%	NC
	abs (RPD)							0%	0%	1%	NC	NC	2%	NC
WQ-04	**WQ-04**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**9.2**	**2.45**	**1.45**	**0.005 *U***	--	**0.0264**	**0.001 *U***
WQ-04	**WQ-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	**8.5**	**2.44**	**1.45**	**0.0087**	--	**0.0267**	**0.001 *U***
	Sample Difference							-0.7	-0.01	0	NC	NC	0.0003	NC
	RPD							8%	0%	0%	NC	NC	-1%	NC
	abs (RPD)							8%	0%	0%	NC	NC	1%	NC
WQ-12	**WQ-12**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**37.1**	**4.9**	**3.99**	**0.36**	--	**1.17**	**0.0235**
WQ-12	**WQ-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	**37.2**	**4.9**	**4.09**	**0.397**	--	**1.21**	**0.0249**
	Sample Difference							0.1	0	0.1	0.037	NC	0.04	0.0014
	RPD							0%	0%	-2%	-10%	NC	-3%	-6%
	abs (RPD)							0%	0%	2%	10%	NC	3%	6%
WQ-13	**WQ-13**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**16.6**	**2.06**	**2.92**	**0.005 *U***	--	**0.0749**	**0.001 *U***
WQ-13	**WQ-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	**16.4**	**2.05**	**2.92**	**0.005 *U***	--	**0.0747**	**0.001 *U***
	Sample Difference							-0.2	-0.01	0	NC	NC	-0.0002	NC
	RPD							1%	0%	0%	NC	NC	0%	NC
	abs (RPD)							1%	0%	0%	NC	NC	0%	NC
WQ-04	**WQ-04**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**26**	**2.2**	**2.8**	**0.03 *U***	**0.12**	--	--
WQ-04	**WQ-20**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**26**	**2.2**	**2.8**	**0.03 *U***	**0.12**	--	--
	Sample Difference							0	0	0	NC	0	NC	NC
	RPD							0%	0%	0%	NC	0%	NC	NC
	abs (RPD)							0%	0%	0%	NC	0%	NC	NC
WQ-07	**WQ-07**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**22**	**2.5**	**1.3**	**0.006 *U***	**0.13**	--	--
WQ-07	**WQ-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**20**	**2.5**	**1.4**	**0.006 *U***	**0.13**	--	--
	Sample Difference							-2	0	0.1	NC	0	NC	NC
	RPD							10%	0%	-7%	NC	0%	NC	NC
	abs (RPD)							10%	0%	7%	NC	0%	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Dissolved Anions and Nutrients						
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
WQ-13	**WQ-13**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**21**	**2**	**3**	**0.006 *U***	**0.16**	--	--
WQ-13	**WQ-20**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**23**	**2.1**	**3.1**	**0.01 *UJ***	**0.16**	--	--
	Sample Difference							2	0.1	0.1	NC	0	NC	NC
	RPD							-9%	-5%	-3%	NC	0%	NC	NC
	abs (RPD)							9%	5%	3%	NC	0%	NC	NC
WQ-10	**WQ-10**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**12**	**3.3**	**1.5**	**0.02 *UJ***	**0.07**	--	--
WQ-10	**WQ-20**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**12**	**3.3**	**1.5**	**0.02 *UJ***	**0.07**	--	--
	Sample Difference							0	0	0	NC	0	NC	NC
	RPD							0%	0%	0%	NC	0%	NC	NC
	abs (RPD)							0%	0%	0%	NC	0%	NC	NC
WQ-12	**WQ-12**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**14**	**3.5**	**1.4**	**0.03 *U***	**0.012 *J***	--	--
WQ-12	**WQ-20**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**15**	**3.5**	**1.4**	**0.03 *U***	**0.01 *J***	--	--
	Sample Difference							1	0	0	NC	NC	NC	NC
	RPD							-7%	0%	0%	NC	NC	NC	NC
	abs (RPD)							7%	0%	0%	NC	NC	NC	NC
WQ-06	**WQ-06**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**1 *U***	**3.1**	**0.6**	**0.05 *UJ***	**0.032 *J***	--	--
WQ-06	**WQ-20**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**2 *UJ***	**3.1**	**0.6**	**0.02 *UJ***	**0.033 *J***	--	--
	Sample Difference							NC	0	0	NC	NC	NC	NC
	RPD							NC	0%	0%	NC	NC	NC	NC
	abs (RPD)							NC	0%	0%	NC	NC	NC	NC
WQ-08	**WQ-08**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**8 *UJ***	**4.7**	**1.6**	**0.02 *UJ***	**0.07**	--	--
WQ-08	**WQ-20**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**7 *UJ***	**4.7**	**1.6**	**0.014 *UJ***	**0.07**	--	--
	Sample Difference							NC	0	0	NC	0	NC	NC
	RPD							NC	0%	0%	NC	0%	NC	NC
	abs (RPD)							NC	0%	0%	NC	0%	NC	NC
WQ-06	**WQ-06**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**5**	**4.5**	**0.8**	**0.03 *UJ***	**0.34**	--	--
WQ-06	**WQ-20**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**2 *J***	**4.4**	**0.8**	**0.04 *UJ***	**0.2**	--	--
	Sample Difference							NC	-0.1	0	NC	-0.14	NC	NC
	RPD							NC	2%	0%	NC	52%	NC	NC
	abs (RPD)							NC	2%	0%	NC	52%	NC	NC
WQ-13	**WQ-13**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**14**	**7.1**	**3.6**	**0.01 *UJ***	**0.21**	--	--
WQ-13	**WQ-20**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**13**	**7.1**	**3.5**	**0.02 *UJ***	**0.2**	--	--
	Sample Difference							-1	0	-0.1	NC	-0.01	NC	NC
	RPD							7%	0%	3%	NC	5%	NC	NC
	abs (RPD)							7%	0%	3%	NC	5%	NC	NC
WQ-13	**WQ-13**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**5**	**6.7**	**1.9**	**0.07**	**0.46**	--	--
WQ-13	**WQ-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**8**	**6.7**	**1.9**	**0.04 *J***	**0.47**	--	--
	Sample Difference							3	0	0	NC	0.01	NC	NC
	RPD							-46%	0%	0%	NC	-2%	NC	NC
	abs (RPD)							46%	0%	0%	NC	2%	NC	NC
WQ-10	**WQ-10**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**5 *U***	**5.8**	**1.3**	**0.03 *UJ***	**0.1 *U***	--	--
WQ-10	**WQ-20**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**4 *U***	**5.8**	**1.2**	**0.03 *UJ***	**0.11 *U***	--	--
	Sample Difference							NC	0	-0.1	NC	NC	NC	NC
	RPD							NC	0%	8%	NC	NC	NC	NC
	abs (RPD)							NC	0%	8%	NC	NC	NC	NC
WQ-07	**WQ-07**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**7 *UJ***	**7.8**	**1.1**	**0.06 *UJ***	**0.06 *U***	--	--
WQ-07	**WQ-20**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**8 *UJ***	**7.9**	**1.1**	**0.02 *UJ***	**0.06 *U***	--	--
	Sample Difference							NC	0.1	0	NC	NC	NC	NC
	RPD							NC	-1%	0%	NC	NC	NC	NC
	abs (RPD)							NC	1%	0%	NC	NC	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Dissolved Anions and Nutrients						
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
WQ-07	**WQ-07**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**7 *UJ***	**4.5**	**1.1**	**0.03 *UJ***	**0.05**	--	--
WQ-07	**WQ-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**6 *UJ***	**4.5**	**1.1**	**0.03 *UJ***	**0.049 *J***	--	--
	Sample Difference							NC	0	0	NC	NC	NC	NC
	RPD							NC	0%	0%	NC	NC	NC	NC
	abs (RPD)							NC	0%	0%	NC	NC	NC	NC
WQ-13	**WQ-13**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**11**	**1.9**	**1.9**	**0.02 *UJ***	**0.12**	--	--
WQ-13	**WQ-20**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**10**	**1.9**	**1.9**	**0.03 *UJ***	**0.14**	--	--
	Sample Difference							-1	0	0	NC	0.02	NC	NC
	RPD							10%	0%	0%	NC	-15%	NC	NC
	abs (RPD)							10%	0%	0%	NC	15%	NC	NC
WQ-13	**WQ-13**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**15**	**2.2**	**3.3**	**0.02 *UJ***	**0.17**	--	--
WQ-13	**WQ-20**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**15**	**2.2**	**3.3**	**0.03 *UJ***	**0.16**	--	--
	Sample Difference							0	0	0	NC	-0.01	NC	NC
	RPD							0%	0%	0%	NC	6%	NC	NC
	abs (RPD)							0%	0%	0%	NC	6%	NC	NC
WQ-06	**WQ-06**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	**6**	**2.3**	**0.8**	**0.04 *UJ***	**0.07**	--	--
WQ-06	**WQ-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	**6**	**2.3**	**0.8**	**0.03 *UJ***	**0.09**	--	--
	Sample Difference							0	0	0	NC	0.02	NC	NC
	RPD							0%	0%	0%	NC	-25%	NC	NC
	abs (RPD)							0%	0%	0%	NC	25%	NC	NC
WQ-13	**WQ-13**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**10:57**	**20**	**3.2**	**3.6**	**0.02 *U***	**0.28**	--	--
WQ-13	**WQ-20**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**09:00**	**21**	**3.2**	**3.6**	**0.02 *U***	**0.31**	--	--
	Sample Difference							1	0	0	NC	0.03	NC	NC
	RPD							-5%	0%	0%	NC	-10%	NC	NC
	abs (RPD)							5%	0%	0%	NC	10%	NC	NC
WQ-10	**WQ-10**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	**10**	**2.1**	**1.6**	**0.031 *UJ***	**0.06**	--	--
WQ-10	**WQ-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	**23**	**2.2**	**1.6**	**0.028 *UJ***	**0.05**	--	--
	Sample Difference							13	0.1	0	NC	-0.01	NC	NC
	RPD							-79%	-5%	0%	NC	18%	NC	NC
	abs (RPD)							79%	5%	0%	NC	18%	NC	NC
WQ-04	**WQ-04**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**19**	**2.35**	**2.81**	**0.067 *U***	**0.17**	--	--
WQ-04	**WQ-20**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**19**	**2.35**	**2.85**	**0.043 *UJ***	**0.236**	--	--
	Sample Difference							0	0	0.04	NC	0.066	NC	NC
	RPD							0%	0%	-1%	NC	-33%	NC	NC
	abs (RPD)							0%	0%	1%	NC	33%	NC	NC
WQ-04	**WQ-04**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**18.4**	**2.98**	**2.8**	**0.061 *UJ***	**0.179**	--	--
WQ-04	**WQ-20**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**18.1**	**2.98**	**2.78**	**0.032 *UJ***	**0.196**	--	--
	Sample Difference							-0.3	0	-0.02	NC	0.017	NC	NC
	RPD							2%	0%	1%	NC	-9%	NC	NC
	abs (RPD)							2%	0%	1%	NC	9%	NC	NC
WQ-10	**WQ-10**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	**22.2**	**3.67**	**3.82**	**0.011 *UJ***	**0.084**	--	--
WQ-10	**WQ-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	**22**	**3.66**	**3.85**	**0.009 *UJ***	**0.07**	--	--
	Sample Difference							-0.2	-0.01	0.03	NC	-0.014	NC	NC
	RPD							1%	0%	-1%	NC	18%	NC	NC
	abs (RPD)							1%	0%	1%	NC	18%	NC	NC
WQ-10	**WQ-10**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	**5.5**	**5.93**	**1.53**	**0.009 *UJ***	**0.05**	--	--
WQ-10	**WQ-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	**5.4**	**5.93**	**1.53**	**0.009 *UJ***	**0.026 *J***	--	--
	Sample Difference							-0.1	0	0	NC	NC	NC	NC
	RPD							2%	0%	0%	NC	NC	NC	NC
	abs (RPD)							2%	0%	0%	NC	NC	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Dissolved Anions and Nutrients						
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
WQ-10	**WQ-10**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**11.2**	**10.5**	**3.63**	**0.011 *J***	**0.08 *UJ***	--	--
WQ-10	**WQ-20**	**K1004034**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**13.7**	**10.5**	**3.62**	**0.02 *UJ***	**0.091 *UJ***	--	--
	Sample Difference							2.5	0	-0.01	NC	NC	NC	NC
	RPD							-20%	0%	0%	NC	NC	NC	NC
	abs (RPD)							20%	0%	0%	NC	NC	NC	NC
WQ-10	**WQ-10**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**23**	**5.23**	**5.76**	**0.041 *UJ***	**0.162 *UJ***	--	--
WQ-10	**WQ-20**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**22**	**5.22**	**5.7**	**0.033 *UJ***	**0.16 *UJ***	--	--
	Sample Difference							-1	-0.01	-0.06	NC	NC	NC	NC
	RPD							4%	0%	1%	NC	NC	NC	NC
	abs (RPD)							4%	0%	1%	NC	NC	NC	NC
WQ-13	**WQ-13**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**6 *J***	**7.12**	**1.71**	**0.049 *J***	**0.11**	--	--
WQ-13	**WQ-20**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**5 *J***	**7.08**	**1.73**	**0.014 *J***	**0.112**	--	--
	Sample Difference							NC	-0.04	0.02	NC	0.002	NC	NC
	RPD							NC	1%	-1%	NC	-2%	NC	NC
	abs (RPD)							NC	1%	1%	NC	2%	NC	NC
WQ-04	**WQ-04**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**15:15**	**9.1 *UJ***	**3.78**	**1.48**	**0.05 *UJ***	**0.162**	--	--
WQ-04	**WQ-20**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**13:00**	**8.2 *UJ***	**3.78**	**1.5**	**0.029 *UJ***	**0.162**	--	--
	Sample Difference							NC	0	0.02	NC	0	NC	NC
	RPD							NC	0%	-1%	NC	0%	NC	NC
	abs (RPD)							NC	0%	1%	NC	0%	NC	NC
WQ-10	**WQ-10**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**8.7**	**4.35**	**1.86**	**0.028 *U***	**0.084**	--	--
WQ-10	**WQ-20**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**7.8**	**4.38**	**1.88**	**0.039 *U***	**0.076**	--	--
	Sample Difference							-0.9	0.03	0.02	NC	-0.008	NC	NC
	RPD							11%	-1%	-1%	NC	10%	NC	NC
	abs (RPD)							11%	1%	1%	NC	10%	NC	NC
WQ-13	**WQ-13**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	**9**	**4.32**	**4.85 *J***	**0.033 *UJ***	**0.181**	--	--
WQ-13	**WQ-20**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	**8.8 *J***	**4.35**	**4.78 *J***	**0.03 *UJ***	**0.192**	--	--
	Sample Difference							NC	0.03	NC	NC	0.011	NC	NC
	RPD							NC	-1%	NC	NC	-6%	NC	NC
	abs (RPD)							NC	1%	NC	NC	6%	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
WQ-06	**WQ-06**			**Knight Piesold**	**September 1997**	**9/3/1997**		--	--	**0.5 *U***	**0.5 *U***	**0.2 *U***	**0.2 *U***	**1450**	--
WQ-06	**WQ-066 (Dup)**			**Knight Piesold**	**September 1997**	**9/3/1997**		--	--	**0.5 *U***	**0.5 *U***	**0.2 *U***	**0.2 *U***	**1490**	--
	Sample Difference							NC	NC	NC	NC	NC	NC	40	NC
	RPD							NC	NC	NC	NC	NC	NC	-3%	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	3%	NC
WQ-06	**WQ-06**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**51.1**	**47.4**	**0.5 *U***	**0.5 *U***	**0.017 *U***	**0.017 *U***	**2430**	**2500**
WQ-06	**WQ-066 (Dup WQ-16)**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	**54.2**	**48.7**	**0.5 *U***	**0.5 *U***	**0.017 *U***	**0.017 *U***	**2470**	**2500**
	Sample Difference							3.1	1.3	NC	NC	NC	NC	40	0
	RPD							-6%	-3%	NC	NC	NC	NC	-2%	0%
	abs (RPD)							6%	3%	NC	NC	NC	NC	2%	0%
WQ-08	**WQ-08**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**56**	**54**	**0.5 *U***	**0.5 *U***	**0.017 *U***	**0.017 *U***	**4900**	**4890**
WQ-08	**WQ-20**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	**55.6**	**56.1**	**0.5 *U***	**0.5 *U***	**0.017 *U***	**0.017 *U***	**4920**	**4930**
	Sample Difference							-0.4	2.1	NC	NC	NC	NC	20	40
	RPD							1%	-4%	NC	NC	NC	NC	0%	-1%
	abs (RPD)							1%	4%	NC	NC	NC	NC	0%	1%
WQ-04	**WQ-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**26.4**	**24.8**	**0.5 *U***	**0.5 *U***	**0.017 *U***	**0.017 *U***	**9150**	**8220**
WQ-04	**WQ-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	**26.9**	**24.5**	**0.5 *U***	**0.5 *U***	**0.017 *U***	**0.017 *U***	**8140**	**7980**
	Sample Difference							0.5	-0.3	NC	NC	NC	NC	-1010	-240
	RPD							-2%	1%	NC	NC	NC	NC	12%	3%
	abs (RPD)							2%	1%	NC	NC	NC	NC	12%	3%
WQ-13	**WQ-13**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**65.4**	**40**	**0.1 *U***	**0.1 *U***	**0.017 *U***	**0.017 *U***	**2870**	**3000**
WQ-13	**WQ-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	**44.7**	**40**	**0.1 *U***	**0.1 *U***	**0.017 *U***	**0.017 *U***	**2970**	**3000**
	Sample Difference							-20.7	0	NC	NC	NC	NC	100	0
	RPD							38%	0%	NC	NC	NC	NC	-3%	0%
	abs (RPD)							38%	0%	NC	NC	NC	NC	3%	0%
WQ-04	**WQ-04**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**118**	**67.1**	**0.1 *U***	**0.1 *U***	**0.017 *U***	**0.017 *U***	**3510**	**3480**
WQ-04	**WQ-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	**115**	**66.3**	**0.1 *U***	**0.1 *U***	**0.017 *U***	**0.017 *U***	**3460**	**3500**
	Sample Difference							-3	-0.8	NC	NC	NC	NC	-50	20
	RPD							3%	1%	NC	NC	NC	NC	1%	-1%
	abs (RPD)							3%	1%	NC	NC	NC	NC	1%	1%
WQ-12	**WQ-12**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**146**	**70.7**	**0.1 *U***	**0.1 *U***	**0.017 *U***	**0.017 *U***	**14800**	**14700**
WQ-12	**WQ-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	**171**	**75.1**	**0.1 *U***	**0.1 *U***	**0.017 *U***	**0.017 *U***	**15000**	**15000**
	Sample Difference							25	4.4	NC	NC	NC	NC	200	300
	RPD							-16%	-6%	NC	NC	NC	NC	-1%	-2%
	abs (RPD)							16%	6%	NC	NC	NC	NC	1%	2%
WQ-13	**WQ-13**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**33.3**	**27.9**	**0.1 *U***	**0.1 *U***	**0.017 *U***	**0.017 *U***	**7100**	**7210**
WQ-13	**WQ-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	**32.6**	**27.7**	**0.1 *U***	**0.1 *U***	**0.017 *U***	**0.017 *U***	**7030**	**7100**
	Sample Difference							-0.7	-0.2	NC	NC	NC	NC	-70	-110
	RPD							2%	1%	NC	NC	NC	NC	1%	2%
	abs (RPD)							2%	1%	NC	NC	NC	NC	1%	2%
WQ-04	**WQ-04**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**48.9**	**36.4**	**0.06 *U***	**0.07 *J***	**0.013 *U***	**0.007 *U***	**8920**	**9030**
WQ-04	**WQ-20**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**44.6**	**37.7**	**0.1 *J***	**0.08 *J***	**0.007 *U***	**0.01 *J***	**8920**	**8920**
	Sample Difference							-4.3	1.3	NC	NC	NC	NC	0	-110
	RPD							9%	-4%	NC	NC	NC	NC	0%	1%
	abs (RPD)							9%	4%	NC	NC	NC	NC	0%	1%
WQ-07	**WQ-07**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**20.7**	**19.7**	**0.06 *U***	**0.06 *U***	**0.008 *U***	**0.011 *U***	**7100**	**6370**
WQ-07	**WQ-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**21.3**	**19.7**	**0.06 *U***	**0.06 *U***	**0.011 *U***	**0.016 *U***	**6630**	**6710**
	Sample Difference							0.6	0	NC	NC	NC	NC	-470	340
	RPD							-3%	0%	NC	NC	NC	NC	7%	-5%
	abs (RPD)							3%	0%	NC	NC	NC	NC	7%	5%

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
WQ-13	**WQ-13**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**56 *J***	**36.5**	**0.08 *U***	**0.07 *U***	**0.015 *J***	**0.01 *J***	**7820**	**7830**
WQ-13	**WQ-20**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**42.3 *J***	**36.3**	**0.08 *U***	**0.07 *U***	**0.012 *J***	**0.011 *J***	**7790**	**7670**
	Sample Difference							NC	-0.2	NC	NC	NC	NC	-30	-160
	RPD							NC	1%	NC	NC	NC	NC	0%	2%
	abs (RPD)							NC	1%	NC	NC	NC	NC	0%	2%
WQ-10	**WQ-10**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**61.7 *J***	**52.2 *J***	**0.11 *J***	**0.07 *J***	**0.007 *U***	**0.007 *U***	**3830**	**3830**
WQ-10	**WQ-20**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**75.1 *J***	**49.1 *J***	**0.13 *J***	**0.08 *J***	**0.007 *U***	**0.007 *U***	**3630**	**3850**
	Sample Difference							NC	NC	NC	NC	NC	NC	-200	20
	RPD							NC	NC	NC	NC	NC	NC	5%	-1%
	abs (RPD)							NC	NC	NC	NC	NC	NC	5%	1%
WQ-12	**WQ-12**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**88.9**	**61**	**0.08 *J***	**0.06 *U***	**0.012 *U***	**0.007 *U***	**5030**	**5510**
WQ-12	**WQ-20**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**91**	**61.6**	**0.06 *U***	**0.06 *U***	**0.011 *U***	**0.007 *U***	**5280**	**5640**
	Sample Difference							2.1	0.6	NC	NC	NC	NC	250	130
	RPD							-2%	-1%	NC	NC	NC	NC	-5%	-2%
	abs (RPD)							2%	1%	NC	NC	NC	NC	5%	2%
WQ-06	**WQ-06**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**85.5**	**80.9**	**0.06 *U***	**0.06 *U***	**0.007 *U***	**0.007 *U***	**1520**	**1550**
WQ-06	**WQ-20**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**91**	**85.3**	**0.06 *U***	**0.06 *U***	**0.007 *U***	**0.007 *U***	**1580**	**1530**
	Sample Difference							5.5	4.4	NC	NC	NC	NC	60	-20
	RPD							-6%	-5%	NC	NC	NC	NC	-4%	1%
	abs (RPD)							6%	5%	NC	NC	NC	NC	4%	1%
WQ-08	**WQ-08**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**25.1**	**24.7**	**0.06 *U***	**0.06 *U***	**0.045 *UJ***	**0.008 *U***	**3480**	**3590**
WQ-08	**WQ-20**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**25.2**	**27.8**	**0.06 *U***	**0.06 *U***	**0.01 *UJ***	**0.008 *U***	**3420**	**3500**
	Sample Difference							0.1	3.1	NC	NC	NC	NC	-60	-90
	RPD							0%	-12%	NC	NC	NC	NC	2%	3%
	abs (RPD)							0%	12%	NC	NC	NC	NC	2%	3%
WQ-06	**WQ-06**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**61.8 *J***	**42 *J***	**0.06 *U***	**0.06 *U***	**0.024 *U***	**0.012 *U***	**1860**	**1950**
WQ-06	**WQ-20**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**57.4 *J***	**44.3 *J***	**0.06 *U***	**0.06 *U***	**0.008 *U***	**0.009 *U***	**1780**	**1840**
	Sample Difference							NC	NC	NC	NC	NC	NC	-80	-110
	RPD							NC	NC	NC	NC	NC	NC	4%	6%
	abs (RPD)							NC	NC	NC	NC	NC	NC	4%	6%
WQ-13	**WQ-13**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**92.3**	**19.8**	**0.15 *J***	**0.11 *UJ***	**0.017 *UJ***	**0.01 *UJ***	**6980**	**6810**
WQ-13	**WQ-20**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**58.7**	**18.4**	**0.17 *J***	**0.09 *UJ***	**0.017 *UJ***	**0.01 *UJ***	**6870**	**6860**
	Sample Difference							-33.6	-1.4	NC	NC	NC	NC	-110	50
	RPD							45%	7%	NC	NC	NC	NC	2%	-1%
	abs (RPD)							45%	7%	NC	NC	NC	NC	2%	1%
WQ-13	**WQ-13**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**63.4 *J***	**33.3 *J***	**0.13 *UJ***	**0.06 *UJ***	**0.007 *UJ***	**0.007 *UJ***	**3680**	**3820**
WQ-13	**WQ-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**61.8 *J***	**33.1 *J***	**0.2 *UJ***	**0.06 *UJ***	**0.006 *UJ***	**0.007 *UJ***	**3880**	**3680**
	Sample Difference							NC	NC	NC	NC	NC	NC	200	-140
	RPD							NC	NC	NC	NC	NC	NC	-5%	4%
	abs (RPD)							NC	NC	NC	NC	NC	NC	5%	4%
WQ-10	**WQ-10**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**190 *J***	**51.3 *J***	**0.08 *U***	**0.1 *J***	**0.006 *UJ***	**0.005 *UJ***	**2510**	**2450**
WQ-10	**WQ-20**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**192 *J***	**58.3 *J***	**0.16 *J***	**0.08 *J***	**0.005 *UJ***	**0.005 *UJ***	**2470**	**2520**
	Sample Difference							NC	NC	NC	NC	NC	NC	-40	70
	RPD							NC	NC	NC	NC	NC	NC	2%	-3%
	abs (RPD)							NC	NC	NC	NC	NC	NC	2%	3%
WQ-07	**WQ-07**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**23.8**	**22.3**	**0.06 *U***	**0.06 *U***	**0.01 *UJ***	**0.007 *UJ***	**3120**	**3010**
WQ-07	**WQ-20**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**22.8**	**22.2**	**0.06 *U***	**0.06 *U***	**0.007 *UJ***	**0.007 *UJ***	**3110**	**3090**
	Sample Difference							-1	-0.1	NC	NC	NC	NC	-10	80
	RPD							4%	0%	NC	NC	NC	NC	0%	-3%
	abs (RPD)							4%	0%	NC	NC	NC	NC	0%	3%

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
WQ-07	**WQ-07**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**39.1 *J***	**38.4 *J***	**0.08 *U***	**0.08 *U***	**0.005 *U***	**0.005 *U***	**2510**	**2450**
WQ-07	**WQ-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**42.3 *J***	**37 *J***	**0.08 *U***	**0.08 *U***	**0.008 *J***	**0.005 *U***	**2480**	**2450**
	Sample Difference							NC	NC	NC	NC	NC	NC	-30	0
	RPD							NC	NC	NC	NC	NC	NC	1%	0%
	abs (RPD)							NC	NC	NC	NC	NC	NC	1%	0%
WQ-13	**WQ-13**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**80.2 *J***	**65.6**	**0.2 *U***	**0.2 *U***	**0.007 *UJ***	**0.008 *UJ***	**3260**	**3220**
WQ-13	**WQ-20**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**76 *J***	**66.2**	**0.2 *U***	**0.2 *U***	**0.007 *UJ***	**0.008 *UJ***	**3340**	**3240**
	Sample Difference							NC	0.6	NC	NC	NC	NC	80	20
	RPD							NC	-1%	NC	NC	NC	NC	-2%	-1%
	abs (RPD)							NC	1%	NC	NC	NC	NC	2%	1%
WQ-13	**WQ-13**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**35.3 *J***	**27.1 *J***	**0.2 *U***	**0.2 *U***	**0.011 *UJ***	**0.006 *UJ***	**5420**	**5550**
WQ-13	**WQ-20**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**34.8 *J***	**24.3 *J***	**0.2 *U***	**0.2 *U***	**0.008 *UJ***	**0.006 *UJ***	**5340**	**5260**
	Sample Difference							NC	NC	NC	NC	NC	NC	-80	-290
	RPD							NC	NC	NC	NC	NC	NC	1%	5%
	abs (RPD)							NC	NC	NC	NC	NC	NC	1%	5%
WQ-06	**WQ-06**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	**98.1 *J***	**47.4 *J***	**0.2 *U***	**0.2 *U***	**0.009 *UJ***	**0.005 *UJ***	**2460**	**2310**
WQ-06	**WQ-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	**51.5 *J***	**45.8 *J***	**0.2 *U***	**0.2 *U***	**0.005 *UJ***	**0.005 *UJ***	**2660**	**2650**
	Sample Difference							NC	NC	NC	NC	NC	NC	200	340
	RPD							NC	NC	NC	NC	NC	NC	-8%	-14%
	abs (RPD)							NC	NC	NC	NC	NC	NC	8%	14%
WQ-13	**WQ-13**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**10:57**	**22.3**	**18.2**	**0.2 *U***	**0.2 *U***	**0.005 *U***	**0.008 *J***	**7000**	**6710**
WQ-13	**WQ-20**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**09:00**	**23.1**	**18**	**0.2 *U***	**0.2 *U***	**0.005 *U***	**0.005 *U***	**6660**	**6950**
	Sample Difference							0.8	-0.2	NC	NC	NC	NC	-340	240
	RPD							-4%	1%	NC	NC	NC	NC	5%	-4%
	abs (RPD)							4%	1%	NC	NC	NC	NC	5%	4%
WQ-10	**WQ-10**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	**68.1**	**61.1**	**0.2 *U***	**0.2 *U***	**0.005 *U***	**0.005 *U***	**2660**	**2590**
WQ-10	**WQ-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	**70.4**	**62.7**	**0.2 *U***	**0.2 *U***	**0.009 *J***	**0.005 *U***	**2410**	**2510**
	Sample Difference							2.3	1.6	NC	NC	NC	NC	-250	-80
	RPD							-3%	-3%	NC	NC	NC	NC	10%	3%
	abs (RPD)							3%	3%	NC	NC	NC	NC	10%	3%
WQ-04	**WQ-04**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**72.6**	**39.4**	**0.08 *J***	**0.07 *U***	**0.006 *UJ***	**0.003 *UJ***	**6510**	**6430**
WQ-04	**WQ-20**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**68.9**	**39.1**	**0.07 *U***	**0.07 *U***	**0.004 *UJ***	**0.004 *UJ***	**6680**	**6300**
	Sample Difference							-3.7	-0.3	NC	NC	NC	NC	170	-130
	RPD							5%	1%	NC	NC	NC	NC	-3%	2%
	abs (RPD)							5%	1%	NC	NC	NC	NC	3%	2%
WQ-04	**WQ-04**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**62**	**35.8**	**0.1 *UJ***	**0.1 *UJ***	**0.005 *UJ***	**0.005 *UJ***	**6330 *J***	**6650 *J***
WQ-04	**WQ-20**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**63.5**	**35.1**	**0.1 *UJ***	**0.1 *UJ***	**0.005 *UJ***	**0.005 *UJ***	**6740 *J***	**6410 *J***
	Sample Difference							1.5	-0.7	NC	NC	NC	NC	NC	NC
	RPD							-2%	2%	NC	NC	NC	NC	NC	NC
	abs (RPD)							2%	2%	NC	NC	NC	NC	NC	NC
WQ-10	**WQ-10**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	**66.9**	**47**	**0.07 *U***	**0.07 *U***	**0.009 *UJ***	**0.004 *UJ***	**7210**	**7490**
WQ-10	**WQ-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	**68.6**	**47.2**	**0.12 *J***	**0.07 *U***	**0.008 *UJ***	**0.005 *UJ***	**7440**	**7350**
	Sample Difference							1.7	0.2	NC	NC	NC	NC	230	-140
	RPD							-3%	0%	NC	NC	NC	NC	-3%	2%
	abs (RPD)							3%	0%	NC	NC	NC	NC	3%	2%
WQ-10	**WQ-10**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	**80.5**	**62.2**	**0.07 *U***	**0.07 *U***	**0.003 *U***	**0.003 *U***	**2610**	**2650**
WQ-10	**WQ-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	**77.1**	**62.8**	**0.07 *U***	**0.07 *U***	**0.003 *U***	**0.003 *U***	**2580**	**2650**
	Sample Difference							-3.4	0.6	NC	NC	NC	NC	-30	0
	RPD							4%	-1%	NC	NC	NC	NC	1%	0%
	abs (RPD)							4%	1%	NC	NC	NC	NC	1%	0%

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
WQ-10	**WQ-10**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**42.9**	**35**	**0.07 *UJ***	**0.07 *UJ***	**0.003 *UJ***	**0.004 *UJ***	**4920 *J***	**4880 *J***
WQ-10	**WQ-20**	**K1004034**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**39.4**	**32.8**	**0.13 *UJ***	**0.13 *UJ***	**0.008 *UJ***	**0.01 *UJ***	**4640 *J***	**5130 *J***
	Sample Difference							-3.5	-2.2	NC	NC	NC	NC	NC	NC
	RPD							9%	6%	NC	NC	NC	NC	NC	NC
	abs (RPD)							9%	6%	NC	NC	NC	NC	NC	NC
WQ-10	**WQ-10**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**34.1**	**32.3**	**0.07 *U***	**0.09 *J***	**0.003 *U***	**0.003 *U***	**8040**	**7970**
WQ-10	**WQ-20**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**35.4**	**32.5**	**0.07 *U***	**0.08 *J***	**0.004 *J***	**0.003 *U***	**8160**	**8180**
	Sample Difference							1.3	0.2	NC	NC	NC	NC	120	210
	RPD							-4%	-1%	NC	NC	NC	NC	-1%	-3%
	abs (RPD)							4%	1%	NC	NC	NC	NC	1%	3%
WQ-13	**WQ-13**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**68.1**	**40.2**	**0.1 *J***	**0.1 *J***	**0.013 *J***	**0.008 *J***	**3040 *J***	**2860 *J***
WQ-13	**WQ-20**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**67.4**	**39.9**	**0.1 *U***	**0.1 *U***	**0.007 *J***	**0.008 *J***	**3050 *J***	**3040 *J***
	Sample Difference							-0.7	-0.3	NC	NC	NC	NC	NC	NC
	RPD							1%	1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							1%	1%	NC	NC	NC	NC	NC	NC
WQ-04	**WQ-04**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**15:15**	**343**	**104**	**0.19 *J***	**0.07 *U***	**0.009 *UJ***	**0.004 *UJ***	**3480**	**3350**
WQ-04	**WQ-20**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**13:00**	**342**	**59.5**	**0.14 *J***	**0.07 *U***	**0.009 *UJ***	**0.003 *UJ***	**3510**	**3380**
	Sample Difference							-1	-44.5	NC	NC	NC	NC	30	30
	RPD							0%	54%	NC	NC	NC	NC	-1%	-1%
	abs (RPD)							0%	54%	NC	NC	NC	NC	1%	1%
WQ-10	**WQ-10**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**56.7**	**43.8**	**0.07 *U***	**0.07 *U***	**0.003 *UJ***	**0.003 *UJ***	**3420**	**3400**
WQ-10	**WQ-20**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**56**	**44.3**	**0.07 *U***	**0.07 *U***	**0.003 *UJ***	**0.003 *UJ***	**3210**	**3450**
	Sample Difference							-0.7	0.5	NC	NC	NC	NC	-210	50
	RPD							1%	-1%	NC	NC	NC	NC	6%	-1%
	abs (RPD)							1%	1%	NC	NC	NC	NC	6%	1%
WQ-13	**WQ-13**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	**44.7**	**28.9**	**0.07 *U***	**0.11 *J***	**0.01 *UJ***	**0.007 *UJ***	**4700**	**4810**
WQ-13	**WQ-20**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	**52.1**	**28.2**	**0.09 *J***	**0.1 *J***	**0.011 *UJ***	**0.005 *UJ***	**4730**	**4740**
	Sample Difference							7.4	-0.7	NC	NC	NC	NC	30	-70
	RPD							-15%	2%	NC	NC	NC	NC	-1%	1%
	abs (RPD)							15%	2%	NC	NC	NC	NC	1%	1%

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
WQ-06	**WQ-06**			**Knight Piesold**	**September 1997**	**9/3/1997**		**20 *U***	**20 *U***	**2 *U***	**2 *U***	**50 *U***	**50 *U***	**2 *U***	**2 *U***
WQ-06	**WQ-066 (Dup)**			**Knight Piesold**	**September 1997**	**9/3/1997**		**20 *U***	**20 *U***	**2 *U***	**2 *U***	**50 *U***	**50 *U***	**2 *U***	**2 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-06	**WQ-06**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**1 *U***	**1 *U***	**1 *U***	**1 *U***	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***
WQ-06	**WQ-066 (Dup WQ-16)**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	**1 *U***	**1 *U***	**1 *U***	**1 *U***	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-08	**WQ-08**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**1 *U***	**1 *U***	**1.3**	**1.3**	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***
WQ-08	**WQ-20**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	**1 *U***	**1 *U***	**1.3**	**1.4**	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***
	Sample Difference							NC	NC	0	0.1	NC	NC	NC	NC
	RPD							NC	NC	0%	-7%	NC	NC	NC	NC
	abs (RPD)							NC	NC	0%	7%	NC	NC	NC	NC
WQ-04	**WQ-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**1 *U***	**1 *U***	**1 *U***	**1 *U***	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***
WQ-04	**WQ-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	**1 *U***	**1 *U***	**1 *U***	**1 *U***	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**0.5 *U***	**0.5 *U***	**1.36**	**1.09**	**30 *U***	**30 *U***	**0.05**	**0.05 *U***
WQ-13	**WQ-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	**0.5 *U***	**0.5 *U***	**1.21**	**1.07**	**30 *U***	**30 *U***	**0.05 *U***	**0.05 *U***
	Sample Difference							NC	NC	-0.15	-0.02	NC	NC	NC	NC
	RPD							NC	NC	12%	2%	NC	NC	NC	NC
	abs (RPD)							NC	NC	12%	2%	NC	NC	NC	NC
WQ-04	**WQ-04**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**0.5 *U***	**0.5 *U***	**1.43**	**0.95**	**125**	**30 *U***	**0.05 *U***	**0.05 *U***
WQ-04	**WQ-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	**0.5 *U***	**0.5 *U***	**1.4**	**0.88**	**115**	**30 *U***	**0.05 *U***	**0.05 *U***
	Sample Difference							NC	NC	-0.03	-0.07	-10	NC	NC	NC
	RPD							NC	NC	2%	8%	8%	NC	NC	NC
	abs (RPD)							NC	NC	2%	8%	8%	NC	NC	NC
WQ-12	**WQ-12**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**0.5 *U***	**0.5 *U***	**1.89**	**1.17**	**243**	**135**	**0.053**	**0.05 *U***
WQ-12	**WQ-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	**0.5 *U***	**0.5 *U***	**2.19**	**1.25**	**274**	**147**	**0.062**	**0.05 *U***
	Sample Difference							NC	NC	0.3	0.08	31	12	0.009	NC
	RPD							NC	NC	-15%	-7%	-12%	-9%	-16%	NC
	abs (RPD)							NC	NC	15%	7%	12%	9%	16%	NC
WQ-13	**WQ-13**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**0.5 *U***	**0.5 *U***	**1.07**	**0.99**	**30 *U***	**30 *U***	**0.05 *U***	**0.05 *U***
WQ-13	**WQ-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	**0.5 *U***	**0.5 *U***	**1.08**	**0.95**	**30 *U***	**30 *U***	**0.05 *U***	**0.05 *U***
	Sample Difference							NC	NC	0.01	-0.04	NC	NC	NC	NC
	RPD							NC	NC	-1%	4%	NC	NC	NC	NC
	abs (RPD)							NC	NC	1%	4%	NC	NC	NC	NC
WQ-04	**WQ-04**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**0.34 *U***	**0.33 *U***	**0.92**	**0.79**	**25**	**11 *J***	**0.014 *U***	**0.015 *U***
WQ-04	**WQ-20**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**0.32 *U***	**0.57 *U***	**0.93**	**0.82**	**29**	**16 *J***	**0.02 *U***	**0.031 *U***
	Sample Difference							NC	NC	0.01	0.03	4	NC	NC	NC
	RPD							NC	NC	-1%	-4%	-15%	NC	NC	NC
	abs (RPD)							NC	NC	1%	4%	15%	NC	NC	NC
WQ-07	**WQ-07**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**0.24 *U***	**0.34 *U***	**0.44 *UJ***	**0.44**	**8.4 *U***	**3.6 *U***	**0.01 *UJ***	**0.006 *U***
WQ-07	**WQ-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**0.19 *U***	**0.41 *U***	**0.47 *UJ***	**1.09**	**3 *U***	**4.7 *U***	**0.005 *UJ***	**0.044**
	Sample Difference							NC	NC	NC	0.65	NC	NC	NC	NC
	RPD							NC	NC	NC	-85%	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	85%	NC	NC	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
WQ-13	**WQ-13**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**0.4 *U***	**0.43 *U***	**1.45**	**1.27 *J***	**64**	**28 *J***	**0.018 *U***	**0.009 *U***
WQ-13	**WQ-20**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**0.33 *U***	**0.41 *U***	**1.32**	**1.27 *J***	**43**	**32 *J***	**0.009 *U***	**0.008 *U***
	Sample Difference							NC	NC	-0.13	NC	-21	NC	NC	NC
	RPD							NC	NC	9%	NC	39%	NC	NC	NC
	abs (RPD)							NC	NC	9%	NC	39%	NC	NC	NC
WQ-10	**WQ-10**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**0.41 *U***	**0.28 *U***	**1.07**	**1**	**52.1**	**37.2**	**0.008 *UJ***	**0.003 *UJ***
WQ-10	**WQ-20**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**0.4 *U***	**0.44 *U***	**1.14**	**0.93**	**46.6**	**39.7**	**0.006 *UJ***	**0.003 *U***
	Sample Difference							NC	NC	0.07	-0.07	-5.5	2.5	NC	NC
	RPD							NC	NC	-6%	7%	11%	-7%	NC	NC
	abs (RPD)							NC	NC	6%	7%	11%	7%	NC	NC
WQ-12	**WQ-12**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**0.44 *U***	**0.39 *U***	**0.99**	**0.82**	**99.7**	**59.6 *U***	**0.017 *U***	**0.014 *U***
WQ-12	**WQ-20**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**0.46 *U***	**0.4 *U***	**0.99**	**0.85**	**107**	**60.9 *U***	**0.017 *U***	**0.021 *U***
	Sample Difference							NC	NC	0	0.03	7.3	NC	NC	NC
	RPD							NC	NC	0%	-4%	-7%	NC	NC	NC
	abs (RPD)							NC	NC	0%	4%	7%	NC	NC	NC
WQ-06	**WQ-06**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**0.46 *U***	**0.45 *U***	**1.09**	**1.13**	**43.4**	**25.1 *UJ***	**0.018 *J***	**0.007 *J***
WQ-06	**WQ-20**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**0.42 *U***	**0.38 *U***	**1.28**	**1.13**	**42.3**	**29.9**	**0.02 *J***	**0.006 *J***
	Sample Difference							NC	NC	0.19	0	-1.1	NC	NC	NC
	RPD							NC	NC	-16%	0%	3%	NC	NC	NC
	abs (RPD)							NC	NC	16%	0%	3%	NC	NC	NC
WQ-08	**WQ-08**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**0.48 *U***	**0.49 *U***	**0.61**	**0.59**	**10.5 *UJ***	**3.8 *UJ***	**0.003 *U***	**0.003 *U***
WQ-08	**WQ-20**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**0.58 *U***	**0.63 *U***	**0.6**	**0.63**	**14 *UJ***	**11.6 *UJ***	**0.003 *U***	**0.003 *U***
	Sample Difference							NC	NC	-0.01	0.04	NC	NC	NC	NC
	RPD							NC	NC	2%	-7%	NC	NC	NC	NC
	abs (RPD)							NC	NC	2%	7%	NC	NC	NC	NC
WQ-06	**WQ-06**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**0.37 *U***	**0.36 *U***	**0.84 *J***	**0.7 *J***	**49.2**	**16.5 *J***	**0.016 *UJ***	**0.012 *UJ***
WQ-06	**WQ-20**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**0.52 *U***	**0.39 *U***	**0.83 *J***	**0.61 *J***	**46.2**	**17.7 *J***	**0.013 *UJ***	**0.008 *UJ***
	Sample Difference							NC	NC	NC	NC	-3	NC	NC	NC
	RPD							NC	NC	NC	NC	6%	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	6%	NC	NC	NC
WQ-13	**WQ-13**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**0.49 *U***	**0.36 *U***	**1.3**	**0.61**	**158**	**19.9 *UJ***	**0.03 *UJ***	**0.009 *U***
WQ-13	**WQ-20**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**0.51 *U***	**0.35 *U***	**1.13**	**0.66**	**126**	**19.9 *UJ***	**0.015 *UJ***	**0.009 *U***
	Sample Difference							NC	NC	-0.17	0.05	-32	NC	NC	NC
	RPD							NC	NC	14%	-8%	23%	NC	NC	NC
	abs (RPD)							NC	NC	14%	8%	23%	NC	NC	NC
WQ-13	**WQ-13**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**0.66 *U***	**0.37 *U***	**1.17**	**0.91**	**60.4**	**13.8 *UJ***	**0.019 *J***	**0.029**
WQ-13	**WQ-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**0.79 *U***	**0.35 *U***	**1.17**	**0.85**	**69.2**	**15.2 *UJ***	**0.018 *J***	**0.003 *U***
	Sample Difference							NC	NC	0	-0.06	8.8	NC	NC	NC
	RPD							NC	NC	0%	7%	-14%	NC	NC	NC
	abs (RPD)							NC	NC	0%	7%	14%	NC	NC	NC
WQ-10	**WQ-10**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**0.55 *U***	**0.48 *U***	**2.33**	**0.94**	**293**	**21 *UJ***	**0.051**	**0.009 *U***
WQ-10	**WQ-20**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**0.76 *U***	**0.45 *U***	**2.37**	**0.79**	**279**	**21.3 *UJ***	**0.056**	**0.009 *U***
	Sample Difference							NC	NC	0.04	-0.15	-14	NC	0.005	NC
	RPD							NC	NC	-2%	17%	5%	NC	-9%	NC
	abs (RPD)							NC	NC	2%	17%	5%	NC	9%	NC
WQ-07	**WQ-07**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**0.58 *U***	**0.45 *U***	**0.4**	**0.42**	**10.3 *UJ***	**6.3 *UJ***	**0.003 *UJ***	**0.027 *UJ***
WQ-07	**WQ-20**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**0.38 *U***	**0.4 *U***	**0.36**	**0.33**	**7.3 *UJ***	**7.2 *UJ***	**0.003 *UJ***	**0.016 *UJ***
	Sample Difference							NC	NC	-0.04	-0.09	NC	NC	NC	NC
	RPD							NC	NC	11%	24%	NC	NC	NC	NC
	abs (RPD)							NC	NC	11%	24%	NC	NC	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
WQ-07	**WQ-07**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**0.91 *U***	**0.23 *U***	**0.79 *U***	**0.97**	**16.8 *J***	**6.8 *UJ***	**0.022 *U***	**0.018 *UJ***
WQ-07	**WQ-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**0.3 *U***	**0.43 *U***	**0.79 *U***	**0.82**	**14.4 *J***	**9 *UJ***	**0.027 *U***	**0.009 *UJ***
	Sample Difference							NC	NC	NC	-0.15	NC	NC	NC	NC
	RPD							NC	NC	NC	17%	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	17%	NC	NC	NC	NC
WQ-13	**WQ-13**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**0.63 *U***	**0.53 *U***	**1.84 *U***	**1.6 *U***	**39.4**	**24.5**	**0.026**	**0.008 *UJ***
WQ-13	**WQ-20**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**0.43 *U***	**0.63 *U***	**1.74 *U***	**1.65 *U***	**38.1**	**24.1**	**0.012 *J***	**0.01 *UJ***
	Sample Difference							NC	NC	NC	NC	-1.3	-0.4	NC	NC
	RPD							NC	NC	NC	NC	3%	2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	3%	2%	NC	NC
WQ-13	**WQ-13**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**0.48 *U***	**0.55 *U***	**0.96**	**0.87**	**35.2 *UJ***	**22.7 *UJ***	**0.013 *J***	**0.009 *J***
WQ-13	**WQ-20**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**0.54 *U***	**0.52 *U***	**1.05**	**0.86**	**34.7 *UJ***	**16.1 *UJ***	**0.016 *J***	**0.006 *U***
	Sample Difference							NC	NC	0.09	-0.01	NC	NC	NC	NC
	RPD							NC	NC	-9%	1%	NC	NC	NC	NC
	abs (RPD)							NC	NC	9%	1%	NC	NC	NC	NC
WQ-06	**WQ-06**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	--	--	**1.16**	**0.81 *U***	**58**	**8.5 *UJ***	**0.043 *UJ***	**0.01 *UJ***
WQ-06	**WQ-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	--	--	**0.86**	**0.92 *U***	**18.2 *UJ***	**13.6 *UJ***	**0.015 *UJ***	**0.021 *UJ***
	Sample Difference							NC	NC	-0.3	NC	NC	NC	NC	NC
	RPD							NC	NC	30%	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	30%	NC	NC	NC	NC	NC
WQ-13	**WQ-13**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**10:57**	--	--	**0.92 *U***	**0.71 *U***	**30.7 *UJ***	**17.1 *UJ***	**0.022 *J***	**0.012 *J***
WQ-13	**WQ-20**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**09:00**	--	--	**0.74 *U***	**0.75 *U***	**25.8 *UJ***	**19.7 *UJ***	**0.006 *J***	**0.01 *J***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-10	**WQ-10**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	--	--	**1.16**	**1.11**	**32.3 *UJ***	**19 *UJ***	**0.014 *UJ***	**0.006 *UJ***
WQ-10	**WQ-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	--	--	**1.2**	**1.15**	**26.7 *UJ***	**19.8 *UJ***	**0.01 *UJ***	**0.006 *UJ***
	Sample Difference							NC	NC	0.04	0.04	NC	NC	NC	NC
	RPD							NC	NC	-3%	-4%	NC	NC	NC	NC
	abs (RPD)							NC	NC	3%	4%	NC	NC	NC	NC
WQ-04	**WQ-04**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	--	--	**1.38**	**0.93**	**81.2**	**13.9 *J***	**0.014 *J***	**0.005 *U***
WQ-04	**WQ-20**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	--	--	**1.62**	**0.94**	**82.2**	**15.4 *J***	**0.022**	**0.005 *U***
	Sample Difference							NC	NC	0.24	0.01	1	NC	NC	NC
	RPD							NC	NC	-16%	-1%	-1%	NC	NC	NC
	abs (RPD)							NC	NC	16%	1%	1%	NC	NC	NC
WQ-04	**WQ-04**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	--	--	**1.1**	**0.87**	**74.2**	**25.3 *UJ***	**0.009 *UJ***	**0.005 *UJ***
WQ-04	**WQ-20**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	--	--	**1.13**	**0.83**	**72.4**	**18.1 *UJ***	**0.011 *UJ***	**0.005 *UJ***
	Sample Difference							NC	NC	0.03	-0.04	-1.8	NC	NC	NC
	RPD							NC	NC	-3%	5%	2%	NC	NC	NC
	abs (RPD)							NC	NC	3%	5%	2%	NC	NC	NC
WQ-10	**WQ-10**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	--	--	**1.07**	**0.89**	**61.7**	**26.9 *UJ***	**0.055**	**0.008 *J***
WQ-10	**WQ-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	--	--	**1.08**	**0.89**	**62.6**	**24.9 *UJ***	**0.054**	**0.008 *J***
	Sample Difference							NC	NC	0.01	0	0.9	NC	-0.001	NC
	RPD							NC	NC	-1%	0%	-1%	NC	2%	NC
	abs (RPD)							NC	NC	1%	0%	1%	NC	2%	NC
WQ-10	**WQ-10**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	--	--	**0.94**	**0.82 *U***	**58.2**	**29.6 *UJ***	**0.011 *U***	**0.005 *U***
WQ-10	**WQ-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	--	--	**0.95**	**0.84 *U***	**46.5**	**33.9 *UJ***	**0.013 *U***	**0.006 *U***
	Sample Difference							NC	NC	0.01	NC	-11.7	NC	NC	NC
	RPD							NC	NC	-1%	NC	22%	NC	NC	NC
	abs (RPD)							NC	NC	1%	NC	22%	NC	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
WQ-10	**WQ-10**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	--	--	**0.76 *J***	**0.7 *J***	**36.3**	**36.1**	**0.014 *UJ***	**0.013 *UJ***
WQ-10	**WQ-20**	**K1004034**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**0.43 *U***	**0.32 *U***	**0.74 *J***	**0.7 *J***	**35.1**	**31.4**	**0.016 *UJ***	**0.015 *UJ***
	Sample Difference							NC	NC	NC	NC	-1.2	-4.7	NC	NC
	RPD							NC	NC	NC	NC	3%	14%	NC	NC
	abs (RPD)							NC	NC	NC	NC	3%	14%	NC	NC
WQ-10	**WQ-10**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**0.25 *UJ***	**0.26 *UJ***	**0.81**	**0.81**	**67.5 *UJ***	**57.4 *UJ***	**0.005 *UJ***	**0.016 *UJ***
WQ-10	**WQ-20**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**0.26 *UJ***	**0.36 *UJ***	**0.85**	**0.79**	**69.1 *UJ***	**54.2 *UJ***	**0.008 *UJ***	**0.009 *UJ***
	Sample Difference							NC	NC	0.04	-0.02	NC	NC	NC	NC
	RPD							NC	NC	-5%	3%	NC	NC	NC	NC
	abs (RPD)							NC	NC	5%	3%	NC	NC	NC	NC
WQ-13	**WQ-13**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**0.77 *U***	**0.49 *U***	**1.35**	**1.04**	**70.6**	**19.9 *UJ***	**0.018 *J***	**0.005 *UJ***
WQ-13	**WQ-20**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**0.55 *U***	**0.29 *U***	**1.33**	**1.05**	**69.5**	**19.2 *UJ***	**0.016 *J***	**0.005 *UJ***
	Sample Difference							NC	NC	-0.02	0.01	-1.1	NC	NC	NC
	RPD							NC	NC	1%	-1%	2%	NC	NC	NC
	abs (RPD)							NC	NC	1%	1%	2%	NC	NC	NC
WQ-04	**WQ-04**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**15:15**	**1.07 *U***	**0.3 *U***	**3.66**	**0.91**	**568**	**20.9 *UJ***	**0.075**	**0.009 *J***
WQ-04	**WQ-20**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**13:00**	**1.04 *U***	**0.58 *U***	**3.63**	**0.92**	**587**	**22.2 *UJ***	**0.08**	**0.009 *J***
	Sample Difference							NC	NC	-0.03	0.01	19	NC	0.005	NC
	RPD							NC	NC	1%	-1%	-3%	NC	-6%	NC
	abs (RPD)							NC	NC	1%	1%	3%	NC	6%	NC
WQ-10	**WQ-10**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.49 *UJ***	**0.23 *U***	**0.93**	**0.79 *U***	**46.4 *UJ***	**20.7 *UJ***	**0.013 *UJ***	**0.009 *UJ***
WQ-10	**WQ-20**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.8**	**0.35 *U***	**0.9**	**0.8 *U***	**43.1 *UJ***	**22.4 *UJ***	**0.009 *UJ***	**0.008 *UJ***
	Sample Difference							NC	NC	-0.03	NC	NC	NC	NC	NC
	RPD							NC	NC	3%	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	3%	NC	NC	NC	NC	NC
WQ-13	**WQ-13**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	--	--	**0.95**	**0.74**	**47.4**	**21.4**	**0.012 *UJ***	**0.009 *J***
WQ-13	**WQ-20**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	--	--	**0.98**	**0.74**	**50.9**	**22.4**	**0.016 *UJ***	**0.005 *U***
	Sample Difference							NC	NC	0.03	0	3.5	1	NC	NC
	RPD							NC	NC	-3%	0%	-7%	-5%	NC	NC
	abs (RPD)							NC	NC	3%	0%	7%	5%	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
WQ-06	**WQ-06**			**Knight Piesold**	**September 1997**	**9/3/1997**		**1000 *U***	--	**200 *U***	**200 *U***	**10 *U***	**10 *U***	**1000 *U***	--
WQ-06	**WQ-066 (Dup)**			**Knight Piesold**	**September 1997**	**9/3/1997**		**1000 *U***	--	**200 *U***	**200 *U***	**10 *U***	**10 *U***	**1000 *U***	--
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-06	**WQ-06**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**540**	**560**	**0.02 *U***	**0.02 *U***	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***
WQ-06	**WQ-066 (Dup WQ-16)**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	**570**	**570**	**0.02 *U***	**0.02 *U***	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***
	Sample Difference							30	10	NC	NC	NC	NC	NC	NC
	RPD							-5%	-2%	NC	NC	NC	NC	NC	NC
	abs (RPD)							5%	2%	NC	NC	NC	NC	NC	NC
WQ-08	**WQ-08**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**690**	**690**	**0.02 *U***	**0.02 *U***	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***
WQ-08	**WQ-20**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	**690**	**690**	**0.02 *U***	**0.02 *U***	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***
	Sample Difference							0	0	NC	NC	NC	NC	NC	NC
	RPD							0%	0%	NC	NC	NC	NC	NC	NC
	abs (RPD)							0%	0%	NC	NC	NC	NC	NC	NC
WQ-04	**WQ-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**1010**	**980**	**0.02 *U***	**0.02 *U***	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***
WQ-04	**WQ-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	**970**	**970**	**0.02 *U***	**0.02 *U***	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***
	Sample Difference							-40	-10	NC	NC	NC	NC	NC	NC
	RPD							4%	1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							4%	1%	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**430**	**450**	**0.05 *U***	**0.05 *U***	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
WQ-13	**WQ-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	**450**	**450**	**0.05 *U***	**0.05 *U***	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
	Sample Difference							20	0	NC	NC	NC	NC	NC	NC
	RPD							-5%	0%	NC	NC	NC	NC	NC	NC
	abs (RPD)							5%	0%	NC	NC	NC	NC	NC	NC
WQ-04	**WQ-04**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**510**	**480**	**0.05 *U***	**0.05 *U***	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
WQ-04	**WQ-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	**490**	**470**	**0.05 *U***	**0.05 *U***	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
	Sample Difference							-20	-10	NC	NC	NC	NC	NC	NC
	RPD							4%	2%	NC	NC	NC	NC	NC	NC
	abs (RPD)							4%	2%	NC	NC	NC	NC	NC	NC
WQ-12	**WQ-12**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**1790**	**1770**	**0.01 *U***	**0.101**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
WQ-12	**WQ-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	**1850**	**1820**	**0.01 *U***	**0.01 *U***	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
	Sample Difference							60	50	NC	NC	NC	NC	NC	NC
	RPD							-3%	-3%	NC	NC	NC	NC	NC	NC
	abs (RPD)							3%	3%	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**700**	**710**	**0.01 *U***	**0.01 *U***	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
WQ-13	**WQ-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	**700**	**700**	**0.01 *U***	**0.01 *U***	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
	Sample Difference							0	-10	NC	NC	NC	NC	NC	NC
	RPD							0%	1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							0%	1%	NC	NC	NC	NC	NC	NC
WQ-04	**WQ-04**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**949**	**951**	**0.03 *U***	**0.03 *U***	**0.42 *U***	**0.46**	**900 *U***	**900 *U***
WQ-04	**WQ-20**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**947**	**939**	**0.03 *U***	**0.03 *U***	**0.48**	**0.6**	**900 *U***	**900 *U***
	Sample Difference							-2	-12	NC	NC	NC	0.14	NC	NC
	RPD							0%	1%	NC	NC	NC	-26%	NC	NC
	abs (RPD)							0%	1%	NC	NC	NC	26%	NC	NC
WQ-07	**WQ-07**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**1030**	**911**	**0.03 *U***	**0.03 *U***	**1.42 *UJ***	**1.32 *J***	**900 *U***	**900 *U***
WQ-07	**WQ-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**965**	**954**	**0.03 *U***	**0.03 *U***	**1.5 *UJ***	**1.38 *J***	**900 *U***	**900 *U***
	Sample Difference							-65	43	NC	NC	NC	NC	NC	NC
	RPD							7%	-5%	NC	NC	NC	NC	NC	NC
	abs (RPD)							7%	5%	NC	NC	NC	NC	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
WQ-13	**WQ-13**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**688**	**678**	**0.03 *U***	**0.03 *U***	**0.22**	**0.16 *J***	**1630 *U***	**1070 *U***
WQ-13	**WQ-20**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**681**	**669**	**0.03 *U***	**0.03 *U***	**0.2 *J***	**0.17 *J***	**1270 *U***	**948 *U***
	Sample Difference							-7	-9	NC	NC	NC	NC	NC	NC
	RPD							1%	1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							1%	1%	NC	NC	NC	NC	NC	NC
WQ-10	**WQ-10**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**774**	**764**	**0.03 *U***	**0.03 *U***	**0.31**	**0.38 *UJ***	**900 *U***	**900 *U***
WQ-10	**WQ-20**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**733**	**769**	**0.03 *U***	**0.03 *U***	**0.17 *J***	**0.23 *UJ***	**900 *U***	**900 *U***
	Sample Difference							-41	5	NC	NC	NC	NC	NC	NC
	RPD							5%	-1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							5%	1%	NC	NC	NC	NC	NC	NC
WQ-12	**WQ-12**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**703**	**762**	**0.03 *U***	**0.03 *U***	**0.17 *U***	**0.3 *U***	**900 *U***	**900 *U***
WQ-12	**WQ-20**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**740**	**780**	**0.03 *U***	**0.03 *U***	**0.21 *U***	**0.31 *U***	**900 *U***	**900 *U***
	Sample Difference							37	18	NC	NC	NC	NC	NC	NC
	RPD							-5%	-2%	NC	NC	NC	NC	NC	NC
	abs (RPD)							5%	2%	NC	NC	NC	NC	NC	NC
WQ-06	**WQ-06**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**335**	**340**	**0.03 *U***	**0.03 *U***	**0.16 *J***	**0.13 *UJ***	**900 *U***	**900 *U***
WQ-06	**WQ-20**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**345**	**333**	**0.03 *U***	**0.03 *U***	**0.12 *J***	**0.13 *UJ***	**900 *U***	**900 *U***
	Sample Difference							10	-7	NC	NC	NC	NC	NC	NC
	RPD							-3%	2%	NC	NC	NC	NC	NC	NC
	abs (RPD)							3%	2%	NC	NC	NC	NC	NC	NC
WQ-08	**WQ-08**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**681**	**714**	**0.03 *U***	**0.03 *U***	**0.3**	**0.27**	**900 *U***	**900 *U***
WQ-08	**WQ-20**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**669**	**688**	**0.03 *U***	**0.03 *U***	**0.32**	**0.3**	**900 *U***	**900 *U***
	Sample Difference							-12	-26	NC	NC	0.02	0.03	NC	NC
	RPD							2%	4%	NC	NC	-6%	-11%	NC	NC
	abs (RPD)							2%	4%	NC	NC	6%	11%	NC	NC
WQ-06	**WQ-06**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**451**	**445**	**0.03 *U***	**0.03 *U***	**0.15 *UJ***	**0.13 *UJ***	**900 *U***	**900 *U***
WQ-06	**WQ-20**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**438**	**433**	**0.03 *U***	**0.03 *U***	**0.17 *UJ***	**0.15 *UJ***	**900 *U***	**900 *U***
	Sample Difference							-13	-12	NC	NC	NC	NC	NC	NC
	RPD							3%	3%	NC	NC	NC	NC	NC	NC
	abs (RPD)							3%	3%	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**940 *J***	**919 *J***	**0.03 *U***	**0.03 *U***	**0.73**	**0.21 *UJ***	**240 *UJ***	**160 *UJ***
WQ-13	**WQ-20**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**909 *J***	**906 *J***	**0.03 *U***	**0.03 *U***	**0.98**	**0.18 *UJ***	**216 *UJ***	**151 *UJ***
	Sample Difference							NC	NC	NC	NC	0.25	NC	NC	NC
	RPD							NC	NC	NC	NC	-29%	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	29%	NC	NC	NC
WQ-13	**WQ-13**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**569**	**581**	**0.03 *U***	**0.03 *U***	**1.04**	**0.25 *UJ***	**900 *U***	**900 *U***
WQ-13	**WQ-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**598**	**556**	**0.03 *U***	**0.03 *U***	**0.95**	**0.24 *UJ***	**900 *U***	**900 *U***
	Sample Difference							29	-25	NC	NC	-0.09	NC	NC	NC
	RPD							-5%	4%	NC	NC	9%	NC	NC	NC
	abs (RPD)							5%	4%	NC	NC	9%	NC	NC	NC
WQ-10	**WQ-10**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**659 *J***	**525 *J***	**0.03 *U***	**0.03 *U***	**0.31**	**0.24**	**232 *J***	**209 *J***
WQ-10	**WQ-20**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**638 *J***	**520 *J***	**0.03 *U***	**0.03 *U***	**0.31**	**0.21**	**226 *J***	**230 *J***
	Sample Difference							NC	NC	NC	NC	0	-0.03	NC	NC
	RPD							NC	NC	NC	NC	0%	13%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	13%	NC	NC
WQ-07	**WQ-07**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**621**	**616**	**0.03 *U***	**0.03 *U***	**0.18 *UJ***	**0.2 *UJ***	**188 *J***	**175 *UJ***
WQ-07	**WQ-20**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**626**	**621**	**0.03 *U***	**0.03 *U***	**0.15 *UJ***	**0.17 *UJ***	**208 *J***	**203 *UJ***
	Sample Difference							5	5	NC	NC	NC	NC	NC	NC
	RPD							-1%	-1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							1%	1%	NC	NC	NC	NC	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
WQ-07	**WQ-07**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**517**	**511**	**0.03 *UJ***	**0.03 *UJ***	**0.35**	**0.2 *UJ***	**156 *J***	**151 *J***
WQ-07	**WQ-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**507**	**513**	**0.03 *UJ***	**0.03 *UJ***	**0.19 *J***	**0.23 *UJ***	**192 *J***	**138 *J***
	Sample Difference							-10	2	NC	NC	NC	NC	NC	NC
	RPD							2%	0%	NC	NC	NC	NC	NC	NC
	abs (RPD)							2%	0%	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**409**	**398**	**0.05 *U***	**0.05 *U***	**0.27 *UJ***	**0.04 *UJ***	**133 *J***	**113 *J***
WQ-13	**WQ-20**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**416**	**399**	**0.05 *U***	**0.05 *U***	**0.07 *UJ***	**0.04 *UJ***	**133 *J***	**107 *J***
	Sample Difference							7	1	NC	NC	NC	NC	NC	NC
	RPD							-2%	0%	NC	NC	NC	NC	NC	NC
	abs (RPD)							2%	0%	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**582 *R***	**579 *R***	**0.05 *U***	**0.05 *U***	**0.29 *UJ***	**0.29 *UJ***	**100 *U***	**100 *U***
WQ-13	**WQ-20**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**575 *R***	**559 *R***	**0.05 *U***	**0.05 *U***	**0.29 *UJ***	**0.26 *UJ***	**100 *U***	**100 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
WQ-06	**WQ-06**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	**440**	**409**	**0.05 *U***	**0.05 *U***	**0.04 *UJ***	**0.04 *UJ***	**115 *UJ***	**52 *UJ***
WQ-06	**WQ-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	**467**	**465**	**0.05 *U***	**0.05 *U***	**0.04 *UJ***	**0.04 *UJ***	**66 *UJ***	**60 *UJ***
	Sample Difference							27	56	NC	NC	NC	NC	NC	NC
	RPD							-6%	-13%	NC	NC	NC	NC	NC	NC
	abs (RPD)							6%	13%	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**10:57**	**773**	**741**	**0.05 *U***	**0.05 *U***	**0.24 *U***	**0.32 *UJ***	**174 *J***	**150 *J***
WQ-13	**WQ-20**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**09:00**	**732**	**751**	**0.05 *U***	**0.05 *U***	**0.2 *J***	**0.37 *UJ***	**152 *J***	**146 *J***
	Sample Difference							-41	10	NC	NC	NC	NC	NC	NC
	RPD							5%	-1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							5%	1%	NC	NC	NC	NC	NC	NC
WQ-10	**WQ-10**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	**489**	**471**	**0.02 *U***	**0.02 *U***	**0.27**	**0.12 *J***	**160 *J***	**148 *J***
WQ-10	**WQ-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	**442**	**456**	**0.02 *U***	**0.02 *U***	**0.13 *J***	**0.11 *J***	**116 *J***	**135 *J***
	Sample Difference							-47	-15	NC	NC	NC	NC	NC	NC
	RPD							10%	3%	NC	NC	NC	NC	NC	NC
	abs (RPD)							10%	3%	NC	NC	NC	NC	NC	NC
WQ-04	**WQ-04**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**802**	**801**	**0.02 *U***	**0.02 *U***	**0.3 *J***	**0.29 *UJ***	**234 *J***	**281 *J***
WQ-04	**WQ-20**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**821**	**795**	**0.02 *J***	**0.02 *U***	**0.25 *J***	**0.27 *UJ***	**243 *J***	**265 *J***
	Sample Difference							19	-6	NC	NC	NC	NC	NC	NC
	RPD							-2%	1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							2%	1%	NC	NC	NC	NC	NC	NC
WQ-04	**WQ-04**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**805**	**815**	**0.02 *U***	**0.02 *U***	**0.23**	**0.25**	**243 *J***	**270 *J***
WQ-04	**WQ-20**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**839**	**795**	**0.02 *U***	**0.02 *U***	**0.19 *J***	**0.23**	**264 *J***	**253 *J***
	Sample Difference							34	-20	NC	NC	NC	-0.02	NC	NC
	RPD							-4%	2%	NC	NC	NC	8%	NC	NC
	abs (RPD)							4%	2%	NC	NC	NC	8%	NC	NC
WQ-10	**WQ-10**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	**1080**	**1090**	**0.02 *U***	**0.02 *U***	**0.16 *UJ***	**0.18 *J***	**284 *J***	**258 *J***
WQ-10	**WQ-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	**1100**	**1080**	**0.02 *U***	**0.02 *U***	**0.15 *UJ***	**0.15 *J***	**275 *J***	**260 *J***
	Sample Difference							20	-10	NC	NC	NC	NC	NC	NC
	RPD							-2%	1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							2%	1%	NC	NC	NC	NC	NC	NC
WQ-10	**WQ-10**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	**562 *J***	**582 *J***	**0.02 *U***	**0.02 *U***	**0.21 *UJ***	**0.2 *UJ***	**200 *J***	**185 *J***
WQ-10	**WQ-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	**553 *J***	**576 *J***	**0.02 *U***	**0.02 *U***	**0.23 *UJ***	**0.21 *UJ***	**191 *J***	**175 *J***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
WQ-10	**WQ-10**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**1090 *J***	**1090 *J***	**0.02 *U***	**0.02 *U***	**0.17 *J***	**0.25**	**293 *J***	**299 *J***
WQ-10	**WQ-20**	**K1004034**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**1040 *J***	**1120 *J***	**0.02 *U***	**0.02 *U***	**0.17 *J***	**0.23**	**282 *J***	**338 *J***
	Sample Difference							NC	NC	NC	NC	NC	-0.02	NC	NC
	RPD							NC	NC	NC	NC	NC	8%	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	8%	NC	NC
WQ-10	**WQ-10**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**1360**	**1380**	**0.02 *U***	**0.02 *U***	**0.37**	**0.5**	**278 *J***	**269 *J***
WQ-10	**WQ-20**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**1390**	**1380**	**0.02 *U***	**0.02 *U***	**0.43**	**0.52**	**268 *J***	**255 *J***
	Sample Difference							30	0	NC	NC	0.06	0.02	NC	NC
	RPD							-2%	0%	NC	NC	-15%	-4%	NC	NC
	abs (RPD)							2%	0%	NC	NC	15%	4%	NC	NC
WQ-13	**WQ-13**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**521**	**489**	**0.02 *U***	**0.02 *U***	**0.39 *U***	**0.29 *U***	**200 *J***	**151 *J***
WQ-13	**WQ-20**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**531**	**505**	**0.02 *U***	**0.02 *U***	**0.43 *U***	**0.16 *U***	**194 *J***	**200 *J***
	Sample Difference							10	16	NC	NC	NC	NC	NC	NC
	RPD							-2%	-3%	NC	NC	NC	NC	NC	NC
	abs (RPD)							2%	3%	NC	NC	NC	NC	NC	NC
WQ-04	**WQ-04**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**15:15**	**707**	**495**	**0.02 *U***	**0.02 *U***	**0.34 *UJ***	**0.13 *J***	**198 *J***	**190 *J***
WQ-04	**WQ-20**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**13:00**	**728**	**504**	**0.02 *U***	**0.02 *U***	**0.33 *UJ***	**0.19 *J***	**205 *J***	**170 *J***
	Sample Difference							21	9	NC	NC	NC	NC	NC	NC
	RPD							-3%	-2%	NC	NC	NC	NC	NC	NC
	abs (RPD)							3%	2%	NC	NC	NC	NC	NC	NC
WQ-10	**WQ-10**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**602**	**600**	**0.02 *U***	**0.02 *U***	**0.34 *UJ***	**0.19 *U***	**220 *UJ***	**208 *UJ***
WQ-10	**WQ-20**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**586**	**599**	**0.02 *U***	**0.02 *U***	**0.41 *UJ***	**0.21 *U***	**187 *UJ***	**211 *UJ***
	Sample Difference							-16	-1	NC	NC	NC	NC	NC	NC
	RPD							3%	0%	NC	NC	NC	NC	NC	NC
	abs (RPD)							3%	0%	NC	NC	NC	NC	NC	NC
WQ-13	**WQ-13**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	**684**	**682**	**0.02 *U***	**0.02 *U***	**0.27**	**0.3**	**82.7 *UJ***	**84 *UJ***
WQ-13	**WQ-20**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	**688**	**671**	**0.02 *U***	**0.02 *U***	**0.24**	**0.25 *U***	**98.9 *UJ***	**84.5 *UJ***
	Sample Difference							4	-11	NC	NC	-0.03	NC	NC	NC
	RPD							-1%	2%	NC	NC	12%	NC	NC	NC
	abs (RPD)							1%	2%	NC	NC	12%	NC	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ-06	**WQ-06**			**Knight Piesold**	**September 1997**	**9/3/1997**		**5 *U***	**5 *U***	**0.5 *U***	**0.5 *U***	**1120**	--	**7 *U***	**7 *U***
WQ-06	**WQ-066 (Dup)**			**Knight Piesold**	**September 1997**	**9/3/1997**		**5 *U***	**5 *U***	**0.5 *U***	**0.5 *U***	**1060**	--	**7 *U***	**7 *U***
	Sample Difference							NC	NC	NC	NC	-60	NC	NC	NC
	RPD							NC	NC	NC	NC	6%	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	6%	NC	NC	NC
WQ-06	**WQ-06**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**2700**	**2800**	**5 *U***	**5 *U***
WQ-06	**WQ-066 (Dup WQ-16)**		**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**2600**	**2700**	**5 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	-100	-100	NC	NC
	RPD							NC	NC	NC	NC	4%	4%	NC	NC
	abs (RPD)							NC	NC	NC	NC	4%	4%	NC	NC
WQ-08	**WQ-08**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**2000 *U***	**2000**	**5 *U***	**5 *U***
WQ-08	**WQ-20**		**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**2000**	**2000**	**5 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	0	NC	NC
	RPD							NC	NC	NC	NC	NC	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	0%	NC	NC
WQ-04	**WQ-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**3600**	**3300**	**5 *U***	**5 *U***
WQ-04	**WQ-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**3200**	**3300**	**5 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	-400	0	NC	NC
	RPD							NC	NC	NC	NC	12%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	12%	0%	NC	NC
WQ-13	**WQ-13**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2700**	**2800**	**3 *U***	**1.7**
WQ-13	**WQ-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2700**	**2800**	**1.4**	**1.2**
	Sample Difference							NC	NC	NC	NC	0	0	NC	-0.5
	RPD							NC	NC	NC	NC	0%	0%	NC	34%
	abs (RPD)							NC	NC	NC	NC	0%	0%	NC	34%
WQ-04	**WQ-04**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2200**	**2200**	**1 *U***	**1 *U***
WQ-04	**WQ-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2200**	**2300**	**1 *U***	**1 *U***
	Sample Difference							NC	NC	NC	NC	0	100	NC	NC
	RPD							NC	NC	NC	NC	0%	-4%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	4%	NC	NC
WQ-12	**WQ-12**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**3900**	**3900**	**1 *U***	**1.1**
WQ-12	**WQ-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**3900**	**3900**	**1 *U***	**1 *U***
	Sample Difference							NC	NC	NC	NC	0	0	NC	NC
	RPD							NC	NC	NC	NC	0%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	0%	NC	NC
WQ-13	**WQ-13**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2000 *U***	**2000 *U***	**1**	**1.3**
WQ-13	**WQ-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2000 *U***	**2000 *U***	**1.1**	**1.7**
	Sample Difference							NC	NC	NC	NC	NC	NC	0.1	0.4
	RPD							NC	NC	NC	NC	NC	NC	-10%	-27%
	abs (RPD)							NC	NC	NC	NC	NC	NC	10%	27%
WQ-04	**WQ-04**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**0.2 *U***	**0.2 *J***	**0.009 *U***	**0.017 *U***	**2810**	**2860**	**2.67 *U***	**16.7 *J***
WQ-04	**WQ-20**	**K0706569**		**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**0.2 *J***	**0.3 *J***	**0.009 *U***	**0.009 *U***	**2870**	**2870**	**2.95 *U***	**3.25 *U***
	Sample Difference							NC	NC	NC	NC	60	10	NC	NC
	RPD							NC	NC	NC	NC	-2%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	0%	NC	NC
WQ-07	**WQ-07**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**0.4 *U***	**0.4 *U***	**0.009 *U***	**0.009 *U***	**2760**	**2460**	**0.62 *U***	**1.78 *U***
WQ-07	**WQ-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**0.5 *U***	**0.3 *U***	**0.013 *U***	**0.009 *U***	**2570**	**2550**	**1.82 *U***	**2.69 *U***
	Sample Difference							NC	NC	NC	NC	-190	90	NC	NC
	RPD							NC	NC	NC	NC	7%	-4%	NC	NC
	abs (RPD)							NC	NC	NC	NC	7%	4%	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ-13	**WQ-13**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**0.6 *U***	**0.2 *U***	**0.005 *U***	**0.003 *U***	**2410**	**2380**	**5.1 *U***	**10.9 *U***
WQ-13	**WQ-20**	**K0707782**		**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**0.6 *U***	**0.2 *U***	**0.005 *U***	**0.008 *U***	**2420**	**2380**	**3.4 *U***	**9.18 *U***
	Sample Difference							NC	NC	NC	NC	10	0	NC	NC
	RPD							NC	NC	NC	NC	0%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	0%	NC	NC
WQ-10	**WQ-10**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**0.2 *J***	**0.3 *J***	**0.009 *U***	**0.009 *U***	**3310**	**3280**	**2.8 *U***	**6.3 *U***
WQ-10	**WQ-20**	**K0708240**		**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**0.3 *J***	**0.2 *J***	**0.009 *U***	**0.009 *U***	**3140**	**3280**	**2.5 *U***	**4.8 *U***
	Sample Difference							NC	NC	NC	NC	-170	0	NC	NC
	RPD							NC	NC	NC	NC	5%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	5%	0%	NC	NC
WQ-12	**WQ-12**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**0.2 *J***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**2980**	**3060**	**3.13 *U***	**2.37 *U***
WQ-12	**WQ-20**	**K0709126**		**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**0.2 *U***	**0.2 *J***	**0.009 *U***	**0.009 *U***	**3110**	**3150**	**5.33 *U***	**3.42 *U***
	Sample Difference							NC	NC	NC	NC	130	90	NC	NC
	RPD							NC	NC	NC	NC	-4%	-3%	NC	NC
	abs (RPD)							NC	NC	NC	NC	4%	3%	NC	NC
WQ-06	**WQ-06**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**1840**	**1870**	**2.67 *U***	**4.67 *U***
WQ-06	**WQ-20**	**K0709804**		**Integral**	**October 2007**	**10/17/2007**	**09:40**	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**1880**	**1840**	**4.72 *U***	**5.71 *U***
	Sample Difference							NC	NC	NC	NC	40	-30	NC	NC
	RPD							NC	NC	NC	NC	-2%	2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	2%	NC	NC
WQ-08	**WQ-08**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**2770**	**2760**	**3.49 *U***	**2.59 *U***
WQ-08	**WQ-20**	**K0710773**		**Integral**	**November 2007**	**11/13/2007**	**13:00**	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**2750**	**2690**	**1.77 *U***	**11.5 *U***
	Sample Difference							NC	NC	NC	NC	-20	-70	NC	NC
	RPD							NC	NC	NC	NC	1%	3%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	3%	NC	NC
WQ-06	**WQ-06**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**0.2 *U***	**0.2 *U***	**0.016 *UJ***	**0.018 *UJ***	**2630**	**2600**	**8.66 *J***	**11.2 *J***
WQ-06	**WQ-20**	**K0711891**		**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**2510**	**2550**	**4.44 *U***	**4.3 *U***
	Sample Difference							NC	NC	NC	NC	-120	-50	NC	NC
	RPD							NC	NC	NC	NC	5%	2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	5%	2%	NC	NC
WQ-13	**WQ-13**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**0.3 *J***	**0.4 *J***	**0.009 *J***	**0.01 *J***	**3870**	**3990**	**7.9 *U***	**9.1 *U***
WQ-13	**WQ-20**	**K0800335**		**Integral**	**January 2008**	**1/9/2008**	**10:40**	**0.3 *J***	**0.4 *U***	**0.009 *U***	**0.007 *J***	**3760**	**4010**	**7.7 *U***	**5 *U***
	Sample Difference							NC	NC	NC	NC	-110	20	NC	NC
	RPD							NC	NC	NC	NC	3%	-1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	3%	1%	NC	NC
WQ-13	**WQ-13**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**0.4 *U***	**0.2 *U***	**0.005 *UJ***	**0.009 *UJ***	**3960**	**4180**	**4 *U***	**4.08 *U***
WQ-13	**WQ-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**0.5 *J***	**0.2 *U***	**0.005 *UJ***	**0.009 *UJ***	**4140**	**4010**	**1.5 *U***	**4.29 *U***
	Sample Difference							NC	NC	NC	NC	180	-170	NC	NC
	RPD							NC	NC	NC	NC	-4%	4%	NC	NC
	abs (RPD)							NC	NC	NC	NC	4%	4%	NC	NC
WQ-10	**WQ-10**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**0.4 *U***	**0.4 *U***	**0.005 *UJ***	**0.005 *UJ***	**3590**	**3470**	**3.8 *U***	**6 *U***
WQ-10	**WQ-20**	**K0802328**		**Integral**	**March 2008**	**3/15/2008**	**11:00**	**0.4 *U***	**0.4 *U***	**0.023 *UJ***	**0.019 *UJ***	**3500**	**3540**	**2.6 *U***	**5.9 *U***
	Sample Difference							NC	NC	NC	NC	-90	70	NC	NC
	RPD							NC	NC	NC	NC	3%	-2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	3%	2%	NC	NC
WQ-07	**WQ-07**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**0.2 *U***	**0.2 *U***	**0.009 *R***	**0.099 *R***	**3940**	**3830**	**0.63 *U***	**1.68 *U***
WQ-07	**WQ-20**	**K0803239**		**Integral**	**April 2008**	**4/14/2008**	**17:00**	**0.2 *U***	**0.2 *U***	**0.009 *R***	**0.009 *R***	**3980**	**3890**	**1.33 *U***	**4.38 *U***
	Sample Difference							NC	NC	NC	NC	40	60	NC	NC
	RPD							NC	NC	NC	NC	-1%	-2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	2%	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ-07	**WQ-07**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**0.4 *U***	**0.4 *U***	**0.005 *UJ***	**0.005 *UJ***	**3200**	**3170**	**4.6 *U***	**3.3 *U***
WQ-07	**WQ-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**10:30**	**0.4 *U***	**0.4 *U***	**0.005 *UJ***	**0.01 *UJ***	**3130**	**3150**	**15.9 *U***	**1.9 *U***
	Sample Difference							NC	NC	NC	NC	-70	-20	NC	NC
	RPD							NC	NC	NC	NC	2%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	1%	NC	NC
WQ-13	**WQ-13**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**0.5 *U***	**0.5 *U***	**0.009 *UJ***	**0.009 *UJ***	**2090**	**2070**	**9.2 *U***	**1.9 *U***
WQ-13	**WQ-20**	**K0805877**		**Integral**	**June 2008**	**6/27/2008**	**8:50**	**0.5 *U***	**0.5 *U***	**0.009 *UJ***	**0.009 *UJ***	**2130**	**2070**	**4.6 *U***	**6.9 *U***
	Sample Difference							NC	NC	NC	NC	40	0	NC	NC
	RPD							NC	NC	NC	NC	-2%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	0%	NC	NC
WQ-13	**WQ-13**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**0.4 *U***	**0.4 *U***	**0.009 *UJ***	**0.009 *UJ***	**2240**	**2190**	**1.5 *U***	**6.2 *U***
WQ-13	**WQ-20**	**K0806880**		**Integral**	**July 2008**	**7/25/2008**	**8:00**	**0.4 *U***	**0.4 *U***	**0.009 *UJ***	**0.009 *UJ***	**2160**	**2160**	**6.1 *U***	**2 *U***
	Sample Difference							NC	NC	NC	NC	-80	-30	NC	NC
	RPD							NC	NC	NC	NC	4%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	4%	1%	NC	NC
WQ-06	**WQ-06**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	**0.5 *U***	**0.5 *U***	**0.009 *U***	**0.009 *U***	**1730**	**1690**	**1.57 *U***	**0.68 *U***
WQ-06	**WQ-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**10:40**	**0.5 *U***	**0.5 *U***	**0.009 *U***	**0.009 *U***	**1860**	**1900**	**2 *U***	**0.84 *U***
	Sample Difference							NC	NC	NC	NC	130	210	NC	NC
	RPD							NC	NC	NC	NC	-7%	-12%	NC	NC
	abs (RPD)							NC	NC	NC	NC	7%	12%	NC	NC
WQ-13	**WQ-13**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**10:57**	**0.4 *U***	**0.4 *U***	**0.009 *U***	**0.013 *UJ***	**2870**	**2730**	**7.25 *U***	**9.06 *J***
WQ-13	**WQ-20**	**K0902142**		**Integral**	**March 2009**	**3/8/2009**	**09:00**	**0.4 *U***	**0.4 *U***	**0.009 *U***	**0.009 *U***	**2730**	**2860**	**3.82 *U***	**10.9 *J***
	Sample Difference							NC	NC	NC	NC	-140	130	NC	NC
	RPD							NC	NC	NC	NC	5%	-5%	NC	NC
	abs (RPD)							NC	NC	NC	NC	5%	5%	NC	NC
WQ-10	**WQ-10**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	**0.4 *U***	**0.4 *U***	**0.009 *UJ***	**0.009 *UJ***	**2250**	**2160**	**1.6 *U***	**2.29 *U***
WQ-10	**WQ-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**14:30**	**0.4 *U***	**0.4 *U***	**0.009 *UJ***	**0.009 *UJ***	**1980**	**2060**	**2.2 *U***	**1.65 *U***
	Sample Difference							NC	NC	NC	NC	-270	-100	NC	NC
	RPD							NC	NC	NC	NC	13%	5%	NC	NC
	abs (RPD)							NC	NC	NC	NC	13%	5%	NC	NC
WQ-04	**WQ-04**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**0.3 *U***	**0.3 *U***	**0.031 *UJ***	**0.004 *UJ***	**2400**	**2510**	**2.96 *U***	**1.98 *U***
WQ-04	**WQ-20**	**K0908299**		**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**0.3 *U***	**0.3 *U***	**0.005 *UJ***	**0.004 *UJ***	**2460**	**2450**	**4.4 *U***	**0.62 *UJ***
	Sample Difference							NC	NC	NC	NC	60	-60	NC	NC
	RPD							NC	NC	NC	NC	-2%	2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	2%	NC	NC
WQ-04	**WQ-04**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**0.2 *U***	**0.2 *U***	**0.004 *UJ***	**0.004 *UJ***	**2610**	**2750**	**1 *U***	**0.6 *U***
WQ-04	**WQ-20**	**K0908619**		**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**0.2 *U***	**0.2 *U***	**0.004 *UJ***	**0.004 *UJ***	**2750**	**2610**	**4.7 *U***	**0.5 *U***
	Sample Difference							NC	NC	NC	NC	140	-140	NC	NC
	RPD							NC	NC	NC	NC	-5%	5%	NC	NC
	abs (RPD)							NC	NC	NC	NC	5%	5%	NC	NC
WQ-10	**WQ-10**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	**0.3 *U***	**0.3 *U***	**0.053**	**0.004 *UJ***	**2980**	**2860**	**1.18 *U***	**0.86 *UJ***
WQ-10	**WQ-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**12:40**	**0.3 *U***	**0.3 *U***	**0.012 *UJ***	**0.004 *UJ***	**3010**	**2940**	**1.27 *UJ***	**0.95 *UJ***
	Sample Difference							NC	NC	NC	NC	30	80	NC	NC
	RPD							NC	NC	NC	NC	-1%	-3%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	3%	NC	NC
WQ-10	**WQ-10**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3410**	**3560**	**0.85 *U***	**1.09 *U***
WQ-10	**WQ-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**14:30**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3360**	**3550**	**2.48 *U***	**1.5 *U***
	Sample Difference							NC	NC	NC	NC	-50	-10	NC	NC
	RPD							NC	NC	NC	NC	1%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	0%	NC	NC

Table C-1. Surface Water QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ-10	**WQ-10**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**5500**	**5550**	**0.75 *U***	**1.22 *U***
WQ-10	**WQ-20**	**K1004034**		**Integral**	**April 2010**	**4/22/2010**	**11:00**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.005 *UJ***	**5310**	**5640**	**1.01 *U***	**1 *U***
	Sample Difference							NC	NC	NC	NC	-190	90	NC	NC
	RPD							NC	NC	NC	NC	4%	-2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	4%	2%	NC	NC
WQ-10	**WQ-10**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**5100**	**5190**	**0.63 *U***	**0.74 *U***
WQ-10	**WQ-20**	**K1008752**		**Integral**	**August 2010**	**8/10/2010**	**13:30**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**5120**	**5130**	**3.31 *U***	**1.44 *U***
	Sample Difference							NC	NC	NC	NC	20	-60	NC	NC
	RPD							NC	NC	NC	NC	0%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	1%	NC	NC
WQ-13	**WQ-13**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**0.4 *J***	**0.4 *J***	**0.028**	**0.007 *J***	**3730**	**3650**	**3.4 *U***	**1.9 *U***
WQ-13	**WQ-20**	**K1011737**		**Integral**	**October 2010**	**10/18/2010**	**16:50**	**0.3 *U***	**0.3 *U***	**0.022**	**0.01 *J***	**3830**	**3750**	**1.4 *U***	**1.2 *U***
	Sample Difference							NC	NC	-0.006	NC	100	100	NC	NC
	RPD							NC	NC	24%	NC	-3%	-3%	NC	NC
	abs (RPD)							NC	NC	24%	NC	3%	3%	NC	NC
WQ-04	**WQ-04**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**15:15**	**0.3 *U***	**0.3 *U***	**0.008 *UJ***	**0.004 *UJ***	**2930**	**2870**	**1.22 *U***	**0.42 *UJ***
WQ-04	**WQ-20**	**K1100726**		**Integral**	**January 2011**	**1/19/2011**	**13:00**	**0.3 *U***	**0.3 *U***	**0.015 *UJ***	**0.004 *UJ***	**2920**	**2910**	**1.12 *U***	**0.45 *UJ***
	Sample Difference							NC	NC	NC	NC	-10	40	NC	NC
	RPD							NC	NC	NC	NC	0%	-1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	1%	NC	NC
WQ-10	**WQ-10**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3280**	**3160**	**0.4 *U***	**0.28 *U***
WQ-10	**WQ-20**	**K1103545**		**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3310**	**3280**	**0.31 *U***	**0.26 *U***
	Sample Difference							NC	NC	NC	NC	30	120	NC	NC
	RPD							NC	NC	NC	NC	-1%	-4%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	4%	NC	NC
WQ-13	**WQ-13**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	**0.3 *U***	**0.3 *J***	**0.004 *U***	**0.004 *U***	**3290**	**3290**	**1.16 *UJ***	**1.08 *U***
WQ-13	**WQ-20**	**K1112358**		**Integral**	**December 2011**	**12/21/2011**	**9:10**	**0.3 *U***	**0.3 *U***	**0.004 *U***	**0.004 *U***	**3300**	**3230**	**7.07 *UJ***	**1.03 *U***
	Sample Difference							NC	NC	NC	NC	10	-60	NC	NC
	RPD							NC	NC	NC	NC	0%	2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	2%	NC	NC

Notes:

Relative Percent Difference (RPD) calculated by:

RPD = [X1 - X2] / [Xavg x 100]

where:

X1 = concentration of normal sample

X2 = concentration of duplicate

Xavg = average concentration [(X1 + X2)/2]

abs(RPD) = absolute value of the RPD

-- = data not available
ALS = ALS Laboratory Group
CAS = Columbia Analytical Services
DO = dissolved oxygen
QA/QC = quality assurance and quality control
SDG = sample digestion group
TDS = total dissolved solids
TSS = total suspended solids

NC = RPD not calculated in cases where one or more concentrations were below reporting limits or not available (i.e., U or J qualified data not included in RPD calculation).

Sample Difference = (replicate sample - primary sample)

Shaded cells indicate cases where the RPD and/or the abs(RPD) exceed the precision criterion of ±50%.

Data Qualifiers:

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

U = The analyte was not detected above the reported sample quantitation limit.

UJ = The analyte was not detected above the reported sample quantitation limit; however, the reported quantitation limit is approximate.

R = The sample results are rejected.

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								In situ (field measurements)					Analytical Physical Tests		
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
MW-04	**MW-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**1.95**	**23**	**3.61**	**402**	**4.86**	**102**	**3.28**	**175**
MW-04	**MW-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	--	--	--	--	--	**101**	**3.59**	**165**
	Sample Difference							NC	NC	NC	NC	NC	-1	0.31	-10
	RPD							NC	NC	NC	NC	NC	1%	-9%	6%
	abs (RPD)							NC	NC	NC	NC	NC	1%	9%	6%
MW-07	**MW-07**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**3.13**	**89**	**1.4**	**21.4**	**6.24**	**61**	**22**	**32.5**
MW-07	**MW-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	--	--	--	--	--	**60**	**22.1**	**43.5**
	Sample Difference							NC	NC	NC	NC	NC	-1	0.1	11
	RPD							NC	NC	NC	NC	NC	2%	0%	-29%
	abs (RPD)							NC	NC	NC	NC	NC	2%	0%	29%
MW-03	**MW-03**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**4.45**	**49**	**2.57**	**221**	**5.29**	**113**	**5.03**	**444**
MW-03	**MW-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	--	--	--	--	--	**149**	**4.54**	**286**
	Sample Difference							NC	NC	NC	NC	NC	36	-0.49	-158
	RPD							NC	NC	NC	NC	NC	-27%	10%	43%
	abs (RPD)							NC	NC	NC	NC	NC	27%	10%	43%
MW-01	**MW-01**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**8.48**	**111**	**3.42**	**8.4**	**6.39**	**85**	**51.2**	**3 *U***
MW-01	**MW-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	--	--	--	--	--	**81**	**50.7**	**5.3**
	Sample Difference							NC	NC	NC	NC	NC	-4	-0.5	NC
	RPD							NC	NC	NC	NC	NC	5%	1%	NC
	abs (RPD)							NC	NC	NC	NC	NC	5%	1%	NC
MW-09	**MW-09**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**10.56**	**156**	**9.97**	**128**	**7.34**	**94**	**71.6**	**53.1**
MW-09	**MW-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	--	--	--	--	--	**91**	**70.3**	**12.6**
	Sample Difference							NC	NC	NC	NC	NC	-3	-1.3	-40.5
	RPD							NC	NC	NC	NC	NC	3%	2%	123%
	abs (RPD)							NC	NC	NC	NC	NC	3%	2%	123%
MW-08	**MW-08**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**7.5**	**99**	**6.96**	**9.5**	**6.1**	**96**	**40**	**5 *U***
MW-08	**MW-20**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	--	--	--	--	--	**66**	**44**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-30	4	NC
	RPD							NC	NC	NC	NC	NC	37%	-10%	NC
	abs (RPD)							NC	NC	NC	NC	NC	37%	10%	NC
MW-01	**MW-01**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**11.24**	**115**	**5.52**	**13**	**6.18**	**75**	**49**	**5 *U***
MW-01	**MW-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	--	--	--	--	--	**84**	**49**	**20**
	Sample Difference							NC	NC	NC	NC	NC	9	0	NC
	RPD							NC	NC	NC	NC	NC	-11%	0%	NC
	abs (RPD)							NC	NC	NC	NC	NC	11%	0%	NC
MW-08	**MW-08**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**7.79**	**102**	**4.79**	**41.7**	**5.83**	**71**	**47**	**5 *U***
MW-08	**MW-20**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	--	--	--	--	--	**87**	**48**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	16	1	NC
	RPD							NC	NC	NC	NC	NC	-20%	-2%	NC
	abs (RPD)							NC	NC	NC	NC	NC	20%	2%	NC
MW-07	**MW-07**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**9.91**	**90**	**5.85**	**12**	**6.53**	**55**	**41**	**5 *U***
MW-07	**MW-20**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	--	--	--	--	--	**53**	**44**	**5**
	Sample Difference							NC	NC	NC	NC	NC	-2	3	NC
	RPD							NC	NC	NC	NC	NC	4%	-7%	NC
	abs (RPD)							NC	NC	NC	NC	NC	4%	7%	NC
MW-08	**MW-08**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**7.76**	**115**	**6.26**	**31.2**	**6.14**	**96**	**56**	**5 *U***
MW-08	**MW-20**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	--	--	--	--	--	**48**	**55**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-48	-1	NC
	RPD							NC	NC	NC	NC	NC	67%	2%	NC
	abs (RPD)							NC	NC	NC	NC	NC	67%	2%	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								In situ (field measurements)					Analytical Physical Tests		
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
MW-01	**MW-01**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**7.49**	**97**	**5.57**	**44.5**	**6.77**	**42**	**84**	**6**
MW-01	**MW-20**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	--	--	--	--	--	**58**	**238**	**6**
	Sample Difference							NC	NC	NC	NC	NC	16	154	0
	RPD							NC	NC	NC	NC	NC	-32%	-96%	0%
	abs (RPD)							NC	NC	NC	NC	NC	32%	96%	0%
MW-04	**MW-04**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**5.19**	**84**	**5.98**	**12**	**6.49**	**41**	**51**	**10**
MW-04	**MW-20**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	--	--	--	--	--	**75**	**143**	**12**
	Sample Difference							NC	NC	NC	NC	NC	34	92	2
	RPD							NC	NC	NC	NC	NC	-59%	-95%	-18%
	abs (RPD)							NC	NC	NC	NC	NC	59%	95%	18%
MW-01	**MW-01**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**1.7**	**87**	**7.89**	**48.7**	**6.33**	**47 *U***	**104**	**40**
MW-01	**MW-20**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	--	--	--	--	--	**62 *U***	**35**	**39**
	Sample Difference							NC	NC	NC	NC	NC	NC	-69	-1
	RPD							NC	NC	NC	NC	NC	NC	99%	3%
	abs (RPD)							NC	NC	NC	NC	NC	NC	99%	3%
MW-03	**MW-03**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**1.44**	**9 *U***	**13.75**	**176**	**4.73**	**31**	**15 *U***	**17 *J***
MW-03	**MW-20**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	--	--	--	--	--	**21**	**10 *U***	**13**
	Sample Difference							NC	NC	NC	NC	NC	-10	NC	NC
	RPD							NC	NC	NC	NC	NC	38%	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	38%	NC	NC
MW-08	**MW-08**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**3.57**	**114**	**5.64**	**8.5**	**5.99**	**59**	**52**	**5 *U***
MW-08	**MW-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	--	--	--	--	--	**55 *U***	**52**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	0	NC
	RPD							NC	NC	NC	NC	NC	NC	0%	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	0%	NC
MW-09	**MW-09**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**4.47**	**160**	**5.99**	**95.1**	**7.25**	**89 *U***	**80**	**68**
MW-09	**MW-20**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	--	--	--	--	--	**105 *U***	**88**	**14**
	Sample Difference							NC	NC	NC	NC	NC	NC	8	-54
	RPD							NC	NC	NC	NC	NC	NC	-10%	132%
	abs (RPD)							NC	NC	NC	NC	NC	NC	10%	132%
EFF-01	**EFF-01**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**5.8**	**236**	**10.18**	**47.7**	**11.16**	**112**	**57 *U***	**30**
EFF-01	**EFF-02**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	--	--	--	--	--	**101**	**64**	**29**
	Sample Difference							NC	NC	NC	NC	NC	-11	NC	-1
	RPD							NC	NC	NC	NC	NC	10%	NC	3%
	abs (RPD)							NC	NC	NC	NC	NC	10%	NC	3%
MW-07	**MW-07**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**4.2**	**79**	**0.17**	**12.9**	**5.4**	**24**	**34 *U***	**14**
MW-07	**MW-20**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	--	--	--	--	--	**91**	**37 *U***	**15**
	Sample Difference							NC	NC	NC	NC	NC	67	NC	1
	RPD							NC	NC	NC	NC	NC	-117%	NC	-7%
	abs (RPD)							NC	NC	NC	NC	NC	117%	NC	7%
MW-04	**MW-04**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**5.2**	**52**	**0**	**12.5**	**5.55**	**28**	**17 *U***	**13**
MW-04	**MW-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	--	--	--	--	--	**29**	**20 *U***	**15**
	Sample Difference							NC	NC	NC	NC	NC	1	NC	2
	RPD							NC	NC	NC	NC	NC	-4%	NC	-14%
	abs (RPD)							NC	NC	NC	NC	NC	4%	NC	14%
MW-07	**MW-07**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**8.1**	**69**	**0.07**	**35.7**	**6.21**	**33 *U***	**30**	**43**
MW-07	**MW-20**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	--	--	--	--	--	**21 *U***	**147**	**33**
	Sample Difference							NC	NC	NC	NC	NC	NC	117	-10
	RPD							NC	NC	NC	NC	NC	NC	-132%	26%
	abs (RPD)							NC	NC	NC	NC	NC	NC	132%	26%

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								In situ (field measurements)					Analytical Physical Tests		
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
MW-01	**MW-01**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**10.5**	**101**	**0**	**--**	**6.17**	**79**	**56**	**6**
MW-01	**MW-20**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**--**	**--**	**--**	**--**	**--**	**80**	**60**	**5**
	Sample Difference							NC	NC	NC	NC	NC	1	4	-1
	RPD							NC	NC	NC	NC	NC	-1%	-7%	18%
	abs (RPD)							NC	NC	NC	NC	NC	1%	7%	18%
MW-04	**MW-04**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**12.1**	**90**	**0**	**10.9**	**5.27**	**59**	**11**	**19**
MW-04	**MW-20**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**--**	**--**	**--**	**--**	**--**	**43**	**15**	**10**
	Sample Difference							NC	NC	NC	NC	NC	-16	4	-9
	RPD							NC	NC	NC	NC	NC	31%	-31%	62%
	abs (RPD)							NC	NC	NC	NC	NC	31%	31%	62%
MW-01	**MW-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**10.5**	**99**	**0**	**8.1**	**6.23**	**66**	**46**	**5 *U***
MW-01	**MW-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**--**	**--**	**--**	**--**	**--**	**62**	**37**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-4	-9	NC
	RPD							NC	NC	NC	NC	NC	6%	22%	NC
	abs (RPD)							NC	NC	NC	NC	NC	6%	22%	NC
EFF-01	**EFF-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**12.5**	**284**	**8.56**	**36.8**	**7.29**	**173**	**120**	**13**
EFF-01	**WQ-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**--**	**--**	**--**	**--**	**--**	**154**	**112**	**13**
	Sample Difference							NC	NC	NC	NC	NC	-19	-8	0
	RPD							NC	NC	NC	NC	NC	12%	7%	0%
	abs (RPD)							NC	NC	NC	NC	NC	12%	7%	0%
MW-01	**MW-01**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**7.9**	**82**	**0**	**6.7**	**6.27**	**60**	**59**	**6**
MW-01	**MW-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**--**	**--**	**--**	**--**	**--**	**69**	**38**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	9	-21	NC
	RPD							NC	NC	NC	NC	NC	-14%	43%	NC
	abs (RPD)							NC	NC	NC	NC	NC	14%	43%	NC
MW-01	**MW-01**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**1.15**	**115**	**0**	**12.4**	**5.8**	**46**	**31**	**10**
MW-01	**MW-20**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**--**	**--**	**--**	**--**	**--**	**48**	**29**	**6**
	Sample Difference							NC	NC	NC	NC	NC	2	-2	-4
	RPD							NC	NC	NC	NC	NC	-4%	7%	50%
	abs (RPD)							NC	NC	NC	NC	NC	4%	7%	50%
MW-04	**MW-04**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**6.64**	**69**	**2.18**	**14.5**	**5.15**	**46**	**9**	**8**
MW-04	**MW-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**--**	**--**	**--**	**--**	**--**	**44**	**10**	**8**
	Sample Difference							NC	NC	NC	NC	NC	-2	1	0
	RPD							NC	NC	NC	NC	NC	4%	-11%	0%
	abs (RPD)							NC	NC	NC	NC	NC	4%	11%	0%
MW-04	**MW-04**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**11.81**	**91**	**0.86**	**135**	**5.61**	**75**	**12**	**48**
MW-04	**MW-20**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**--**	**--**	**--**	**--**	**--**	**65**	**9**	**52**
	Sample Difference							NC	NC	NC	NC	NC	-10	-3	4
	RPD							NC	NC	NC	NC	NC	14%	29%	-8%
	abs (RPD)							NC	NC	NC	NC	NC	14%	29%	8%
MW-04	**MW-04**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**11.65**	**99**	**1.07**	**9.4**	**5.36**	**74.5**	**9.6**	**9**
MW-04	**MW-20**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**--**	**--**	**--**	**--**	**--**	**91**	**17.2**	**7.5**
	Sample Difference							NC	NC	NC	NC	NC	16.5	7.6	-1.5
	RPD							NC	NC	NC	NC	NC	-20%	-57%	18%
	abs (RPD)							NC	NC	NC	NC	NC	20%	57%	18%
MW-01	**MW-01**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:02**	**8.38**	**97**	**0**	**8.8**	**5.98**	**59**	**35.6**	**6**
MW-01	**MW-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:10**	**--**	**--**	**--**	**--**	**--**	**71**	**33.2**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	12	-2.4	NC
	RPD							NC	NC	NC	NC	NC	-18%	7%	NC
	abs (RPD)							NC	NC	NC	NC	NC	18%	7%	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								In situ (field measurements)					Analytical Physical Tests		
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
MW-04	**MW-04**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	**5.38**	**69**	**0.36**	**17.9**	**5.6**	**36 *UJ***	**12.4**	**12**
MW-04	**MW-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	--	--	--	--	--	**36 *UJ***	**11.6**	**10.5**
	Sample Difference							NC	NC	NC	NC	NC	NC	-0.8	-1.5
	RPD							NC	NC	NC	NC	NC	NC	7%	13%
	abs (RPD)							NC	NC	NC	NC	NC	NC	7%	13%
MW-04	**MW-04**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	**5.7**	**164**	**1.61**	**3.2**	**6.17**	**55**	**14**	**8.1**
MW-04	**MW-20**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	--	--	--	--	--	**53**	**10.8**	**8.8**
	Sample Difference							NC	NC	NC	NC	NC	-2	-3.2	0.7
	RPD							NC	NC	NC	NC	NC	4%	26%	-8%
	abs (RPD)							NC	NC	NC	NC	NC	4%	26%	8%
EFF-01	**EFF-01**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**12.1**	**312**	**10.89**	**38.8**	**6.28**	**63**	**103**	**13**
EFF-01	**WQ-20**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	--	--	--	--	--	**110**	**110**	**20.5**
	Sample Difference							NC	NC	NC	NC	NC	47	7	7.5
	RPD							NC	NC	NC	NC	NC	-54%	-7%	-45%
	abs (RPD)							NC	NC	NC	NC	NC	54%	7%	45%
MW-01	**MW-01**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	**12.6**	**204**	**1.41**	**81.7**	**6.39**	**77**	**49.2**	**5 *U***
MW-01	**MW-20**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	--	--	--	--	--	**84**	**49.6**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	7	0.4	NC
	RPD							NC	NC	NC	NC	NC	-9%	-1%	NC
	abs (RPD)							NC	NC	NC	NC	NC	9%	1%	NC
MW-04	**MW-04**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	**8.7**	**169**	**0.93**	**11.2**	**6.7**	**118**	**24**	**10.5**
MW-04	**MW-20**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	--	--	--	--	--	**95**	**24.4**	**11.5**
	Sample Difference							NC	NC	NC	NC	NC	-23	0.4	1
	RPD							NC	NC	NC	NC	NC	22%	-2%	-9%
	abs (RPD)							NC	NC	NC	NC	NC	22%	2%	9%
MW-01	**MW-01**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	**1.6**	**135**	**0.84**	**78**	**6.26**	**83**	**37.6**	**6**
MW-01	**MW-20**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	--	--	--	--	--	**31**	**38**	**9**
	Sample Difference							NC	NC	NC	NC	NC	-52	0.4	3
	RPD							NC	NC	NC	NC	NC	91%	-1%	-40%
	abs (RPD)							NC	NC	NC	NC	NC	91%	1%	40%
MW-04	**MW-04**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	**4.05**	**130**	**3.2**	**43**	**6.1**	**90**	**44.4**	**5 *U***
MW-04	**MW-20**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	--	--	--	--	--	**84**	**48**	**5 *U***
	Sample Difference							NC	NC	NC	NC	NC	-6	3.6	NC
	RPD							NC	NC	NC	NC	NC	7%	-8%	NC
	abs (RPD)							NC	NC	NC	NC	NC	7%	8%	NC
EFF-01	**EFF-01**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**9.84**	**200**	**11.43**	**63**	**7.8**	**90**	**70**	**26.5**
EFF-01	**WQ-20**	**K1106865**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	--	--	--	--	--	**93**	**70**	**26.5**
	Sample Difference							NC	NC	NC	NC	NC	3	0	0
	RPD							NC	NC	NC	NC	NC	-3%	0%	0%
	abs (RPD)							NC	NC	NC	NC	NC	3%	0%	0%
MW-04	**MW-04**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**11.36**	**180**	**4.6**	**41**	**6.1**	**81**	**50**	**5 *U***
MW-04	**MW-20**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	--	--	--	--	--	**108**	**51.2**	**7**
	Sample Difference							NC	NC	NC	NC	NC	27	1.2	NC
	RPD							NC	NC	NC	NC	NC	-29%	-2%	NC
	abs (RPD)							NC	NC	NC	NC	NC	29%	2%	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								In situ (field measurements)					Analytical Physical Tests		
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)
EFF-01	**EFF-01**	**K1108476**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**11.15**	**230**	**11.14**	**67**	**6.6**	**88**	**81.6**	**27**
EFF-01	**EFF-01**	**K1108477**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**11.15**	**230**	**11.14**	**67**	**6.6**	**88**	**81.6**	**27**
	Sample Difference							0	0	0	0	0	0	0	0
	RPD							0	0	0	0	0	0%	0%	0%
	abs (RPD)							0	0%	0%	0%	0%	0%	0%	0%
MW-04	**MW-04**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	**4.09**	**110**	**4.13**	**62**	**6.1**	**75**	**24.8**	**16 *J***
MW-04	**MW-20**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	--	--	--	--	--	**94**	**24**	**7 *J***
	Sample Difference							NC	NC	NC	NC	NC	19	-0.8	NC
	RPD							NC	NC	NC	NC	NC	-22%	3%	NC
	abs (RPD)							NC	NC	NC	NC	NC	22%	3%	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Dissolved Anions and Nutrients						
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
MW-04	**MW-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**3.4**	**3.4**	**2.5 *U***	**0.0065**	--	**0.025 *U***	**0.0076**
MW-04	**MW-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**2.1**	**3.4**	**2.5 *U***	**0.008**	--	**0.025 *U***	**0.0108**
	Sample Difference							-1.3	0	NC	0.0015	NC	NC	0.0032
	RPD							47%	0%	NC	-21%	NC	NC	-35%
	abs (RPD)							47%	0%	NC	21%	NC	NC	35%
MW-07	**MW-07**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**23.8**	**9.59**	**2.1**	**0.216**	--	**0.005 *U***	**0.001 *U***
MW-07	**MW-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**23.7**	**9.53**	**1.46**	**0.186**	--	**0.005 *U***	**0.001 *U***
	Sample Difference							-0.1	-0.06	-0.64	-0.03	NC	NC	NC
	RPD							0%	1%	36%	15%	NC	NC	NC
	abs (RPD)							0%	1%	36%	15%	NC	NC	NC
MW-03	**MW-03**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**9.9**	**6.2**	**5 *U***	**0.0069**	--	**0.05 *U***	**0.01 *U***
MW-03	**MW-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**7.9**	**5.9**	**5 *U***	**0.0072**	--	**0.051**	**0.016**
	Sample Difference							-2	-0.3	NC	0.0003	NC	NC	NC
	RPD							22%	5%	NC	-4%	NC	NC	NC
	abs (RPD)							22%	5%	NC	4%	NC	NC	NC
MW-01	**MW-01**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**45.6**	**4.9**	**3.97**	**0.02 *U***	--	**0.005 *U***	**0.001 *U***
MW-01	**MW-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**45.4**	**4.92**	**3.87**	**0.027**	--	**0.005 *U***	**0.001 *U***
	Sample Difference							-0.2	0.02	-0.1	NC	NC	NC	NC
	RPD							0%	0%	3%	NC	NC	NC	NC
	abs (RPD)							0%	0%	3%	NC	NC	NC	NC
MW-09	**MW-09**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**77.7**	**5.36**	**2.15**	**0.0078**	--	**0.0172**	**0.001 *U***
MW-09	**MW-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	**74.7**	**5.36**	**1.97**	**0.0066**	--	**0.013**	**0.001 *U***
	Sample Difference							-3	0	-0.18	-0.0012	NC	-0.0042	NC
	RPD							4%	0%	9%	17%	NC	28%	NC
	abs (RPD)							4%	0%	9%	17%	NC	28%	NC
MW-08	**MW-08**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**43**	**5**	**1.7**	**0.05 *U***	**0.06**	--	--
MW-08	**MW-20**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**42**	**5**	**1.7**	**0.03 *U***	**0.012 *J***	--	--
	Sample Difference							-1	0	0	NC	NC	NC	NC
	RPD							2%	0%	0%	NC	NC	NC	NC
	abs (RPD)							2%	0%	0%	NC	NC	NC	NC
MW-01	**MW-01**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**46**	**3.7**	**8.2**	**0.028 *J***	**0.039 *J***	--	--
MW-01	**MW-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**44**	**3.6**	**7.6**	**0.032 *J***	**0.033 *J***	--	--
	Sample Difference							-2	-0.1	-0.6	NC	NC	NC	NC
	RPD							4%	3%	8%	NC	NC	NC	NC
	abs (RPD)							4%	3%	8%	NC	NC	NC	NC
MW-08	**MW-08**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**45**	**5.5**	**1.6**	**0.03 *UJ***	**0.006 *J***	--	--
MW-08	**MW-20**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**43**	**5.6**	**1.6**	**0.01 *UJ***	**0.006 *U***	--	--
	Sample Difference							-2	0.1	0	NC	NC	NC	NC
	RPD							5%	-2%	0%	NC	NC	NC	NC
	abs (RPD)							5%	2%	0%	NC	NC	NC	NC
MW-07	**MW-07**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**36**	**2**	**0.091 *UJ***	**0.3**	**0.031 *J***	--	--
MW-07	**MW-20**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**36**	**2**	**0.08 *UJ***	**0.3**	**0.047 *J***	--	--
	Sample Difference							0	0	NC	0	NC	NC	NC
	RPD							0%	0%	NC	0%	NC	NC	NC
	abs (RPD)							0%	0%	NC	0%	NC	NC	NC
MW-08	**MW-08**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**45**	**4.5**	**2.3**	**0.1 *U***	**0.006 *U***	--	--
MW-08	**MW-20**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**52**	**4.6**	**2.4**	**0.12 *U***	**0.006 *U***	--	--
	Sample Difference							7	0.1	0.1	NC	NC	NC	NC
	RPD							-14%	-2%	-4%	NC	NC	NC	NC
	abs (RPD)							14%	2%	4%	NC	NC	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Dissolved Anions and Nutrients						
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
MW-01	**MW-01**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**36**	**5**	**1.5**	**0.07 *UJ***	**0.006 *U***	--	--
MW-01	**MW-20**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**34**	**5**	**1.5**	**0.07 *UJ***	**0.006 *U***	--	--
	Sample Difference							-2	0	0	NC	NC	NC	NC
	RPD							6%	0%	0%	NC	NC	NC	NC
	abs (RPD)							6%	0%	0%	NC	NC	NC	NC
MW-04	**MW-04**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**9 *UJ***	**5.3**	**0.4**	**0.18**	**0.06**	--	--
MW-04	**MW-20**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**7 *UJ***	**5.4**	**0.4**	**0.17**	**0.06**	--	--
	Sample Difference							NC	0.1	0	-0.01	0	NC	NC
	RPD							NC	-2%	0%	6%	0%	NC	NC
	abs (RPD)							NC	2%	0%	6%	0%	NC	NC
MW-01	**MW-01**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**22**	**4.3**	**8.3**	**0.1 *UJ***	**0.026 *UJ***	--	--
MW-01	**MW-20**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**24**	**4.5**	**7.7**	**0.03 *UJ***	**0.023 *UJ***	--	--
	Sample Difference							2	0.2	-0.6	NC	NC	NC	NC
	RPD							-9%	-5%	8%	NC	NC	NC	NC
	abs (RPD)							9%	5%	8%	NC	NC	NC	NC
MW-03	**MW-03**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**1 *U***	**10.1**	**1.3**	**0.04 *UJ***	**0.006 *U***	--	--
MW-03	**MW-20**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**1 *U***	**10**	**1.3**	**0.03 *UJ***	**0.006 *U***	--	--
	Sample Difference							NC	-0.1	0	NC	NC	NC	NC
	RPD							NC	1%	0%	NC	NC	NC	NC
	abs (RPD)							NC	1%	0%	NC	NC	NC	NC
MW-08	**MW-08**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**45**	**5.7**	**3.7**	**0.04 *J***	**0.01 *UJ***	--	--
MW-08	**MW-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**59**	**5.7**	**3.6**	**0.02 *J***	**0.013 *UJ***	--	--
	Sample Difference							14	0	-0.1	NC	NC	NC	NC
	RPD							-27%	0%	3%	NC	NC	NC	NC
	abs (RPD)							27%	0%	3%	NC	NC	NC	NC
MW-09	**MW-09**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**68**	**5.4**	**2.3**	**0.16 *UJ***	**0.048 *U***	--	--
MW-09	**MW-20**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**75**	**5.4**	**2.1**	**0.05 *UJ***	**0.06 *U***	--	--
	Sample Difference							7	0	-0.2	NC	NC	NC	NC
	RPD							-10%	0%	9%	NC	NC	NC	NC
	abs (RPD)							10%	0%	9%	NC	NC	NC	NC
EFF-01	**EFF-01**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**63**	**4.1**	**25.3**	**1.61**	**5.42**	--	--
EFF-01	**EFF-02**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**64**	**4**	**25.4**	**1.58**	**5.28**	--	--
	Sample Difference							1	-0.1	0.1	-0.03	-0.14	NC	NC
	RPD							-2%	2%	0%	2%	3%	NC	NC
	abs (RPD)							2%	2%	0%	2%	3%	NC	NC
MW-07	**MW-07**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**11**	**10.4**	**0.9**	**0.12**	**0.014 *U***	--	--
MW-07	**MW-20**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**14**	**10.5**	**0.8**	**0.1 *UJ***	**0.02 *U***	--	--
	Sample Difference							3	0.1	-0.1	NC	NC	NC	NC
	RPD							-24%	-1%	12%	NC	NC	NC	NC
	abs (RPD)							24%	1%	12%	NC	NC	NC	NC
MW-04	**MW-04**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**2 *UJ***	**8.5**	**1.8**	**0.09 *UJ***	**0.004 *UJ***	--	--
MW-04	**MW-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**4 *UJ***	**8.5**	**1.7**	**0.08 *UJ***	**0.004 *UJ***	--	--
	Sample Difference							NC	0	-0.1	NC	NC	NC	NC
	RPD							NC	0%	6%	NC	NC	NC	NC
	abs (RPD)							NC	0%	6%	NC	NC	NC	NC
MW-07	**MW-07**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**18**	**4.7**	**0.6**	**0.04 *UJ***	**0.025 *UJ***	--	--
MW-07	**MW-20**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**20**	**4.7**	**0.6**	**0.15**	**0.031 *UJ***	--	--
	Sample Difference							2	0	0	NC	NC	NC	NC
	RPD							-11%	0%	0%	NC	NC	NC	NC
	abs (RPD)							11%	0%	0%	NC	NC	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Dissolved Anions and Nutrients						
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
MW-01	**MW-01**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**38**	**2.9**	**3.5**	**0.04 *UJ***	**0.029 *J***	--	--
MW-01	**MW-20**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**38**	**2.9**	**3.5**	**0.04 *UJ***	**0.025 *J***	--	--
	Sample Difference							0	0	0	NC	NC	NC	NC
	RPD							0%	0%	0%	NC	NC	NC	NC
	abs (RPD)							0%	0%	0%	NC	NC	NC	NC
MW-04	**MW-04**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**5**	**2.8**	**20.7**	**0.19**	**0.11**	--	--
MW-04	**MW-20**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**3**	**2.8**	**21.4**	**0.19**	**0.14**	--	--
	Sample Difference							-2	0	0.7	0	0.03	NC	NC
	RPD							50%	0%	-3%	0%	-24%	NC	NC
	abs (RPD)							50%	0%	3%	0%	24%	NC	NC
MW-01	**MW-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**25**	**2.6**	**2.4**	**0.02 *U***	**0.035 *UJ***	--	--
MW-01	**MW-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**36**	**2.6**	**2.5**	**0.03 *J***	**0.037 *UJ***	--	--
	Sample Difference							11	0	0.1	NC	NC	NC	NC
	RPD							-36%	0%	-4%	NC	NC	NC	NC
	abs (RPD)							36%	0%	4%	NC	NC	NC	NC
EFF-01	**EFF-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**76**	**2.8**	**45**	**0.4**	**1.01**	--	--
EFF-01	**WQ-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**75**	**2.8**	**49.2**	**0.38**	**0.94**	--	--
	Sample Difference							-1	0	4.2	-0.02	-0.07	NC	NC
	RPD							1%	0%	-9%	5%	7%	NC	NC
	abs (RPD)							1%	0%	9%	5%	7%	NC	NC
MW-01	**MW-01**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**28**	**2**	**1.9**	**0.09 *UJ***	**0.019 *J***	--	--
MW-01	**MW-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**27**	**4.4**	**2**	**0.03 *UJ***	**0.015 *J***	--	--
	Sample Difference							-1	2.4	0.1	NC	NC	NC	NC
	RPD							4%	-75%	-5%	NC	NC	NC	NC
	abs (RPD)							4%	75%	5%	NC	NC	NC	NC
MW-01	**MW-01**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**23**	**2.1**	**8**	**0.03 *J***	**0.009 *U***	--	--
MW-01	**MW-20**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**26**	**2.1**	**8**	**0.02 *J***	**0.013 *J***	--	--
	Sample Difference							3	0	0	NC	NC	NC	NC
	RPD							-12%	0%	0%	NC	NC	NC	NC
	abs (RPD)							12%	0%	0%	NC	NC	NC	NC
MW-04	**MW-04**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**1 *J***	**3.3**	**15.3**	**0.18 *UJ***	**0.06**	--	--
MW-04	**MW-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**2 *J***	**3.3**	**15.2**	**0.17 *UJ***	**0.05**	--	--
	Sample Difference							NC	0	-0.1	NC	-0.01	NC	NC
	RPD							NC	0%	1%	NC	18%	NC	NC
	abs (RPD)							NC	0%	1%	NC	18%	NC	NC
MW-04	**MW-04**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**7**	**3**	**10.5**	**0.23**	**0.044 *UJ***	--	--
MW-04	**MW-20**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**7**	**3**	**10.7**	**0.23**	**0.039 *UJ***	--	--
	Sample Difference							0	0	0.2	0	NC	NC	NC
	RPD							0%	0%	-2%	0%	NC	NC	NC
	abs (RPD)							0%	0%	2%	0%	NC	NC	NC
MW-04	**MW-04**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**16.2**	**4.76**	**3.36**	**0.575**	**0.052**	--	--
MW-04	**MW-20**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**15.8**	**4.74**	**3.47**	**0.526**	**0.056**	--	--
	Sample Difference							-0.4	-0.02	0.11	-0.049	0.004	NC	NC
	RPD							2%	0%	-3%	9%	-7%	NC	NC
	abs (RPD)							2%	0%	3%	9%	7%	NC	NC
MW-01	**MW-01**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:02**	**27.4**	**5.47**	**6.91**	**0.018 *UJ***	**0.024 *J***	--	--
MW-01	**MW-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:10**	**24.2**	**5.52**	**6.93**	**0.023 *UJ***	**0.009 *U***	--	--
	Sample Difference							-3.2	0.05	0.02	NC	NC	NC	NC
	RPD							12%	-1%	0%	NC	NC	NC	NC
	abs (RPD)							12%	1%	0%	NC	NC	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Dissolved Anions and Nutrients						
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
MW-04	**MW-04**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	**2.9**	**7.27**	**4.8**	**0.303**	**0.075**	--	--
MW-04	**MW-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	**4.5**	**7.34**	**4.3**	**0.276**	**0.046 *J***	--	--
	Sample Difference							1.6	0.07	-0.5	-0.027	NC	NC	NC
	RPD							-43%	-1%	11%	9%	NC	NC	NC
	abs (RPD)							43%	1%	11%	9%	NC	NC	NC
MW-04	**MW-04**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	**13.4**	**5.7**	**10.1**	**0.213**	**0.074 *UJ***	--	--
MW-04	**MW-20**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	**13**	**5.6**	**9.98**	**0.218**	**0.074 *UJ***	--	--
	Sample Difference							-0.4	-0.1	-0.12	0.005	NC	NC	NC
	RPD							3%	2%	1%	-2%	NC	NC	NC
	abs (RPD)							3%	2%	1%	2%	NC	NC	NC
EFF-01	**EFF-01**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**80.5**	**3.51**	**20.8**	**0.009 *UJ***	**0.069 *UJ***	--	--
EFF-01	**WQ-20**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**83.5**	**3.19**	**20.8**	**0.009 *UJ***	**0.064 *UJ***	--	--
	Sample Difference							3	-0.32	0	NC	NC	NC	NC
	RPD							-4%	10%	0%	NC	NC	NC	NC
	abs (RPD)							4%	10%	0%	NC	NC	NC	NC
MW-01	**MW-01**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	**36.6**	**4.26**	**10.8**	**0.041 *UJ***	**0.061 *UJ***	--	--
MW-01	**MW-20**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	**39.3**	**4.25**	**11**	**0.045 *UJ***	**0.06 *UJ***	--	--
	Sample Difference							2.7	-0.01	0.2	NC	NC	NC	NC
	RPD							-7%	0%	-2%	NC	NC	NC	NC
	abs (RPD)							7%	0%	2%	NC	NC	NC	NC
MW-04	**MW-04**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	**15.5**	**10.4**	**3.96**	--	**0.014 *J***	--	--
MW-04	**MW-20**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	**17.6**	**10.1**	**4.01**	--	**0.009 *J***	--	--
	Sample Difference							2.1	-0.3	0.05	NC	NC	NC	NC
	RPD							-13%	3%	-1%	NC	NC	NC	NC
	abs (RPD)							13%	3%	1%	NC	NC	NC	NC
MW-01	**MW-01**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	**23.7 *UJ***	**4.43**	**11.1**	--	**0.009 *U***	--	--
MW-01	**MW-20**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	**23.6 *UJ***	**4.4**	**11.2**	--	**0.009 *U***	--	--
	Sample Difference							NC	-0.03	0.1	NC	NC	NC	NC
	RPD							NC	1%	-1%	NC	NC	NC	NC
	abs (RPD)							NC	1%	1%	NC	NC	NC	NC
MW-04	**MW-04**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	**28.2**	**5.17**	**12.2**	--	**0.045 *UJ***	--	--
MW-04	**MW-20**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	**28**	**5.1**	**12.5**	--	**0.045 *UJ***	--	--
	Sample Difference							-0.2	-0.07	0.3	NC	NC	NC	NC
	RPD							1%	1%	-2%	NC	NC	NC	NC
	abs (RPD)							1%	1%	2%	NC	NC	NC	NC
EFF-01	**EFF-01**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**31**	**3.69**	**18**	**0.009 *UJ***	**0.041 *UJ***	--	--
EFF-01	**WQ-20**	**K1106865**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**57**	**3.61**	**18.4**	**0.009 *UJ***	**0.07 *UJ***	--	--
	Sample Difference							26	-0.08	0.4	NC	NC	NC	NC
	RPD							-59%	2%	-2%	NC	NC	NC	NC
	abs (RPD)							59%	2%	2%	NC	NC	NC	NC
MW-04	**MW-04**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**39.9**	**3.87**	**16.8**	**0.291**	**0.043 *UJ***	--	--
MW-04	**MW-20**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**42**	**3.91**	**15.1**	**0.31**	**0.043 *UJ***	--	--
	Sample Difference							2.1	0.04	-1.7	0.019	NC	NC	NC
	RPD							-5%	-1%	11%	-6%	NC	NC	NC
	abs (RPD)							5%	1%	11%	6%	NC	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Dissolved Anions and Nutrients						
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Alkalinity as $CaCO_3$ (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Ammonia as N (mg/L)	Nitrate+Nitrite as N (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)
EFF-01	**EFF-01**	**K1108476**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**62.7**	**3.37**	**23.6**	**0.017 *UJ***	**0.022 *J***	--	--
EFF-01	**EFF-01**	**K1108477**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**62.7**	**3.37**	**23.6**	**0.017 *UJ***	**0.022 *J***	--	--
	Sample Difference							0	0	0	NC	NC	NC	NC
	RPD							0%	0%	0%	NC	NC	NC	NC
	abs (RPD)							0%	0%	0%	NC	NC	NC	NC
MW-04	**MW-04**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	**26**	**3.65**	**1.71 *J***	**0.327**	**0.046 *UJ***	--	--
MW-04	**MW-20**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	**26.2**	**3.39**	**1.69 *J***	**0.447**	**0.038 *UJ***	--	--
	Sample Difference							0.2	-0.26	NC	0.12	NC	NC	NC
	RPD							-1%	7%	NC	-31%	NC	NC	NC
	abs (RPD)							1%	7%	NC	31%	NC	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
MW-04	**MW-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**5170**	**457**	**0.71**	**0.5 *U***	**0.044**	**0.017 *U***	**1240**	**700**
MW-04	**MW-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**6060**	**321**	**0.82**	**0.5 *U***	**0.062**	**0.017 *U***	**1590**	**790**
	Sample Difference							890	-136	0.11	NC	0.018	NC	350	90
	RPD							-16%	35%	-14%	NC	-34%	NC	-25%	-12%
	abs (RPD)							16%	35%	14%	NC	34%	NC	25%	12%
MW-07	**MW-07**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**845**	**217**	**0.76**	**0.53**	**0.152**	**0.017 *U***	**7330**	**7260**
MW-07	**MW-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**912**	**207**	**0.77**	**0.52**	**0.145**	**0.017 *U***	**7650**	**7250**
	Sample Difference							67	-10	0.01	-0.01	-0.007	NC	320	-10
	RPD							-8%	5%	-1%	2%	5%	NC	-4%	0%
	abs (RPD)							8%	5%	1%	NC	5%	NC	4%	0%
MW-03	**MW-03**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**15300**	**903**	**1.34**	**0.87**	**0.07**	**0.017 *U***	**2720**	**1200**
MW-03	**MW-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**6160**	**842**	**1.18**	**0.81**	**0.054**	**0.017 *U***	**2460**	**1050**
	Sample Difference							-9140	-61	-0.16	-0.06	-0.016	NC	-260	-150
	RPD							85%	7%	13%	7%	26%	NC	10%	13%
	abs (RPD)							85%	7%	13%	NC	26%	NC	10%	13%
MW-01	**MW-01**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**251**	**192**	**0.21**	**0.18**	**0.017 *U***	**0.017 *U***	**17100**	**17800**
MW-01	**MW-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**293**	**201**	**0.28**	**0.21**	**0.017 *U***	**0.017 *U***	**17600**	**17600**
	Sample Difference							42	9	0.07	0.03	NC	NC	500	-200
	RPD							-15%	-5%	-29%	-15%	NC	NC	-3%	1%
	abs (RPD)							15%	5%	29%	NC	NC	NC	3%	1%
MW-09	**MW-09**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**612**	**37**	**0.16**	**0.1 *U***	**0.017 *U***	**0.017 *U***	**25800**	**26400**
MW-09	**MW-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	**628**	**33.5**	**0.14**	**0.1 *U***	**0.017 *U***	**0.017 *U***	**25600**	**26000**
	Sample Difference							16	-3.5	-0.02	NC	NC	NC	-200	-400
	RPD							-3%	10%	13%	NC	NC	NC	1%	2%
	abs (RPD)							3%	10%	13%	NC	NC	NC	1%	2%
MW-08	**MW-08**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**36.3**	**9.1**	**0.21 *J***	**0.21 *J***	**0.047 *U***	**0.057 *U***	**15100**	**14800**
MW-08	**MW-20**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**32.7**	**7.9**	**0.19 *J***	**0.19 *J***	**0.061 *U***	**0.067 *U***	**14900**	**15100**
	Sample Difference							-3.6	-1.2	NC	NC	NC	NC	-200	300
	RPD							10%	14%	NC	NC	NC	NC	1%	-2%
	abs (RPD)							10%	14%	NC	NC	NC	NC	1%	2%
MW-01	**MW-01**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**149**	**130**	**0.25 *J***	**0.2 *J***	**0.016 *U***	**0.008 *U***	**16600**	**16100**
MW-01	**MW-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**209 *U***	**153 *U***	**0.25 *J***	**0.24 *J***	**0.062 *U***	**0.008 *U***	**16100**	**16600**
	Sample Difference							NC	NC	NC	NC	NC	NC	-500	500
	RPD							NC	NC	NC	NC	NC	NC	3%	-3%
	abs (RPD)							NC	NC	NC	NC	NC	NC	3%	3%
MW-08	**MW-08**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**34.3 *J***	**6 *U***	**0.09 *J***	**0.07 *U***	**0.04**	**0.036 *J***	**13000**	**13300**
MW-08	**MW-20**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**31.1 *J***	**4.8 *U***	**0.07 *U***	**0.07 *U***	**0.04**	**0.038 *J***	**13500**	**13700**
	Sample Difference							NC	NC	NC	NC	0	NC	500	400
	RPD							NC	NC	NC	NC	0%	NC	-4%	-3%
	abs (RPD)							NC	NC	NC	NC	0%	NC	4%	3%
MW-07	**MW-07**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**581 *J***	**297 *J***	**0.86**	**0.84**	**0.055**	**0.008 *UJ***	**7830**	**8130**
MW-07	**MW-20**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**334 *J***	**314 *J***	**0.95**	**0.86**	**0.056**	**0.007 *U***	**8050**	**7850**
	Sample Difference							NC	NC	0.09	0.02	0.001	NC	220	-280
	RPD							NC	NC	-10%	-2%	-2%	NC	-3%	4%
	abs (RPD)							NC	NC	10%	NC	2%	NC	3%	4%
MW-08	**MW-08**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**11.6**	**9.7**	**0.21 *J***	**0.19 *J***	**0.036 *U***	**0.041 *U***	**17300**	**17000**
MW-08	**MW-20**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**10.7**	**4.5 *U***	**0.2 *J***	**0.19 *J***	**0.042 *U***	**0.042 *U***	**17500**	**17600**
	Sample Difference							-0.9	NC	NC	NC	NC	NC	200	600
	RPD							8%	NC	NC	NC	NC	NC	-1%	-3%
	abs (RPD)							8%	NC	NC	NC	NC	NC	1%	3%

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
MW-01	**MW-01**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**346**	**338**	**0.16 *J***	**0.17 *J***	**0.007 *U***	**0.007 *U***	**12200**	**12700**
MW-01	**MW-20**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**361**	**318**	**0.18 *J***	**0.17 *J***	**0.021**	**0.007 *U***	**12300**	**12700**
	Sample Difference							15	-20	NC	NC	NC	NC	100	0
	RPD							-4%	6%	NC	NC	NC	NC	-1%	0%
	abs (RPD)							4%	6%	NC	NC	NC	NC	1%	0%
MW-04	**MW-04**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**653**	**611**	**0.7**	**0.7**	**0.113**	**0.042 *UJ***	**1670**	**1620**
MW-04	**MW-20**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**685**	**617**	**0.73**	**0.7**	**0.086**	**0.054 *UJ***	**1750**	**1820**
	Sample Difference							32	6	0.03	0	-0.027	NC	80	200
	RPD							-5%	-1%	-4%	0%	27%	NC	-5%	-12%
	abs (RPD)							5%	1%	4%	NC	27%	NC	5%	12%
MW-01	**MW-01**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**3520 *J***	**129 *J***	**1.19**	**0.18 *UJ***	**0.202**	**0.015 *U***	**12400**	**9310**
MW-01	**MW-20**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**1050 *J***	**122 *J***	**0.21 *UJ***	**0.16 *UJ***	**0.012 *U***	**0.013 *U***	**9620**	**9500**
	Sample Difference							NC	NC	NC	NC	NC	NC	-2780	190
	RPD							NC	NC	NC	NC	NC	NC	25%	-2%
	abs (RPD)							NC	NC	NC	NC	NC	NC	25%	2%
MW-03	**MW-03**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**436**	**180**	**0.29 *J***	**0.13 *UJ***	**0.029 *UJ***	**0.029 *UJ***	**849**	**869**
MW-03	**MW-20**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**459**	**172**	**0.21 *J***	**0.12 *UJ***	**0.03 *UJ***	**0.018 *UJ***	**840**	**822**
	Sample Difference							23	-8	NC	NC	NC	NC	-9	-47
	RPD							-5%	5%	NC	NC	NC	NC	1%	6%
	abs (RPD)							5%	5%	NC	NC	NC	NC	1%	6%
MW-08	**MW-08**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**10.1 *U***	**4.6 *J***	**0.29 *UJ***	**0.15 *UJ***	**0.032 *UJ***	**0.032 *UJ***	**17600**	**17900**
MW-08	**MW-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**9 *U***	**3.7 *J***	**0.17 *UJ***	**0.22 *UJ***	**0.043 *UJ***	**0.049 *UJ***	**17800**	**17700**
	Sample Difference							NC	NC	NC	NC	NC	NC	200	-200
	RPD							NC	NC	NC	NC	NC	NC	-1%	1%
	abs (RPD)							NC	NC	NC	NC	NC	NC	1%	1%
MW-09	**MW-09**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**1360 *J***	**29.3 *J***	**0.27 *J***	**0.09 *J***	**0.017 *UJ***	**0.005 *UJ***	**25300**	**22400**
MW-09	**MW-20**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**523 *J***	**28.8 *J***	**0.23 *J***	**0.08 *U***	**0.009 *UJ***	**0.005 *UJ***	**24300**	**22600**
	Sample Difference							NC	NC	NC	NC	NC	NC	-1000	200
	RPD							NC	NC	NC	NC	NC	NC	4%	-1%
	abs (RPD)							NC	NC	NC	NC	NC	NC	4%	1%
EFF-01	**EFF-01**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**1060**	**287**	**0.85**	**0.48 *J***	**0.045 *UJ***	**0.024 *UJ***	**18000**	**15400**
EFF-01	**EFF-02**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**1070**	**291**	**0.84**	**0.5**	**0.049**	**0.022 *UJ***	**17900**	**15500**
	Sample Difference							10	4	-0.01	NC	NC	NC	-100	100
	RPD							-1%	-1%	1%	NC	NC	NC	1%	-1%
	abs (RPD)							1%	1%	1%	NC	NC	NC	1%	1%
MW-07	**MW-07**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**501**	**105**	**0.26 *J***	**0.06 *U***	**0.095**	**0.017 *UJ***	**5250**	**5030**
MW-07	**MW-20**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**175**	**105**	**0.1 *J***	**0.06 *U***	**0.093**	**0.013 *UJ***	**5180**	**5170**
	Sample Difference							-326	0	NC	NC	-0.002	NC	-70	140
	RPD							96%	0%	NC	NC	2%	NC	1%	-3%
	abs (RPD)							96%	0%	NC	NC	2%	NC	1%	3%
MW-04	**MW-04**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**214 *J***	**178 *J***	**0.18 *J***	**0.15 *J***	**0.025**	**0.045**	**1320**	**1280**
MW-04	**MW-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**196 *J***	**166 *J***	**0.13 *J***	**0.15 *J***	**0.022**	**0.018 *J***	**1270**	**1230**
	Sample Difference							NC	NC	NC	NC	-0.003	NC	-50	-50
	RPD							NC	NC	NC	NC	13%	NC	4%	4%
	abs (RPD)							NC	NC	NC	NC	13%	NC	4%	4%
MW-07	**MW-07**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**686 *J***	**182**	**0.56**	**0.32 *J***	**0.143**	**0.017 *UJ***	**5520**	**5350**
MW-07	**MW-20**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**843 *J***	**170**	**0.47 *J***	**0.29 *J***	**0.144**	**0.011 *UJ***	**5610**	**5280**
	Sample Difference							NC	-12	NC	NC	0.001	NC	90	-70
	RPD							NC	7%	NC	NC	-1%	NC	-2%	1%
	abs (RPD)							NC	7%	NC	NC	1%	NC	2%	1%

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
MW-01	**MW-01**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**241 *J***	**222 *J***	**0.2 *U***	**0.23 *J***	**0.016 *UJ***	**0.005 *UJ***	**13400**	**13400**
MW-01	**MW-20**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**248 *J***	**210 *J***	**0.23 *J***	**0.24 *J***	**0.011 *UJ***	**0.005 *UJ***	**13800**	**13400**
	Sample Difference							NC	NC	NC	NC	NC	NC	400	0
	RPD							NC	NC	NC	NC	NC	NC	-3%	0%
	abs (RPD)							NC	NC	NC	NC	NC	NC	3%	0%
MW-04	**MW-04**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**878**	**309**	**0.2 *U***	**0.2 *U***	**0.082**	**0.058 *UJ***	**1610**	**1480**
MW-04	**MW-20**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**407**	**310**	**0.2 *U***	**0.21 *J***	**0.084**	**0.056 *UJ***	**1570**	**1480**
	Sample Difference							-471	1	NC	NC	0.002	NC	-40	0
	RPD							73%	0%	NC	NC	-2%	NC	3%	0%
	abs (RPD)							73%	0%	NC	NC	2%	NC	3%	0%
MW-01	**MW-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**386 *J***	**323 *J***	**0.34 *J***	**0.41 *J***	**0.012 *UJ***	**0.046 *U***	**12900**	**13900**
MW-01	**MW-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**336 *J***	**316 *J***	**0.31 *J***	**0.39 *J***	**0.012 *UJ***	**0.038 *U***	**13600**	**12900**
	Sample Difference							NC	NC	NC	NC	NC	NC	700	-1000
	RPD							NC	NC	NC	NC	NC	NC	-5%	7%
	abs (RPD)							NC	NC	NC	NC	NC	NC	5%	7%
EFF-01	**EFF-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**359 *J***	**44.7 *UJ***	**1.06**	**0.93 *J***	**0.05 *UJ***	**0.023 *U***	**37600**	**37300**
EFF-01	**WQ-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**355 *J***	**42.2 *UJ***	**1.03**	**0.89 *J***	**0.053 *UJ***	**0.025 *U***	**38900**	**36900**
	Sample Difference							NC	NC	-0.03	NC	NC	NC	1300	-400
	RPD							NC	NC	3%	NC	NC	NC	-3%	1%
	abs (RPD)							NC	NC	3%	NC	NC	NC	3%	1%
MW-01	**MW-01**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**275 *J***	**187 *J***	**0.25 *J***	**0.2 *U***	**0.015 *UJ***	**0.005 *UJ***	**9590**	**10500**
MW-01	**MW-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**292 *J***	**257 *J***	**0.28 *J***	**0.2 *U***	**0.014 *UJ***	**0.008 *UJ***	**9480**	**9960**
	Sample Difference							NC	NC	NC	NC	NC	NC	-110	-540
	RPD							NC	NC	NC	NC	NC	NC	1%	5%
	abs (RPD)							NC	NC	NC	NC	NC	NC	1%	5%
MW-01	**MW-01**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**155**	**103**	**0.2 *U***	**0.2 *U***	**0.011 *J***	**0.007 *J***	**9890**	**10200**
MW-01	**MW-20**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**154**	**101**	**0.2 *U***	**0.2 *U***	**0.007 *J***	**0.005 *U***	**10000**	**10400**
	Sample Difference							-1	-2	NC	NC	NC	NC	110	200
	RPD							1%	2%	NC	NC	NC	NC	-1%	-2%
	abs (RPD)							1%	2%	NC	NC	NC	NC	1%	2%
MW-04	**MW-04**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**177**	**94.9**	**0.2 *U***	**0.2 *U***	**0.065**	**0.039**	**2850**	**2680**
MW-04	**MW-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**184**	**80.8**	**0.2 *U***	**0.2 *U***	**0.065**	**0.034**	**3090**	**2770**
	Sample Difference							7	-14.1	NC	NC	0	-0.005	240	90
	RPD							-4%	16%	NC	NC	0%	14%	-8%	-3%
	abs (RPD)							4%	16%	NC	NC	0%	14%	8%	3%
MW-04	**MW-04**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**743 *J***	**341 *J***	**0.71**	**0.58**	**0.168**	**0.027**	**3310**	**3040**
MW-04	**MW-20**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**674 *J***	**339 *J***	**0.73**	**0.62**	**0.165**	**0.022 *UJ***	**3260**	**3040**
	Sample Difference							NC	NC	0.02	0.04	-0.003	NC	-50	0
	RPD							NC	NC	-3%	-7%	2%	NC	2%	0%
	abs (RPD)							NC	NC	3%	NC	2%	NC	2%	0%
MW-04	**MW-04**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**478**	**473**	**0.7 *UJ***	**0.8**	**0.012 *UJ***	**0.005 *UJ***	**3990 *J***	**4170 *J***
MW-04	**MW-20**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**492**	**472**	**0.8 *UJ***	**0.7 *UJ***	**0.012 *UJ***	**0.006 *UJ***	**3830 *J***	**3880 *J***
	Sample Difference							14	-1	NC	NC	NC	NC	NC	NC
	RPD							-3%	0%	NC	NC	NC	NC	NC	NC
	abs (RPD)							3%	0%	NC	NC	NC	NC	NC	NC
MW-01	**MW-01**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:02**	**174**	**163**	**0.1 *J***	**0.11 *J***	**0.01 *UJ***	**0.005 *UJ***	**11800**	**12200**
MW-01	**MW-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:10**	**165**	**159**	**0.1 *J***	**0.08 *J***	**0.006 *UJ***	**0.004 *UJ***	**11800**	**12600**
	Sample Difference							-9	-4	NC	NC	NC	NC	0	400
	RPD							5%	2%	NC	NC	NC	NC	0%	-3%
	abs (RPD)							5%	2%	NC	NC	NC	NC	0%	3%

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
MW-04	**MW-04**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	**308**	**252**	**0.4 *J***	**0.37 *J***	**0.025**	**0.016 *J***	**2820**	**2840**
MW-04	**MW-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	**315**	**249**	**0.39 *J***	**0.41 *J***	**0.024**	**0.016 *J***	**2850**	**2880**
	Sample Difference							7	-3	NC	NC	-0.001	NC	30	40
	RPD							-2%	1%	NC	NC	4%	NC	-1%	-1%
	abs (RPD)							2%	1%	NC	NC	4%	NC	1%	1%
MW-04	**MW-04**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	**254**	**214**	**0.56**	**0.54**	**0.022 *UJ***	**0.011 *UJ***	**3940 *J***	**4020 *J***
MW-04	**MW-20**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	**253**	**215**	**0.54**	**0.58**	**0.026 *UJ***	**0.006 *UJ***	**3860 *J***	**3990 *J***
	Sample Difference							-1	1	-0.02	0.04	NC	NC	NC	NC
	RPD							0%	0%	4%	-7%	NC	NC	NC	NC
	abs (RPD)							0%	0%	4%	NC	NC	NC	NC	NC
EFF-01	**EFF-01**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**557**	**24.9**	**0.72**	**0.57**	**0.024**	**0.009 *J***	**31200**	**31100**
EFF-01	**WQ-20**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**564 *J***	**25.7 *J***	**0.62**	**0.6**	**0.024**	**0.01 *J***	**31100**	**30700**
	Sample Difference							NC	NC	-0.1	0.03	0	NC	-100	-400
	RPD							NC	NC	15%	-5%	0%	NC	0%	1%
	abs (RPD)							NC	NC	15%	NC	0%	NC	0%	1%
MW-01	**MW-01**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	**148**	**127**	**0.17 *J***	**0.16 *J***	**0.021**	**0.017 *UJ***	**16000**	**15500**
MW-01	**MW-20**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	**149**	**128**	**0.16 *J***	**0.2 *J***	**0.019 *UJ***	**0.016 *UJ***	**15800**	**16000**
	Sample Difference							1	1	NC	NC	NC	NC	-200	500
	RPD							-1%	-1%	NC	NC	NC	NC	1%	-3%
	abs (RPD)							1%	1%	NC	NC	NC	NC	1%	3%
MW-04	**MW-04**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	**231**	**177**	**0.6**	**0.6**	**0.029**	**0.005 *U***	**6030**	**5990**
MW-04	**MW-20**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	**234**	**174**	**0.6**	**0.6**	**0.028**	**0.005 *U***	**6220**	**6190**
	Sample Difference							3	-3	0	0	-0.001	NC	190	200
	RPD							-1%	2%	0%	0%	4%	NC	-3%	-3%
	abs (RPD)							1%	2%	0%	NC	4%	NC	3%	3%
MW-01	**MW-01**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	**112**	**88.9**	**0.1 *J***	**0.07 *U***	**0.014 *UJ***	**0.011 *UJ***	**11300**	**11300**
MW-01	**MW-20**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	**110**	**88.3**	**0.07 *J***	**0.11 *J***	**0.022 *UJ***	**0.013 *UJ***	**11500**	**11600**
	Sample Difference							-2	-0.6	NC	NC	NC	NC	200	300
	RPD							2%	1%	NC	NC	NC	NC	-2%	-3%
	abs (RPD)							2%	1%	NC	NC	NC	NC	2%	3%
MW-04	**MW-04**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	**95.1**	**83.7**	**0.4 *J***	**0.37 *J***	**0.011 *J***	**0.009 *J***	**11500**	**11400**
MW-04	**MW-20**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	**96.7**	**90.9**	**0.37 *J***	**0.39 *J***	**0.013 *J***	**0.014 *J***	**11400**	**11300**
	Sample Difference							1.6	7.2	NC	NC	NC	NC	-100	-100
	RPD							-2%	-8%	NC	NC	NC	NC	1%	1%
	abs (RPD)							2%	8%	NC	NC	NC	NC	1%	1%
EFF-01	**EFF-01**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**870**	**68**	**0.5**	**0.4 *J***	**0.951**	**0.213**	**24500**	**24000**
EFF-01	**WQ-20**	**K1106865**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**825**	**63.7**	**0.4 *J***	**0.3 *J***	**0.912**	**0.214**	**24700**	**24100**
	Sample Difference							-45	-4.3	NC	NC	-0.039	0.001	200	100
	RPD							5%	7%	NC	NC	4%	0%	-1%	0%
	abs (RPD)							5%	7%	NC	NC	4%	0%	1%	0%
MW-04	**MW-04**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**81.8**	**71**	**0.6**	**0.5**	**0.014 *UJ***	**0.011 *UJ***	**15000**	**14700**
MW-04	**MW-20**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**79.6**	**78.9**	**0.5**	**0.6**	**0.014 *UJ***	**0.012 *UJ***	**14600**	**14500**
	Sample Difference							-2.2	7.9	-0.1	0.1	NC	NC	-400	-200
	RPD							3%	-11%	18%	-18%	NC	NC	3%	1%
	abs (RPD)							3%	11%	18%	NC	NC	NC	3%	1%

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Aluminum (µg/L), Total	Aluminum (µg/L), Dissolved	Arsenic (µg/L), Total	Arsenic (µg/L), Dissolved	Cadmium (µg/L), Total	Cadmium (µg/L), Dissolved	Calcium (µg/L), Total	Calcium (µg/L), Dissolved
EFF-01	**EFF-01**	**K1108476**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**821**	**38.7**	**0.56**	**0.37 *J***	**0.948**	**0.621**	**30200**	**29400**
EFF-01	**EFF-01**	**K1108477**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**821**	**38.7**	**0.56**	**0.37 *J***	**0.948**	**0.621**	**30200**	**29400**
	Sample Difference							0	0	0	NC	0	0	0	0
	RPD							0%	0%	0%	NC	0%	0%	0%	0%
	abs (RPD)							0%	0%	0%	NC	0%	0%	0%	0%
MW-04	**MW-04**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	**1110**	**178**	**0.63**	**0.49 *J***	**0.03 *U***	**0.008 *UJ***	**7770**	**7660**
MW-04	**MW-20**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	**791**	**174**	**0.58**	**0.53 *J***	**0.028 *U***	**0.008 *UJ***	**7870**	**7660**
	Sample Difference							-319	-4	-0.05	NC	NC	NC	100	0
	RPD							34%	2%	8%	NC	NC	NC	-1%	0%
	abs (RPD)							34%	2%	8%	NC	NC	NC	1%	0%

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
MW-04	**MW-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**71.5**	**1.9**	**7.6**	**2.6**	**6000**	**699**	**2.24**	**0.5 *U***
MW-04	**MW-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**86.2**	**1.4**	**8.9**	**2.4**	**9220**	**465**	**2.9**	**0.5 *U***
	Sample Difference							14.7	-0.5	1.3	-0.2	3220	-234	0.66	NC
	RPD							-19%	30%	-16%	8%	-42%	40%	-26%	NC
	abs (RPD)							19%	30%	16%	8%	42%	40%	26%	NC
MW-07	**MW-07**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**1.9**	**0.5 *U***	**7.9**	**1.16**	**4070**	**3600**	**1.52**	**0.21**
MW-07	**MW-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**1.99**	**0.5 *U***	**7.44**	**1.09**	**4410**	**3530**	**1.55**	**0.194**
	Sample Difference							0.09	NC	-0.46	-0.07	340	-70	0.03	-0.016
	RPD							-5%	NC	6%	6%	-8%	2%	-2%	8%
	abs (RPD)							5%	NC	6%	6%	8%	2%	2%	8%
MW-03	**MW-03**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**4.75**	**1.19**	**18.5**	**2.98**	**10900**	**3210**	**5.61**	**1.59**
MW-03	**MW-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**2.93**	**1.23**	**11.2**	**2.39**	**7700**	**3060**	**4.86**	**1.55**
	Sample Difference							-1.82	0.04	-7.3	-0.59	-3200	-150	-0.75	-0.04
	RPD							47%	-3%	49%	22%	34%	5%	14%	3%
	abs (RPD)							47%	3%	49%	22%	34%	5%	14%	3%
MW-01	**MW-01**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**0.5 *U***	**0.5 *U***	**2.71**	**0.86**	**2190**	**2280**	**0.789**	**0.301**
MW-01	**MW-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**0.5 *U***	**0.5 *U***	**2.4**	**0.9**	**2310**	**2360**	**0.881**	**0.309**
	Sample Difference							NC	NC	-0.31	0.04	120	80	0.092	0.008
	RPD							NC	NC	12%	-5%	-5%	-3%	-11%	-3%
	abs (RPD)							NC	NC	12%	5%	5%	3%	11%	3%
MW-09	**MW-09**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**1.54**	**0.5 *U***	**5.22**	**0.53**	**841**	**30 *U***	**0.424**	**0.05 *U***
MW-09	**MW-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	**1.52**	**0.5 *U***	**4.73**	**0.43**	**921**	**30 *U***	**0.39**	**0.05 *U***
	Sample Difference							-0.02	NC	-0.49	-0.1	80	NC	-0.034	NC
	RPD							1%	NC	10%	21%	-9%	NC	8%	NC
	abs (RPD)							1%	NC	10%	21%	9%	NC	8%	NC
MW-08	**MW-08**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**0.4 *U***	**0.36 *U***	**1.49**	**1.02**	**36**	**37**	**0.031 *U***	**0.019 *U***
MW-08	**MW-20**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**0.27 *U***	**0.27 *U***	**1.42**	**1.03**	**30**	**5.2 *J***	**0.021 *U***	**0.027 *U***
	Sample Difference							NC	NC	-0.07	0.01	-6	NC	NC	NC
	RPD							NC	NC	5%	-1%	18%	NC	NC	NC
	abs (RPD)							NC	NC	5%	1%	18%	NC	NC	NC
MW-01	**MW-01**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**0.37 *U***	**0.35 *U***	**1.52**	**0.81**	**1760**	**1730**	**0.467**	**0.218**
MW-01	**MW-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**0.37 *U***	**0.43 *U***	**3.11**	**0.83**	**1690**	**1760**	**0.617**	**0.203**
	Sample Difference							NC	NC	1.59	0.02	-70	30	0.15	-0.015
	RPD							NC	NC	-69%	-2%	4%	-2%	-28%	7%
	abs (RPD)							NC	NC	69%	2%	4%	2%	28%	7%
MW-08	**MW-08**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**0.38 *U***	**0.43 *U***	**1.48 *J***	**1.06 *J***	**40 *J***	**30 *J***	**0.022 *U***	**0.014 *U***
MW-08	**MW-20**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**0.33 *U***	**0.48 *U***	**1.29 *J***	**1.01 *J***	**36 *J***	**7.5 *U***	**0.024 *U***	**0.017 *U***
	Sample Difference							NC	NC	NC	NC	NC	NC	NC	NC
	RPD							NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	NC	NC	NC
MW-07	**MW-07**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**1.24 *U***	**1.04 *U***	**2.6**	**1.36**	**4860**	**4880**	**0.485**	**0.194**
MW-07	**MW-20**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**1.25 *U***	**0.98 *U***	**2.45**	**1.91**	**4940**	**4740**	**0.426**	**0.203**
	Sample Difference							NC	NC	-0.15	0.55	80	-140	-0.059	0.009
	RPD							NC	NC	6%	-34%	-2%	3%	13%	-5%
	abs (RPD)							NC	NC	6%	34%	2%	3%	13%	5%
MW-08	**MW-08**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**0.31 *U***	**0.25 *U***	**1.23**	**1.08**	**19.2 *U***	**8.2 *U***	**0.007 *U***	**0.007 *U***
MW-08	**MW-20**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**0.31**	**0.27 *U***	**1.08**	**1.22**	**11.9 *U***	**6.9 *U***	**0.005 *U***	**0.004 *U***
	Sample Difference							NC	NC	-0.15	0.14	NC	NC	NC	NC
	RPD							NC	NC	13%	-12%	NC	NC	NC	NC
	abs (RPD)							NC	NC	13%	12%	NC	NC	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
MW-01	**MW-01**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**0.78 *U***	**0.86 *U***	**2.57**	**1.78**	**2400**	**2530**	**1.35**	**1.04**
MW-01	**MW-20**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**0.74 *U***	**1.07 *U***	**2.68**	**1.71**	**2410**	**2360**	**1.38**	**0.964**
	Sample Difference							NC	NC	0.11	-0.07	10	-170	0.03	-0.076
	RPD							NC	NC	-4%	4%	0%	7%	-2%	8%
	abs (RPD)							NC	NC	4%	4%	0%	7%	2%	8%
MW-04	**MW-04**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**6.16**	**5.86**	**5.2**	**3.54**	**11500**	**10600**	**0.91**	**0.601**
MW-04	**MW-20**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**6.01**	**5.89**	**5.27**	**3.5**	**11400**	**11100**	**0.856**	**0.675**
	Sample Difference							-0.15	0.03	0.07	-0.04	-100	500	-0.054	0.074
	RPD							2%	-1%	-1%	1%	1%	-5%	6%	-12%
	abs (RPD)							2%	1%	1%	1%	1%	5%	6%	12%
MW-01	**MW-01**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**3.44**	**0.56 *U***	**38.5 *J***	**1.1 *J***	**4670**	**1120**	**11.6**	**0.398**
MW-01	**MW-20**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**0.62 *U***	**0.49 *U***	**1.83 *J***	**0.99 *J***	**1510**	**1110**	**0.816**	**0.335**
	Sample Difference							NC	NC	NC	NC	-3160	-10	-10.784	-0.063
	RPD							NC	NC	NC	NC	102%	1%	174%	17%
	abs (RPD)							NC	NC	NC	NC	102%	1%	174%	17%
MW-03	**MW-03**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**0.65 *U***	**0.61 *U***	**1.12**	**0.88**	**1020**	**833**	**0.266**	**0.129**
MW-03	**MW-20**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**0.77 *U***	**0.57 *U***	**1.23**	**0.82**	**1030**	**744**	**0.284**	**0.12**
	Sample Difference							NC	NC	0.11	-0.06	10	-89	0.018	-0.009
	RPD							NC	NC	-9%	7%	-1%	11%	-7%	7%
	abs (RPD)							NC	NC	9%	7%	1%	11%	7%	7%
MW-08	**MW-08**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**0.59 *U***	**0.48 *U***	**1.59**	**1.25**	**14.2 *UJ***	**10.2 *UJ***	**0.012 *J***	**0.003 *U***
MW-08	**MW-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**0.47 *U***	**0.32 *U***	**1.38**	**1.29**	**12.4 *UJ***	**4.6 *UJ***	**0.003 *U***	**0.007 *J***
	Sample Difference							NC	NC	-0.21	0.04	NC	NC	NC	NC
	RPD							NC	NC	14%	-3%	NC	NC	NC	NC
	abs (RPD)							NC	NC	14%	3%	NC	NC	NC	NC
MW-09	**MW-09**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**2.38**	**0.51 *U***	**9.94**	**0.55**	**3780**	**25.7**	**1.2**	**0.031 *J***
MW-09	**MW-20**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**1.28 *U***	**0.47 *U***	**4.22**	**0.59**	**1330**	**29.7**	**1.48**	**0.052**
	Sample Difference							NC	NC	-5.72	0.04	-2450	4	0.28	NC
	RPD							NC	NC	81%	-7%	96%	-14%	-21%	NC
	abs (RPD)							NC	NC	81%	7%	96%	14%	21%	NC
EFF-01	**EFF-01**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**35.3**	**33.4**	**9.55**	**5.19**	**2070**	**67.1**	**1.68**	**0.025 *UJ***
EFF-01	**EFF-02**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**34.5**	**32.8**	**9.48**	**5.1**	**2020**	**63.7**	**1.64**	**0.022 *UJ***
	Sample Difference							-0.8	-0.6	-0.07	-0.09	-50	-3.4	-0.04	NC
	RPD							2%	2%	1%	2%	2%	5%	2%	NC
	abs (RPD)							2%	2%	1%	2%	2%	5%	2%	NC
MW-07	**MW-07**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**0.83 *U***	**0.66 *U***	**1.72**	**0.51**	**3050**	**2940**	**0.564**	**0.167**
MW-07	**MW-20**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**0.68 *U***	**0.78 *U***	**1.79**	**0.47**	**3110**	**3060**	**0.575**	**0.144**
	Sample Difference							NC	NC	0.07	-0.04	60	120	0.011	-0.023
	RPD							NC	NC	-4%	8%	-2%	-4%	-2%	15%
	abs (RPD)							NC	NC	4%	8%	2%	4%	2%	15%
MW-04	**MW-04**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**1.67**	**1.36 *U***	**1.56 *U***	**0.89**	**1830**	**1730**	**0.13 *U***	**0.072 *UJ***
MW-04	**MW-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**1.61**	**1.33 *U***	**1.07 *U***	**0.9**	**1830**	**1710**	**0.111 *U***	**0.061 *UJ***
	Sample Difference							-0.06	NC	NC	0.01	0	-20	NC	NC
	RPD							4%	NC	NC	-1%	0%	1%	NC	NC
	abs (RPD)							4%	NC	NC	1%	0%	1%	NC	NC
MW-07	**MW-07**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**1.73**	**0.9 *U***	**5.61 *J***	**0.98 *U***	**3970**	**3340**	**1.4**	**0.162**
MW-07	**MW-20**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**2.29**	**0.94 *U***	**5.68 *J***	**0.81 *U***	**4100**	**3360**	**1.45**	**0.13**
	Sample Difference							0.56	NC	NC	NC	130	20	0.05	-0.032
	RPD							-28%	NC	NC	NC	-3%	-1%	-4%	22%
	abs (RPD)							28%	NC	NC	NC	3%	1%	4%	22%

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
MW-01	**MW-01**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**0.72 *U***	**0.66 *U***	**2.23**	**1.2**	**2150**	**2110**	**0.822**	**0.394**
MW-01	**MW-20**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**0.72 *U***	**0.72 *U***	**2.06**	**1.22**	**2180**	**2060**	**0.774**	**0.377**
	Sample Difference							NC	NC	-0.17	0.02	30	-50	-0.048	-0.017
	RPD							NC	NC	8%	-2%	-1%	2%	6%	4%
	abs (RPD)							NC	NC	8%	2%	1%	2%	6%	4%
MW-04	**MW-04**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	--	--	**5.01**	**2.89**	**2790**	**1850**	**0.75**	**0.287**
MW-04	**MW-20**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	--	--	**4.57**	**2.91**	**2250**	**1760**	**0.486**	**0.305**
	Sample Difference							NC	NC	-0.44	0.02	-540	-90	-0.264	0.018
	RPD							NC	NC	9%	-1%	21%	5%	43%	-6%
	abs (RPD)							NC	NC	9%	1%	21%	5%	43%	6%
MW-01	**MW-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	--	--	**2.51 *J***	**1.43 *J***	**2260**	**2290**	**0.897**	**0.603**
MW-01	**MW-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	--	--	**2.36 *J***	**1.42 *J***	**2310**	**2120**	**0.842**	**0.602**
	Sample Difference							NC	NC	NC	NC	50	-170	-0.055	-0.001
	RPD							NC	NC	NC	NC	-2%	8%	6%	0%
	abs (RPD)							NC	NC	NC	NC	2%	8%	6%	0%
EFF-01	**EFF-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**1.85**	**1.08**	**4.45 *J***	**2.2 *J***	**574**	**95.6**	**0.87**	**0.164**
EFF-01	**WQ-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**1.78**	**0.91**	**4.17 *J***	**2.15 *J***	**557**	**89.2**	**0.846**	**0.173**
	Sample Difference							-0.07	-0.17	NC	NC	-17	-6.4	-0.024	0.009
	RPD							4%	17%	NC	NC	3%	7%	3%	-5%
	abs (RPD)							4%	17%	NC	NC	3%	7%	3%	5%
MW-01	**MW-01**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	--	--	**2.12**	**0.98 *U***	**1920**	**1880**	**0.768**	**0.344**
MW-01	**MW-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	--	--	**2.21**	**1.52**	**1980**	**1820**	**0.786**	**0.457**
	Sample Difference							NC	NC	0.09	NC	60	-60	0.018	0.113
	RPD							NC	NC	-4%	NC	-3%	3%	-2%	-28%
	abs (RPD)							NC	NC	4%	NC	3%	3%	2%	28%
MW-01	**MW-01**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	--	--	**1.64**	**0.85 *U***	**1120**	**993**	**0.542**	**0.282**
MW-01	**MW-20**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	--	--	**1.66**	**1.05 *U***	**1130**	**1030**	**0.527**	**0.277**
	Sample Difference							NC	NC	0.02	NC	10	37	-0.015	-0.005
	RPD							NC	NC	-1%	NC	-1%	-4%	3%	2%
	abs (RPD)							NC	NC	1%	NC	1%	4%	3%	2%
MW-04	**MW-04**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	--	--	**1.59**	**0.94**	**808**	**620**	**0.253**	**0.067 *UJ***
MW-04	**MW-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	--	--	**1.96**	**0.87**	**895**	**411**	**0.272**	**0.043 *UJ***
	Sample Difference							NC	NC	0.37	-0.07	87	-209	0.019	NC
	RPD							NC	NC	-21%	8%	-10%	41%	-7%	NC
	abs (RPD)							NC	NC	21%	8%	10%	41%	7%	NC
MW-04	**MW-04**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	--	--	**7.92**	**2.29**	**6950**	**5280**	**1.34**	**0.304**
MW-04	**MW-20**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	--	--	**7.5**	**1.66**	**6810**	**5480**	**1.18**	**0.233**
	Sample Difference							NC	NC	-0.42	-0.63	-140	200	-0.16	-0.071
	RPD							NC	NC	5%	32%	2%	-4%	13%	26%
	abs (RPD)							NC	NC	5%	32%	2%	4%	13%	26%
MW-04	**MW-04**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	--	--	**1.88**	**1.46**	**10500**	**10900**	**0.228**	**0.156**
MW-04	**MW-20**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	--	--	**1.91**	**1.53**	**10200**	**10300**	**0.226**	**0.16**
	Sample Difference							NC	NC	0.03	0.07	-300	-600	-0.002	0.004
	RPD							NC	NC	-2%	-5%	3%	6%	1%	-3%
	abs (RPD)							NC	NC	2%	5%	3%	6%	1%	3%
MW-01	**MW-01**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:02**	--	--	**1.32**	**0.9**	**1210**	**1210**	**0.465**	**0.314**
MW-01	**MW-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:10**	--	--	**1.25**	**0.87**	**1200**	**1220**	**0.433**	**0.3**
	Sample Difference							NC	NC	-0.07	-0.03	-10	10	-0.032	-0.014
	RPD							NC	NC	5%	3%	1%	-1%	7%	5%
	abs (RPD)							NC	NC	5%	3%	1%	1%	7%	5%

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
MW-04	**MW-04**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	--	--	**2.2**	**1.41 *U***	**3600**	**3490**	**0.223 *U***	**0.111 *U***
MW-04	**MW-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	--	--	**2.21**	**1.35 *U***	**3840**	**4010**	**0.228**	**0.093 *U***
	Sample Difference							NC	NC	0.01	NC	240	520	NC	NC
	RPD							NC	NC	0%	NC	-6%	-14%	NC	NC
	abs (RPD)							NC	NC	0%	NC	6%	14%	NC	NC
MW-04	**MW-04**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	--	--	**1.75 *J***	**0.79 *J***	**9900**	**9950**	**0.189**	**0.11**
MW-04	**MW-20**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	--	--	**1.52 *J***	**0.71 *J***	**9680**	**9750**	**0.196**	**0.087**
	Sample Difference							NC	NC	NC	NC	-220	-200	0.007	-0.023
	RPD							NC	NC	NC	NC	2%	2%	-4%	23%
	abs (RPD)							NC	NC	NC	NC	2%	2%	4%	23%
EFF-01	**EFF-01**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**2.1**	**0.53 *UJ***	**3.78**	**0.36**	**831**	**10.9 *UJ***	**0.714**	**0.026 *U***
EFF-01	**WQ-20**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**1.96**	**0.52 *UJ***	**3.58**	**0.36**	**740**	**16.7 *UJ***	**0.697**	**0.032 *U***
	Sample Difference							-0.14	NC	-0.2	0	-91	NC	-0.017	NC
	RPD							7%	NC	5%	0%	12%	NC	2%	NC
	abs (RPD)							7%	NC	5%	0%	12%	NC	2%	NC
MW-01	**MW-01**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	--	--	**1.77**	**1.24**	**709**	**668**	**0.453**	**0.334**
MW-01	**MW-20**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	--	--	**1.81**	**1.21**	**698**	**663**	**0.438**	**0.321**
	Sample Difference							NC	NC	0.04	-0.03	-11	-5	-0.015	-0.013
	RPD							NC	NC	-2%	2%	2%	1%	3%	4%
	abs (RPD)							NC	NC	2%	2%	2%	1%	3%	4%
MW-04	**MW-04**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	--	--	**1.9**	**0.69**	**10700 *J***	**10200 *J***	**0.285**	**0.097**
MW-04	**MW-20**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	--	--	**1.91**	**0.66**	**11100 *J***	**10500 *J***	**0.287**	**0.094**
	Sample Difference							NC	NC	0.01	-0.03	NC	NC	0.002	-0.003
	RPD							NC	NC	-1%	4%	NC	NC	-1%	3%
	abs (RPD)							NC	NC	1%	4%	NC	NC	1%	3%
MW-01	**MW-01**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	--	--	**1.65**	**0.91**	**386**	**320**	**0.462**	**0.218**
MW-01	**MW-20**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	--	--	**1.72**	**0.9**	**396**	**339**	**0.468**	**0.219**
	Sample Difference							NC	NC	0.07	-0.01	10	19	0.006	0.001
	RPD							NC	NC	-4%	1%	-3%	-6%	-1%	0%
	abs (RPD)							NC	NC	4%	1%	3%	6%	1%	0%
MW-04	**MW-04**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	--	--	**0.5**	**0.35 *U***	**5320 *J***	**5000 *J***	**0.041**	**0.03 *UJ***
MW-04	**MW-20**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	--	--	**0.5**	**0.31 *U***	**5690 *J***	**6380 *J***	**0.041**	**0.028 *UJ***
	Sample Difference							NC	NC	0	NC	NC	NC	0	NC
	RPD							NC	NC	0%	NC	NC	NC	0%	NC
	abs (RPD)							NC	NC	0%	NC	NC	NC	0%	NC
EFF-01	**EFF-01**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**5.11**	**2.1**	**63.5**	**6.39**	**1660**	**8.2 *UJ***	**0.342**	**0.005 *UJ***
EFF-01	**WQ-20**	**K1106865**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	--	--	**57.3**	**5.53**	**1600**	**0.8 *UJ***	**0.332**	**0.005 *UJ***
	Sample Difference							NC	NC	-6.2	-0.86	-60	NC	-0.01	NC
	RPD							NC	NC	10%	14%	4%	NC	3%	NC
	abs (RPD)							NC	NC	10%	14%	4%	NC	3%	NC
MW-04	**MW-04**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	--	--	**0.81**	**1.69**	**6150**	**5700**	**0.138**	**0.112**
MW-04	**MW-20**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	--	--	**0.73**	**0.62**	**5650**	**6880**	**0.03 *UJ***	**0.029 *UJ***
	Sample Difference							NC	NC	-0.08	-1.07	-500	1180	NC	NC
	RPD							NC	NC	10%	93%	8%	-19%	NC	NC
	abs (RPD)							NC	NC	10%	93%	8%	19%	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total	Copper (µg/L), Dissolved	Iron (µg/L), Total	Iron (µg/L), Dissolved	Lead (µg/L), Total	Lead (µg/L), Dissolved
EFF-01	**EFF-01**	**K1108476**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**5.61**	**0.75**	**46.6**	**20.1**	**1770 *J***	**234 *J***	**0.27**	**0.052 *UJ***
EFF-01	**EFF-01**	**K1108477**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**5.61**	**0.75**	**46.6**	**20.1**	**1770 *J***	**234 *J***	**0.27**	**0.052 *UJ***
	Sample Difference							0	0	0	0	NC	NC	0	NC
	RPD							0%	0%	0%	0%	NC	NC	0%	NC
	abs (RPD)							0%	0%	0%	0%	NC	NC	0%	NC
MW-04	**MW-04**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	--	--	**2.43**	**0.6**	**7430**	**5540**	**0.911 *J***	**0.056**
MW-04	**MW-20**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	--	--	**1.87**	**0.65**	**6900**	**5690**	**0.536 *J***	**0.057**
	Sample Difference							NC	NC	-0.56	0.05	-530	150	NC	0.001
	RPD							NC	NC	26%	-8%	7%	-3%	NC	-2%
	abs (RPD)							NC	NC	26%	8%	7%	3%	NC	2%

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
MW-04	**MW-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**3800**	**370**	**0.025**	**0.02 *U***	**9.7**	**1.6**	**2000 *U***	**2000 *U***
MW-04	**MW-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**5410**	**390**	**0.03**	**0.02 *U***	**12**	**1 *U***	**2000 *U***	**2000 *U***
	Sample Difference							1610	20	0.005	NC	2.3	NC	NC	NC
	RPD							-35%	-5%	-18%	NC	-21%	NC	NC	NC
	abs (RPD)							35%	5%	18%	NC	21%	NC	NC	NC
MW-07	**MW-07**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**1160**	**950**	**0.05 *U***	**0.05 *U***	**5**	**1.39**	**2000 *U***	**2000 *U***
MW-07	**MW-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**1230**	**970**	**0.05 *U***	**0.05 *U***	**4**	**1.24**	**2000 *U***	**2000 *U***
	Sample Difference							70	20	NC	NC	-1	-0.15	NC	NC
	RPD							-6%	-2%	NC	NC	22%	11%	NC	NC
	abs (RPD)							6%	2%	NC	NC	22%	11%	NC	NC
MW-03	**MW-03**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**3510**	**490**	**0.05 *U***	**0.05 *U***	**3.79**	**1.88**	**2000 *U***	**2000 *U***
MW-03	**MW-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**1920**	**460**	**0.05 *U***	**0.05 *U***	**2.62**	**1.1**	**2000 *U***	**2000 *U***
	Sample Difference							-1590	-30	NC	NC	-1.17	-0.78	NC	NC
	RPD							59%	6%	NC	NC	37%	52%	NC	NC
	abs (RPD)							59%	6%	NC	NC	37%	52%	NC	NC
MW-01	**MW-01**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**1580**	**1630**	**0.01 *U***	**0.01 *U***	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
MW-01	**MW-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**1620**	**1620**	**0.01 *U***	**0.01 *U***	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***
	Sample Difference							40	-10	NC	NC	NC	NC	NC	NC
	RPD							-3%	1%	NC	NC	NC	NC	NC	NC
	abs (RPD)							3%	1%	NC	NC	NC	NC	NC	NC
MW-09	**MW-09**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**1780**	**1370**	**0.01 *U***	**0.01 *U***	**2.06**	**0.5 *U***	**2000 *U***	**2000 *U***
MW-09	**MW-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	**1800**	**1340**	**0.01 *U***	**0.01 *U***	**1.03**	**0.5 *U***	**2000 *U***	**2000 *U***
	Sample Difference							20	-30	NC	NC	-1.03	NC	NC	NC
	RPD							-1%	2%	NC	NC	67%	NC	NC	NC
	abs (RPD)							1%	2%	NC	NC	67%	NC	NC	NC
MW-08	**MW-08**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**1030**	**996**	**0.03 *U***	**0.03 *U***	**1.08**	**1.15**	**900 *U***	**900 *U***
MW-08	**MW-20**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**1000**	**995**	**0.03 *U***	**0.03 *U***	**1.03**	**1.2**	**900 *U***	**900 *U***
	Sample Difference							-30	-1	NC	NC	-0.05	0.05	NC	NC
	RPD							3%	0%	NC	NC	5%	-4%	NC	NC
	abs (RPD)							3%	0%	NC	NC	5%	4%	NC	NC
MW-01	**MW-01**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**1440**	**1400**	**0.03 *U***	**0.03 *U***	**4.03 *UJ***	**4.18 *J***	**900 *U***	**900 *U***
MW-01	**MW-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**1410**	**1440**	**0.03 *U***	**0.03 *U***	**3.63 *UJ***	**3.21 *J***	**900 *U***	**968 *J***
	Sample Difference							-30	40	NC	NC	NC	NC	NC	NC
	RPD							2%	-3%	NC	NC	NC	NC	NC	NC
	abs (RPD)							2%	3%	NC	NC	NC	NC	NC	NC
MW-08	**MW-08**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**891**	**884**	**0.03 *U***	**0.03 *U***	**0.42**	**0.47**	**1520 *U***	**1100 *U***
MW-08	**MW-20**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**932**	**914**	**0.03 *U***	**0.03 *U***	**0.42**	**0.6**	**1110 *U***	**900 *U***
	Sample Difference							41	30	NC	NC	0	0.13	NC	NC
	RPD							-4%	-3%	NC	NC	0%	-24%	NC	NC
	abs (RPD)							4%	3%	NC	NC	0%	24%	NC	NC
MW-07	**MW-07**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**969**	**962**	**0.03 *U***	**0.03 *U***	**0.97**	**0.96**	**900 *U***	**900 *U***
MW-07	**MW-20**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**993**	**929**	**0.03 *U***	**0.03 *U***	**0.77**	**0.73 *UJ***	**900 *U***	**900 *U***
	Sample Difference							24	-33	NC	NC	-0.2	NC	NC	NC
	RPD							-2%	3%	NC	NC	23%	NC	NC	NC
	abs (RPD)							2%	3%	NC	NC	23%	NC	NC	NC
MW-08	**MW-08**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**1010**	**987**	**0.03 *U***	**0.03 *U***	**0.61**	**0.84**	**900 *U***	**900 *U***
MW-08	**MW-20**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**1020**	**1010**	**0.03 *U***	**0.03 *U***	**0.68**	**0.74**	**900 *U***	**900 *U***
	Sample Difference							10	23	NC	NC	0.07	-0.1	NC	NC
	RPD							-1%	-2%	NC	NC	-11%	13%	NC	NC
	abs (RPD)							1%	2%	NC	NC	11%	13%	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
MW-01	**MW-01**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**1060**	**1100**	**0.03 *U***	**0.03 *U***	**0.47**	**1.21**	**900 *U***	**900 *U***
MW-01	**MW-20**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**1070**	**1090**	**0.03 *U***	**0.03 *U***	**0.51**	**0.63**	**900 *U***	**900 *U***
	Sample Difference							10	-10	NC	NC	0.04	-0.58	NC	NC
	RPD							-1%	1%	NC	NC	-8%	63%	NC	NC
	abs (RPD)							1%	1%	NC	NC	8%	63%	NC	NC
MW-04	**MW-04**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**1030**	**989**	**0.03 *J***	**0.03 *U***	**1.22**	**1.2**	**900 *U***	**900 *U***
MW-04	**MW-20**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**1060**	**1030**	**0.03 *U***	**0.03 *U***	**1.2**	**1.52**	**900 *U***	**900 *U***
	Sample Difference							30	41	NC	NC	-0.02	0.32	NC	NC
	RPD							-3%	-4%	NC	NC	2%	-24%	NC	NC
	abs (RPD)							3%	4%	NC	NC	2%	24%	NC	NC
MW-01	**MW-01**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**1630**	**909**	**0.03 *J***	**0.03 *U***	**3.3**	**0.73**	**900 *U***	**900 *U***
MW-01	**MW-20**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**1040**	**922**	**0.03 *U***	**0.03 *U***	**0.59**	**0.53**	**900 *U***	**900 *U***
	Sample Difference							-590	13	NC	NC	-2.71	-0.2	NC	NC
	RPD							44%	-1%	NC	NC	139%	32%	NC	NC
	abs (RPD)							44%	1%	NC	NC	139%	32%	NC	NC
MW-03	**MW-03**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**643 *J***	**559 *J***	**0.03 *U***	**0.03 *U***	**0.36 *UJ***	**0.86**	**356 *UJ***	**263 *UJ***
MW-03	**MW-20**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**633 *J***	**566 *J***	**0.03 *U***	**0.03 *U***	**0.44 *UJ***	**0.54**	**376 *UJ***	**243 *UJ***
	Sample Difference							NC	NC	NC	NC	NC	-0.32	NC	NC
	RPD							NC	NC	NC	NC	NC	46%	NC	NC
	abs (RPD)							NC	NC	NC	NC	NC	46%	NC	NC
MW-08	**MW-08**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**1010**	**1030**	**0.03 *U***	**0.03 *U***	**5.11**	**0.94**	**900 *U***	**900 *U***
MW-08	**MW-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**1020**	**1010**	**0.03 *U***	**0.03 *U***	**0.87**	**0.91**	**900 *U***	**900 *U***
	Sample Difference							10	-20	NC	NC	-4.24	-0.03	NC	NC
	RPD							-1%	2%	NC	NC	142%	3%	NC	NC
	abs (RPD)							1%	2%	NC	NC	142%	3%	NC	NC
MW-09	**MW-09**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**2930 *J***	**1040 *J***	**0.03 *U***	**0.03 *U***	**2.6**	**1.52**	**617 *J***	**431 *J***
MW-09	**MW-20**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**1750 *J***	**1020 *J***	**0.03 *U***	**0.03 *U***	**1.98**	**1.47**	**523 *J***	**415 *J***
	Sample Difference							NC	NC	NC	NC	-0.62	-0.05	NC	NC
	RPD							NC	NC	NC	NC	27%	3%	NC	NC
	abs (RPD)							NC	NC	NC	NC	27%	3%	NC	NC
EFF-01	**EFF-01**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**1420**	**494**	**0.03 *U***	**0.03 *U***	**1.96**	**0.78**	**5760**	**5580**
EFF-01	**EFF-02**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**1380**	**499**	**0.03 *U***	**0.03 *U***	**1.77**	**0.68**	**5670**	**5680**
	Sample Difference							-40	5	NC	NC	-0.19	-0.1	-90	100
	RPD							3%	-1%	NC	NC	10%	14%	2%	-2%
	abs (RPD)							3%	1%	NC	NC	10%	14%	NC	NC
MW-07	**MW-07**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**588**	**547**	**0.03 *U***	**0.03 *U***	**0.46 *UJ***	**0.49**	**177 *J***	**164 *UJ***
MW-07	**MW-20**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**586**	**565**	**0.03 *U***	**0.03 *U***	**0.41 *UJ***	**0.46**	**188 *J***	**174 *UJ***
	Sample Difference							-2	18	NC	NC	NC	-0.03	NC	NC
	RPD							0%	-3%	NC	NC	NC	6%	NC	NC
	abs (RPD)							0%	3%	NC	NC	NC	6%	NC	NC
MW-04	**MW-04**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**833**	**769**	**0.03 *UJ***	**0.03 *UJ***	**0.7**	**0.82**	**276 *J***	**319 *J***
MW-04	**MW-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**834**	**776**	**0.03 *UJ***	**0.03 *UJ***	**0.68**	**0.77**	**253 *J***	**224 *J***
	Sample Difference							1	7	NC	NC	-0.02	-0.05	NC	NC
	RPD							0%	-1%	NC	NC	3%	6%	NC	NC
	abs (RPD)							0%	1%	NC	NC	3%	6%	NC	NC
MW-07	**MW-07**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**839**	**633**	**0.05 *U***	**0.05 *U***	**0.5 *UJ***	**0.36 *UJ***	**204 *J***	**209 *J***
MW-07	**MW-20**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**874**	**636**	**0.05 *U***	**0.05 *U***	**1.41**	**0.38 *UJ***	**225 *J***	**217 *J***
	Sample Difference							35	3	NC	NC	NC	NC	NC	NC
	RPD							-4%	0%	NC	NC	NC	NC	NC	NC
	abs (RPD)							4%	0%	NC	NC	NC	NC	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
MW-01	**MW-01**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**1120 *R***	**1090 *R***	**0.05 *U***	**0.05 *U***	**0.87**	**1.05**	**100 *U***	**100 *U***
MW-01	**MW-20**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**1130 *R***	**1070 *R***	**0.05 *U***	**0.05 *U***	**0.87**	**0.82**	**100 *U***	**100 *U***
	Sample Difference							NC	NC	NC	NC	0	-0.23	NC	NC
	RPD							NC	NC	NC	NC	0%	25%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	25%	NC	NC
MW-04	**MW-04**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**1430**	**1090**	**0.05 *U***	**0.05 *U***	**1.02**	**0.73**	**1020 *J***	**985 *J***
MW-04	**MW-20**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**1230**	**1080**	**0.05 *U***	**0.05 *U***	**0.81**	**0.72**	**1030 *J***	**980 *J***
	Sample Difference							-200	-10	NC	NC	-0.21	-0.01	NC	NC
	RPD							15%	1%	NC	NC	23%	1%	NC	NC
	abs (RPD)							15%	1%	NC	NC	23%	1%	NC	NC
MW-01	**MW-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**1030**	**1190**	**0.05 *U***	**0.05 *U***	**0.66**	**0.4 *UJ***	**133 *UJ***	**131 *UJ***
MW-01	**MW-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**1160**	**1140**	**0.05 *U***	**0.05 *U***	**0.57 *UJ***	**0.4 *UJ***	**121 *UJ***	**153 *UJ***
	Sample Difference							130	-50	NC	NC	NC	NC	NC	NC
	RPD							-12%	4%	NC	NC	NC	NC	NC	NC
	abs (RPD)							12%	4%	NC	NC	NC	NC	NC	NC
EFF-01	**EFF-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**3630**	**3490**	**0.05 *U***	**0.05 *U***	**1.29**	**0.94**	**844 *J***	**826 *J***
EFF-01	**WQ-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**3720**	**3450**	**0.05 *U***	**0.05 *U***	**1.12**	**0.95**	**850 *J***	**804 *J***
	Sample Difference							90	-40	NC	NC	-0.17	0.01	NC	NC
	RPD							-2%	1%	NC	NC	14%	-1%	NC	NC
	abs (RPD)							2%	1%	NC	NC	14%	1%	NC	NC
MW-01	**MW-01**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**974**	**994**	**0.05 *U***	**0.05 *U***	**0.79**	**0.04 *UJ***	**122 *UJ***	**52 *UJ***
MW-01	**MW-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**1000**	**932**	**0.05 *U***	**0.05 *U***	**0.24 *UJ***	**0.14 *UJ***	**99 *UJ***	**50 *UJ***
	Sample Difference							26	-62	NC	NC	NC	NC	NC	NC
	RPD							-3%	6%	NC	NC	NC	NC	NC	NC
	abs (RPD)							3%	6%	NC	NC	NC	NC	NC	NC
MW-01	**MW-01**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**915**	**929**	**0.05 *U***	**0.05 *U***	**0.44 *U***	**0.42 *UJ***	**50 *U***	**50 *U***
MW-01	**MW-20**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**940**	**966**	**0.05 *U***	**0.05 *U***	**0.4 *U***	**0.42 *UJ***	**50 *U***	**50 *U***
	Sample Difference							25	37	NC	NC	NC	NC	NC	NC
	RPD							-3%	-4%	NC	NC	NC	NC	NC	NC
	abs (RPD)							3%	4%	NC	NC	NC	NC	NC	NC
MW-04	**MW-04**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**1320**	**1250**	**0.02 *U***	**0.02 *U***	**0.86**	**1.06**	**531**	**520**
MW-04	**MW-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**1380**	**1260**	**0.02 *U***	**0.02 *U***	**0.72**	**0.83**	**546**	**516**
	Sample Difference							60	10	NC	NC	-0.14	-0.23	15	-4
	RPD							-4%	-1%	NC	NC	18%	24%	-3%	1%
	abs (RPD)							4%	1%	NC	NC	18%	24%	NC	NC
MW-04	**MW-04**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**1490**	**1230**	**0.02 *U***	**0.02 *U***	**1.04**	**1.14**	**724**	**683**
MW-04	**MW-20**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**1490**	**1270**	**0.02 *U***	**0.02 *U***	**1.01**	**0.84**	**695**	**637**
	Sample Difference							0	40	NC	NC	-0.03	-0.3	-29	-46
	RPD							0%	-3%	NC	NC	3%	30%	4%	7%
	abs (RPD)							0%	3%	NC	NC	3%	30%	NC	NC
MW-04	**MW-04**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**1700**	**1780**	**0.02 *U***	**0.02 *U***	**0.81**	**1.2**	**842**	**860**
MW-04	**MW-20**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**1670**	**1700**	**0.02 *U***	**0.02 *U***	**0.82**	**0.87**	**842**	**821**
	Sample Difference							-30	-80	NC	NC	0.01	-0.33	0	-39
	RPD							2%	5%	NC	NC	-1%	32%	0%	5%
	abs (RPD)							2%	5%	NC	NC	1%	32%	NC	NC
MW-01	**MW-01**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:02**	**1090**	**1110**	**0.02 *U***	**0.02 *U***	**0.35 *UJ***	**0.4**	**47 *J***	**40 *U***
MW-01	**MW-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:10**	**1090**	**1130**	**0.02 *U***	**0.02 *U***	**0.31 *UJ***	**0.36 *J***	**52 *J***	**46 *J***
	Sample Difference							0	20	NC	NC	NC	NC	NC	NC
	RPD							0%	-2%	NC	NC	NC	NC	NC	NC
	abs (RPD)							0%	2%	NC	NC	NC	NC	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
MW-04	**MW-04**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	**1050 *J***	**995 *J***	**0.02 *U***	**0.02 *U***	**0.67**	**0.82**	**420**	**409**
MW-04	**MW-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	**1060 *J***	**1060 *J***	**0.02 *U***	**0.02 *U***	**0.68**	**0.66**	**425**	**444**
	Sample Difference							NC	NC	NC	NC	0.01	-0.16	5	35
	RPD							NC	NC	NC	NC	-1%	22%	-1%	-8%
	abs (RPD)							NC	NC	NC	NC	1%	22%	NC	NC
MW-04	**MW-04**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	**1360 *J***	**1370 *J***	**0.02 *U***	**0.02 *U***	**0.62**	**0.85**	**633**	**608**
MW-04	**MW-20**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	**1340 *J***	**1360 *J***	**0.02 *U***	**0.02 *U***	**0.64**	**0.65**	**608**	**614**
	Sample Difference							NC	NC	NC	NC	0.02	-0.2	-25	6
	RPD							NC	NC	NC	NC	-3%	27%	4%	-1%
	abs (RPD)							NC	NC	NC	NC	3%	27%	NC	NC
EFF-01	**EFF-01**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**4130**	**3750**	**0.02 *U***	**0.02 *U***	**1.36**	**0.91**	**391 *J***	**379 *J***
EFF-01	**WQ-20**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**4090**	**3680**	**0.02 *U***	**0.02 *U***	**1.33**	**0.86**	**411**	**367 *J***
	Sample Difference							-40	-70	NC	NC	-0.03	-0.05	NC	NC
	RPD							1%	2%	NC	NC	2%	6%	NC	NC
	abs (RPD)							1%	2%	NC	NC	2%	6%	NC	NC
MW-01	**MW-01**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	**1510**	**1480**	**0.02 *U***	**0.02 *U***	**0.6 *UJ***	**0.54 *UJ***	**70 *J***	**69 *J***
MW-01	**MW-20**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	**1490**	**1480**	**0.02 *U***	**0.02 *U***	**0.62 *UJ***	**0.49 *UJ***	**64 *J***	**77 *J***
	Sample Difference							-20	0	NC	NC	NC	NC	NC	NC
	RPD							1%	0%	NC	NC	NC	NC	NC	NC
	abs (RPD)							1%	0%	NC	NC	NC	NC	NC	NC
MW-04	**MW-04**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	**1860**	**1820**	**0.02 *U***	**0.02 *U***	**0.48 *U***	**0.7 *U***	**449**	**448**
MW-04	**MW-20**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	**1910**	**1870**	**0.02 *U***	**0.02 *U***	**0.48 *U***	**0.47 *U***	**447**	**458**
	Sample Difference							50	50	NC	NC	NC	NC	-2	10
	RPD							-3%	-3%	NC	NC	NC	NC	0%	-2%
	abs (RPD)							3%	3%	NC	NC	NC	NC	NC	NC
MW-01	**MW-01**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	**1160**	**1140**	**0.02 *U***	**0.02 *U***	**0.33 *UJ***	**0.41**	**41 *J***	**51 *J***
MW-01	**MW-20**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	**1170**	**1160**	**0.02 *U***	**0.02 *U***	**0.42 *UJ***	**0.37 *J***	**57 *J***	**41 *J***
	Sample Difference							10	20	NC	NC	NC	NC	NC	NC
	RPD							-1%	-2%	NC	NC	NC	NC	NC	NC
	abs (RPD)							1%	2%	NC	NC	NC	NC	NC	NC
MW-04	**MW-04**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	**2420**	**2360**	**0.02 *U***	**0.02 *U***	**0.67 *UJ***	**0.67 *U***	**602**	**599**
MW-04	**MW-20**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	**2390**	**2410**	**0.02 *U***	**0.02 *U***	**0.46 *UJ***	**0.56 *U***	**604**	**579**
	Sample Difference							-30	50	NC	NC	NC	NC	2	-20
	RPD							1%	-2%	NC	NC	NC	NC	0%	3%
	abs (RPD)							1%	2%	NC	NC	NC	NC	NC	NC
EFF-01	**EFF-01**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**2800**	**2110**	**0.02 *UJ***	**0.02 *UJ***	**1.34**	**0.33**	**675**	**654**
EFF-01	**WQ-20**	**K1106865**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**2710**	**2130**	**0.02 *UJ***	**0.02 *UJ***	**1.19**	**0.34**	**688**	**654**
	Sample Difference							-90	20	NC	NC	-0.15	0.01	13	0
	RPD							3%	-1%	NC	NC	12%	-3%	-2%	0%
	abs (RPD)							3%	1%	NC	NC	12%	3%	NC	NC
MW-04	**MW-04**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**2530**	**2470**	**0.02 *UJ***	**0.02 *UJ***	**0.61 *UJ***	**0.6**	**607**	**578**
MW-04	**MW-20**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**2450**	**2500**	**0.02 *UJ***	**0.02 *UJ***	**0.6 *UJ***	**0.59**	**559**	**564**
	Sample Difference							-80	30	NC	NC	NC	-0.01	-48	-14
	RPD							3%	-1%	NC	NC	NC	2%	8%	2%
	abs (RPD)							3%	1%	NC	NC	NC	2%	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Magnesium (µg/L), Total	Magnesium (µg/L), Dissolved	Mercury (µg/L), Total	Mercury (µg/L), Dissolved	Nickel (µg/L), Total	Nickel (µg/L), Dissolved	Potassium (µg/L), Total	Potassium (µg/L), Dissolved
EFF-01	**EFF-01**	**K1108476**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**2580**	**1960**	**0.02 *U***	**0.02 *U***	**2.24**	**1.36**	**660**	**645**
EFF-01	**EFF-01**	**K1108477**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**2580**	**1960**	**0.02 *U***	**0.02 *U***	**2.24**	**1.36**	**660**	**645**
	Sample Difference							0	0	NC	NC	0	0	0	0
	RPD							0%	0%	NC	NC	0%	0%	0%	0%
	abs (RPD)							0%	0%	NC	NC	0%	0%	NC	NC
MW-04	**MW-04**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	**2070**	**1300**	**0.02 *U***	**0.02 *U***	**1.33**	**0.62**	**332 *J***	**277 *UJ***
MW-04	**MW-20**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	**1860**	**1300**	**0.02 *U***	**0.02 *U***	**0.99**	**0.56**	**321 *J***	**326 *J***
	Sample Difference							-210	0	NC	NC	-0.34	-0.06	NC	NC
	RPD							11%	0%	NC	NC	29%	10%	NC	NC
	abs (RPD)							11%	0%	NC	NC	29%	10%	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW-04	**MW-04**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**1 *U***	**1 *U***	**0.025**	**0.02 *U***	**4200**	**4500**	**20.7**	**8.1**
MW-04	**MW-20**		**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**1 *U***	**1 *U***	**0.033**	**0.02 *U***	**4100**	**4700**	**24.9**	**6.4**
	Sample Difference							NC	NC	0.008	NC	-100	200	4.2	-1.7
	RPD							NC	NC	-28%	NC	2%	-4%	-18%	23%
	abs (RPD)							NC	NC	28%	NC	2%	4%	18%	23%
MW-07	**MW-07**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**1 *U***	**1 *U***	**0.021**	**0.01 *U***	**8400**	**9300**	**23.6**	**9.9**
MW-07	**MW-20**		**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**1 *U***	**1 *U***	**0.022**	**0.01 *U***	**9100**	**9300**	**23.5**	**8.9**
	Sample Difference							NC	NC	0.001	NC	700	0	-0.1	-1
	RPD							NC	NC	-5%	NC	-8%	0%	0%	11%
	abs (RPD)							NC	NC	5%	NC	8%	0%	0%	11%
MW-03	**MW-03**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**1 *U***	**1 *U***	**0.124**	**0.01 *U***	**9300**	**10000**	**22.6**	**8.6**
MW-03	**MW-20**		**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**1 *U***	**1 *U***	**0.05**	**0.01 *U***	**9900**	**10000**	**15.8**	**5.9**
	Sample Difference							NC	NC	-0.074	NC	600	0	-6.8	-2.7
	RPD							NC	NC	85%	NC	-6%	0%	35%	37%
	abs (RPD)							NC	NC	85%	NC	6%	0%	35%	37%
MW-01	**MW-01**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**4800**	**4900**	**3 *U***	**1 *U***
MW-01	**MW-20**		**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**4900**	**4900**	**3 *U***	**1.2**
	Sample Difference							NC	NC	NC	NC	100	0	NC	NC
	RPD							NC	NC	NC	NC	-2%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	0%	NC	NC
MW-09	**MW-09**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**3800**	**3900**	**4 *U***	**1 *U***
MW-09	**MW-20**		**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**3800**	**3900**	**3 *U***	**1 *U***
	Sample Difference							NC	NC	NC	NC	0	0	NC	NC
	RPD							NC	NC	NC	NC	0%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	0%	NC	NC
MW-08	**MW-08**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**0.5 *J***	**0.5 *J***	**0.015 *U***	**0.032 *U***	**5700**	**5530**	**4.05 *U***	**2.5 *U***
MW-08	**MW-20**	**K0706569**		**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**0.5 *J***	**0.5 *J***	**0.009 *U***	**0.009 *U***	**5380**	**5240**	**3.22 *U***	**3.07 *U***
	Sample Difference							NC	NC	NC	NC	-320	-290	NC	NC
	RPD							NC	NC	NC	NC	6%	5%	NC	NC
	abs (RPD)							NC	NC	NC	NC	6%	5%	NC	NC
MW-01	**MW-01**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**0.5 *U***	**0.5 *U***	**0.018 *U***	**0.013 *U***	**4550**	**4400**	**4.02 *J***	**2.83 *U***
MW-01	**MW-20**	**K0707317**		**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**0.6 *U***	**0.5 *U***	**0.009 *U***	**0.009 *U***	**4420**	**4530**	**7.03 *J***	**2.1 *U***
	Sample Difference							NC	NC	NC	NC	-130	130	NC	NC
	RPD							NC	NC	NC	NC	3%	-3%	NC	NC
	abs (RPD)							NC	NC	NC	NC	3%	3%	NC	NC
MW-08	**MW-08**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**0.2 *U***	**0.2 *U***	**0.01 *U***	**0.008 *U***	**5310**	**5370**	**1.97 *U***	**1.75 *U***
MW-08	**MW-20**	**K0707782**		**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**0.2 *U***	**0.2 *U***	**0.007 *U***	**0.003 *U***	**5700**	**5660**	**2.99 *U***	**1.93 *U***
	Sample Difference							NC	NC	NC	NC	390	290	NC	NC
	RPD							NC	NC	NC	NC	-7%	-5%	NC	NC
	abs (RPD)							NC	NC	NC	NC	7%	5%	NC	NC
MW-07	**MW-07**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**0.4 *J***	**0.5 *J***	**0.019 *UJ***	**0.014 *UJ***	**6250**	**6290**	**9.9 *U***	**7.3 *U***
MW-07	**MW-20**	**K0708240**		**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**0.7 *J***	**0.6 *J***	**0.046 *UJ***	**0.009 *U***	**6680**	**6250**	**9.8 *U***	**45.9 *J***
	Sample Difference							NC	NC	NC	NC	430	-40	NC	NC
	RPD							NC	NC	NC	NC	-7%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	7%	1%	NC	NC
MW-08	**MW-08**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**0.5 *J***	**0.6 *J***	**0.009 *U***	**0.009 *U***	**4860**	**4830**	**3.42 *U***	**3.38 *U***
MW-08	**MW-20**	**K0709126**		**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**0.5 *J***	**0.6 *J***	**0.009 *U***	**0.009 *U***	**4970**	**4800**	**2.27 *U***	**2.73 *U***
	Sample Difference							NC	NC	NC	NC	110	-30	NC	NC
	RPD							NC	NC	NC	NC	-2%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	1%	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW-01	**MW-01**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**0.2 *U***	**0.3 *J***	**0.009 *U***	**0.009 *U***	**6350**	**6890**	**4.56 *U***	**3.9 *U***
MW-01	**MW-20**	**K0709804**		**Integral**	**October 2007**	**10/16/2007**	**12:25**	**0.2 *J***	**0.3 *J***	**0.009 *U***	**0.009 *U***	**6370**	**6520**	**4.81 *U***	**3.31 *U***
	Sample Difference							NC	NC	NC	NC	20	-370	NC	NC
	RPD							NC	NC	NC	NC	0%	6%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	6%	NC	NC
MW-04	**MW-04**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**0.7 *J***	**0.8 *J***	**0.009 *UJ***	**0.009 *U***	**4680**	**4200**	**9.99**	**9.83 *U***
MW-04	**MW-20**	**K0710773**		**Integral**	**November 2007**	**11/12/2007**	**11:50**	**0.8 *J***	**0.8 *J***	**0.023 *UJ***	**0.01 *UJ***	**4480**	**4400**	**13.5**	**15.1 *U***
	Sample Difference							NC	NC	NC	NC	-200	200	3.51	NC
	RPD							NC	NC	NC	NC	4%	-5%	-30%	NC
	abs (RPD)							NC	NC	NC	NC	4%	5%	30%	NC
MW-01	**MW-01**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**0.7 *J***	**0.2 *U***	**0.104**	**0.027 *UJ***	**5440**	**4960**	**25.1 *J***	**5.93 *U***
MW-01	**MW-20**	**K0711891**		**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**0.2 *U***	**0.2 *U***	**0.017 *UJ***	**0.017 *UJ***	**5150**	**5050**	**8.66 *J***	**5.1 *U***
	Sample Difference							NC	NC	NC	NC	-290	90	NC	NC
	RPD							NC	NC	NC	NC	5%	-2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	5%	2%	NC	NC
MW-03	**MW-03**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**0.4 *J***	**0.4 *U***	**0.039 *J***	**0.006 *J***	**4570**	**4790**	**10.6 *J***	**7 *U***
MW-03	**MW-20**	**K0800335**		**Integral**	**January 2008**	**1/8/2008**	**13:18**	**0.3 *J***	**0.4 *U***	**0.013 *J***	**0.004 *U***	**4520**	**4780**	**7.4 *U***	**5.9 *U***
	Sample Difference							NC	NC	NC	NC	-50	-10	NC	NC
	RPD							NC	NC	NC	NC	1%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	0%	NC	NC
MW-08	**MW-08**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**1.2**	**0.4 *J***	**0.005 *UJ***	**0.009 *UJ***	**4440**	**4660**	**2.4 *U***	**4.96 *U***
MW-08	**MW-20**	**K0801400**		**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**0.4 *J***	**0.5 *J***	**0.009 *UJ***	**0.009 *UJ***	**4610**	**4560**	**2.6 *U***	**3.58 *U***
	Sample Difference							NC	NC	NC	NC	170	-100	NC	NC
	RPD							NC	NC	NC	NC	-4%	2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	4%	2%	NC	NC
MW-09	**MW-09**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**0.4 *U***	**0.6 *J***	**0.048 *UJ***	**0.08 *UJ***	**3560**	**3460**	**7 *U***	**2.4 *U***
MW-09	**MW-20**	**K0802328**		**Integral**	**March 2008**	**3/13/2008**	**16:15**	**0.6 *J***	**0.4 *U***	**0.023 *UJ***	**0.005 *UJ***	**3580**	**3470**	**5.7 *U***	**3.7 *U***
	Sample Difference							NC	NC	NC	NC	20	10	NC	NC
	RPD							NC	NC	NC	NC	-1%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	0%	NC	NC
EFF-01	**EFF-01**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**1 *J***	**0.5 *J***	**0.009 *R***	**0.009 *R***	**21100**	**20400**	**8.18 *U***	**0.71 *U***
EFF-01	**EFF-02**	**K0803239**		**Integral**	**April 2008**	**4/15/2008**	**8:30**	**1.1**	**0.6 *J***	**0.009 *R***	**0.009 *R***	**21000**	**20500**	**7.84 *U***	**1.04 *U***
	Sample Difference							NC	NC	NC	NC	-100	100	NC	NC
	RPD							NC	NC	NC	NC	0%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	0%	0%	NC	NC
MW-07	**MW-07**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**0.3 *J***	**0.2 *U***	**0.19 *R***	**0.009 *R***	**5370**	**5290**	**5.74 *U***	**3.2 *U***
MW-07	**MW-20**	**K0803239**		**Integral**	**April 2008**	**4/13/2008**	**15:45**	**0.2 *U***	**0.2 *U***	**0.049 *R***	**0.009 *R***	**5280**	**5500**	**6.3 *U***	**2.55 *U***
	Sample Difference							NC	NC	NC	NC	-90	210	NC	NC
	RPD							NC	NC	NC	NC	2%	-4%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	4%	NC	NC
MW-04	**MW-04**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**0.4 *U***	**0.4 *U***	**0.005 *UJ***	**0.033 *UJ***	**5370**	**5420**	**8.9 *U***	**21.5 *J***
MW-04	**MW-20**	**K0804080**		**Integral**	**May 2008**	**5/8/2008**	**15:50**	**0.4 *U***	**0.4 *U***	**0.006 *UJ***	**0.005 *UJ***	**5450**	**5330**	**8.3 *U***	**5.58 *U***
	Sample Difference							NC	NC	NC	NC	80	-90	NC	NC
	RPD							NC	NC	NC	NC	-1%	2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	2%	NC	NC
MW-07	**MW-07**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**0.5 *U***	**0.5 *U***	**0.023 *UJ***	**0.009 *UJ***	**4920**	**5010**	**25.3**	**5.2 *U***
MW-07	**MW-20**	**K0805877**		**Integral**	**June 2008**	**6/26/2008**	**13:30**	**0.5 *U***	**0.5 *U***	**0.022 *UJ***	**0.009 *UJ***	**5010**	**5060**	**14.6 *J***	**2.3 *U***
	Sample Difference							NC	NC	NC	NC	90	50	NC	NC
	RPD							NC	NC	NC	NC	-2%	-1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	1%	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW-01	**MW-01**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**0.4 *U***	**0.4 *U***	**0.048 *UJ***	**0.054 *UJ***	**4120**	**3960**	**6.6 *U***	**1.6 *U***
MW-01	**MW-20**	**K0806880**		**Integral**	**July 2008**	**7/24/2008**	**13:35**	**0.4 *J***	**0.4 *U***	**0.015 *UJ***	**0.01 *UJ***	**4170**	**4040**	**19.3 *U***	**1.8 *U***
	Sample Difference							NC	NC	NC	NC	50	80	NC	NC
	RPD							NC	NC	NC	NC	-1%	-2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	2%	NC	NC
MW-04	**MW-04**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**0.4 *UJ***	**0.4 *U***	**0.02 *UJ***	**0.009 *UJ***	**10800**	**10500**	**13.9 *U***	**15.8 *U***
MW-04	**MW-20**	**K0807975**		**Integral**	**August 2008**	**8/19/2008**	**10:15**	**0.4 *UJ***	**0.4 *U***	**0.037 *UJ***	**0.016 *UJ***	**10900**	**10900**	**15.9 *U***	**15.1 *U***
	Sample Difference							NC	NC	NC	NC	100	400	NC	NC
	RPD							NC	NC	NC	NC	-1%	-4%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	4%	NC	NC
MW-01	**MW-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**0.5 *U***	**0.5 *U***	**0.012 *UJ***	**0.009 *UJ***	**4020**	**4260**	**6.31 *U***	**2.43 *U***
MW-01	**MW-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**13:30**	**0.5 *U***	**0.5 *U***	**0.011 *UJ***	**0.009 *UJ***	**4210**	**3920**	**5.17 *U***	**2.3 *U***
	Sample Difference							NC	NC	NC	NC	190	-340	NC	NC
	RPD							NC	NC	NC	NC	-5%	8%	NC	NC
	abs (RPD)							NC	NC	NC	NC	5%	8%	NC	NC
EFF-01	**EFF-01**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**0.6 *J***	**0.6 *J***	**0.077 *UJ***	**0.02 *UJ***	**8010**	**8110**	**14.1 *U***	**7.7 *U***
EFF-01	**WQ-20**	**K0808787**		**Integral**	**September 2008**	**9/9/2008**	**15:30**	**0.5 *J***	**0.7 *J***	**0.081 *UJ***	**0.025 *UJ***	**8330**	**7830**	**11.4 *U***	**4.03 *U***
	Sample Difference							NC	NC	NC	NC	320	-280	NC	NC
	RPD							NC	NC	NC	NC	-4%	4%	NC	NC
	abs (RPD)							NC	NC	NC	NC	4%	4%	NC	NC
MW-01	**MW-01**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**0.5 *U***	**0.5 *U***	**0.011 *J***	**0.009 *U***	**4050**	**4170**	**2.41 *U***	**1.25 *U***
MW-01	**MW-20**	**K0810253**		**Integral**	**October 2008**	**10/15/2008**	**15:00**	**0.5 *U***	**0.5 *U***	**0.009 *U***	**0.009 *U***	**3970**	**3930**	**1.82 *U***	**1.53 *U***
	Sample Difference							NC	NC	NC	NC	-80	-240	NC	NC
	RPD							NC	NC	NC	NC	2%	6%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	6%	NC	NC
MW-01	**MW-01**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**0.4 *U***	**0.4 *U***	**0.016 *UJ***	**0.011 *UJ***	**3780**	**3980**	**10 *J***	**6.11 *U***
MW-01	**MW-20**	**K0902142**		**Integral**	**March 2009**	**3/9/2009**	**10:10**	**0.4 *U***	**0.4 *U***	**0.019 *UJ***	**0.013 *UJ***	**3880**	**3930**	**4 *U***	**3.51 *U***
	Sample Difference							NC	NC	NC	NC	100	-50	NC	NC
	RPD							NC	NC	NC	NC	-3%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	3%	1%	NC	NC
MW-04	**MW-04**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**0.4 *U***	**0.4 *U***	**0.012 *UJ***	**0.009 *UJ***	**4310**	**4310**	**20.6 *J***	**20.9 *J***
MW-04	**MW-20**	**K0904395**		**Integral**	**May 2009**	**5/13/2009**	**11:00**	**0.4 *U***	**0.4 *U***	**0.014 *UJ***	**0.009 *UJ***	**4460**	**4220**	**13.4 *J***	**14.7 *J***
	Sample Difference							NC	NC	NC	NC	150	-90	NC	NC
	RPD							NC	NC	NC	NC	-3%	2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	3%	2%	NC	NC
MW-04	**MW-04**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**0.2 *U***	**0.2 *U***	**0.077**	**0.043 *UJ***	**4950**	**4940**	**9.4 *J***	**12.9 *J***
MW-04	**MW-20**	**K0906701**		**Integral**	**July 2009**	**7/23/2009**	**9:20**	**0.2 *U***	**0.2 *U***	**0.075**	**0.035 *UJ***	**5070**	**4970**	**10.4 *J***	**8.69 *U***
	Sample Difference							NC	NC	-0.002	NC	120	30	NC	NC
	RPD							NC	NC	3%	NC	-2%	-1%	NC	NC
	abs (RPD)							NC	NC	3%	NC	2%	1%	NC	NC
MW-04	**MW-04**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**0.4 *J***	**0.3 *J***	**0.019 *UJ***	**0.007 *UJ***	**4760**	**4670**	**4.4 *U***	**2.1 *U***
MW-04	**MW-20**	**K0908619**		**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**0.3 *J***	**0.2 *J***	**0.009 *UJ***	**0.005 *UJ***	**4560**	**4530**	**5.5 *U***	**2.6 *U***
	Sample Difference							NC	NC	NC	NC	-200	-140	NC	NC
	RPD							NC	NC	NC	NC	4%	3%	NC	NC
	abs (RPD)							NC	NC	NC	NC	4%	3%	NC	NC
MW-01	**MW-01**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:02**	**0.3 *U***	**0.3 *U***	**0.128**	**0.109**	**4270**	**4240**	**1.58 *U***	**1.24 *U***
MW-01	**MW-20**	**K0910115**		**Integral**	**October 2009**	**10/17/2009**	**16:10**	**0.3 *U***	**0.3 *U***	**0.022 *UJ***	**0.021 *UJ***	**4200**	**4250**	**1.12 *U***	**1.1 *U***
	Sample Difference							NC	NC	NC	NC	-70	10	NC	NC
	RPD							NC	NC	NC	NC	2%	0%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	0%	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW-04	**MW-04**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	**0.5 *J***	**0.4 *J***	**0.012 *UJ***	**0.006 *UJ***	**4580**	**4460**	**13 *U***	**8.32 *U***
MW-04	**MW-20**	**K1000512**		**Integral**	**January 2010**	**1/15/2010**	**13:34**	**0.4 *J***	**0.5 *J***	**0.011 *UJ***	**0.005 *UJ***	**4640**	**4680**	**14.5 *U***	**10.3 *J***
	Sample Difference							NC	NC	NC	NC	60	220	NC	NC
	RPD							NC	NC	NC	NC	-1%	-5%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	5%	NC	NC
MW-04	**MW-04**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**6400**	**6530**	**6.55 *U***	**5.51 *U***
MW-04	**MW-20**	**K1004032**		**Integral**	**April 2010**	**4/22/2010**	**10:00**	**0.3 *U***	**0.3 *J***	**0.004 *UJ***	**0.004 *UJ***	**6320**	**6470**	**3.73 *U***	**4.82 *U***
	Sample Difference							NC	NC	NC	NC	-80	-60	NC	NC
	RPD							NC	NC	NC	NC	1%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	1%	NC	NC
EFF-01	**EFF-01**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**0.8 *J***	**0.7 *J***	**0.216**	**0.004 *UJ***	**5070**	**4910**	**9.64 *J***	**1.14 *U***
EFF-01	**WQ-20**	**K1007431**		**Integral**	**July 2010**	**7/14/2010**	**08:30**	**0.5 *J***	**0.8 *J***	**0.182**	**0.004 *UJ***	**5250**	**4850**	**8.97 *U***	**1.33 *U***
	Sample Difference							NC	NC	-0.034	NC	180	-60	NC	NC
	RPD							NC	NC	17%	NC	-3%	1%	NC	NC
	abs (RPD)							NC	NC	17%	NC	3%	1%	NC	NC
MW-01	**MW-01**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	**0.3 *U***	**0.3 *U***	**0.016 *UJ***	**0.012 *UJ***	**5190**	**5310**	**4.39 *U***	**4.26 *U***
MW-01	**MW-20**	**K1008751**		**Integral**	**August 2010**	**8/10/2010**	**16:00**	**0.3 *U***	**0.3 *U***	**0.018 *UJ***	**0.007 *UJ***	**5220**	**5030**	**11.6 *J***	**9.44 *UJ***
	Sample Difference							NC	NC	NC	NC	30	-280	NC	NC
	RPD							NC	NC	NC	NC	-1%	5%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	5%	NC	NC
MW-04	**MW-04**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	**0.3 *UJ***	**0.4 *UJ***	**0.042**	**0.023 *UJ***	**5530**	**5470**	**1.1 *U***	**0.7 *U***
MW-04	**MW-20**	**K1011739**		**Integral**	**October 2010**	**10/19/2010**	**10:50**	**0.3 *UJ***	**0.3 *UJ***	**0.041**	**0.02 *UJ***	**5690**	**5660**	**1 *U***	**0.5 *U***
	Sample Difference							NC	NC	-0.001	NC	160	190	NC	NC
	RPD							NC	NC	2%	NC	-3%	-3%	NC	NC
	abs (RPD)							NC	NC	2%	NC	3%	3%	NC	NC
MW-01	**MW-01**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	**0.3 *UJ***	**0.3 *UJ***	**0.004 *UJ***	**0.004 *UJ***	**4960**	**5020**	**2.34 *U***	**2.09 *U***
MW-01	**MW-20**	**K1100642**		**Integral**	**January 2011**	**1/20/2011**	**15:15**	**0.3 *UJ***	**0.3 *UJ***	**0.004 *UJ***	**0.004 *UJ***	**5010**	**5100**	**2.34 *U***	**1.97 *U***
	Sample Difference							NC	NC	NC	NC	50	80	NC	NC
	RPD							NC	NC	NC	NC	-1%	-2%	NC	NC
	abs (RPD)							NC	NC	NC	NC	1%	2%	NC	NC
MW-04	**MW-04**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	**0.3 *J***	**0.3 *U***	**0.007 *UJ***	**0.004 *UJ***	**4780**	**4790**	**1.56 *U***	**1.87 *U***
MW-04	**MW-20**	**K1103541**		**Integral**	**April 2011**	**4/20/2011**	**11:15**	**0.3 *U***	**0.3 *U***	**0.005 *UJ***	**0.004 *UJ***	**4700**	**4730**	**1.66 *U***	**1.68 *U***
	Sample Difference							NC	NC	NC	NC	-80	-60	NC	NC
	RPD							NC	NC	NC	NC	2%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	2%	1%	NC	NC
EFF-01	**EFF-01**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**0.5 *J***	**0.5 *J***	**0.374**	**0.004 *UJ***	**4330**	**4380**	**110**	**10.3 *J***
EFF-01	**WQ-20**	**K1106865**		**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**0.4 *J***	**0.5 *J***	**0.366**	**0.004 *UJ***	**4680**	**4490**	**107**	**10.6 *J***
	Sample Difference							NC	NC	-0.008	NC	350	110	-3	NC
	RPD							NC	NC	2%	NC	-8%	-2%	3%	NC
	abs (RPD)							NC	NC	2%	NC	8%	2%	3%	NC
MW-04	**MW-04**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**0.3 *U***	**0.3 *U***	**0.007 *UJ***	**0.004 *UJ***	**4810**	**4720**	**9.1 *J***	**1.7 *U***
MW-04	**MW-20**	**K1106862**		**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**0.3 *U***	**0.3 *J***	**0.014 *UJ***	**0.004 *UJ***	**4490**	**4680**	**1.6 *U***	**1.6 *U***
	Sample Difference							NC	NC	NC	NC	-320	-40	NC	NC
	RPD							NC	NC	NC	NC	7%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	7%	1%	NC	NC

Table C-2. Groundwater QA/QC Replicate Results and Relative Percent Difference

								Trace Elements							
Station ID	Sample ID	CAS Lab SDG	ALS Lab Number	Collection Contractor	Sample Event	Date	Time	Selenium (µg/L), Total	Selenium (µg/L), Dissolved	Silver (µg/L), Total	Silver (µg/L), Dissolved	Sodium (µg/L), Total	Sodium (µg/L), Dissolved	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
EFF-01	**EFF-01**	**K1108476**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**0.5 *J***	**0.4 *J***	**1.05**	**0.088 *UJ***	**4900**	**4610**	**107**	**63.7**
EFF-01	**EFF-01**	**K1108477**		**Integral**	**September 2011**	**9/7/2011**	**8:20**	**0.5 *J***	**0.4 *J***	**1.05**	**0.088 *UJ***	**4900**	**4610**	**107**	**63.7**
	Sample Difference							NC	NC	0	NC	0	0	0	0
	RPD							NC	NC	0%	NC	0%	0%	0%	0%
	abs (RPD)							NC	NC	0%	NC	0%	0%	0%	0%
MW-04	**MW-04**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	**0.5 *J***	**0.5 *J***	**0.029 *U***	**0.008 *UJ***	**3830**	**3900**	**3.24 *U***	**0.94 *U***
MW-04	**MW-20**	**K1112358**		**Integral**	**December 2011**	**12/20/2011**	**13:00**	**0.5 *J***	**0.5 *J***	**0.02 *U***	**0.008 *UJ***	**4010**	**3850**	**2.71 *U***	**1.46 *U***
	Sample Difference							NC	NC	NC	NC	180	-50	NC	NC
	RPD							NC	NC	NC	NC	-5%	1%	NC	NC
	abs (RPD)							NC	NC	NC	NC	5%	1%	NC	NC

Notes:
Relative Percent Difference (RPD) calculated by:
RPD = [X1 - X2] / [Xavg x 100]
where:
X1 = concentration of normal sample
X2 = concentration of duplicate
Xavg = average concentration [(X1 + X2)/2]
abs(RPD) = absolute value of the RPD

-- = data not available
ALS = ALS Laboratory Group
CAS = Columbia Analytical Services
DO = dissolved oxygen
QA/QC = quality assurance and quality control
SDG = sample digestion group
TDS = total dissolved solids
TSS = total suspended solids

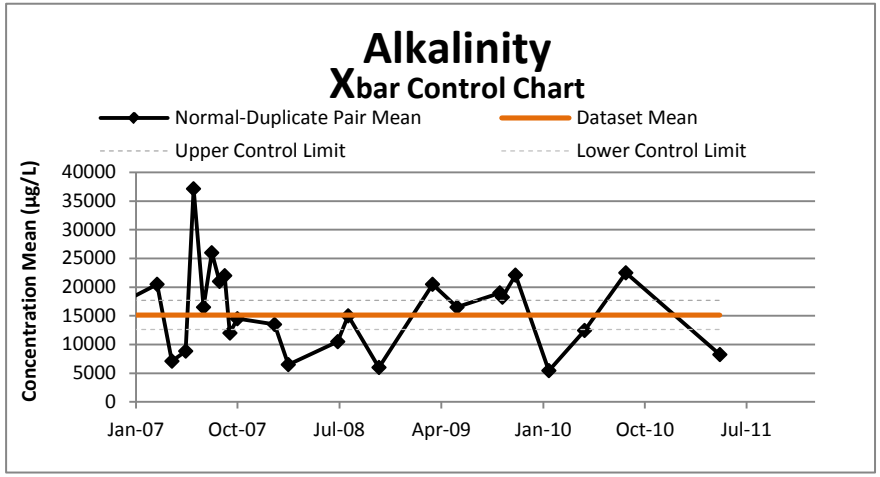
NC = RPD not calculated in cases where one or more concentrations were below reporting limits or not available (i.e., U or J qualified data not included in RPD calculation).

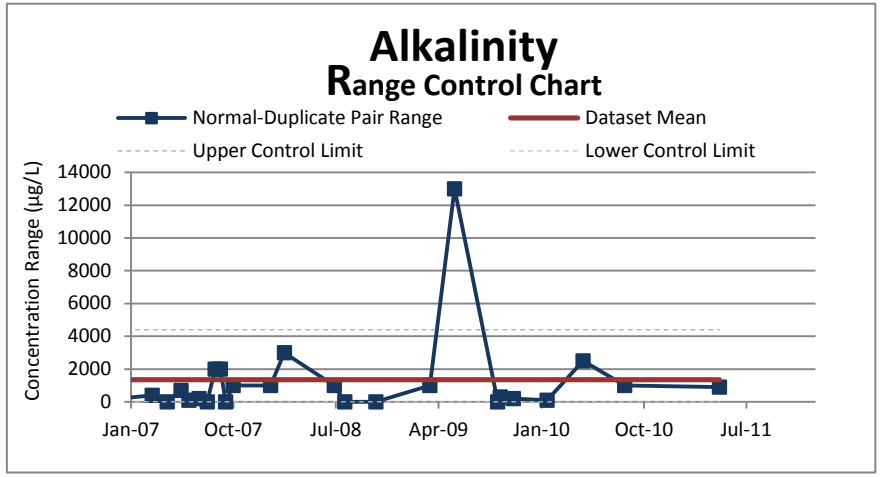
Sample Difference = (replicate sample - primary sample)

Shaded cells indicate cases where the RPD and/or the abs(RPD) exceed the precision criterion of ±50%.

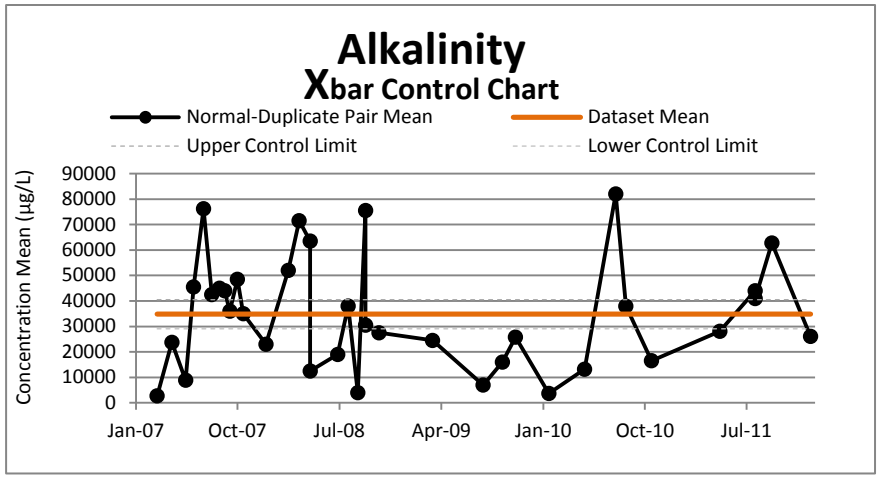
Data Qualifiers:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
U = The analyte was not detected above the reported sample quantitation limit.
UJ = The analyte was not detected above the reported sample quantitation limit; however, the reported quantitation limit is approximate.
R = The sample results are rejected.

Surface Water





Groundwater



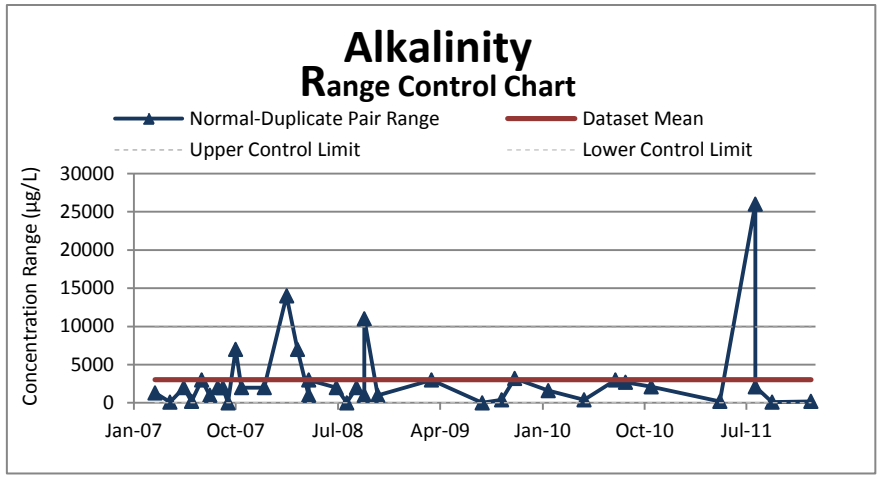


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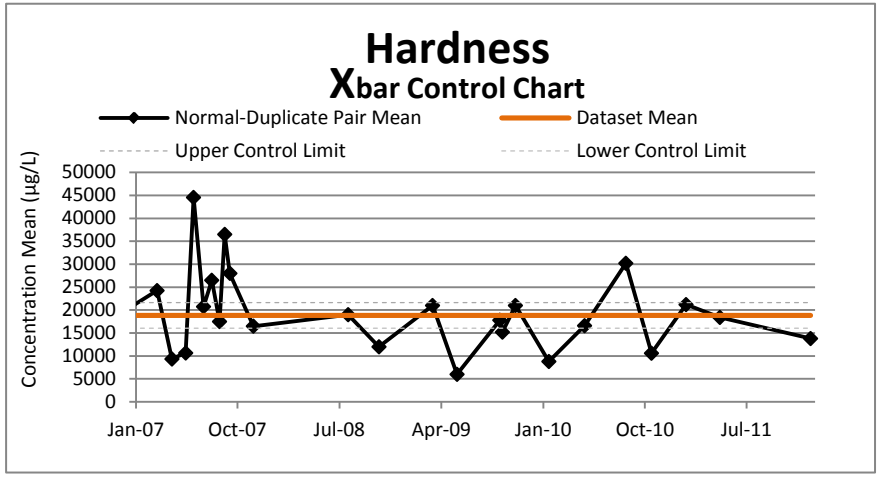
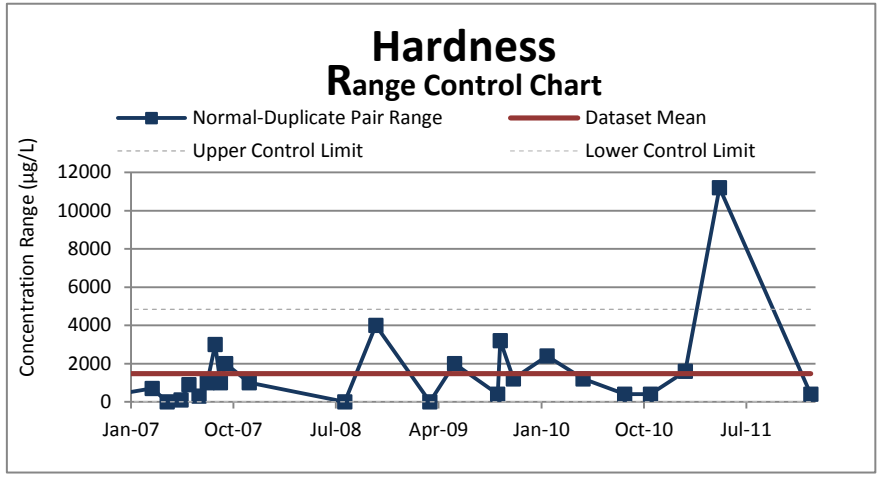
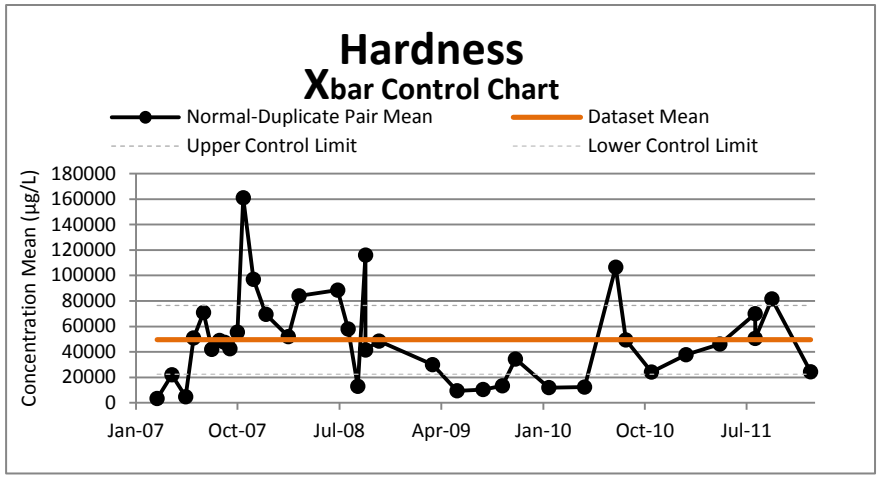
Figure C-1
X and R Charts: Alkalinity
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



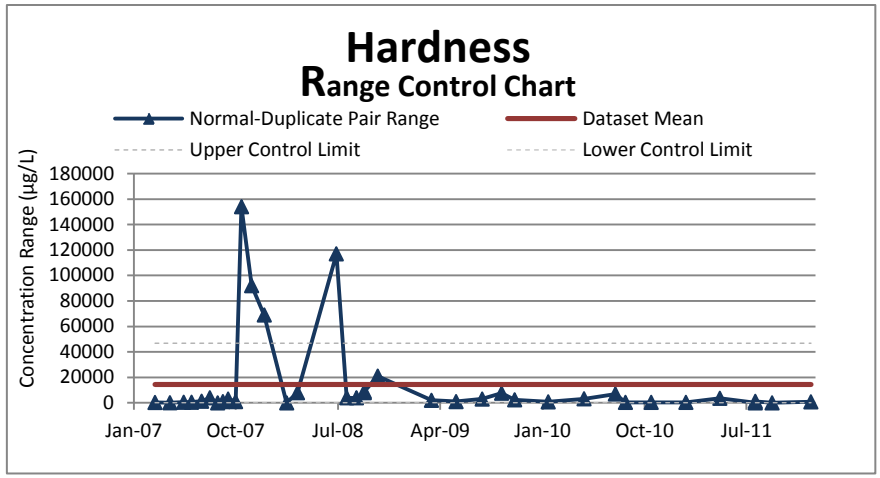


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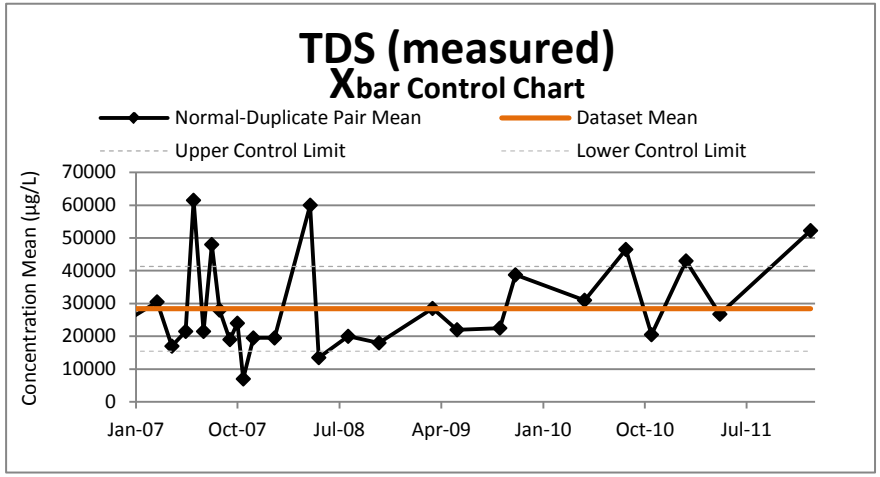
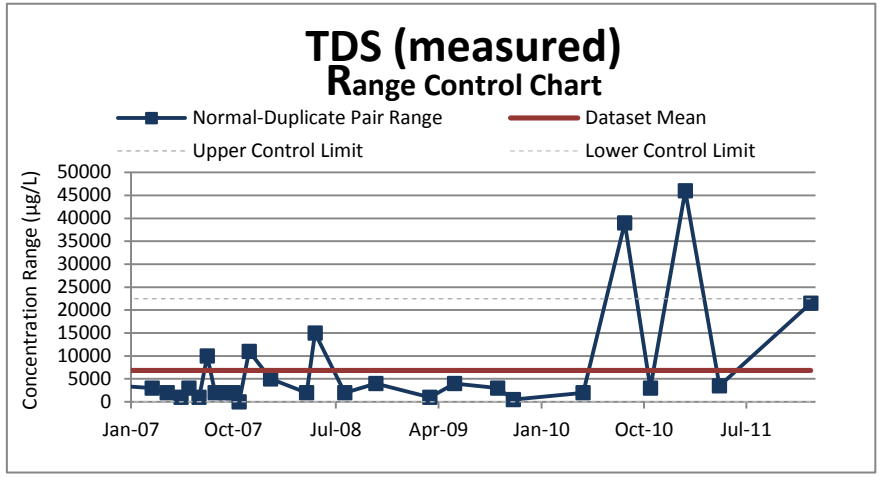
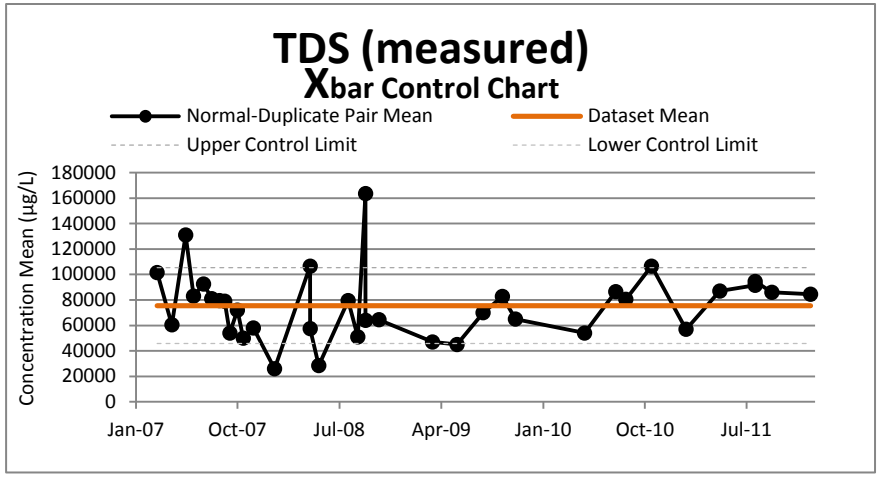
Figure C-2
X and R Charts: Hardness
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



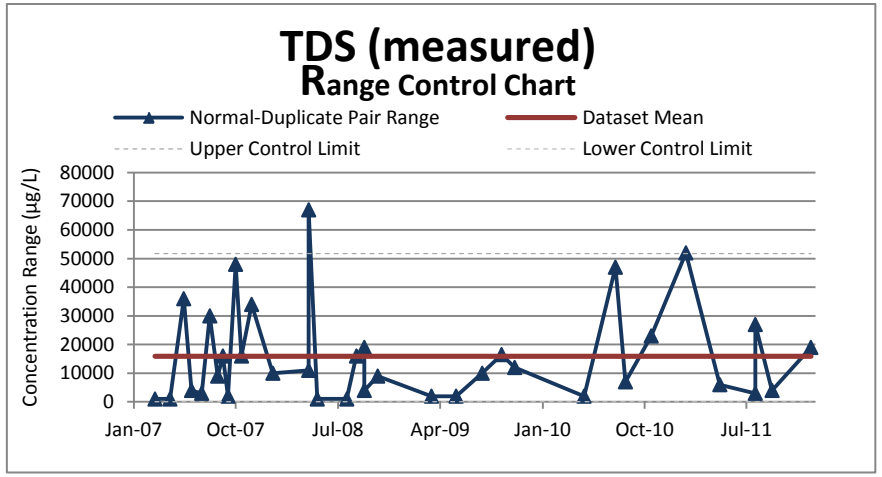


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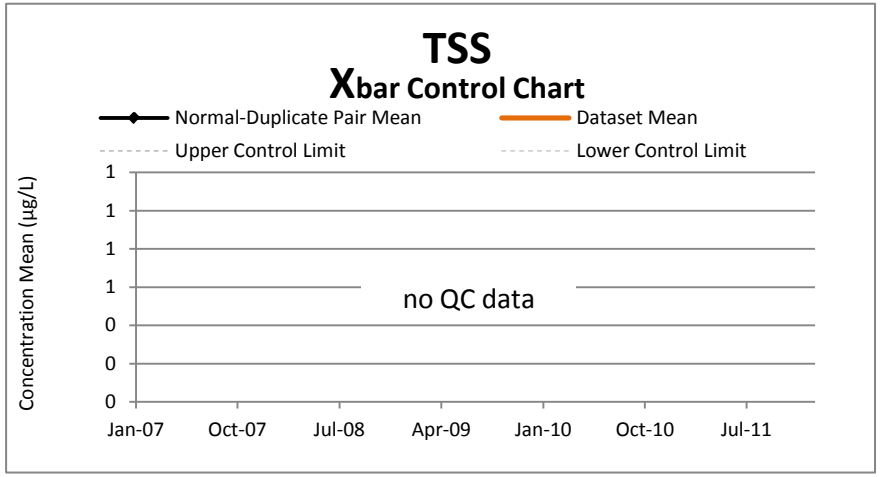
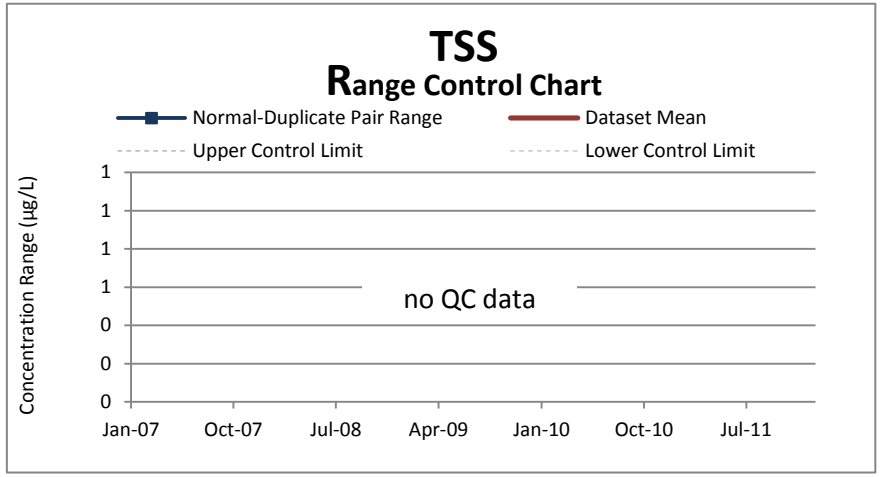
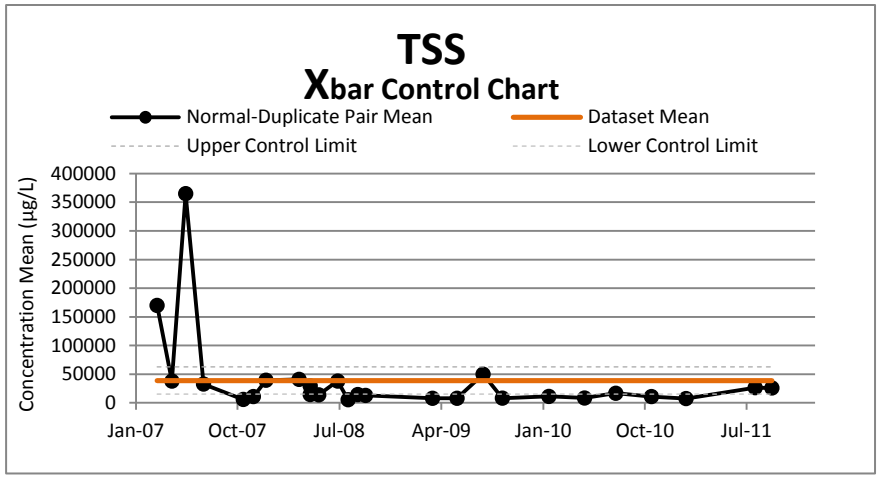
Figure C-3
X and R Charts: TDS (measured)
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



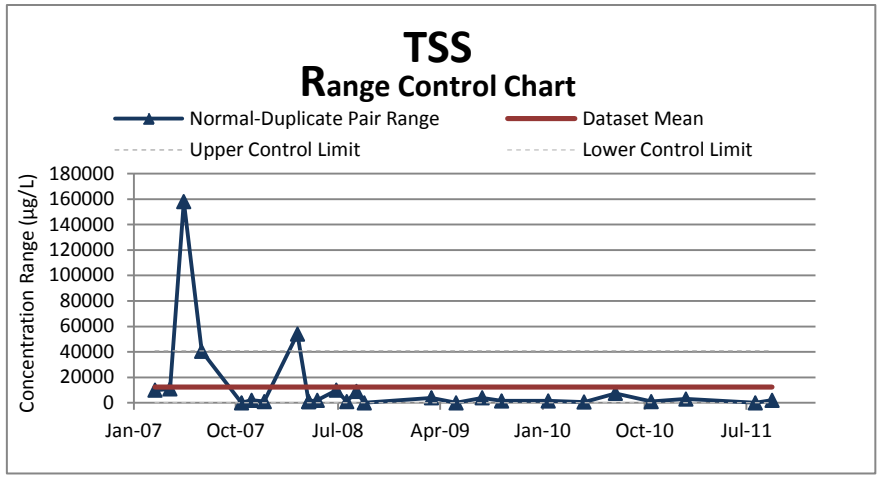


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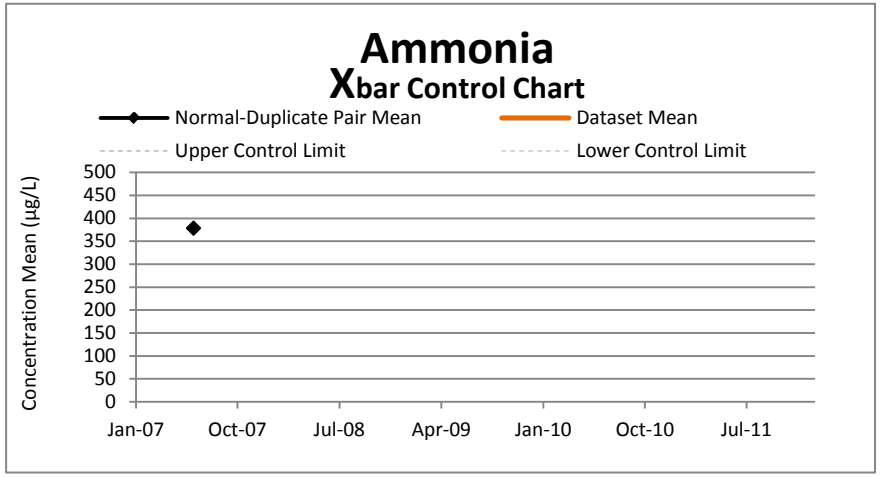
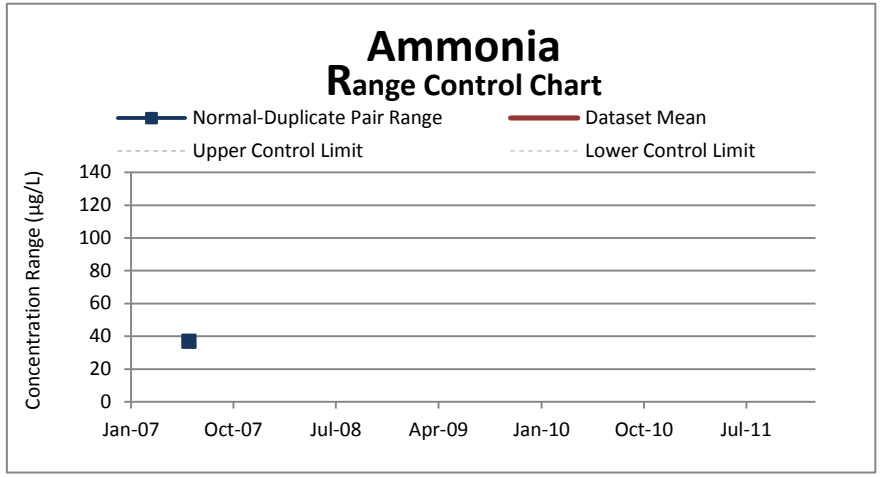
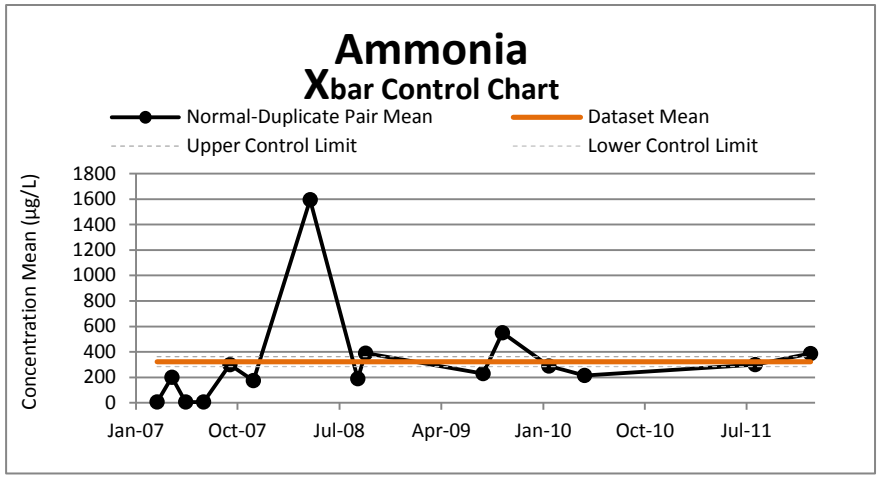
Figure C-4
X and R Charts: TSS
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



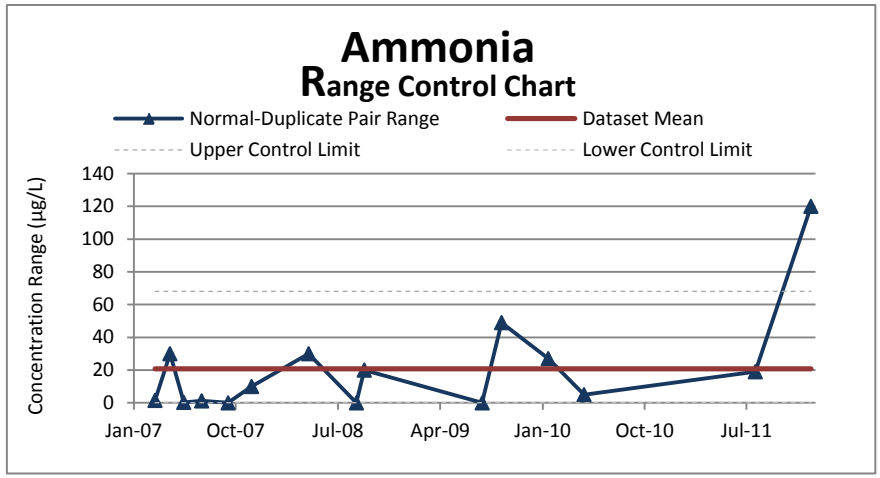


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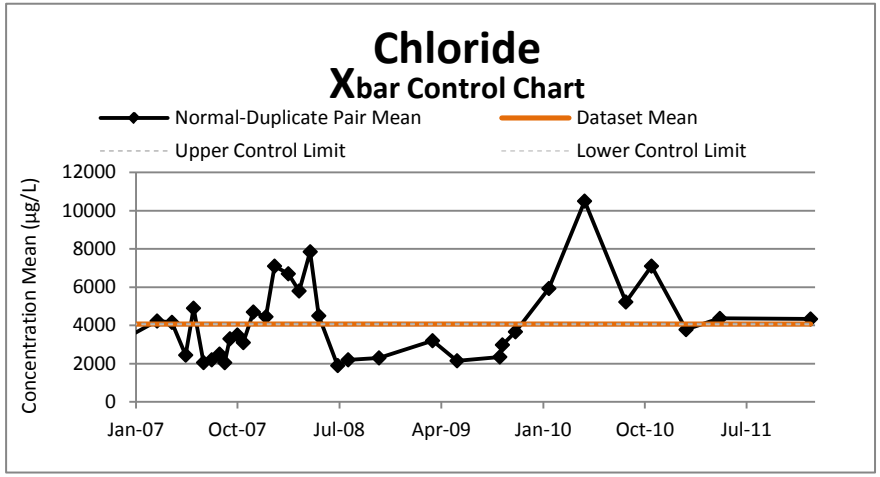
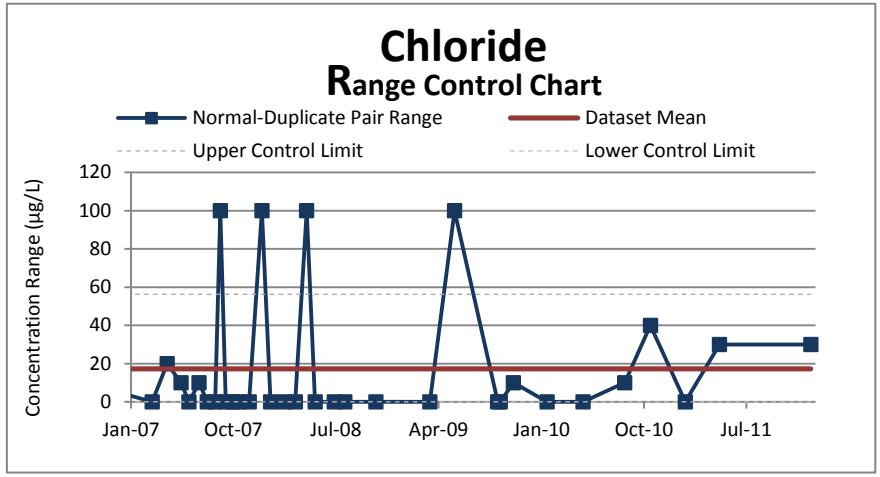
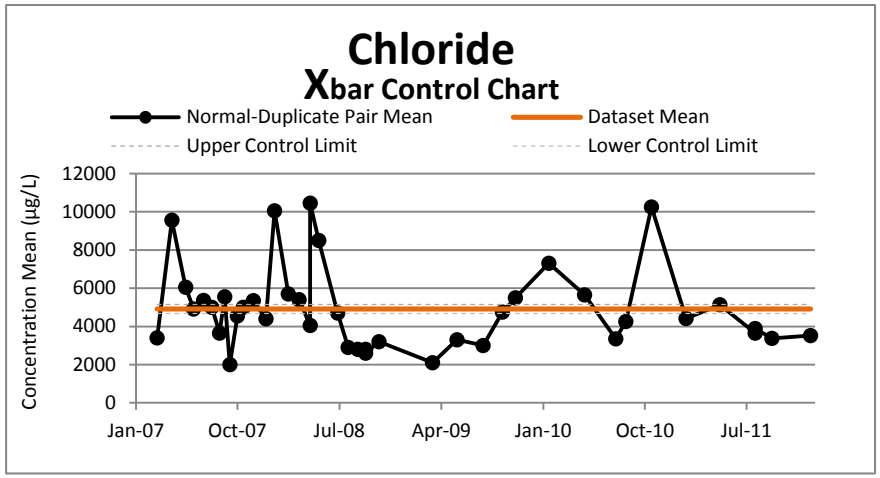
Figure C-5
X and R Charts: Ammonia
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



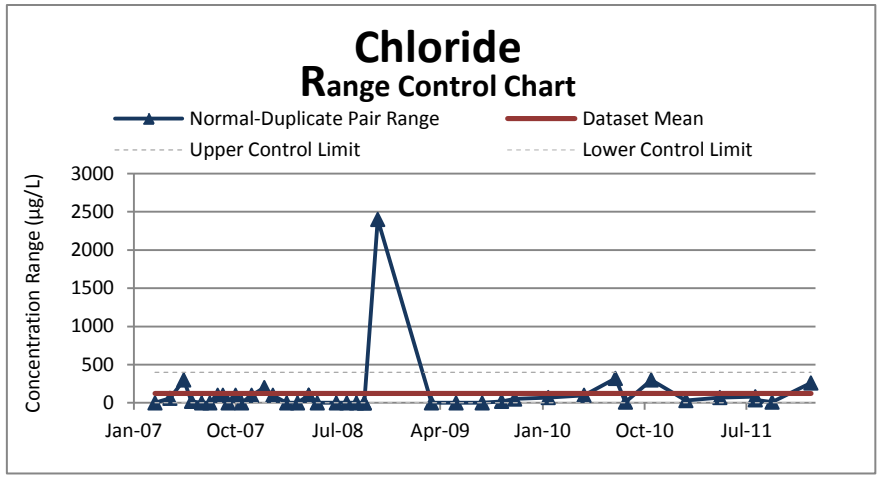


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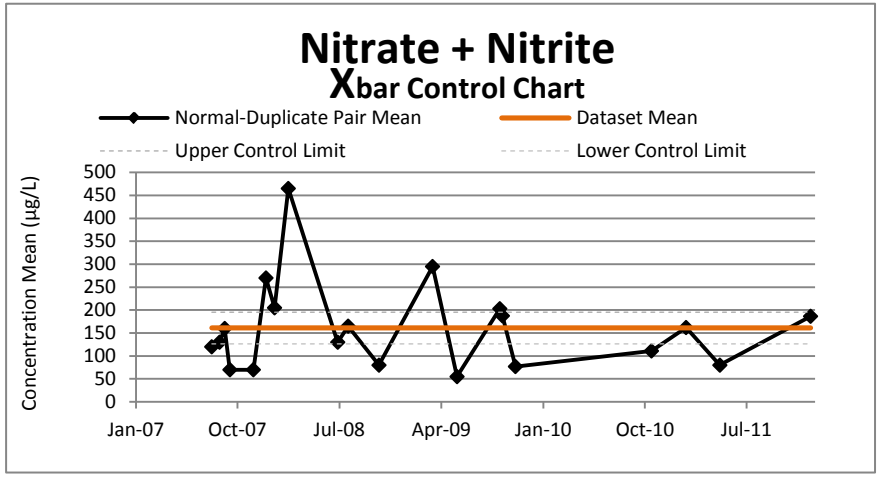
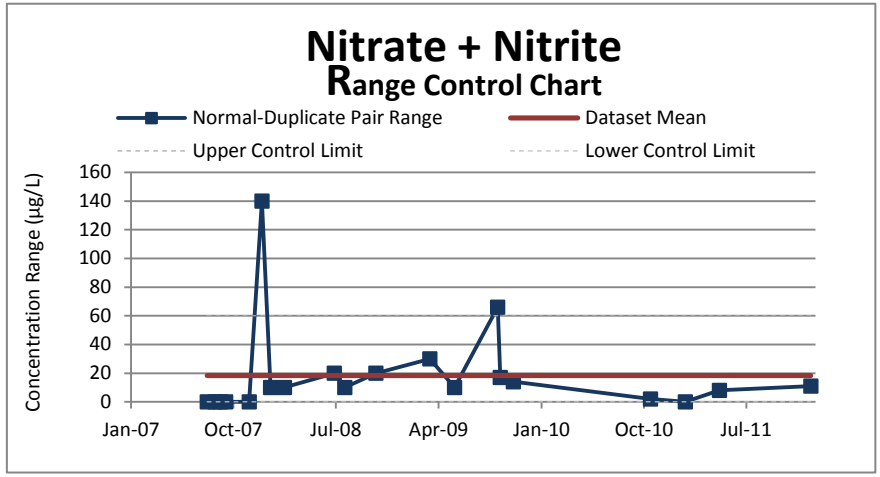
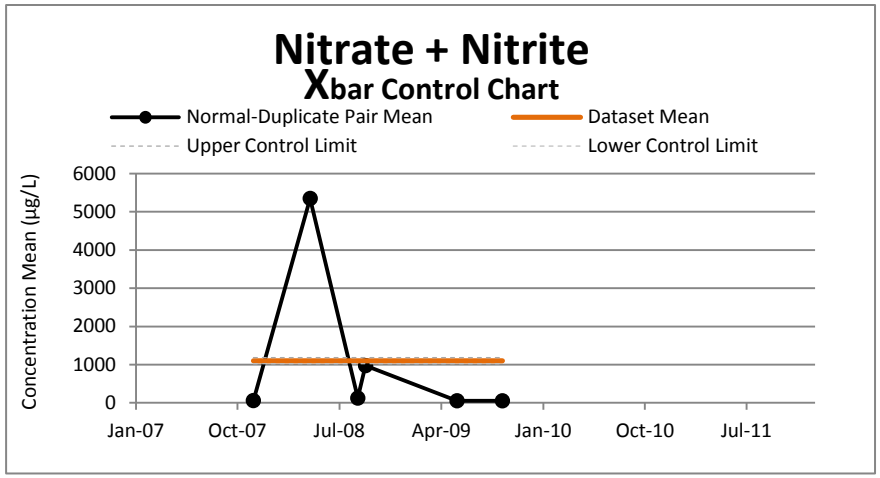
Figure C-6
X and R Charts: Chloride
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



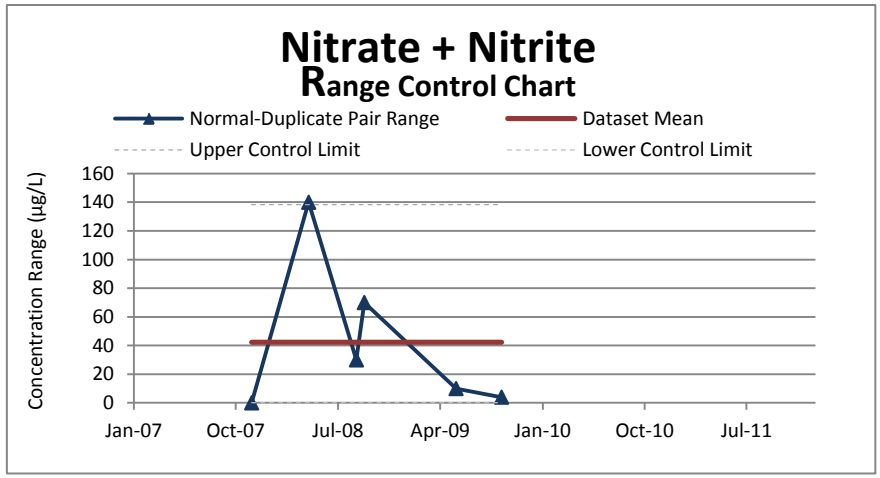


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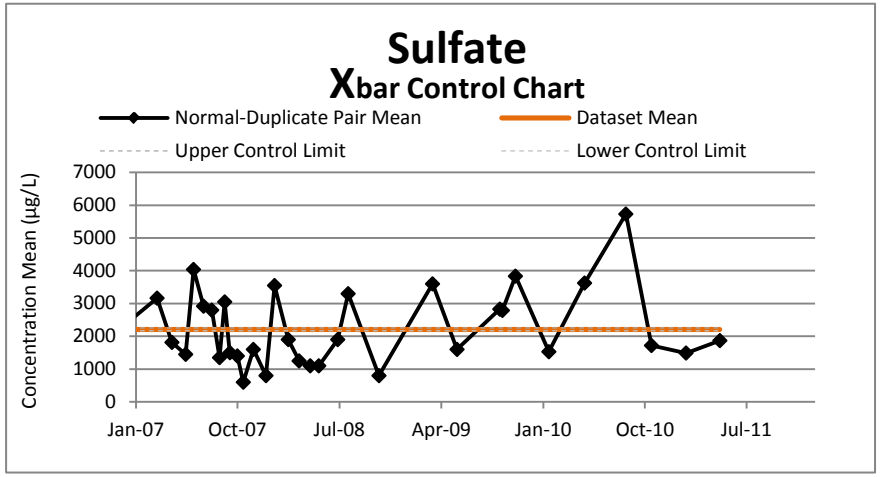
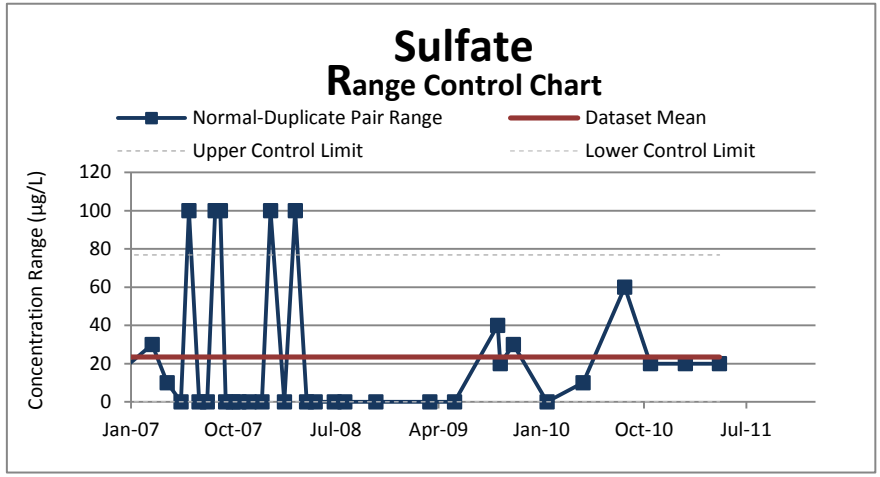
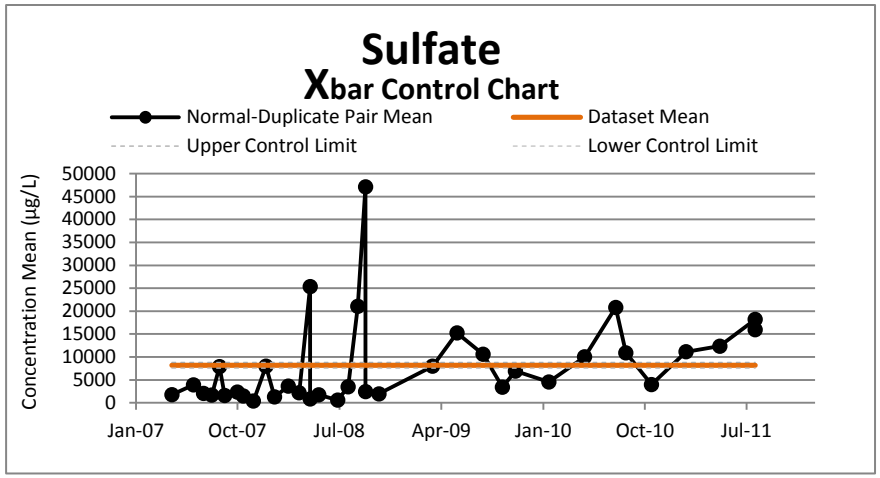
Figure C-7
X and R Charts: Nitrate + Nitrite
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



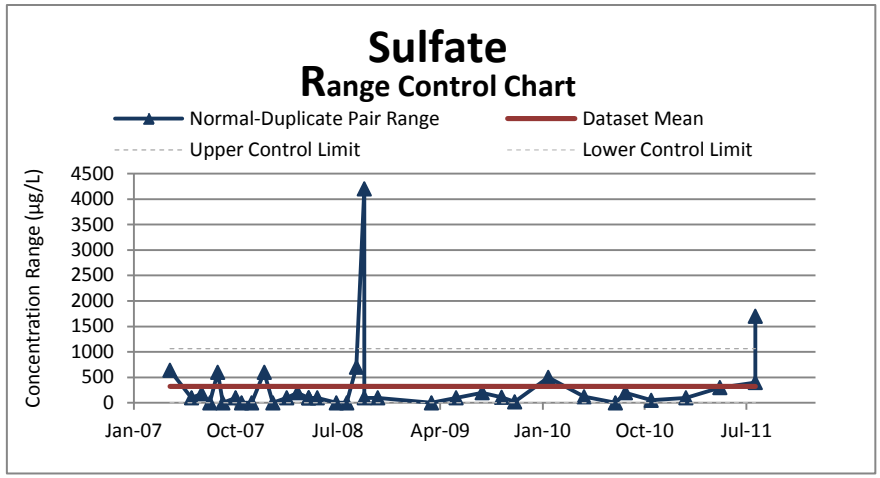


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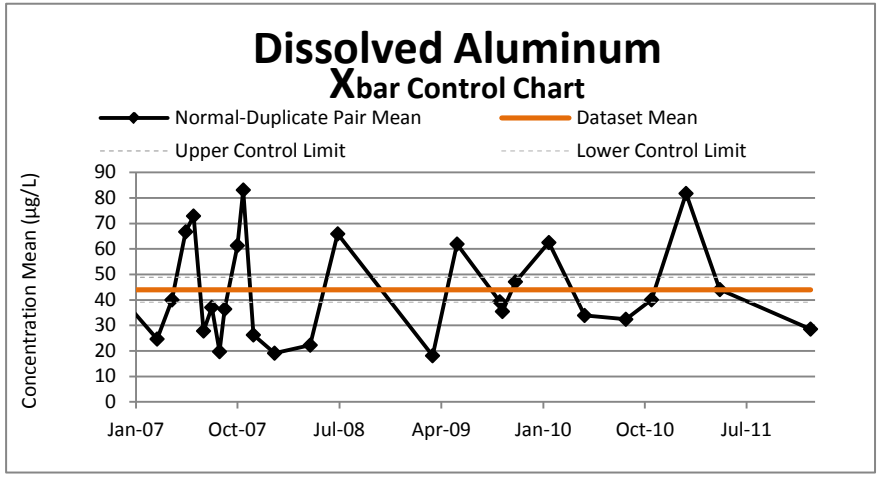
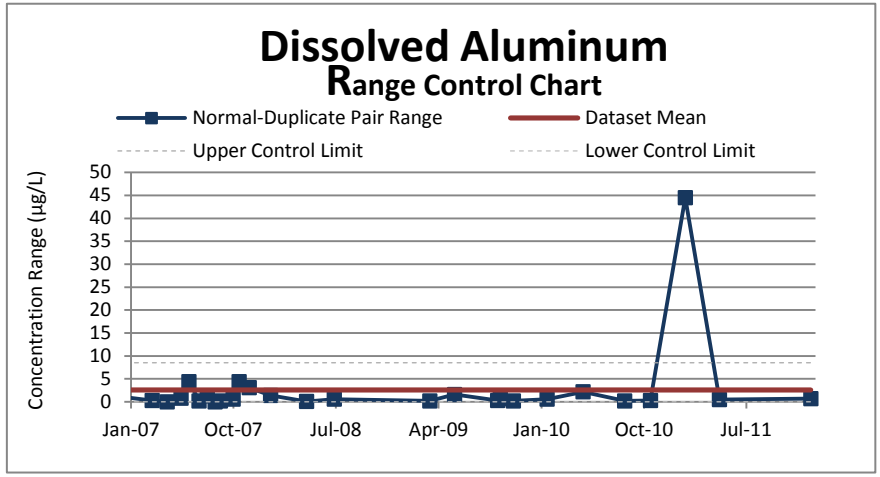
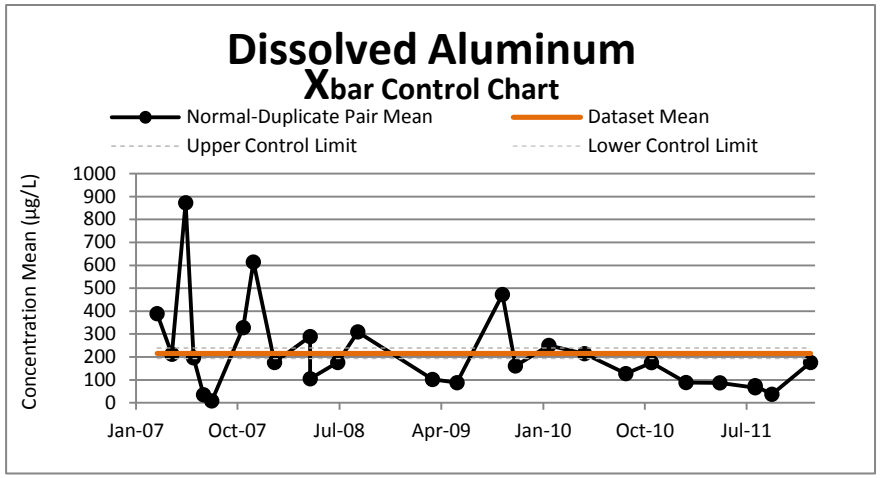
Figure C-8
X and R Charts: Sulfate
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



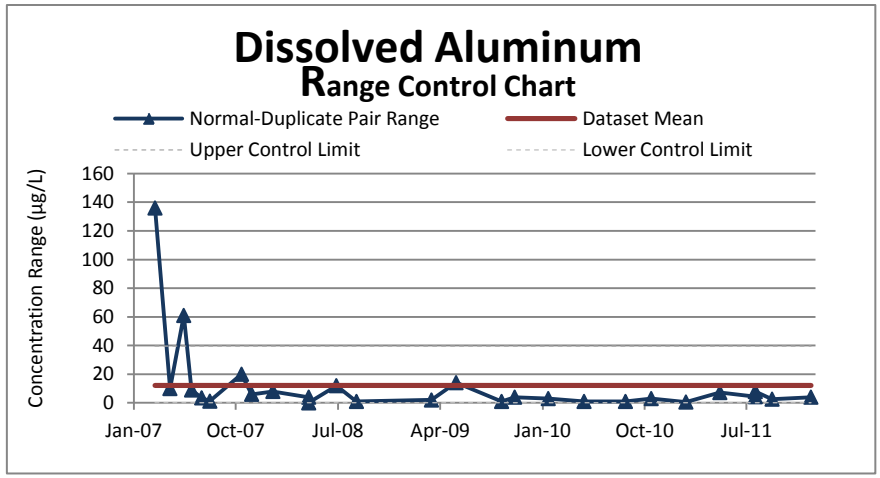


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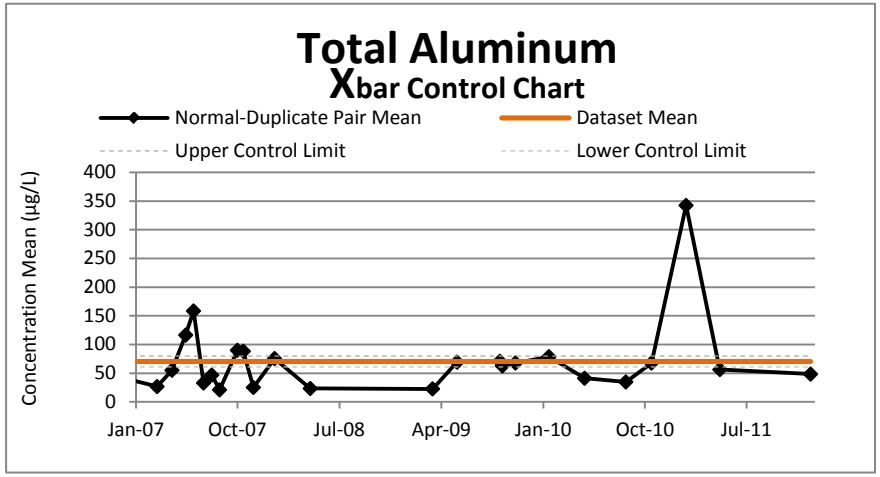
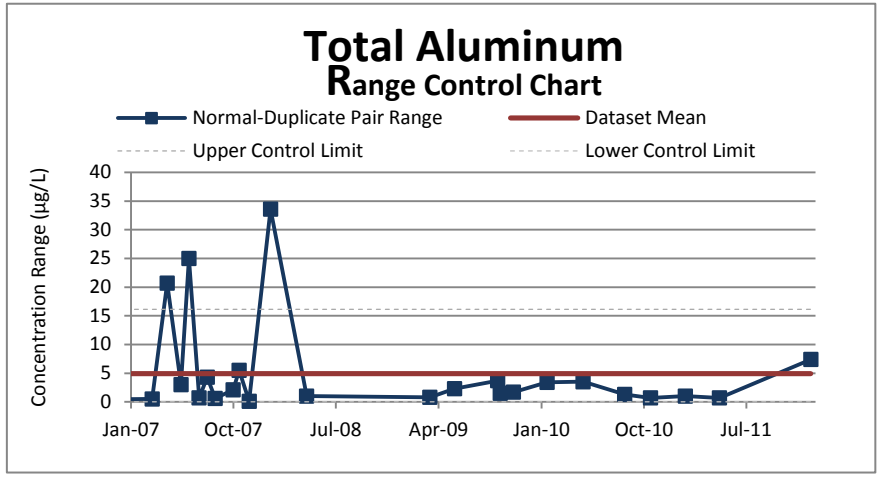
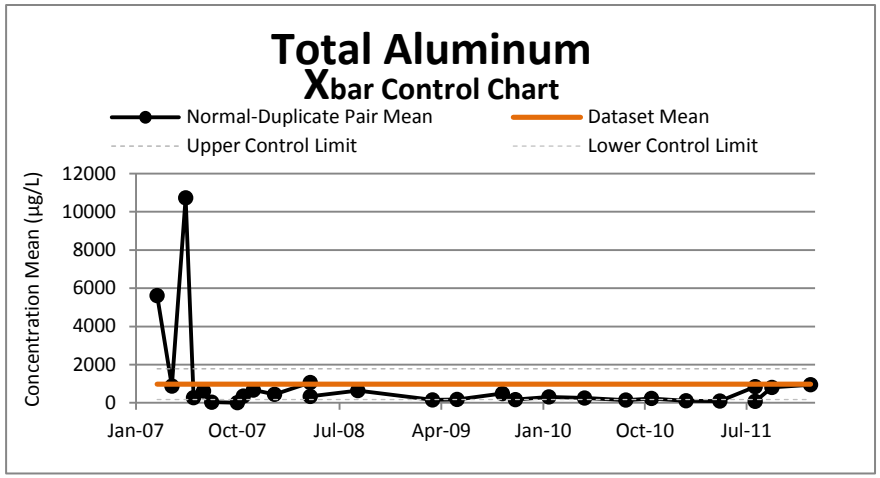
Figure C-9
X and R Charts: Dissolved Aluminum
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



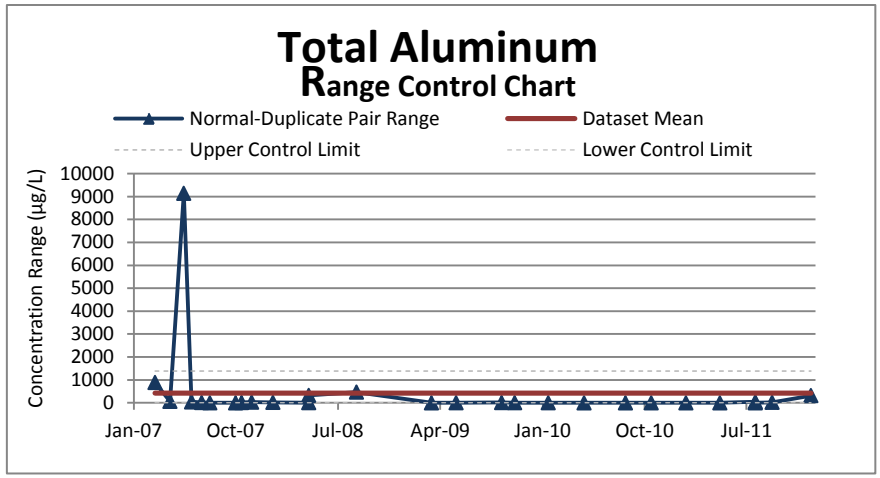


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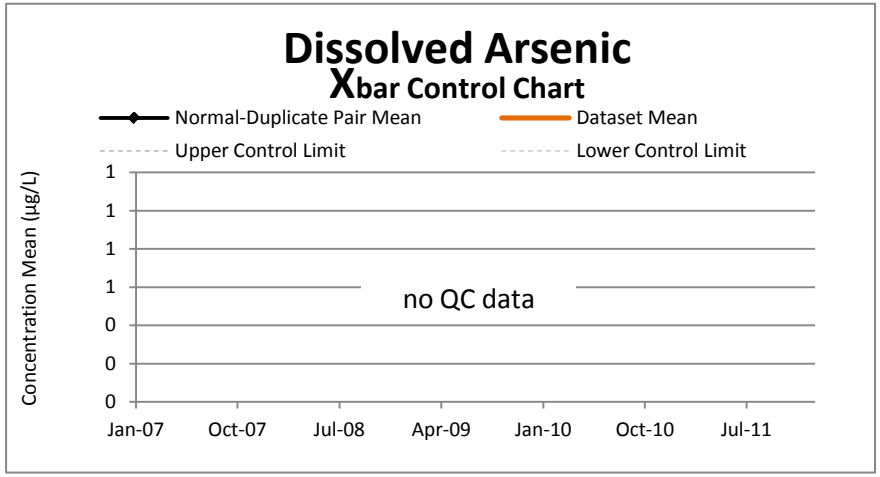
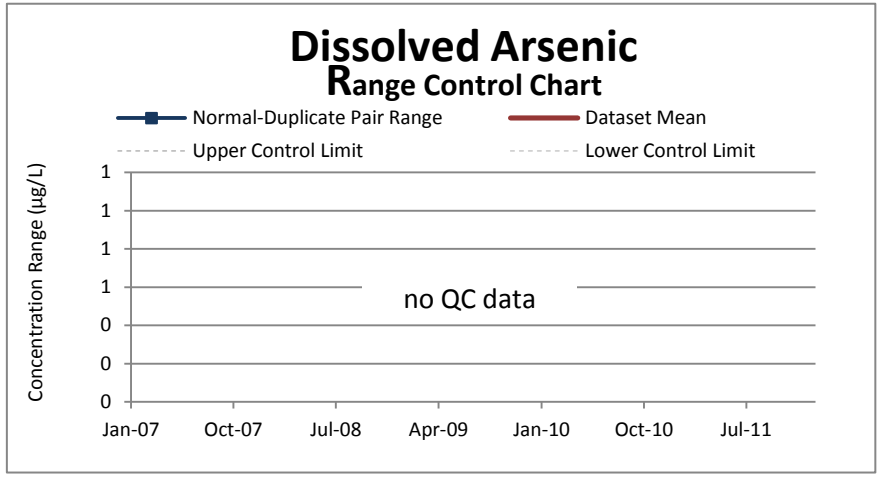
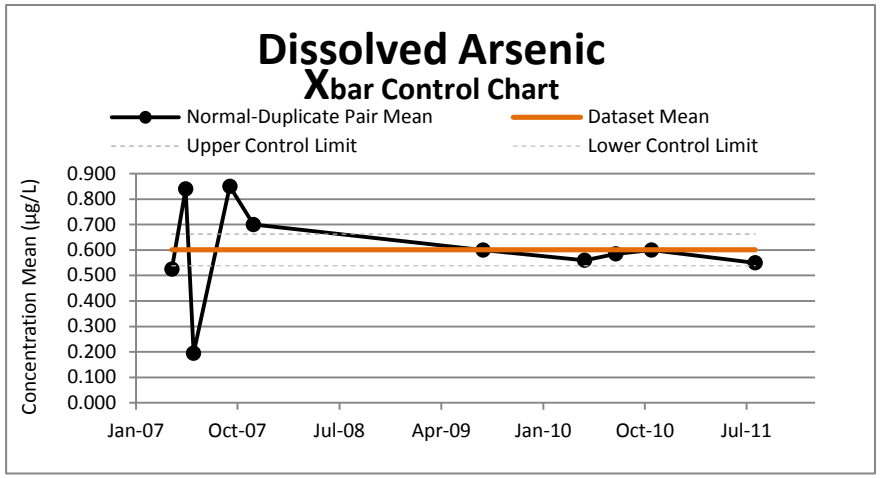
Figure C-10
X and R Charts: Total Aluminum
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



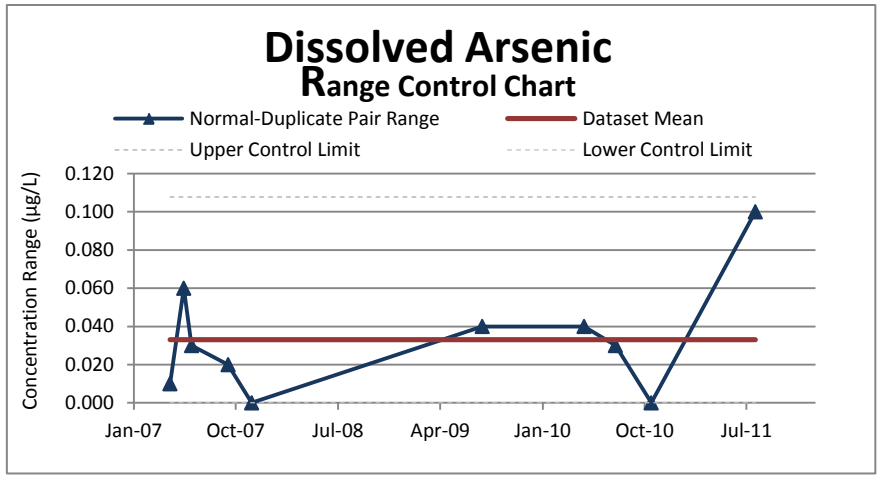


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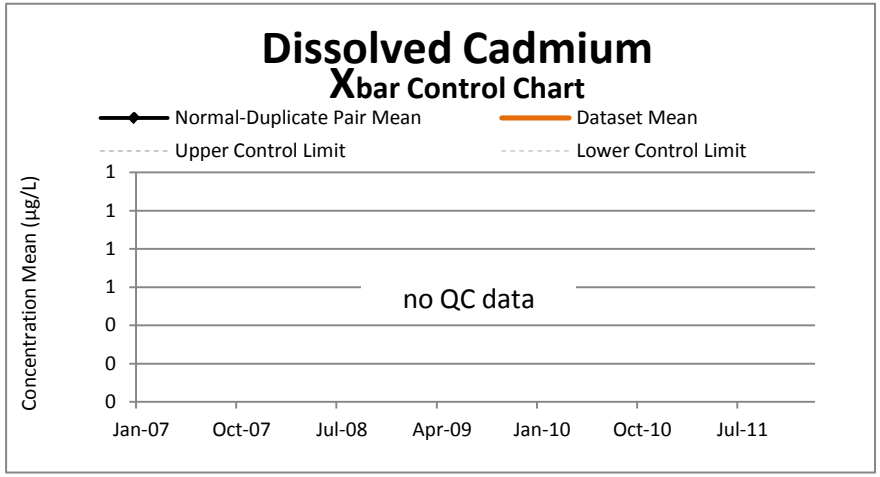
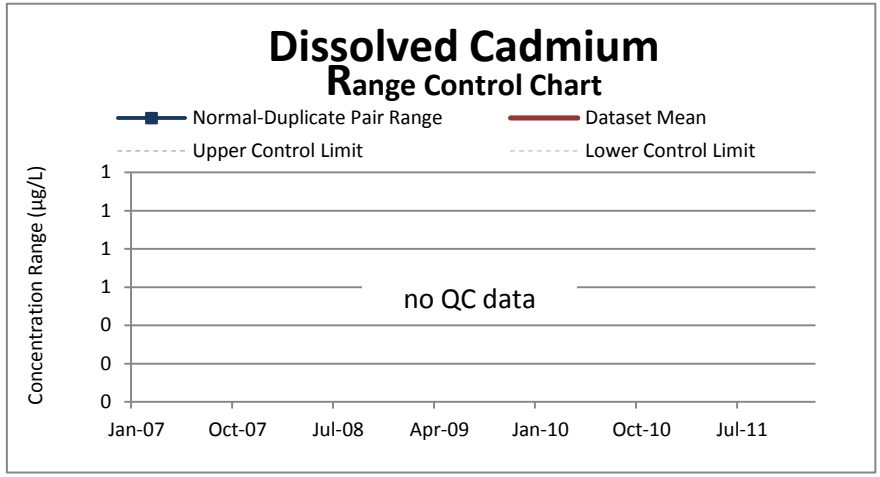
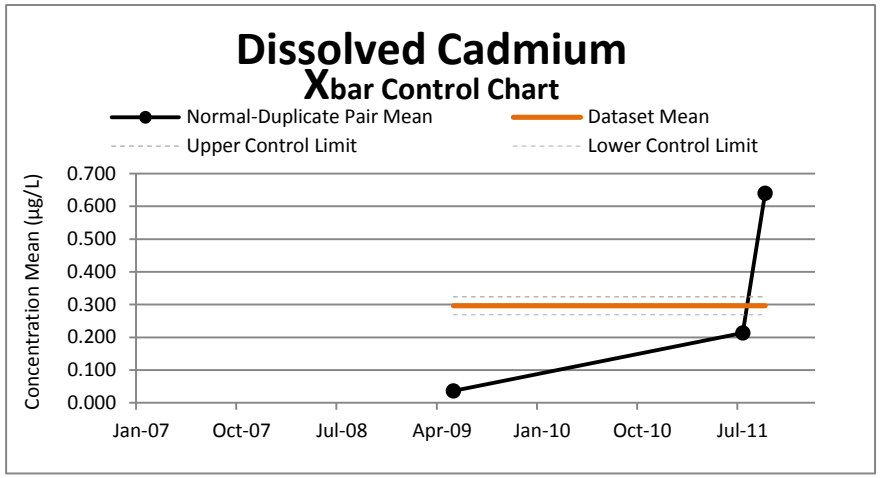
Figure C-11
X and R Charts: Dissolved Arsenic
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



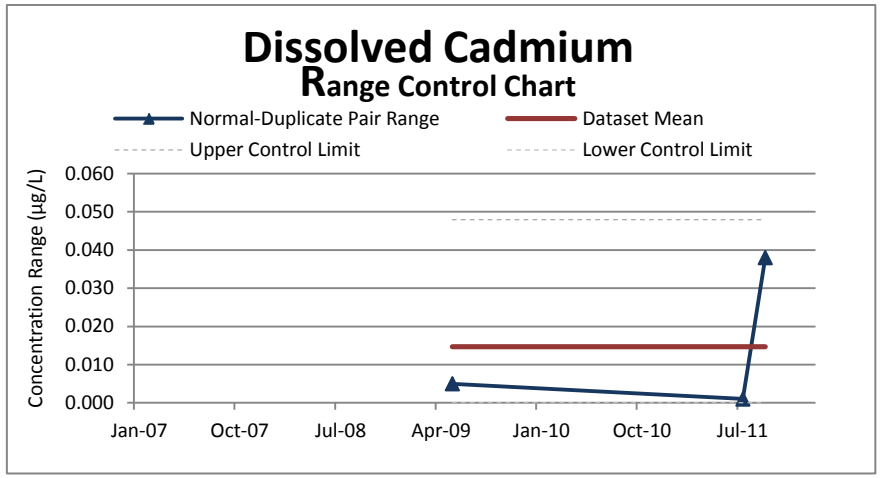


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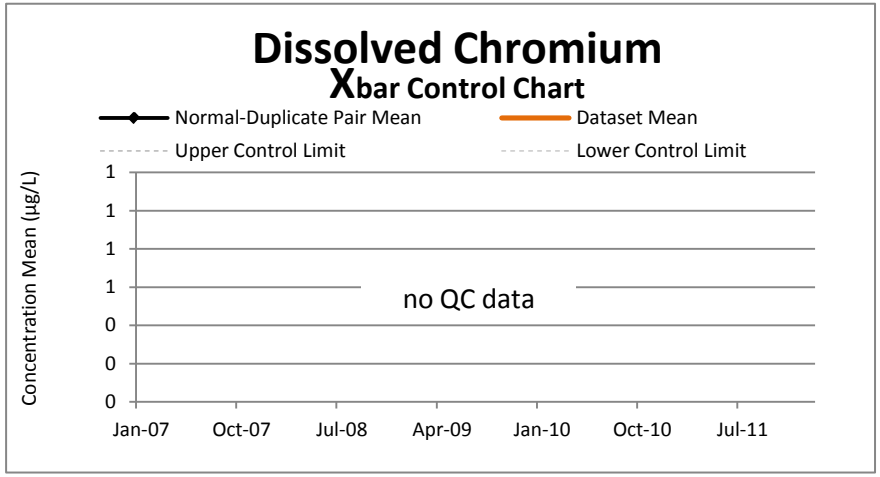
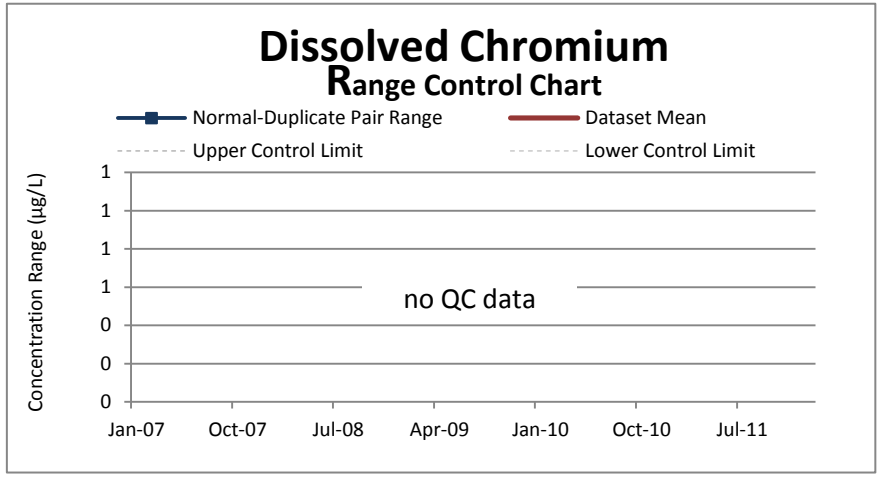
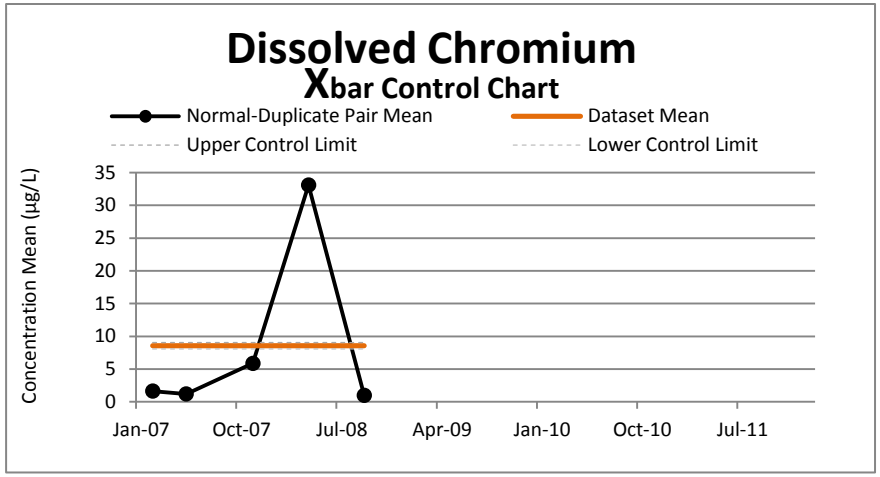
Figure C-12
X and R Charts: Dissolved Cadmium
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



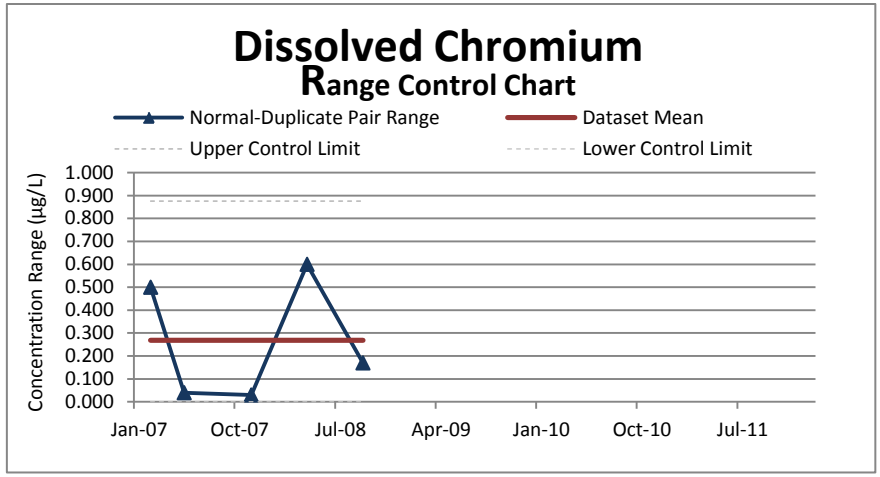


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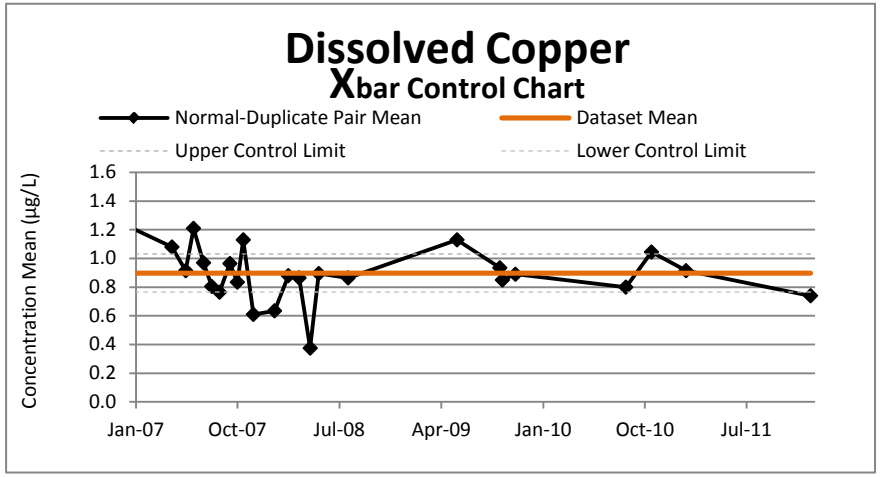
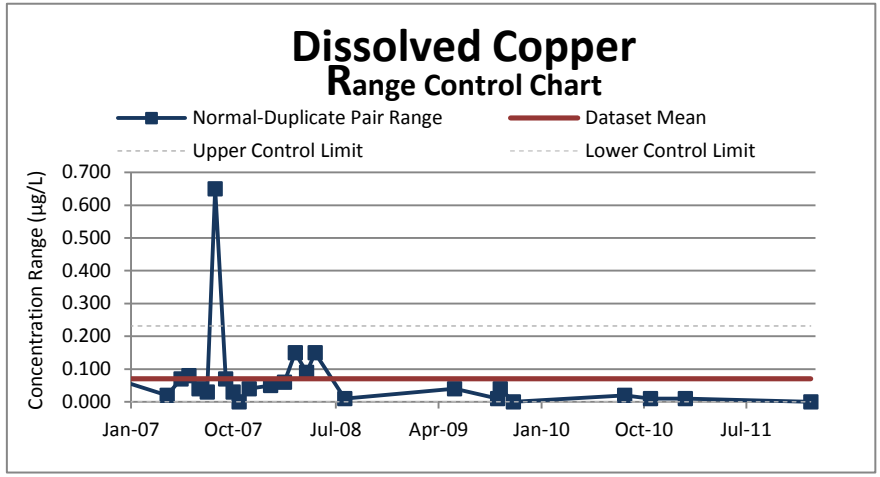
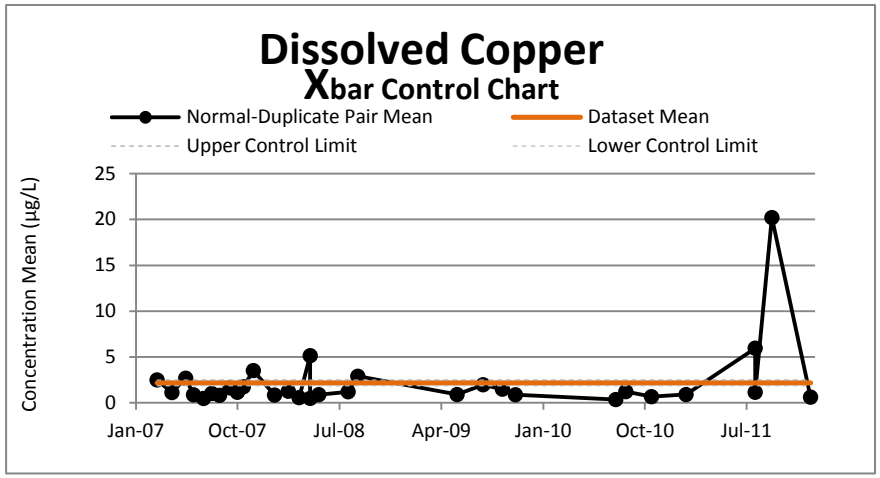
Figure C-13
X and R Charts: Dissolved Chromium
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



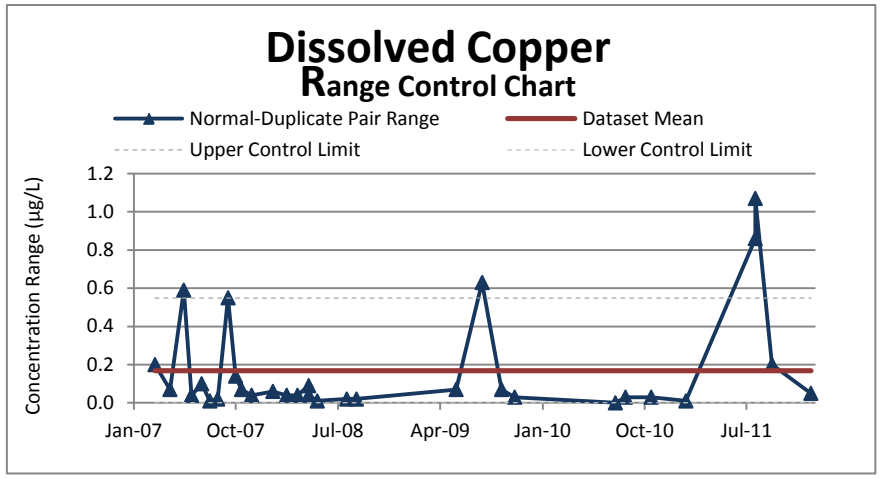


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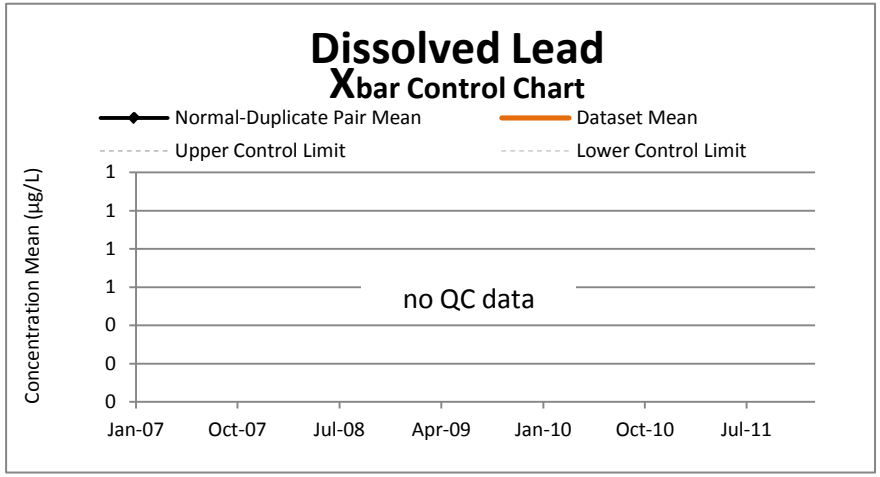
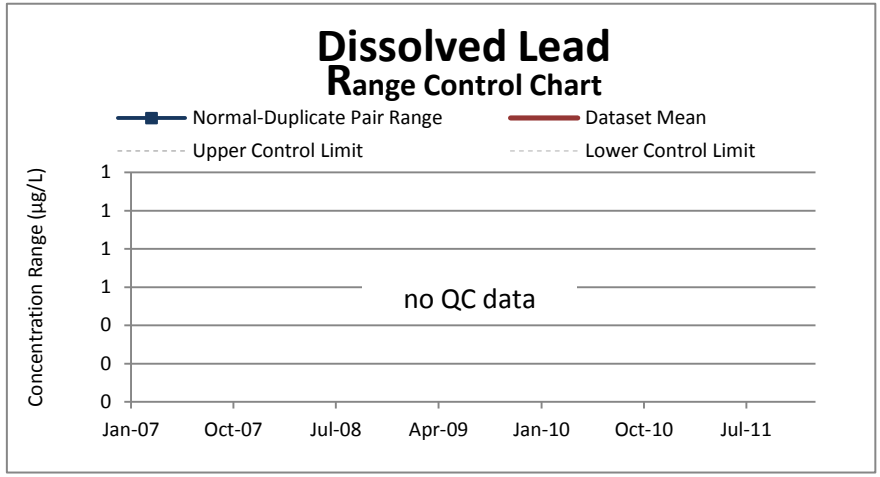
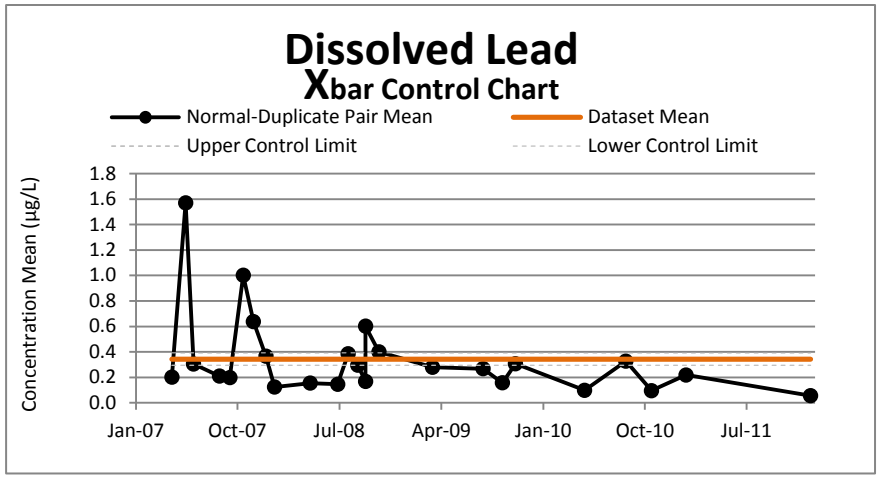
Figure C-14
X and R Charts: Dissolved Copper
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



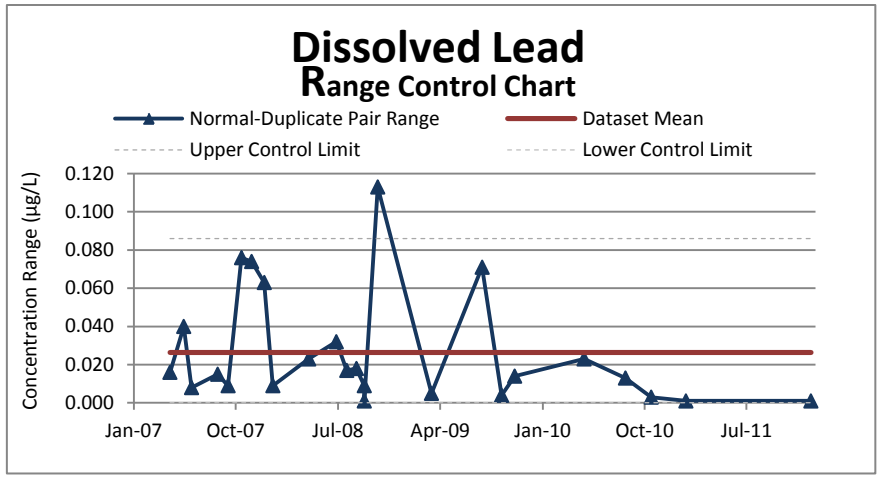


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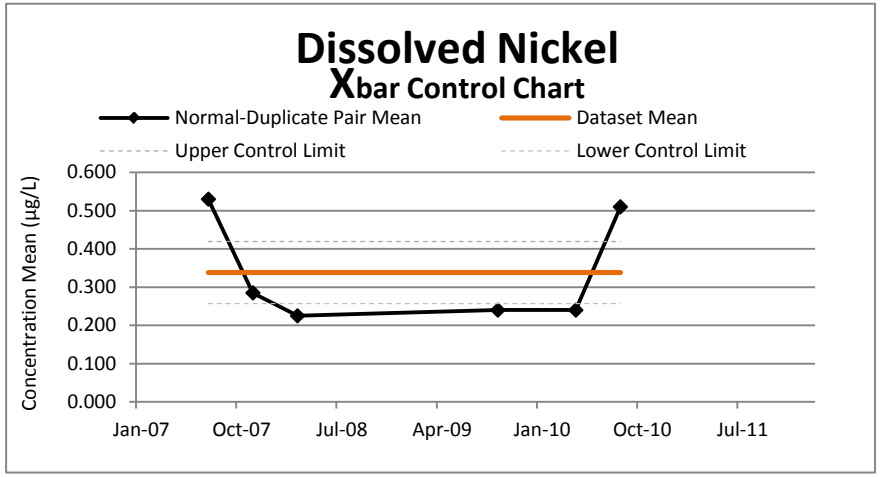
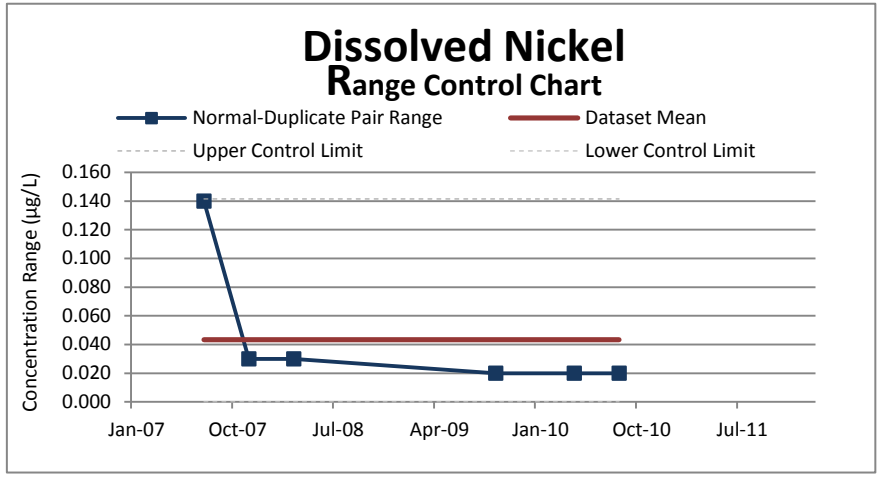
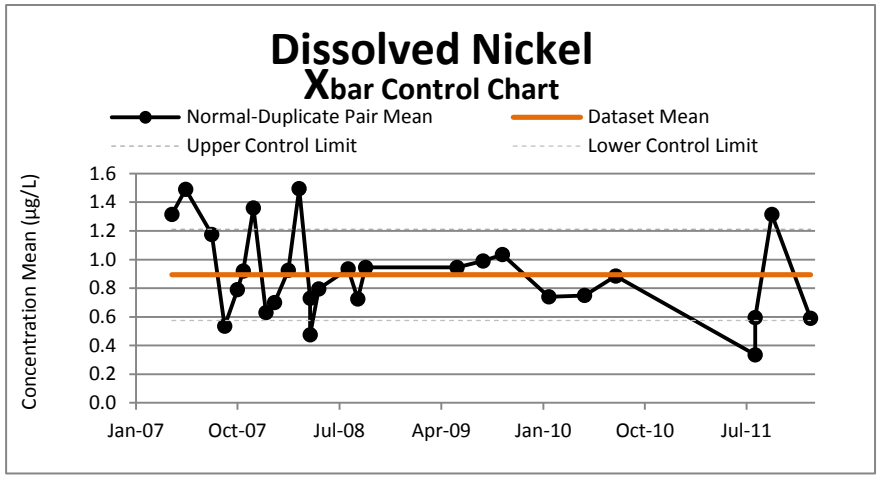
Figure C-15
X and R Charts: Dissolved Lead
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



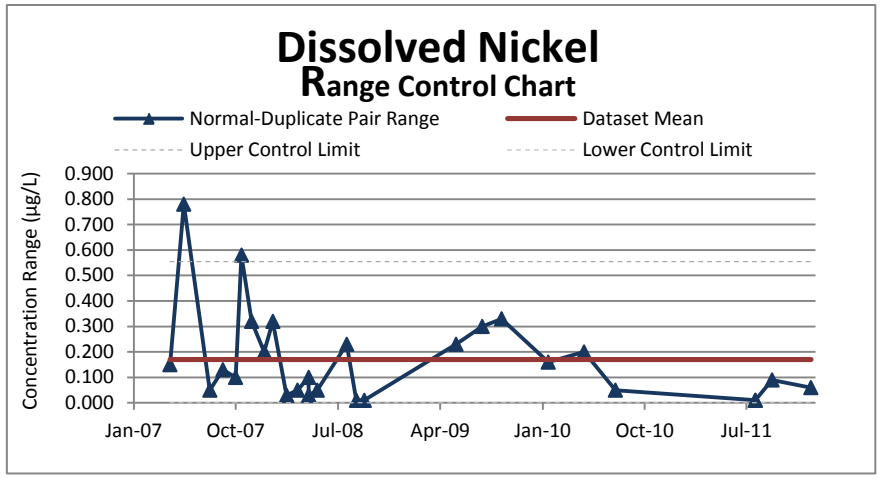


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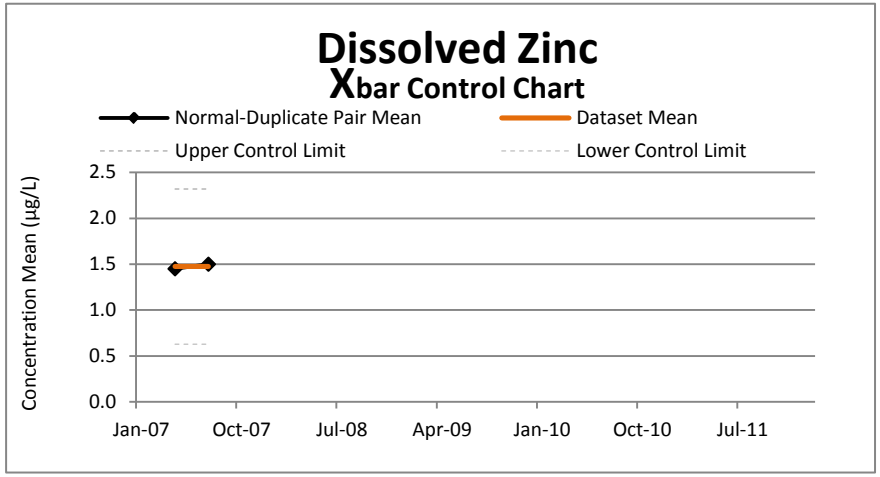
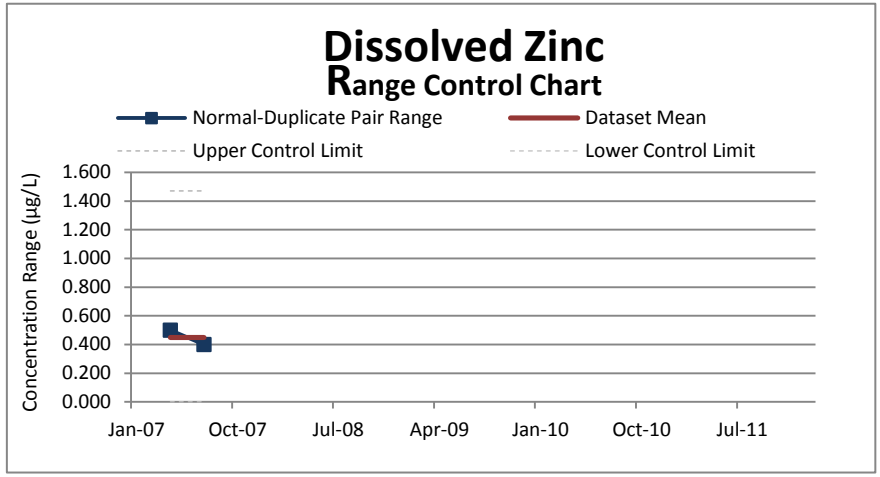
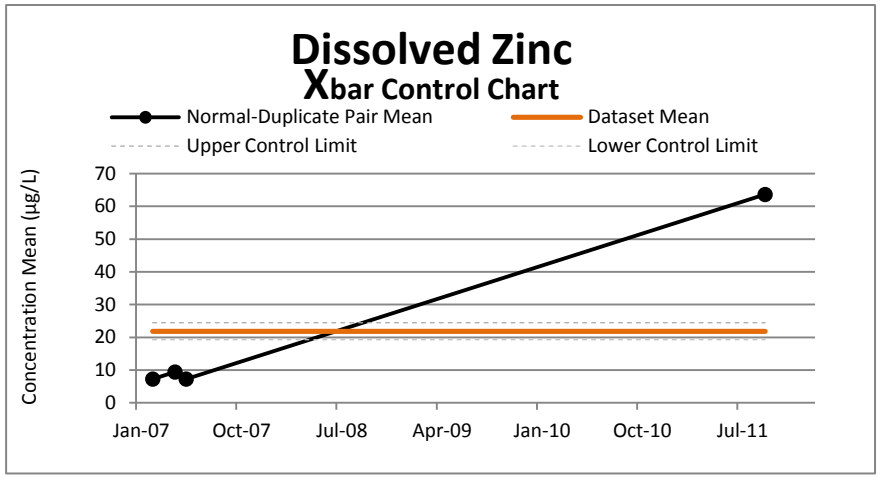
Figure C-16
X and R Charts: Dissolved Nickel
Surface Water and Groundwater
Niblack Exploration Project

Surface Water





Groundwater



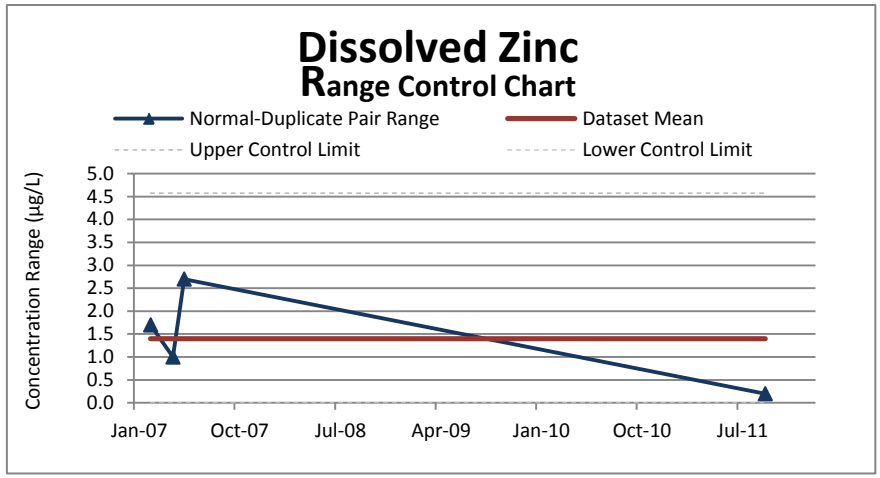


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Figure C-17
X and R Charts: Dissolved Zinc
Surface Water and Groundwater
Niblack Exploration Project

APPENDIX D

VISUAL SITE INSPECTION FORMS

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 1-3-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Heavy Snow
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	Heavy Snow 13"
PORTAL PAD/SHOP SITE		Camp Not operating Due to X-mas Shut Down
General Surface Condition	✓	
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	Ponds Are Not frozen

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 1-3-11

LAD SITE		
LAD Flow meter Reading	✓	Slow flow Due to No Drilling
Stress to Vegetation	✓	
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	1-5
Weather Conditions	✓	Snow
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	✓	
Visible signs of Damage to Liner	✓	
Liner Slippage	✓	
Damage to the Facility From:	✓	
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	Lots of Snow
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	N/A	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: JAN 9th, 2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	GOOD - SAND ON ROADS for WINTER
Geotechnical Stability	✓	GOOD
Settlement	✓	OK
Erosion	✓	NONE
Channelization	✓	NONE
Thawing	✓	OK
Frost Action	✓	Cold/FROST - NO PROBLEMS
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	GOOD / CLEAN
Ditches	✓	GOOD - RUNNING WELL - SOME CLEANING TO BE DONE IN SPRING
Settlement	✓	OK
Erosion	✓	NOTHING MAJOR - No blockages to Ditches
Thawing	✓	OK
Frost Action	✓	OK
SEDIMENT PONDS		
Liner	✓	NO ISSUES / GOOD SHAPE
Slippage	✓	NONE
Anchors	✓	GOOD
Containment Structures	✓	
Retaining Walls	✓	OK
Erosion Control Structures	✓	OK
Run-on Control Structures	✓	OK
Diversion Structures	✓	OK
Geotechnical Stability		
Settlement	✓	FINE
Erosion	✓	NONE
Frost Action	✓	NONE
Thawing	✓	OK

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: JAN 9th 2011

LAD SITE		
LAD Flow meter Reading	✓	DAILY READING
Stress to Vegetation	✓	NONE
Channellization	✓	NONE
Leakage	✓	NONE
Freezing	✓	NO
Active Zones	✓	All ZONES
Weather Conditions	✓	COOL
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	NO
Sediment Ponds	✓	GOOD
Blockages to Diversion Ditches	✓	NO
Sediment Ponds	✓	GOOD
Permit Condition Violations	✓	NONE
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	NONE
Liner Slippage	✓	NONE
Damage to the Facility From:		
Settlement	✓	NO
Erosion	✓	NO
Operator Negligence	✓	NO
Freezing	✓	NO
Frost Action	✓	NO
Permit Condition Violations	✓	NONE
Escaped Leachate	N/A	
Damage to or improper Operation of:		
Backwall	✓	NO
Diversion berm/stormwater structures	✓	NO
Containment structures	✓	NO
Erosion control/run-on structures	✓	NO
Death or Stress to:		
Fish, wildlife or vegetation	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: JAN 16th, 2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	GOOD SHAPE
Geotechnical Stability	✓	
Settlement	✓	OK
Erosion	✓	OK
Channelization	✓	NONE
Thawing	✓	OK
Frost Action	✓	OK
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	GOOD / CLEAN
Ditches	✓	RUNNING WELL
Settlement	✓	OK
Erosion	✓	NO
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner	✓	GOOD SHAPE
Slippage	✓	NONE
Anchors	✓	GOOD
Containment Structures	✓	GOOD
Retaining Walls	✓	GOOD
Erosion Control Structures	✓	OK
Run-on Control Structures	✓	OK
Diversion Structures	✓	OK
Geotechnical Stability	✓	OK
Settlement	✓	OK
Erosion	✓	NONE
Frost Action	✓	OK
Thawing	✓	OK

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: JAN 16, 2011

LAD SITE		
LAD Flow meter Reading		GOOD - TAKEN DAILY
Stress to Vegetation	✓	NONE
Channellization	✓	NONE
Leakage	✓	NONE
Freezing	✓	OK
Active Zones	✓	
Weather Conditions	✓	COOL WEATHER
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	OK
Sediment Ponds	✓	GOOD
Blockages to Diversion Ditches	✓	NONE
Sediment Ponds	✓	OK
Permit Condition Violations	✓	NONE
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	NONE
Liner Slippage	✓	NO
Damage to the Facility From:		
Settlement	✓	NO
Erosion	✓	NO
Operator Negligence	✓	NO
Freezing	✓	NONE
Frost Action	✓	NONE
Permit Condition Violations	✓	NO
Escaped Leachate	N/A	
Damage to or improper Operation of:		
Backwall	✓	NO
Diversion berm/stormwater structures	✓	NO
Containment structures	✓	NO
Erosion control/run-on structures	✓	NO
Death or Stress to:		
Fish, wildlife or vegetation	✓	NO

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 1-22-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	Some Ice on-Road
PORTAL PAD/SHOP SITE		
General Surface Condition		
Ditches	✓	need some Cleaning
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	Good
Anchors	✓	Good
Containment Structures	✓	Good
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability		
Settlement	✓	
Erosion	✓	
Frost Action	✓	No Ice in Sediment Pond
Thawing	✓	

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Maley

Date of inspection: 1-22-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	1-6
Weather Conditions	✓	Cold Lt Snow/Rain
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches		
Sediment Ponds	N/A	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	none
Erosion		none
Operator Negligence	✓	none
Freezing	✓	Pag Pond is frozen with lt in-flow
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	N/A	
Damage to or improper Operation of:		
Backwall	✓	none
Diversion berm/stormwater structures	✓	none
Containment structures	✓	none
Erosion control/run-on structures	✓	none
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Madey

Date of inspection: 1-29-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability	✓	Good
Settlement	✓	
Erosion	✓	minor Due to Heavy Rain
Channelization	✓	
Thawing	✓	Some But Rain is slowly Removing Ther
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition		
Ditches	✓	Jered & Elroy are Cleaning tidy ✓
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	none
SEDIMENT PONDS		
Liner		
Slippage	✓	Good
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	Good
Erosion Control Structures	✓	Good
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability		
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	none

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 1-29-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	✓	minor
Active Zones	✓	1-5
Weather Conditions	✓	Rain Overcast
NAG SITE		
Settlement/Geotechnical Instability		
Erosion		
Sediment Ponds		
Blockages to Diversion Ditches		
Sediment Ponds		
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	none
Erosion	✓	none
Operator Negligence	✓	none
Freezing	✓	Still some frozen Parts
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	N/A	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Montes

Date of inspection: 2-5-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor
Channelization	✓	none
Thawing	✓	Rain Has Removed All Ice
Frost Action	✓	none
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Just Cleaned on 1-29-11
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability		
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Maley

Date of inspection: 2-5-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	none
Leakage	✓	none
Freezing	✓	none
Active Zones	✓	1-6
Weather Conditions	✓	Over cast °40
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	good
Damage to the Facility From:		
Settlement	✓	none
Erosion	✓	none
Operator Negligence	✓	none
Freezing	✓	none
Frost Action	✓	none
Permit Condition Violations	✓	none
Escaped Leachate	N/A	
Damage to or improper Operation of:		
Backwall	✓	none
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

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VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: FEB 12, 2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	GOOD	SOME SAND HAS BEEN LAID DOWN for WINTER
Geotechnical Stability	GOOD	
Settlement	✓	
Erosion	✓	No major erosion
Channelization	✓	NONE
Thawing	✓	Still cold, but roads ARE DRY
Frost Action	✓	NONE
PORTAL PAD/SHOP SITE		
General Surface Condition	GOOD	PAD IS clean
Ditches	✓	GOOD - MINOR SLUMP INTO DITCH WILL NEED Rem
Settlement	✓	OK
Erosion	✓	NONE - MOSTLY FROZEN STILL
Thawing	✓	NOTHING to REPORT
Frost Action	✓	NOTHING to REPORT
SEDIMENT PONDS		
Liner	✓	GOOD SHAPE
Slippage	✓	NONE
Anchors	✓	GOOD
Containment Structures	✓	GOOD
Retaining Walls	✓	GOOD
Erosion Control Structures	✓	OK
Run-on Control Structures	✓	OK
Diversion Structures	✓	OK
Geotechnical Stability	✓	GOOD
Settlement	✓	OK
Erosion	✓	NONE
Frost Action	✓	NONE APPARENT
Thawing	✓	STILL COLD

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VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: FEB 12, 2011

LAD SITE		
LAD Flow meter Reading	✓	TAKEN DAILY
Stress to Vegetation	✓	NONE
Channellization	✓	NONE
Leakage	✓	NONE
Freezing	✓	COLD TEMPS, BUT LAD'S FUNCTIONING
Active Zones	✓	ZONES 1 & 2 AND 6-10 ✓
Weather Conditions	✓	COLD
NAG SITE		
Settlement/Geotechnical Instability	✓	FINE
Erosion	✓	NONE VISIBLE
Sediment Ponds	✓	GOOD
Blockages to Diversion Ditches	✓	NONE
Sediment Ponds	✓	OK
Permit Condition Violations	✓	NONE
PAG SITE		
PAG Flowmeter Reading	—	N/A
Visible signs of Damage to Liner	✓	NO
Liner Slippage	✓	NO
Damage to the Facility From:		
Settlement	✓	NO
Erosion	✓	NO
Operator Negligence	✓	NO
Freezing	✓	NO - OCCASIONAL ICE OVER
Frost Action	✓	NO
Permit Condition Violations	✓	NONE
Escaped Leachate	—	N/A
Damage to or improper Operation of:		
Backwall	✓	NO
Diversion berm/stormwater structures	✓	NO
Containment structures	✓	NO
Erosion control/run-on structures	✓	NO
Death or Stress to:		
Fish, wildlife or vegetation	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Mateu

Date of inspection: 2-19-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	None
Thawing	✓	Some Ice in Ditches
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Frozen with very lt. flow
Settlement	✓	
Erosion	✓	
Thawing	✓	Mostly frozen
Frost Action	✓	
SEDIMENT PONDS		
Liner		All Good Not froze
Slippage	✓	
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	none
Settlement	✓	none
Erosion	✓	none
Frost Action	✓	none
Thawing	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 2-19-11

LAD SITE		
LAD Flow meter Reading	✓	Still flowing not frozen
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	1-6
Weather Conditions	✓	Cold over cast
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
~~Sediment Ponds~~		
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	none
Erosion	✓	none
Operator Negligence	✓	
Freezing	✓	Frozen at flow
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	None

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 2-26-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	Some Ice in Road
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Good
Ditches	✓	
Settlement	✓	
Erosion	✓	minor
Thawing	✓	Still some Ice
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	Good
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	none
Thawing	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 2-26-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	1-4
Weather Conditions	✓	Cold minor Snow
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	✓	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:	✓	
Settlement	✓	no
Erosion	✓	no
Operator Negligence	✓	none
Freezing	✓	~~[illegible]~~ Pig Pond frozer
Frost Action	✓	
Permit Condition Violations	✓	no
Escaped Leachate	✓	
Damage to or improper Operation of:	✓	
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 3-5-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	full of Snow Plowed
Geotechnical Stability	✓	Good
Settlement	✓	
Erosion	✓	none
Channelization	✓	none
Thawing	✓	Some minor Due to Rain
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Good
Ditches	✓	full of snow
Settlement	✓	
Erosion	✓	none
Thawing	✓	Some Due to Rain
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	Good
Anchors	✓	Good
Containment Structures	✓	Good
Retaining Walls	✓	
Erosion Control Structures	✓	Good
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability		
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 3-5-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	none
Leakage	✓	none
Freezing	✓	some
Active Zones		1-6
Weather Conditions	✓	Rain & Lt Snow 36°
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion		
Sediment Ponds	N/A	
Blockages to Diversion Ditches		
Sediment Ponds	N/A	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	none
Freezing	✓	Prog Pond frozen
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	N/A	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: MARCH 12, 2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	FAIRLY GOOD - SOME POST WINTER REPAIR NEEDED
Geotechnical Stability	✓	GOOD
Settlement	✓	✓
Erosion	✓	SOME MINOR CHANNELIZATION ON CORNERS
Channelization	✓	MINOR
Thawing	✓	OK
Frost Action	✓	OK
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	GOOD - CLEAN
Ditches	✓	GOOD
Settlement	✓	FINE
Erosion	✓	NO
Thawing	✓	OK
Frost Action	✓	OK
SEDIMENT PONDS		
Liner	✓	GOOD SHAPE
Slippage	✓	NONE
Anchors	✓	GOOD
Containment Structures	✓	GOOD
Retaining Walls	✓	GOOD
Erosion Control Structures	✓	OK
Run-on Control Structures	✓	OK
Diversion Structures	✓	OK
Geotechnical Stability	✓	
Settlement	✓	OK
Erosion	✓	NONE
Frost Action	✓	NONE
Thawing	✓	OK

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Frasher Adams

Date of inspection: March 12, 2011

LAD SITE		
LAD Flow meter Reading	✓	Yes, Daily Reading
Stress to Vegetation	✓	No
Channellization	✓	None
Leakage	✓	None
Freezing	✓	None
Active Zones	✓	Zone 1-4 & 6-10
Weather Conditions	✓	Cool, Mild
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	None
Sediment Ponds	✓	Good
Blockages to Diversion Ditches	✓	None
Sediment Ponds	✓	Good
Permit Condition Violations	✓	No
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	None
Liner Slippage	✓	No
Damage to the Facility From:		
Settlement	✓	No
Erosion	✓	No
Operator Negligence	✓	No
Freezing	✓	No
Frost Action	✓	No
Permit Condition Violations	✓	None
Escaped Leachate	N/A	
Damage to or improper Operation of:		
Backwall	✓	No
Diversion berm/stormwater structures	✓	No
Containment structures	✓	No
Erosion control/run-on structures	✓	No
Death or Stress to:		
Fish, wildlife or vegetation	✓	None

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: MARCH 19, 2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	GOOD CONDITION
Geotechnical Stability	✓	
Settlement	✓	FINE
Erosion	✓	~~[illegible]~~ OK
Channelization	✓	MINOR - ON CORNERS (WE'LL ADD FINES SOON TO REPAIR)
Thawing	✓	OK
Frost Action	✓	OK
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	CLEAN, GOOD SHAPE
Ditches	✓	GOOD
Settlement	✓	OK
Erosion	✓	NONE
Thawing	✓	NONE
Frost Action	✓	NONE
SEDIMENT PONDS		
Liner	✓	GOOD
Slippage	✓	NONE
Anchors	✓	GOOD
Containment Structures	✓	GOOD
Retaining Walls	✓	GOOD
Erosion Control Structures	✓	GOOD
Run-on Control Structures	✓	GOOD
Diversion Structures	✓	GOOD
Geotechnical Stability	✓	
Settlement	✓	FINE
Erosion	✓	NONE
Frost Action	✓	NONE
Thawing	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: MARCH 19, 2011

LAD SITE		
LAD Flow meter Reading	✓	DAILY READING
Stress to Vegetation	✓	NONE
Channellization	✓	NONE
Leakage	✓	NO
Freezing	✓	NO
Active Zones	✓	ZONE 1-3 & 7-10
Weather Conditions	✓	Mild, cool
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	NONE
Sediment Ponds	✓	GOOD
Blockages to Diversion Ditches	✓	NONE
Sediment Ponds	✓	GOOD
Permit Condition Violations	✓	NO
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	NO
Liner Slippage	✓	NO
Damage to the Facility From:	✓	
Settlement	✓	NO
Erosion	✓	NO
Operator Negligence	✓	NO
Freezing	✓	NO
Frost Action	✓	NO
Permit Condition Violations	✓	NONE
Escaped Leachate	N/A	
Damage to or improper Operation of:		
Backwall	✓	NO
Diversion berm/stormwater structures	✓	NO
Containment structures	✓	NO
Erosion control/run-on structures	✓	NO
Death or Stress to:		
Fish, wildlife or vegetation	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Mateu

Date of inspection: 3-26-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Very Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor
Channelization	✓	None
Thawing	✓	most Snow has melted
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Still with a bit of snow
Settlement	✓	
Erosion	✓	none
Thawing	✓	Still minor Snow
Frost Action	✓	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	All Good
Anchors	✓	All Good
Containment Structures		
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	Very Good
Settlement	✓	
Erosion	✓	minor
Frost Action	✓	
Thawing	✓	Most Snow/ Ground Pond is Gone

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Mateu

Date of inspection: 3-26-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	none
Leakage	✓	
Freezing	✓	still a Bit of Snow
Active Zones	✓	1-6 & 10
Weather Conditions	✓	sunny & clear °44
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	none
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	none
Freezing	✓	Semi / Frozer
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:	✓	
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Matey

Date of inspection: 4-2-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor
Channelization	✓	minor
Thawing	✓	Lots of thawing
Frost Action	✓	none
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	need some clearing
Settlement	✓	
Erosion	✓	minor
Thawing	✓	All Thawing Due to Weather
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	All Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability		
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Matey

Date of inspection: 4-2-11

.AD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	1-10
Weather Conditions	✓	Clear Sunny
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	minor
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	All good
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	none
Freezing	✓	
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Matey

)ate of inspection: 4-9-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	Minor
Channelization	✓	
Thawing	✓	All Thawed
Frost Action	✓	N/A
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Need clean up
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability		
Settlement	✓	
Erosion	✓	minor
Frost Action	✓	
Thawing	✓	All Thawed

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Mateu

Date of inspection: 4-9-11

.AD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	None
Channellization	✓	Some Minor
Leakage	✓	none
Freezing	✓	none
Active Zones	✓	1-10
Weather Conditions	✓	Rain +
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	minor
Sediment Ponds		
Blockages to Diversion Ditches		
Sediment Ponds		
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading		
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	Good
Damage to the Facility From:		
Settlement	✓	none
Erosion	✓	none
Operator Negligence	✓	none
Freezing	✓	none
Frost Action	✓	none
Permit Condition Violations	✓	none
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	✓	none
Diversion berm/stormwater structures	✓	none
Containment structures	✓	none
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 4-16-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor erosion by barge landing Area
Channelization	✓	
Thawing	✓	
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Good
Ditches	✓	Good No debris
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner	✓	Good
Slippage	✓	
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	Good
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Maley

Date of inspection: 4-16-11

LAD SITE		
LAD Flow meter Reading	✓	Daily
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	✓	no
Active Zones	✓	1-10
Weather Conditions	✓	Lt Rain a bit Cold
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	
Sediment Ponds	N/A	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	none
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures		
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: Apr 23, 2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	GOOD SFC. CONDITIONS
Geotechnical Stability		
Settlement	✓	FINE
Erosion	✓	NONE
Channelization	✓	NONE (FINES WERE ADDED TO CORNERS to FIX MINOR CHANNELS)
Thawing	✓	NONE
Frost Action	✓	NONE
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	GOOD / CLEAN
Ditches	✓	GOOD
Settlement	✓	OK
Erosion	✓	NONE
Thawing	✓	NONE
Frost Action	✓	NONE
SEDIMENT PONDS		
Liner	✓	GOOD CONDITION
Slippage	✓	NONE
Anchors	✓	GOOD
Containment Structures	✓	GOOD
Retaining Walls	✓	GOOD
Erosion Control Structures	✓	OK
Run-on Control Structures	✓	OK
Diversion Structures	✓	OK
Geotechnical Stability	✓	
Settlement	✓	OK
Erosion	✓	NONE
Frost Action	✓	NONE
Thawing	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Apr 23, 2011

Date of inspection: Fraser Adams

LAD SITE		
LAD Flow meter Reading	✓	Taken Daily
Stress to Vegetation	✓	None Apparent
Channellization	✓	None
Leakage	✓	No
Freezing	✓	No
Active Zones	✓	Zones 1-4 & 6-9
Weather Conditions	✓	Mild / Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	Good
Erosion	✓	No
Sediment Ponds	✓	Good
Blockages to Diversion Ditches	✓	None
Sediment Ponds	✓	Good
Permit Condition Violations	✓	No
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	None
Liner Slippage	✓	None
Damage to the Facility From:	✓	
Settlement	✓	None
Erosion	✓	None
Operator Negligence	✓	None
Freezing	✓	None
Frost Action	✓	None
Permit Condition Violations	✓	No
Escaped Leachate	N/A	
Damage to or Improper Operation of:		
Backwall	✓	No
Diversion berm/stormwater structures	✓	No
Containment structures	✓	No
Erosion control/run-on structures	✓	No
Death or Stress to:	✓	
Fish, wildlife or vegetation	✓	None

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 4-30-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Working very good
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix mitey

Date of inspection: 4-30-11

LAD SITE		
LAD Flow meter Reading	✓	Daily
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	✓	no
Active Zones	✓	1-10
Weather Conditions	✓	Over cast
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	
PAG SITE		
PAG Flowmeter Reading	✓	Daily
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix matey

Date of inspection: 5-8-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	N/A	All snow Gone
Frost Action	N/A	No frost
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	All Good
Ditches	✓	All Redone
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	All Good
Anchors	✓	All Good
Containment Structures	✓	All Good
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	none
Thawing	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Mateu

)ate of inspection: 5-8-11

.AD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	none
Leakage	✓	none
Freezing	✓	none
Active Zones	✓	1-10
Weather Conditions	✓	Sunny & Clear
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	minor from winte
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	Ditches Redone (some misaln
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	none
Damage to the Facility From:	✓	none
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	Sunny !!
Frost Action	✓	none
Permit Condition Violations	✓	none
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Motey

Date of inspection: 5-14-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	Road Have been Repaired
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Good.
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	Sediment Ponds Look Very
Anchors	✓	good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	NO	
Thawing	NO	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 5-14-11

LAD SITE		
LAD Flow meter Reading	✓	Daily
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	N/A	
Active Zones	✓	1-10
Weather Conditions	✓	Clear Sunny Warm
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	N/A
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	N/A
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	no
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	none
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 5-21-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Good
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 5-21-11

LAD SITE		
LAD Flow meter Reading	✓	Daily
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	N/A	
Active Zones	✓	1-10
Weather Conditions	✓	Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	
Sediment Ponds	N/A	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage		
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	none
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Murray Richardson

Date of inspection: May 28/11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability		
Settlement	✓	All areas in good condition
Erosion	✓	
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Large slump + boulder at SE corner will
Settlement	✓	been watching
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	
Anchors	✓	
Containment Structures	✓	All areas good
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Murray Richardson

Date of inspection: May 28/11

LAD SITE		
LAD Flow meter Reading	✓	All records up to date
Stress to Vegetation	✓	None Noted
Channellization	✓	
Leakage	✓	None
Freezing	N/A	
Active Zones	✓	Zone 1, 2, 6, 7, 8
Weather Conditions		Light Rain today
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	Good
Sediment Ponds	✓	ok.
Blockages to Diversion Ditches	✓	None
Sediment Ponds	✓	ok.
Permit Condition Violations	✓	None.
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	None
Liner Slippage	✓	None
Damage to the Facility From:		
Settlement		ok
Erosion		ok
Operator Negligence		ok
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations		ok.
Escaped Leachate		None.
Damage to or improper Operation of:		
Backwall		None.
Diversion berm/stormwater structures		None
Containment structures		None
Erosion control/run-on structures		None
Death or Stress to:		None
Fish, wildlife or vegetation		None

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VISUAL SITE INSPECTION FORM

Inspected by: Murray Richardson

Date of inspection: June 4/11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	All good
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	continue to monitor large
Settlement	✓	stump + boulder
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	All ok
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	All good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

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VISUAL SITE INSPECTION FORM

Inspected by: Murray Richardson

Date of inspection: June 4/11

LAD SITE		
LAD Flow meter Reading	✓	All records up to date
Stress to Vegetation	✓	None
Channellization	✓	None
Leakage	✓	None
Freezing	N/A	
Active Zones	✓	1. 2. 3. 4. 5. 10.
Weather Conditions	✓	Very dry.
NAG SITE		
Settlement/Geotechnical Instability	✓	Ok.
Erosion	✓	None
Sediment Ponds	✓	Good.
Blockages to Diversion Ditches	✓	None
Sediment Ponds	✓	Good.
Permit Condition Violations	✓	None.
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner		None.
Liner Slippage		None.
Damage to the Facility From:		
Settlement		None.
Erosion		None
Operator Negligence		None.
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations		None.
Escaped Leachate		None.
Damage to or improper Operation of:		
Backwall		None.
Diversion berm/stormwater structures		None
Containment structures		None
Erosion control/run-on structures		None
Death or Stress to:		
Fish, wildlife or vegetation		None

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix matec

Date of inspection: 6-9-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	n/A
Frost Action	✓	n/A
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	✓	none
Frost Action	✓	none
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	
Anchors	✓	All good.
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	n/A
Thawing	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Mateu

Date of inspection: 6-9-11

.AD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	none
Leakage	✓	
Freezing	✓	none
Active Zones	✓	1-10
Weather Conditions	✓	Overcast
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	
PAG SITE		
PAG Flowmeter Reading	✓	
Visible signs of Damage to Liner	✓	
Liner Slippage	✓	
Damage to the Facility From:	✓	
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	none
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:	✓	
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Matey

)ate of inspection: 6-18-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	✓	N/A
Frost Action	✓	N/A
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	Very Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Mateo

)ate of inspection: 6-18-11

.AD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	n/A
Active Zones	✓	1-10
Weather Conditions	✓	
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
'AG SITE		
PAG Flowmeter Reading	✓	
Visible signs of Damage to Liner	✓	
Liner Slippage	✓	
Damage to the Facility From:	✓	
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	n/A
Frost Action	✓	n/A
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Mateu

Date of inspection: 6-24-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	none
Thawing	✓	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Looking Good
Settlement	✓	
Erosion	✓	
Thawing	✓	N/A
Frost Action	✓	N/A
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	All Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	Good
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Matey

Date of inspection: 6-24-11

.AD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	
Channellization	✓	
Leakage	✓	
Freezing	N/A	
Active Zones	✓	I-IV
Weather Conditions	✓	Very Dry week
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	✓	
Visible signs of Damage to Liner	✓	
Liner Slippage	✓	
Damage to the Facility From:	✓	
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	
Frost Action	✓	
Permit Condition Violations	✓	
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Murray Richardson

Date of inspection: July 2/11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition		Good - wet.
Geotechnical Stability		ok
Settlement		None
Erosion		None
Channelization		None
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition		Continue to monitor large
Ditches		boulder + stump at SE corner.
Settlement		None
Erosion		None.
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage		None
Anchors		OK
Containment Structures		ok
Retaining Walls		ok
Erosion Control Structures		ok
Run-on Control Structures		ok
Diversion Structures		ok
Geotechnical Stability		ok
Settlement		ok
Erosion		ok None
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Murray Richardson

Date of inspection: July 2/11

LAD SITE		
LAD Flow meter Reading	✓	All good
Stress to Vegetation	✓	None
Channellization	✓	None.
Leakage	✓	None
Freezing	N/A.	
Active Zones	✓	1. 2. 3. 5. 7. 9. 10
Weather Conditions	✓	wet. Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	ok.
Erosion	✓	None.
Sediment Ponds	✓	Ok.
Blockages to Diversion Ditches	✓	None
Sediment Ponds	✓	ok
Permit Condition Violations	✓	None
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner		None
Liner Slippage		None.
Damage to the Facility From:		
Settlement		None
Erosion		None
Operator Negligence		None
Freezing	N/A	None
Frost Action	N/A	
Permit Condition Violations	✓	None.
Escaped Leachate	✓	None
Damage to or improper Operation of:		
Backwall	✓	None
Diversion berm/stormwater structures	✓	None
Containment structures	✓	None
Erosion control/run-on structures	✓	None.
Death or Stress to:		
Fish, wildlife or vegetation	✓	None

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Jason Lamp

Date of inspection: 7/9/11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Excellent
Geotechnical Stability	✓	Excellent
Settlement	✓	
Erosion	✓	None
Channelization		
Thawing	✓	N/A
Frost Action	✓	N/A
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Excellent
Ditches	✓	Great
Settlement	✓	
Erosion	✓	
Thawing	✓	N/A
Frost Action	✓	N/A
SEDIMENT PONDS	✓	Excellent
Liner	✓	Excellent
Slippage	✓	
Anchors	✓	
Containment Structures	✓	Good
Retaining Walls	✓	
Erosion Control Structures	✓	Good
Run-on Control Structures	✓	Good
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	None
Frost Action	✓	N/A
Thawing	✓	N/A

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: [illegible]

Date of inspection: 7/9/11

.AD SITE		
LAD Flow meter Reading	✓	Daily reading ✓
Stress to Vegetation	✓	NONE
Channellization	✓	NONE
Leakage	✓	No
Freezing	✓	No
Active Zones	✓	
Weather Conditions	✓	WARM / DRY
NAG SITE	✓	Excellent
Settlement/Geotechnical Instability	✓	
Erosion	✓	None
Sediment Ponds	✓	Good
Blockages to Diversion Ditches	✓	None
Sediment Ponds	✓	
Permit Condition Violations	✓	
PAG SITE	✓	
PAG Flowmeter Reading	✓	
Visible signs of Damage to Liner	✓	None
Liner Slippage	✓	None
Damage to the Facility From:	✓	
Settlement	✓	None
Erosion	✓	None
Operator Negligence	✓	None
Freezing	✓	N/A
Frost Action	✓	N/A
Permit Condition Violations	✓	
Escaped Leachate	✓	
Damage to or improper Operation of:	✓	
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:	✓	
Fish, wildlife or vegetation	✓	None

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 7-16-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Good
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 7-16-11

LAD SITE		
LAD Flow meter Reading	✓	Daily
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	✓	N/A
Active Zones	✓	1-10
Weather Conditions	✓	Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	
Sediment Ponds	N/A	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	none
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Matey

Date of inspection: 7-22-2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Very Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	none
Channelization	✓	none
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	All Redone
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	All Good
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

nspected by: Felix Mateu

Date of inspection: 7-22-2011

.AD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	none
Leakage	✓	none
Freezing	N/A	
Active Zones	✓	1-10
Weather Conditions	✓	clear skies
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	none
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	none
Diversion berm/stormwater structures	✓	none
Containment structures	✓	
Erosion control/run-on structures		
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 7-30-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Good
Ditches	✓	Good
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mcfey

Date of inspection: 7-30-11

LAD SITE		
LAD Flow meter Reading	✓	Daily
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	✓	N/A
Active Zones	✓	1-10
Weather Conditions	✓	Lt Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	
Sediment Ponds	N/A	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	✓	Daily
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	none
Freezing	✓	N/A
Frost Action	✓	N/A
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Jason Lawyi

Date of inspection: 8/5/24

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Very good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	None
Channelization	✓	
Tree Fall Hazards	✓	None
Thawing	N/A	
Frost Action	N/A	
Ditches	✓	good
Erosion	✓	
Frost Action	N/A	
Debris Blockage	✓	Zero
Hay Bales	✓	great shape
PORTAL PAD		
General Surface Condition	✓	good
Geotechnical Stability (of high wall)		
Settlement	✓	
Erosion	✓	
Tree Fall Hazards	✓	
Rock Fall Hazards	✓	
Thawing	N/A	
Frost Action	N/A	
Geotechnical Stability (of ditches)	✓	great
Erosion	N/A	
Frost Action	N/A	
Debris Blockage	✓	None
Hay Bales	✓	great shape

Inspected by: Jason Lowyi **NIBLACK PROJECT LLC**

Date of inspection: 8/5/14 **VISUAL SITE INSPECTION FORM**

AREA	STATUS	OBSERVATIONS/COMMENTS
PORTAL SHOP		
General Surface Condition	✓	good
Ditches	✓	
Tree Fall Hazards	✓	
Rock Fall Hazards	✓	
Erosion (of High Wall)	✓	seed is taking well
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	
Anchors	✓	
Geotechnical Stability (of structure)	✓	good
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	
Containment Structures	✓	
Retaining Walls	✓	
Diversion Structures	✓	
LAD SITE		
LAD Flow Meter Reading	✓	good 037252.0
Screen Condition (outflow pipe)	✓	clear
Dock (ropes, boom, net)	✓	
Stress to Vegetation	✓	zero
Channelization	✓	
Leakage	✓	None
Freezing	N/A	
Tree Fall Hazards	✓	
Weather Conditions	✓	Clear / Light Clouds

Inspected by: Jason Lowy

NIBLACK PROJECT LLC

Date of inspection: 8/5/24

VISUAL SITE INSPECTION FORM

AREA	STATUS	OBSERVATIONS/COMMENTS
NAG SITE	✓	great
General Surface Condition (roads)	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Tree Fall Hazards	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	None
Permit Condition Violations		
PAG SITE		
Visible signs of Damage to Liner	✓	None
Liner Slippage	✓	None
Damage to the Facility From:	✓	
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations		
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	Zero
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	Zero
OLD CAMP		
General Surface Condition (of Roads)	✓	excellent
Geotechnical Stability	✓	great
Ditches and Sumps	✓	
Landings	✓	
Tree Fall Hazards	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: [illegible]

Date of inspection: 8/12/2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Great
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Tree Fall Hazards	✓	
Thawing	N/A	
Frost Action	N/A	
Ditches	✓	Excellent
Erosion	✓	None
Frost Action	N/A	
Debris Blockage	✓	None
Hay Bales	✓	Excellent
PORTAL PAD		
General Surface Condition	✓	Good
Geotechnical Stability (of high wall)	✓	
Settlement	✓	
Erosion	✓	
Tree Fall Hazards	✓	None
Rock Fall Hazards		
Thawing	N/A	
Frost Action	N/A	
Geotechnical Stability (of ditches)	✓	Perfect
Erosion	✓	
Frost Action	N/A	
Debris Blockage	✓	Zero
Hay Bales	✓	Good

Inspected by: [illegible] **NIBLACK PROJECT LLC** Page 2

Date of inspection: 8/17/2011 **VISUAL SITE INSPECTION FORM**

AREA	STATUS	OBSERVATIONS/COMMENTS
PORTAL SHOP		
General Surface Condition	✓	Good
Ditches	✓	Excellent
Tree Fall Hazards	✓	None
Rock Fall Hazards	✓	None
Erosion (of High Wall)	✓	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	None
Anchors	✓	
Geotechnical Stability (of structure)		
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	
Containment Structures	✓	Good Shape
Retaining Walls	✓	
Diversion Structures	✓	
LAD SITE		
LAD Flow Meter Reading		238926.6
Screen Condition (outflow pipe)	✓	Clean
Dock (ropes, boom, net)	✓	Good
Stress to Vegetation	✓	None
Channelization	✓	
Leakage	✓	
Freezing	N/A	
Tree Fall Hazards	✓	
Weather Conditions		Cloudy

Inspected by: Jason Lamyi

NIBLACK PROJECT LLC

Date of inspection: 8/12/2011

VISUAL SITE INSPECTION FORM

AREA	STATUS	OBSERVATIONS/COMMENTS
NAG SITE		
General Surface Condition (roads)	✓	Great
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	None
Tree Fall Hazards	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	Zero
Permit Condition Violations		
PAG SITE		
Visible signs of Damage to Liner	✓	None
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	None
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations		
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	Zero
OLD CAMP		
General Surface Condition (of Roads)	✓	Great
Geotechnical Stability	✓	
Ditches and Sumps	✓	Good
Landings	✓	
Tree Fall Hazards	✓	None

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 8-19-2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	very Good
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	Good
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	Very Good!
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 8-19-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	N/A	
Active Zones	✓	1-10
Weather Conditions	✓	Over cast
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	All Ditches in very good condition
Sediment Ponds	N/A	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	—	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	none
Operator Negligence	✓	none
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 8-26-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor Erosion Due to Storms
Channelization	✓	Some Channelization Due to storms
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Some Land Slide Due to Heavy Rain
Settlement	✓	
Erosion	✓	Some Erosion Due to Rain Storms
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 8-26-11

LAD SITE		
LAD Flow meter Reading	✓	Good condition
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	N/A	
Active Zones	✓	1-10
Weather Conditions	✓	Heavy Rain for the Past 3 Days
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	
Liner Slippage	✓	
Damage to the Facility From:	✓	
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	very good
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: SEPT 3, 2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	GOOD CONDITION
Geotechnical Stability	✓	
Settlement	✓	OK
Erosion	✓	NONE
Channelization	✓	NO
Thawing	✓	NONE
Frost Action	✓	NONE
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	GOOD CONDITION
Ditches	✓	GOOD / CLEAR
Settlement	✓	OK
Erosion	✓	NONE
Thawing	✓	NONE
Frost Action	✓	NONE
SEDIMENT PONDS		
Liner	✓	GOOD CONDITION
Slippage	✓	NONE
Anchors	✓	GOOD
Containment Structures	✓	GOOD
Retaining Walls	✓	GOOD
Erosion Control Structures	✓	OK
Run-on Control Structures	✓	OK
Diversion Structures	✓	OK
Geotechnical Stability	✓	
Settlement	✓	GOOD
Erosion	✓	NONE
Frost Action	✓	NONE
Thawing	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: FRASER ADAMS

Date of inspection: SEPT 3, 2011

LAD SITE		
LAD Flow meter Reading	✓	TAKEN DAILY
Stress to Vegetation	✓	NO
Channellization	✓	NO
Leakage	✓	NO
Freezing	✓	NO (TOO WARM)
Active Zones	✓	1-4 & 7-8
Weather Conditions	✓	Mild (WARM DAYS, NIGHTS COOLING)
NAG SITE		
Settlement/Geotechnical Instability	✓	GOOD OVERALL CONDITION
Erosion	✓	NONE
Sediment Ponds	✓	OK (NEED SOME MINOR DEBRIS REMOVED)
Blockages to Diversion Ditches	✓	NO
Sediment Ponds	✓	OK
Permit Condition Violations	✓	NONE
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	NONE
Liner Slippage	✓	NO
Damage to the Facility From:	✓	
Settlement	✓	NO
Erosion	✓	NO
Operator Negligence	✓	NO
Freezing	✓	NO } TOO WARM
Frost Action	✓	NO } TOO WARM
Permit Condition Violations	✓	NONE
Escaped Leachate	N/A	
Damage to or Improper Operation of:	✓	
Backwall	✓	NO
Diversion berm/stormwater structures	✓	NO
Containment structures	✓	NO
Erosion control/run-on structures	✓	NO
Death or Stress to:	✓	
Fish, wildlife or vegetation	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Jason Lowyi

Date of inspection: 9/9/11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition		Good
Geotechnical Stability		
Settlement		Zero
Erosion		Zero
Channelization		None
Thawing		N/A
Frost Action		N/A
PORTAL PAD/SHOP SITE		
General Surface Condition		Excellent
Ditches		Clear
Settlement		None
Erosion		Zero
Thawing		N/A
Frost Action		N/A
SEDIMENT PONDS		
Liner		Good
Slippage		None
Anchors		OK
Containment Structures		
Retaining Walls		Good
Erosion Control Structures		
Run-on Control Structures		
Diversion Structures		
Geotechnical Stability		
Settlement		
Erosion		
Frost Action		N/A
Thawing		N/A

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Jason Lawyi

Date of inspection: 9/9/11

LAD SITE		
LAD Flow meter Reading		247109.2
Stress to Vegetation		None
Channellization		None
Leakage		Zero
Freezing		N/A
Active Zones		
Weather Conditions		
NAG SITE		
Settlement/Geotechnical Instability		Zero
Erosion		None
Sediment Ponds		
Blockages to Diversion Ditches		None
Sediment Ponds		Good
Permit Condition Violations		Zero
PAG SITE		
PAG Flowmeter Reading		
Visible signs of Damage to Liner		Zero
Liner Slippage		None
Damage to the Facility From:		
Settlement		NO
Erosion		NO
Operator Negligence		None
Freezing		N/A
Frost Action		N/A
Permit Condition Violations		
Escaped Leachate		
Damage to or improper Operation of:		
Backwall		Zero
Diversion berm/stormwater structures		Good
Containment structures		Good
Erosion control/run-on structures		Good
Death or Stress to:		Zero
Fish, wildlife or vegetation		

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Jason Lanyi

Date of inspection: 9/16/11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition		Very Minor potholes / Good
Geotechnical Stability		
Settlement		Zero
Erosion		Very Minor / being adjusted / Good
Channelization		No
Thawing		N/A
Frost Action		N/A
PORTAL PAD/SHOP SITE		
General Surface Condition		Great
Ditches		Good / Nice & clean
Settlement		None
Erosion		None
Thawing		N/A
Frost Action		N/A
SEDIMENT PONDS		
Liner		Good
Slippage		None
Anchors		OK
Containment Structures		OK
Retaining Walls		OK
Erosion Control Structures		
Run-on Control Structures		
Diversion Structures		
Geotechnical Stability		
Settlement		Zero
Erosion		None
Frost Action		N/A
Thawing		N/A

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Jason Lowy

Date of inspection: 9/16/11

LAD SITE		
LAD Flow meter Reading		249034.3
Stress to Vegetation		None
Channellization		None
Leakage		None
Freezing		N/A
Active Zones		
Weather Conditions		Heavy Rain
NAG SITE		
Settlement/Geotechnical Instability		Zero
Erosion		None
Sediment Ponds		Good
Blockages to Diversion Ditches		Zero
Sediment Ponds		
Permit Condition Violations		None
PAG SITE		
PAG Flowmeter Reading		
Visible signs of Damage to Liner		Zero
Liner Slippage		None
Damage to the Facility From:		
Settlement		None
Erosion		None
Operator Negligence		Zero
Freezing		N/A
Frost Action		N/A
Permit Condition Violations		None
Escaped Leachate		
Damage to or improper Operation of:		
Backwall		No
Diversion berm/stormwater structures		No
Containment structures		No
Erosion control/run-on structures		No
Death or Stress to:		
Fish, wildlife or vegetation		No

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix mabey

Date of inspection: 9-24-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Some Tree Down on Road from Storm
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor
Channelization	✓	Light
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Good
Ditches	✓	Some Debris need to Be Removed
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	
Anchors	✓	
Containment Structures	✓	Good
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor
Frost Action	N/A	
Thawing	NA	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 9-24-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	N/A	
Active Zones	✓	1-10
Weather Conditions	✓	Very Stormy High Winds
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	Some Debris in Ditches
Sediment Ponds	✓	
Permit Condition Violations	✓	none.
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	None
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none.
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	None

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: 10-1-11

Date of inspection: Felix Matey

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Debris has been Picked up / some still needs
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	need to still Remove some debris
Settlement	✓	
Erosion	✓	minor
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	N/A	
Thawing	N/A	

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 10-1-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	N/A	
Active Zones	✓	1-10
Weather Conditions	✓	Clear Blue skies
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	Ditches have been clean
Sediment Ponds	✓	
Permit Condition Violations	✓	
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateo

Date of inspection: 10-7-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor
Channelization	✓	minor
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	All Clean
Settlement	✓	
Erosion	✓	minor
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	Good
Slippage	✓	
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor
Frost Action	✓	N/A
Thawing	✓	N/A

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 10-7-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	✓	N/A
Active Zones	✓	1-10
Weather Conditions	✓	Clear 41
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	none
Sediment Ponds		
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

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VISUAL SITE INSPECTION FORM

Inspected by: [illegible]

Date of inspection: 10/13/11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	Pot holes have been filled in
Geotechnical Stability		
Settlement	NO	
Erosion	NO	
Channelization		
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	Good	little debris from last storm
Settlement	No	
Erosion	NO	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner		
Slippage	NO	
Anchors	Good	
Containment Structures		
Retaining Walls		Good shape/no failures
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability		
Settlement	NO	
Erosion	NO	
Frost Action	N/A	
Thawing	N/A	

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VISUAL SITE INSPECTION FORM

Inspected by: [illegible]

Date of inspection: 10/13/11

LAD SITE		
LAD Flow meter Reading		2560360.1 Daily Flow 155.8
Stress to Vegetation		
Channellization		
Leakage		
Freezing	N/A	
Active Zones		On Shut down mode
Weather Conditions		Partly Cloudy / light Rain
NAG SITE		
Settlement/Geotechnical Instability		
Erosion		Minor on upper hillside
Sediment Ponds		
Blockages to Diversion Ditches		Some branches that are being removed
Sediment Ponds		
Permit Condition Violations	None	
PAG SITE		
PAG Flowmeter Reading		
Visible signs of Damage to Liner	NO	
Liner Slippage	NO	
Damage to the Facility From:		
Settlement	NO	
Erosion	None	
Operator Negligence	NO	
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	None	
Escaped Leachate	NO	
Damage to or improper Operation of:		
Backwall	NO	
Diversion berm/stormwater structures	NO	
Containment structures	NO	
Erosion control/run-on structures	NO	
Death or Stress to:		
Fish, wildlife or vegetation	NO	

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VISUAL SITE INSPECTION FORM

Inspected by: Jason Lewyi

Date of inspection: 10-21-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability		
Settlement	✓	None
Erosion	✓	None
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition		Good
Ditches	✓	Clean
Settlement	✓	no
Erosion	✓	no
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner		
Slippage	✓	Good
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability		
Settlement	✓	no
Erosion	✓	no
Frost Action	N/A	
Thawing	N/A	

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VISUAL SITE INSPECTION FORM

Inspected by: Jason Ladyi

Date of inspection: 10-21-11

LAD SITE		
LAD Flow meter Reading	841.0	
Stress to Vegetation	✓	Zero
Channellization	✓	
Leakage	✓	None
Freezing	N/A	
Active Zones		
Weather Conditions	✓	Heavy Rain
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	NO
Sediment Ponds	✓	Good
Blockages to Diversion Ditches	✓	NO
Sediment Ponds		
Permit Condition Violations	✓	None
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	NO
Liner Slippage	✓	None
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	None
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	None
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	✓	NO
Diversion berm/stormwater structures	✓	
Containment structures	✓	Good
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	NO

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 11-4-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Some Heavy Rain in Last few Day
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	Minor
Channelization	✓	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE	✓	
General Surface Condition	✓	
Ditches	✓	Some Debri Need to be Removed
Settlement	✓	
Erosion	✓	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	Good Condition
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	Minor
Frost Action	N/A	
Thawing	N/A	

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 11-4-11

LAD SITE		
LAD Flow meter Reading	✓	All up to date
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	none
Freezing	✓	none
Active Zones	✓	1-10
Weather Conditions	✓	Cold windy Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion		
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	none
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage		
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	none
Freezing	N/A	
Frost Action	N/A	
Permit Condition Violations	✓	none
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	✓	Good
Diversion berm/stormwater structures	✓	
Containment structures	✓	Good
Erosion control/run-on structures	✓	Good
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 11-11-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Debris cleaned from Last Week's Storm
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	first Frost and Ice of year
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	✓	minor Ice
Frost Action	✓	minor Frost
SEDIMENT PONDS		
Liner		
Slippage	✓	Good
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	Good
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	Some Ice on Site

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 11-11-11

LAD SITE		
LAD Flow meter Reading	✓	up to Date All under 300 GPM
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	Some Freezing Going on Heater
Active Zones	✓	3-10
Weather Conditions	✓	Cold Lt Snow
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	Very Good Water is Clear
Blockages to Diversion Ditches	✓	All clear
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	none
Freezing	✓	
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 11-18-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Some Snow on Ground
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition		
Ditches	✓	Covered in Snow
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	All Good
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	Pad Not frozen Completly
Thawing	✓	Rain Thaw

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 11-18-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	Heater on
Active Zones	✓	1-6 Zone 9-10 Frozen at Flow
Weather Conditions	✓	Cold, Snow/Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	none
Operator Negligence	✓	
Freezing	✓	
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 11-25-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	2-4 ft of snow on Ground
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	4 ft of snow on Ground
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	Good
Anchors	✓	Good
Containment Structures	✓	
Retaining Walls	✓	Good
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 11-25-11

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	
Channellization	✓	
Leakage	✓	
Freezing	✓	Heaters on
Active Zones	✓	1-6
Weather Conditions	✓	3 ft Snow by LAD flow meter
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	none
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	
Damage to or improper Operation of:		
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Scott Erickson / Michael [illegible]

Date of inspection: Dec. 2, 2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Thawing out
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Small amounts Snow
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	Lots of snow around ponds
Anchors	✓	Good
Containment Structures	✓	Good
Retaining Walls	✓	Good
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: _____

Date of inspection: _____

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	
Channellization	✓	
Leakage	✓	
Freezing	✓	Zone 1, 3, 4 open
Active Zones	✓	
Weather Conditions	✓	Snow Dissipating
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations	✓	NONE
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	
Liner Slippage	✓	Snow
Damage to the Facility From:	✓	
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	
Frost Action	✓	
Permit Condition Violations	✓	NONE
Escaped Leachate	✓	
Damage to or improper Operation of:	✓	
Backwall	✓	
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:	✓	
Fish, wildlife or vegetation	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. NIELSEN

Date of inspection: 12-10-2011

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	THAWING OUT
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	NONE TO MINIMAL IN PLACES
Channelization	✓	
Thawing	✓	LT SNOW ALONG ROADS
Frost Action	✓	NONE
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	CLEAN + DEBRIS FREE
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	✓	FEW PATCHES OF SNOW - MELTING
Frost Action	✓	
SEDIMENT PONDS		
Liner	✓	
Slippage	✓	NONE
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	CLEAR WATER
Erosion	✓	NONE
Frost Action	✓	NONE
Thawing	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: _____

Date of inspection: _____

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	NONE
Channellization	✓	NONE
Leakage	✓	NONE
Freezing	✓	NONE
Active Zones	✓	ACTIVE 1,3,4
Weather Conditions	✓	LIGHT RAIN
NAG SITE		GARBAGE FROM RIG
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	NONE
Sediment Ponds	✓	
Permit Condition Violations	✓	NONE
PAG SITE		
PAG Flowmeter Reading	✓	GRAVITY FEED / NO FLOW METER
Visible signs of Damage to Liner	✓	NONE
Liner Slippage	✓	NONE
Damage to the Facility From:		
Settlement	✓	CLEAR WATER
Erosion	✓	NONE
Operator Negligence	✓	NONE
Freezing	✓	LIGHT
Frost Action	✓	NONE
Permit Condition Violations	✓	NONE
Escaped Leachate	✓	NONE
Damage to or improper Operation of:		
Backwall	✓	NONE
Diversion berm/stormwater structures	✓	
Containment structures	✓	
Erosion control/run-on structures	✓	
Death or Stress to:		
Fish, wildlife or vegetation	✓	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. HUEBER

Date of inspection: 12-17-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition		LIGHT SNOW COVER
Geotechnical Stability		
Settlement	✓	SLIGHT BUILD UP NEAR DRAIN
Erosion	✓	NONE
Channelization	✓	NONE
Thawing	✓	NONE
Frost Action	✓	NONE
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	LIGHT SNOW COVER
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	NONE
SEDIMENT PONDS		
Liner	✓	
Slippage		
Anchors		
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	NONE
Thawing	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: _____

Date of inspection: _____

LAD SITE		
LAD Flow meter Reading	✓	265613.2
Stress to Vegetation	✓	none
Channellization	✓	none
Leakage	✓	none
Freezing	✓	Running heaters as needed
Active Zones		1, 3, 4
Weather Conditions	✓	19 snow / mix flurries
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	none
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition Violations		NKV (no known violations)
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	
Liner Slippage	✓	
Damage to the Facility From:	✓	
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	no known negligence
Freezing	✓	LT
Frost Action	✓	NONE
Permit Condition Violations		NKV
Escaped Leachate	✓	none
Damage to or improper Operation of:	none	
Backwall		NO
Diversion berm/stormwater structures		NO
Containment structures		NO
Erosion control/run-on structures		
Death or Stress to:	none	
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 12-23-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor
Channelization	—	
Thawing	—	Snow on ground
Frost Action	—	Above 32° for the last 2 Days
PORTAL PAD/SHOP SITE		
General Surface Condition	—	
Ditches	—	All Clear of Debris
Settlement	—	
Erosion	—	
Thawing	—	
Frost Action	—	
SEDIMENT PONDS		
Liner	—	Liner in very good shape
Slippage	—	
Anchors	—	
Containment Structures	—	
Retaining Walls	—	Good
Erosion Control Structures	—	
Run-on Control Structures	—	
Diversion Structures	—	
Geotechnical Stability	—	
Settlement	—	
Erosion	—	
Frost Action	—	
Thawing	—	Water Heaters Running

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Maley

Date of inspection: 12-23-11

LAD SITE		
LAD Flow meter Reading	—	
Stress to Vegetation	—	none
Channellization	—	
Leakage	—	none
Freezing	—	
Active Zones	✓	Most Zone ~~60~~ open
Weather Conditions	✓	Lt Snow 33°
NAG SITE		
Settlement/Geotechnical Instability	—	
Erosion	—	
Sediment Ponds	—	
Blockages to Diversion Ditches	—	
Sediment Ponds	—	
Permit Condition Violations	—	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	none
Liner Slippage	—	
Damage to the Facility From:		
Settlement	—	
Erosion	—	
Operator Negligence	—	none
Freezing	✓	Some spots of Ice
Frost Action	—	
Permit Condition Violations	—	none
Escaped Leachate		Good
Damage to or improper Operation of:		
Backwall	—	
Diversion berm/stormwater structures	—	Good
Containment structures	—	
Erosion control/run-on structures	—	Look Good
Death or Stress to:		
Fish, wildlife or vegetation	—	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 12-30-11

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	4" of Snow on Ground
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	Still Snowing
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Covered in Snow
Ditches	✓	
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures		
Diversion Structures	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 12-30-11

LAD SITE		
LAD Flow meter Reading	—	
Stress to Vegetation	—	none
Channellization	—	
Leakage	—	none
Freezing	—	
Active Zones	—	All
Weather Conditions	—	Snow
NAG SITE		
Settlement/Geotechnical Instability	—	
Erosion	—	
Sediment Ponds	—	
Blockages to Diversion Ditches	—	
Sediment Ponds	—	
Permit Condition Violations	—	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	—	
Liner Slippage	—	
Damage to the Facility From:		
Settlement	—	
Erosion	—	
Operator Negligence	—	
Freezing	—	Ice Patches
Frost Action	—	
Permit Condition Violations	—	none
Escaped Leachate	—	
Damage to or improper Operation of:		
Backwall	—	
Diversion berm/stormwater structures	—	
Containment structures	—	All Good
Erosion control/run-on structures	—	
Death or Stress to:		
Fish, wildlife or vegetation	—	none